

Lwarp

L^AT_EX HTML5

The lwarp package

L^AT_EX to HTML

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Abstract

The **lwarp** package converts L^AT_EX to HTML by using L^AT_EX to process the user's document and directly generate HTML tags. External utility programs are only used for the final conversion of text and images. Math may be represented by SVG images or MATHJAX. More than 500 L^AT_EX packages and classes are supported, of which more than 90 also support MATHJAX.

Documents may be produced by DVI or PDF L^AT_EX, LuaL^AT_EX, XeL^AT_EX; by several CJK engines, classes, and packages; or by customized systems such as **pertex** and **pythontex**. A **texlua** script automates compilation, index, glossary, and batch image processing, and also supports **latexmk**. Configuration is semi-automatic at the first manual compile. Support files are self-generated. Print and HTML versions of each document may coexist.

Assistance is provided for HTML import into EPUB conversion software and word processors.

Requirements include the commonly-available POPPLER utilities (included with M^IK^TE^X) and PERL. Detailed installation instructions are included for each of the major operating systems and T_EX distributions.

A quick-start tutorial is provided, as well as extensive documentation for special cases, a general index, and a troubleshooting index. Automatic error testing is provided for configuration files, package load order, and image generation.

SVG math and many other generated images include L^AT_EX expressions in the alt tags. MATHJAX may be used with advanced equation numbering under the direct control of **lwarp**.

Complicated tables are supported, which copy/paste well into LIBREOFFICE WRITER.

Supported classes and packages include **memoir** and **koma-script**, **cleveref**, **caption**, **mdframed**, **siunitx**, and many popular packages for tabulars, floats, graphics, theorems, the title page, bibliography, indexing, footnotes, and editorial work, as well as a number of CJK-related classes and packages.

T_EX is a self-modifying tokenized macro-expansion language. Since **lwarp** is written directly in L^AT_EX, it is able to interpret the document's meaning at a deeper level than external conversions which merely approximate T_EX. HTML5 and CSS3 are leveraged to provide advanced features such as **booktabs** trim, multicolumns, side-by-side minipages, and JAVASCRIPT-free navigation.

For a list of supported features, see [table 2: Supported packages and features](#).

To update existing projects, see [section 1: Updates](#).

Lwarp is still in development. Changes are likely.

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Support T_EX development

T_EX and related projects:

- are mostly open-sourced and a volunteer effort;
- benefit students, academics, scientists, engineers, and businesses;
- help drive education, public and private research, and commercial activity;
- are used in the fields of mathematics, science, engineering, and humanities;
- are international in reach;
- span decades of development;
- are enduring — many older packages are still actively used and maintained;
- are largely backwards compatible;
- are portable across all the major computing platforms;
- are usable even on older computers and away from internet access;
- are continuing to maintain relevance with modern improvements;
- require no yearly subscription fees;
- and are supported by an active community of knowledgeable volunteers.

Please consider helping by joining and/or contributing to the T_EX Users Group, a United States 501(c)(3) tax-exempt charitable organization. Contributions are accepted by credit card, check, or Pay Pal, via the United Way, or by USA or European bank transfer. Membership in TUG supports the development of T_EXLive, the major T_EX distribution.

Donations may be directed towards individual projects:

TUG Bursary Fund: Assistance for attending annual TUG meetings.

CTAN: The Comprehensive T_EX Archive Network — Central storage for T_EX.

TeX Development Fund: Support for specific projects.

EduTeX: Teaching and using T_EX in schools and universities.

GUST e-foundry fonts: Enhanced for math and additional language groups.

LaTeX Project: Modernizing the L^AT_EX core.

Libre Font Fund: Fonts, tools (FontForge), and distribution (the Open Font Library).

LuaTeX: Combining the pdfT_EX engine and the Lua language.

MetaPost: Postscript graphics.

MacTeX: T_EX for Mac.

PDF Accessibility: Modern PDF standards.

Other: Additional projects may be specified.

To make a contribution: <https://www.tug.org/donate.html>

For country-specific T_EX users groups: <http://tug.org/usergroups.html>

For users of MiK_TE_X: <https://miktex.org/donations.html>

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1 Updates

The following is a summary of updates to **lwarp**, highlighting new features and any special changes which must be made due to improvements or modifications in **lwarp** itself.

For a detailed list of the most recent changes, see the end of the Change History on page 1323.

v0.895: Vector packages, greatly improved MATHJAX for siunitx.

- | | |
|---|--|
| <div>core</div> <div>MATHJAX packages</div> | <ul style="list-style-type: none"> • Fixed quotes in HTML tags while using old font packages with Xe_{La}TeX and Lua_{La}TeX. • Added <code>\ifblank</code> and <code>\ifstrequal</code> to MATHJAX emulation. • <code>multirow</code>: Allow <code>\par</code> per v2.7. • <code>acro</code>: Updated to v3.5. • <code>fancyhdr</code>: Updated to v4.0. • <code>changes</code>: Updated to v4.0.1. • <code>epsfig</code>, <code>rotating</code>: Now work inside <code>lateximage</code>. • <code>amscdx</code>: Verified to work with svg math. Warning added about use with MATHJAX. • Added MATHJAX emulation for <code>isomath</code>, <code>mattens</code>, <code>maybemath</code>, <code>skmath</code>, <code>tensor</code>. • Improved MATHJAX emulation for <code>siunitx</code> <code>\ang</code>, <code>\num</code>, <code>\SI</code>. • Added <code>epsf</code>, <code>imprnatty</code>, <code>isotope</code>, <code>lpic</code>, <code>luavl</code>, <code>mdwm</code>, <code>pinlabel</code>, <code>rlepf</code>, <code>tikz-image</code>, <code>xevl</code>. • Verified to work as-is: <code>tensind</code>. |
|---|--|

v0.894: MATHJAX additions and improvements.

- | | |
|--|--|
| <div>MATHJAX</div> <div>packages</div> | <ul style="list-style-type: none"> • Improved warning message for enabling svg graphics for select math expressions while using MATHJAX. • Accept and ignore a star for <code>\hspace</code>. • Ignores <code>\arabic</code>, <code>\number</code>, <code>\noalign</code>. • Added MATHJAX emulation for <code>backnaur</code>, <code>colortbl</code>, <code>nicematrix</code>. • <code>booktabs</code>: MATHJAX emulation now absorbs and discards <code>trim</code>. • <code>menukeys</code>: Updated to v1.6.1. |
|--|--|

v0.893: Minor fixes, more packages.

- | | |
|--|--|
| <div>MATHJAX</div> <div>packages</div> | <ul style="list-style-type: none"> • Added MATHJAX emulation for <code>\mathnormal</code>. • Fixed <code>pstricks</code> <code>pspicture*</code>. • Fixed <code>tikz</code> font macros. • <code>braket</code>: Now uses the MATHJAX extension. • Added <code>esvect</code>, <code>fixmath</code>, <code>keystroke</code>, <code>mathastext</code>, <code>menukeys</code>, <code>picipar</code>, <code>plimsoll</code>, <code>repltext</code>, <code>selectp</code>, <code>seqsplit</code>, <code>simplebnf</code>, <code>statistics</code>, <code>swfigure</code>. • Added MATHJAX emulation for <code>mathspec</code>. • Verified to work as-is for <code>apxproof</code>, <code>syntaxdi</code>, <code>venndiagram</code>. |
|--|--|

v0.892: minted, fvextra, MATHJAX \left/\right.

- MATHJAX
 - fourier, libertinustlmath, newpxmath, newtxmath, newtxsf, unicode-math: Added MATHJAX \left/\right support for additional delimiters.
- packages
 - textpos: Updated to v1.10.
 - xcolor: Fixed optional args for \fcolorbox and related.
 - Added fvextra, minted.

v0.891: MATHJAX additions and improvements.

- core
 - Now displays inline \verb text as \texttt.
 - Fixed alltt and verbatims with L^AT_EX lists.
 - Now generates an error if nested each of warpHTML, warpprint, warpMathJax inside itself.
- MATHJAX
 - Added MATHJAX *textmacros* extension, allowing formatting inside \text.
- packages
 - biblatex, hyperref: Added back page references.
 - fancyvrb: Fixed BVerbatim with a label.
 - listings: Fixed MATHJAX with captions, improved HTML sanitation.
 - babel-french: Fixed \texorpdfstring conflict.
 - Now honors Greek package options for mathdesign, mathpazo, mathptmx, newpxmath, newtxmath.
 - Improved MATHJAX for colonequals, mathdesign, mathdots, mathfixs, mathtools, multiobjective, nicefrac, shuffle, units.
 - unicode-math: Added Greek macros, as well as macros for the first several categories listed in **texdoc unimath-symbols**. Improved symbol shape macros with Greek. Improved documentation.
 - Added bussproofs, cmbright, fourier, kpfonts, kpfonts-otf, libertinustlmath, scalerel, txgreek.

v0.89: Additional MATHJAX support.

- core
 - Adapted to upcoming L^AT_EX kernel changes.
 - Allows load of amsmath before lwarp.
- lwarpmk
 - Also removes *.bbl when cleaning aux files.
- MATHJAX
 - MATHJAX: Neutralized \protect, \mathcode and related, ligatures. Fixed nested environments.
- packages
 - caption: Updated for v3.5, fix for label sep.
 - thmtools: Updated for v0.72. Fixed swapnumber, margin.
 - Improved MATHJAX for centernot, mathtools, mismath, Slunits, siunitx, statmath.
 - Added MATHJAX emulation for accents, hepunits, hhtensor, mathalpha, mathdesign, mathpazo, mathptmx, mleftright, newpxmath, newtxmath, newtxsf, pxfonts, shuffle, txfonts, upgreek, ushort.
 - Verified to work as-is: authoraftertitle.

v0.88: Indexing, boxing, theorems.

core

- Now has programmed support for more than 500 packages and classes, of which more than 60 also support MATHJAX.
- Fixed: `\ref*`, and also added MATHJAX emulation.
- If starting a new paragraph, `\hrulefill` creates a `<div>` with a thin horizontal line across the page. Use instead of `\hrule`.
- Fixed: Use `\chaptername` where appropriate.
- Fixed: Inline links causing extraneous paragraphs.

lwarpmk

indexing

- Added **lwarpmk -v** to print the version number.
- Added the `IndexRef` option to control the display of index entries. See section 7.5.
- Added `\IndexPageSeparator` and `\IndexRangeSeparator` for custom index styles.
- Added support for `gindex`, `xindex`.
- Verified to work as-is with `varindex`.

packages

- `cleveref`, `varioref`: Fix for starred macros.
- `varioref`: Removed page-related text from HTML output.
- `xfakebold`: Updated to v0.08, using `pdfrender`.
- `caption`, `scrextend`: Fixed `\caption*`.
- Added `fbox`, `shadethm`, `tcolorbox`, `termcal`, `thmbox`, `thmtools`.

v0.87: MATHJAX, bibliography packages.

core

- Added boolean `FixSmallCaps` for fonts which render small caps as all caps.
- Fixed `\bibliography` to use the HTML version's `.bbl` file. Previously the HTML bibliography relied on the print version's `.bbl`, thus would fail if the print document had not yet been created.
- Added `\ifstar` and `\ifnextchar` to MATHJAX, and removed `\DeclareIfstar`. See section 8.7.5.

MATHJAX



Removed

`\DeclareIfstar`

packages

- `physics`: Now supports the MATHJAX v3 extension.
- `mathtools`: Improved `\underbracket`, `\overbracket` for MATHJAX.
- `nccmath`: Improved `\underrel` for MATHJAX.
- `mhchem`: Now supports the MATHJAX v3 extension for `\ce` inside math.
- `cancel`: Now supports the MATHJAX v3 extension.
- `embrac`: Neutralized kerning for improved HTML conversion.
- Added `citeref`, `drftcite`, `jurabib`, `multibib`, `splitbib`.
- Verified to work as-is with `bibtopic`, `collref`, `mciteplus`.

v0.86: MATHJAX major updates.**core**

- Fixed: Filename if named files with *, parens, period in section name.
- Fixed: Labels in eqnarray, lateximage.

MATHJAX

- Updated to MATHJAX v3. New repository.
- Fixed forward references for MATHJAX.
- Improved MATHJAX equation number formatting, now compatible with `amsmath \numberwithin` for chapters, sections, subsections, as well as `amsmath subequations`. See section 8.7.5.
- Added `\DeclareIfstar` to define starred $\TeX$ macros in MATHJAX. See section 8.7.5.
- Generates an error if `\MathJaxFilename` file does not exist.

packages

- `mathtools`, `nccmath`, `physics`: Added starred macros for MATHJAX.
- `nccmath`: Fixed `\nr`, `\displaybreak` for MATHJAX.
- `xcolor`: Fixed `\textcolor` with `babel-french`.

v0.85: fontspec**packages****acro formats**

- `fontspec`: Fixed core font change macros for world languages.
- `acro`: Due to v3 changes, when defining acronym formats, use `\textbf` instead of `\bfseries`, etc.
- Fixed `idxlayout`, `mathtools`, `titlesec`, `url`.

v0.84: Previous/next page links, numerous fixes.**docs**

- Added documentation of `BlockClass` and `\InlineClass` for css `<div>`s and `<span>`s. See section 7.8.
- Added `\LinkPrevious`, `\LinkNext` page links. See section 7.6.
- Added `\FirstPageBottom`. Home page no longer shares `\PageBottom`. See section 7.6.

**home page footer changed****core**

- Improved coexistence with `comment`, support for nested environments.
- No longer requires but still supports the `caption` package.
- Improved filenames and HTML titles when using special characters.
- Change: Append `-0` to section named `Index` previously `_index` to distinguish from `index.html`
- Fixed style tags for `\multicolumn`, `\multirow`.
- Fixed spacing in tabbing.
- Fixed `lateximage` for: `quote`, `quotation`, `verse`, `center`, `flushleft`, `flushright`, `<par>` tags, packages `verbatim`, `alltt`, `epigraph`.
- Fixed `textcomp` due to integration into $\TeX$ kernel.
- Fixed `\itshape`, etc. Adapted to $\TeX$ `fontaxes` integration.
- Fixed `\@fnsymbol`.
- Warns about section names with dollar-delimited math.
- Warns about a `<span>` containing a float, caption, section, `mdframed`, or other `<div>` object.

lwarpmk packages

- Only warn about Xe_{La}TeX logo and **graphics** if actually used `\Xe`.
- **lwarpmk clean** also removes `comment_*.cut`.
- **scrextend**, **scrartcl**, **scrbook**: Added `\titlehead`, `\subject`, `\subtitle`, `\publishers`.
- **titling**: Fixed `\printthanks`.
- **memoir**, **abstract**: Fixed for updated **memoir**.
- **memoir**: Fixed `\newcomment`, `pagenotes`, `crossreferences`. Fixed setting a recursive name.
- Fixed or improved: **amsthm**, **backref**, **biblatex**, **fixme**, **nfssect-cfr**, **ntheorem**, **parcolumns**, **realscripts**, **rotfloat**, **titling**.
- Added **boxedminipage**, renamed from **boxedminipage2e** per author.
- Verified to work as-is with **mcite**.

v0.83: memoir fixes.

packages

- **memoir**: Various fixes and updates.
- **physunits**: Updated to v1.0.4.

v0.82: MATHJAX notes, xpinyin improvements, various updates.

MATHJAX

- Improved footnotes with MATHJAX.
- Added MATHJAX emulation for `endnotes`, `marginnote`, `nccfoots`, `pagenote`, `parnotes`, `sidenotes`.

packages

- **xpinyin**: Added pinyin with modern HTML.
- **luatexko**: Added `\dotemph`, `\ruby`, `\uline`, etc.
- **soul**: Fixed `\<`.
- **chemfig**: Updated to v1.5.
- **draftwatermark**: Updated to v2.0.
- **ulem**: Fixed: `\dashuline`.
- **amsmath**: Fixed: `\intertext` with MATHJAX.
- **endnotes**: Fixed: Marks in print mode.
- **tocvsec2**, **tableof**: Verified to work as-is.
- Added **etoc** (nullified).

v0.81: MATHJAX speedup and additional emulations.

core

- Improved warning regarding SVG math sizing/baselines and **graphics/graphicsx**. See section 8.7.

MATHJAX

- Improved MATHJAX emulation processing speed.
- Added MATHJAX emulation for **accsupp**, **axessibilty**, **colonequals**, **decimal**, **dotlessi**, **econometrics**, **engtlc**, **multiobjective**, **physunits**, **Slunits**, **stackrel**, **statmath**.

packages

- **axessibility**: Updated to 2020/01/08 version.
- **gridset**: Updated to v0.3.
- **Slunits**: Fixed for math mode.
- Added **DotArrow**, **nolbreaks**, **luamplib**, **returntogrid**, **statex2**, **tagpdf**.
- Verified to work as-is with **icomma**, **mathpunctspace**, **textualicomma**.

v0.80: MATHJAX, biblatex.

- MATHJAX**
 - Added docs and warning/info messages re: avoiding slow MATHJAX compilation. See section 8.7.5, [Customizing MATHJAX](#).
 - Added MATHJAX emulation for accessibility, autobreak, centernot, extarrows, fouridx, gensymb, leftidx, mathcomp, mathdots, mathfixs, mismath, nccmath, noitcrul, pdfcomment, relsize, rmathbr, subsubscripts, xfrac.
 - Improved MATHJAX emulation for unicode-math.
- packages**
 - biblatex, url: Now create hyperlinks.
 - amsmath: Fix to center starred environments.
 - xcolor, graphics: Made more macros robust.
 - colortbl: Fix: Rule color in a lateximage.
 - chemmacros: Updated to v5.10.
 - Added fewerfloatpages, ghsystem, hline, mismath, nccmath.

v0.79: MATHJAX, nested tabular.

- MATHJAX**
 - Added or improved MATHJAX emulation for amsmath, ar, arydshln, bm, bigdelim, bigstrut, booktabs, braket, mathtools, multirow, physics, siunitx, slashed, unicode-math, xfakebold.
 - Warn if using certain packages not supported by MATHJAX.
- core**
 - tabular: Now may be nested.
 - minipage, \parbox, fminipage, \makebox, \framebox: Fix: Adjust for virtual page size.
 - Uses new iftex.
- packages**
 - graphicx: Fix: Negative angles.
 - caption: Fix: \captionlistentry with longtable.
 - multirow: Fix: Centered vertical alignment.
 - siunitx: Fix: \square, \cubed.
 - booktabs: Fix: memoir with lateximage.
 - babel and polyglossia: Added troubleshooting warnings.
 - fontawesome, fontawesome5: Supports text color and size.
 - transparent: Fix: lateximages.
 - epigraph: Updated to v1.5e.
 - xurl: Updated to v0.08.
 - subcaption: Fixed with memoir.
 - floatrow: Fix: \linewidth. No longer require float, graphics.
 - floatflt, wrapfig, niceframe: Fix: Adjust for virtual page size.
 - Added widetable, witharrows, steinmetz.
 - Added awesomebox, catoptions.
 - Added svg, supports svg-extract.
 - Added parcolumns, pdfcolparcolumns,
 - Added parallel, pdfcolparallel.
 - Added pdfcol, pdfcolfoot, pdfcolmk.

v0.78: Fixes for support files, alt tags, hyperlinks, and the 2019/10 L^AT_EX release.

- docs**
 - Docs: Improved documentation regarding package options. See section 8.1.
 - Fix to overwrite existing support files using new filecontents environment.
- packages**
 - **breqn**: Previously broken by the 2019/10 L^AT_EX update, but now working again.
 - **graphics**: Fix for \includegraphics alt tags.
 - **babel-french**: Fix for hyperlinks.
 - **media9**, **movie15**, **multimedia**: Fix for the 2019/10 L^AT_EX update.
 - **accessibility**: Added.

v0.77: Updates to fix recently-broken packages.

- **booktabs**: Updated to v1.6180339.
- **chemformula**: Updated to v4.15.

v0.76: MATHJAX, updates for L^AT_EX 2019/10 release.

- docs**
 - Docs: Expanded documentation regarding the use of multiple projects in the same directory. See section 5.17.
- MATHJAX**
 - **MATHJAX**: Updated to v2.7.6.
- packages**
 - **xr**: Updated to v5.05.
 - **xr-hyper**: Updated to v6.1.
 - Verified works as-is with **xcite**.
 - **acro**: Updated to v2.10.
-  **broken**
 - Currently broken in print mode by the 2019/10 L^AT_EX update, and waiting for fixes: **breqn**, **grffile**, **multimedia**, **movie15**.

v0.75: keyfloat, wrapfig

- packages**
 - **\minipage**: Fix for \linewidth.
 - **keyfloat**: Improved color control.
 - **wrapfig**: Fix for \linewidth.

v0.74: Docs, svg math, *lwarpmk*, HTML alt and title text, lyluatex

- docs**
 - Added to the tutorial the section **What next?**. See section 5.19.
 - Added documentation about localization options. See section 7.1.
 - Added documentation about accessibility options. See section 7.2.
 - Renamed and updated HTML alt text macros:
- | Old | New |
|-------------------------|------------------------|
| (hard coded as “image”) | \ImageAltText |
| \mathimagename | \MathImageAltText |
| \packagediagramname | \PackageDiagramAltText |
- Added \ImageAltText for the default HTML alt text for an image. See section 7.6.

 **HTML alt text changed names**

- Added `\ThisAltText`, which may be used to assign a one-time HTML alt tag to the very next image generated by `lwarp`, such as a `lateximage`, `picture`, `tikzpicture`, an image generated by various chemistry or engineering packages, or an svg math image. This macro also adds a title tag to a reference or hyperlink. See section 7.6.
 - svg math**
 - Adjusted `\LateximageFontScale` default from .75 to 1.
 - Fix: Font control for svg math.
 - misc**
 - Fix: Ignores negative `\hspace`.
 - Warning if `SideTOCDepth < FileDepth`.
 - lwarpmk**
 - **lwarpmk: `lwarpmk clean`** removes additional files.
 - **lwarpmk: `lwarpmk epstopdf` and `lwarpmk pdftosvg`** now honor directories.
 - packages**
 - **lyluatex:** Split images by system or per fullpage, improved margins and scaling.
 - Tested to work as-is with `mathspec`, `unicode-math`.
- v0.73:** `\include`, `memoir`, `koma-script`, `caption`, `xy`, `datatool`, music scores.
- Fix for `\include`.
 - Warning for a tabular inside a `<span>`.
 - `\color`: Added HTML support for rules and frames, but not inline text. Use `\textcolor` if possible.
 - Improved many HTML tags, reducing *tidy* warnings. See Change History.
 - packages**
 - **memoir:** Fixes for `\frontmatter*` and `\mainmatter*`. Added `\book`.
 - **koma-script:** Fix for starred captions in the toc.
 - **caption:** Fix for starred captions.
 - **datatool:** Added pie, bar, and plot charts.
 - **threeparttable:** Added `measuredfigure`.
 - **intopdf:** Updated to v0.2.1.
 - **tocdata:** Updated to v2.03.
 - **quotchap:** Updated to v1.2.
 - **versionotes:** Updated to v0.4.
 - **backnaur:** Now uses svg images. Updated to v3.1.
 - **xy:** Fix for `\xybox`, improved xy, also now compatible with `qcircuit`.
 - **fancyvrb:** Fix for label HTML tags.
 - Added `stackengine`.
 - music**
 - Added `lyluatex`. (Music scores.)
 - **musicography:** Updated to 2019/05/28. Added support for `lateximages`.

v0.72: Font control, `\multicolumn`, `xr` and `xr-hyper`. **images**

- Due to internal changes, images for inline svg math and `lateximages` will have new hash values, and will have to be regenerated using

Enter $\Rightarrow$ **`lwarpmk cleanimages`**

and

Enter $\Rightarrow$ **`lwarpmk limages`**

packages

- Docs: Color-codes package names in the table of supported packages and features, table 2, according to each package's level of support by `lwarp`.
- `\multicolumn`: Fix for paragraph columns.
- `xr`, `xr-hyper`: Fixes for references, `\externaldocument`.
- `soulutf8`: Fix: Loads `soul` for emulation.
- `boxedminipage2e`: Added support for `lateximages`.
- `zhlineskip`: Updated to v1.0e.
- Added `fontaxes`, `slantsc`, `tabfigures`.
- Added `nfssect-cfr`, thus supporting `cfr-lm` and several other font packages.
- Added `backnaur`, `hypbmsec`, `minibox`, `pdfcrypt`, `shapepar`.

v0.71: Error handling, multimedia, tabular.**packages**

- `tabular`: Added support for '*' columns. Fix for paragraph tags.
- `quotation`: Fix for HTML tag.
- Docs: Added a section about error conditions tested by `lwarp`. See section 13.1.
- `lwarpmk`: If file `lwarpmk.conf` is an older version, or the incorrect operating system, displays the print command to use to recompile.
- `chemfig`: Updated for v1.4.
- `endfloat`: Updated for v2.7.
- `textpos`: Updated for v1.9.1.
- Added `media9`, `movie15`, `multimedia`.

multimedia**v0.70:** Error handling, `MATHJAX`, `mathtools`.**packages**

- Error handling for "Label(s) changed." Refuses to `lwarpmk limages` until recompile first.
- Fix: If Computer Modern font is used, ensures `cm-super` or `lmodern` is used.
- Fixes for `\makebox`.
- Fixes for `\parbox` inside a `<span>`.
- `MATHJAX`: Updated to v2.7.5. Loads the `autoload-all.js` extension. Added `\MathJaxFilename` to select custom scripts.
- `textcomp`, `xunicode`: Fix for `\textinterrobang`.
- `mhchem`: Works with `MATHJAX`. See section 397.
- `changes`: Updated to v3.1.2.
- Added `autonum`, `changelayout`, `inputtrc`, `mathtools`, `metalogox`.

v0.69: Error handling, many fixes, improved `keyfloat`/`tocdata`.

packages

- Fix for HTML corruption of `lateximage` displays.
- `\makebox`, `\framebox`: Fix for $(\langle width, height \rangle)$ arguments.
- `fminipage`: Honors `\minipagefullwidth`.
- `array`, `longtable`: Fix for `\tabularnewline`.
- `tabularx`, `tabulary`: Fix to require the `array` package.
- `supertabular`, `xtab`: Fix to clear caption after use.
- `graphics`: Added a warning if used the `\includegraphics` scale option.
- `multirow`: Added an error if didn't use `\mrowcell` or `\mcolrowcell` when using `\multirow` or `\multicolumnrow`.
- `keyfloat`: Updated for v2.00, additional improvements.
- Added `ctable`, `eqlist`, `eqparbox`, `ftcap`, `listliketab`, `minitoc`, `tocdata`, `topcapt`.

v0.68: Error handling, tabulars, footnotes.

lwarpmk

packages

- *lwarpmk*: Improved error handling for image generation if compile was incomplete.
- `tabular`: Fix for `\warpprintonly`.
- `longtable`: Improved flexibility for `\endhead`, etc. Improved error reporting if `\endhead`, etc. incorrect for *lwarp*.
- `threeparttable`: Fix for caption type.
- `hyperref`: Fix for options with braces.
- `morefloats`: Fix to be loaded early for print output.
- `listings`: Updated for v1.7.
- Added `bigfoot`, `fnpara`, `footnotebackref`, `manyfoot`, `tablefootnote`, `threeparttablex`.
- Added `layouts`, `niceframe`, `perpage`, `showtags`.
- Prevented `alg`, `algorithmic`, `pdfcpot`, `fncylab`.

v0.67: Filename generation, symbol fonts.

docs

filenames

packages

- Documentation fix for `<project>-images`, `<project>-images.txt`.
- Added discussion regarding section names. See section 8.4.
- Added `\FilenameNullify` and `\FilenameSimplify` for filename generation. See section 8.4.
- `Core`, `textcomp`, `xunicode`: Nullified additional symbols during filename generation.
- `color`: Fix for version number warnings.
- Added `academicons`, `bbding`, `dingbat`, `eurosym`, `fontawesome`, `fontawesome5`, `marvosym`, `pifont`, `typicons`.
- Added `changes`, `easyReview`, `fitbox`, `foreign`, `gloss`, `karnaugh-map`, `multicap`, `nomencl`, `notes`, `struktex`, `umoline`, `xfakebold`.
- Tested to work as-is with `askmaps`, `curves`, `euro`, `karnaughmap`, `tikz-karnaugh`.

v0.66: xr, multiple projects, image names/directory, HTML formatting Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using **pdflatex filename.tex** or similar, after which *lwarpmk* may then be used with the new configuration files.

lateximage

- Adds options ImagesDirectory and ImagesName to assign directory and name prefixes for lateximage images. The new defaults include the jobname, allowing the image directories for multiple projects to coexist.

 existing projects

- To reuse existing lateximage directories, add lwarp options

```
\usepackage[
  ImagesDirectory={lateximages},
  ImagesName={lateximage-}
]{lwarp}
```

If not reused, the existing lateximages directory and lateximages.txt file may be removed.

filenames

- Added \FilenameLimit to control the maximum length of the filenames generated by lwarp.

 Possible filename changes

- Improved filename generation when special characters or macros are used in section names.

WINDOWS

- Fix for **lwarpmk cleanlimages** with WINDOWS.

floats

- Fixes for floats in the home page.

lists, table notes

- Improved css for definition lists, table notes.

tabular

- tabular: Fixes for \par in column specifier, minipage inside tabular.

indexing

- Indexing: Fix for a long line of multiple entries.

minipage

- \minipagefullwidth: Fix for global changes.
- Added \UseMinipageWidths and \IgnoreMinipageWidths. See section 8.3.3.
- Improved \fbox, \fboxBlock, \fminipage to use current text color.
- Improved HTML output formatting.
- Added discussion regarding invalid HTML. See section 8.1.1.
- Added discussion regarding math in section names, \imagegraphics scale option. See section 6.
- Added discussion regarding international languages in section names. See section 8.14.

colors

HTML

docs

packages

- caption: Fix for options clash.
- xr, xr-hyper: Now compatible.
- subcaption: Improved horizontal spacing.
- multicol: Fix for minipage inside multicol.
- multicolrule: Updated for v1.2.
- tocbasic: Minor update.
- acronym: Fix for acronym in float caption.
- kotexutf: Patch with *pdflatex* and new lwarp labels.
- extramarks, fancyhdr: Updated for v3.10.
- memoir: Added docs regarding version numbers. See section 8.13.

- **zref**: No longer required.
- Added **ar**, **ed**, **indentfirst**, **nameauth**, **truncate**.
- Verified to work as-is with **changelog**.
- Prevented **colortab**, **epsf**, **hyper**, **picipar**, **picins**, **sistyle**, **ucs**.

v0.65: css layout, alt tags, Japanese.

page layout

- Moved the sideroc to the left side, allowing improved css for margin notes.
- Improved page layout css.

image alt tags

- **graphicx \includegraphics**: Added the **alt** key to assign an alt tag to an image. Default is “image”, assigned to pass validation.

duplicate HTML files

- Detects and causes an error if duplicate HTML file names are generated, caused by identical or similar sectioning names.

fixes

- Fix for **tabular***.
- Fix for tabular border colors.
- Fixes **\quad**, **\enskip**, and figure captions to pass validation.

Japanese

- Added **ltj*** classes, **bounddvi**, **gentombow**, **lltjtext**, **plarydshln**, **plex**, **plexarydshln**, **plexcolortbl**, **pxatbegshi**, **pxeveryshi**, **pxftnright**, **pxjahyper**, **tascmac**.
- Verified to work with **plarray**, **plautopatch**, **plextarray**, **plextdelarray**, **pxgentombow**, **plsiunitx**, **pxpdfpages**, **pxpgfrcs**, **pxpgfmark**.

packages

- Added support for **fontspec \textsi** and **\sishape**.
- Added **multicol**’s **\docolaction**.
- Added **embrac**, **footnoterange**, **multicolrule**, **versionotes**.

v0.64: Koma-Script, Japanese, Chinese.

Japanese

- Added **utarticle** and related classes.
- Improved **ujarticle** and related classes.

Chinese

- Fix for **biblatex** with **CT_εX** and other classes.

Koma-Script

- Fixes for **scrlayer**, **scrlayer-scrpage**.

packages

- **addlines**: Updated to v0.3.
- Added **bsheaders**, **gmeometric**, **marginal**, **rmpage**, **scrpage2**.

v0.63: **mdframed**, Chinese, Japanese, Korean

localization

- Added **\linkhomename**: A user-definable name for the **Home** link.
- Documented **\sidetocname**: A user-definable name for the sideroc.

fixes

- Fix: **\LinkHome** for print output.

optimizations

- Moved package load checks to the **lwarp** core to reduce the number of **lwarp-*** files.

packages

- **mdframed**: Fix with **amsthm**, improved titles and font control. Improved rule widths.

Chinese

- Fixes for **xeCJK**.
- Added **xpinyin**, **zhlineskip**.

- Japanese
 - Verified to work with `cjkpunct`, `upzhkinsoku`, `zhspacing`.
 - Verified to work with `zxjatype`, `luatexja`, `luatexja-fontspec`.
 - Added `bxjsarticle` and related classes.
 - Added `ltjsarticle` and related classes.
 - Added `p\TeX`, `up\TeX`, `ujarticle` and related classes.
 - Prevented `utarticle` and related classes.
 - Prevented `bxckatype`.
 - Korean
 - Verified to work with `kotex`, `xetexko`, `luatexko`.
- v0.62:** MiKTeX docs, HTML title, CTeX, xeCJK, bitpattern.
- docs
 - Docs: Setting a UTF-8 locale. See section 9.8.
 - MiKTeX
 - MiKTeX: Docs for *MiKTeX Console* and `miktex-poppler-bin`.
 - HTML <title>
 - HTML subpage titles: Added `\HTMLTitleBeforeSection` and `\HTMLTitleAfterSection` to select whether the HTML <title> displays the website name before or after the section name. See section 7.6.
 - fixes
 - Fix for package options handling.
 - Fixes for horizontal white space between `fminipage`, `fcolorminipage`, `colorboxBlock`, `fcolorboxBlock`.
 - Logos: Fix for X_YTeX logo, improved css, made robust, improved search-engine optimization.
 - `\[$1]`: Additional HTML
 if $1 > 0$ pt.
 - Fixes for `\includgraphics` filename, and with `FormatWP`.
 - Fix: css for `\textup`.
 - Fix: Added `\slshape`.
 - Chinese
 - Added `ctex` package and related classes, `xeCJK`.
 - Prevented `CJK`, `CJKutf8` unless `xeCJK`, `ctex` are used.
 - packages
 - `chemfig`: Docs for new macro `\polymerdelim`.
 - `asymptote`: Docs for compilation.
 - `chnpage`: Fix to load `lwarp-change page`.
 - `algorithm2e`: Fix with non-book classes.
 - `register`: Updated to v1.8.
 - `nicefrac`: Improved font control and css, honors nice and ugly.
 - `units`: Improved font control and css, honors tight and loose.
 - `xfrac`: Improved css.
 - `textcomp` and `xunicode`: Fix conflicts with `\textcircled`.
 - `ulem`: Improved compatibility with `CJKulem`, `lateximage`.
 - `MATHJAX` and `siunitx`: Removed inoperable extension.
 - Added `bitpattern`, `pdfcomment`, `pdfmarginpar`, `tram`, `unitsdef`, `xexchangebar`.
 - Added `musicography`, `octave`, `semantic-markup`.
 - Added `2in1`, `flippdf`, `notespages`, `rviewport`, `twoup`.

v0.61: Custom compilation, EPS-related packages, documentation, indexes.

docs

- Split index into multiple indexes.
- Improved documentation regarding font selection. See section 7.4.
- Added documentation regarding debugging options. See section 35.
- Added documentation regarding HTML entities inside program listings. See section 8.2.1.

custom compiling

- Added options to specify the shell commands to execute for **lwarpmk print** and **lwarpmk html**, allowing the use of **lwarp** with **perltex**, **pythontex**, etc. If not specified, these are set automatically depending on the $\text{\LaTeX}$ engine, `--shell-escape`, and **lwarp** options. See section 9.

⚠ changed names

- Changed macro names to match `\displaymathother`, `\displaymathnormal`:

Old	New
<code>\StartDynamicMath</code>	<code>\inlinemathother</code>
<code>\StopDynamicMath</code>	<code>\inlinemathnormal</code>

fixes

- Fix: Paragraph tags in a tabular.
- Fix: **supertabular** and **xtab** captions.
- Fix: `DVI \text{\LaTeX} \includegraphics` EPS images.
- Fix: **newfloat** lists.
- Fix: CSS footnotes text align, minipage tabular and footnote margins.

packages

- Added **epsfig**, **psfrag**, **psfragx**, **pstool**.
- Added **copyrightbox**, **pdfprivacy**, **thinsp**, **threadcol**, **uspace**.
- Added **chkfloat**, **cmdtrack**, **dprogress**, **lua-visual-debug**, **refcheck**, **srcltx**, **srctex**, **vpe**, **xbmks**.

v0.60: Fixes for **longtable**, **listings**.

fixes

- **longtable**, etc.: Fixes for slowdown and memory management for very long tables.
- **listings**: Fix for HTML entities, and also when used inside a list.
- **diagbox**: Fix for incorrect HTML par tags.

packages

- Added **2up**, **booklet**.
- Added **bophook**, **draftfigure**, **fullminipage**, **grid-system**, **layaureo**.
- Added **leading**, **widows-and-orphans**.
- Added **fancytabs**, **thumb**, **thumbs**.

v0.59: `DVI latex`, `MATHJAX`, **asymptote**, **pdftricks** and **pstricks**, **epstopdf**, **brqen**.

⚠ Reset the configuration

lwarpmk

- Due to changes in **lwarpmk**, **recompile any existing project a single time** using **pdflatex filename.tex** or similar, after which **lwarpmk** may then be used with the new configuration files.
- Added an error if `lwarpmk.conf`'s format has changed and the document must be recompiled.
- Added a warning if the `lwarpmk.conf` configuration file appears to be for the wrong operating system, in case files are transferred between systems.

- Added
`lwarpmk epstopdf <list-of-EPS-files>`
to quickly convert a document's EPS images to PDF or SVG. See section 8.8.
- dvi latex** • Added support for dvi *latex*. See section 7.5.
- latexmk** • Fix for `--shell-escape` with *latexmk*.
- math** • Updated MATHJAX script to v2.7.4.
- Fix: MATHJAX chapter number removed from non-numeric tagged equations.
- Added MATHJAX support for *nicefrac*, *units*.
- Fix for `\[` and `\]` with `\displaymathnormal`.
- images** • Fix for `\includegraphics` filename expansion.
- `\includegraphics` now works with `.pdf` and `.eps` filename extensions.
- packages** • Moved *amsmath* out of the *lwarp* core.
- Fix for *chemformula* `\NMR`.
- Added *asymptote*, *pdftricks*, *pstricks*, *pst-eps*.
- Added *breqn*, *Slunits*.
- Added *bxpapersize*, *canoniclayout*, *draftcopy*, *fnbreak*, *nccfancyhdr*.
- Added *accsupp*, *axessibility*.
- Added *xunicode*.
- Improved and now supports *epstopdf*.
- Tested to work as-is: *eepic*, *sepfootnotes*.
- docs** • Added information about setting up a development version of *lwarp*.

v0.58: Extensive improvements in indexing, glossaries. Adds PDF-inclusion packages.



Reset the configuration

lwarpmk
glossaries

index and glossary

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using **`pdflatex filename.tex`** or similar, after which *lwarpmk* may then be used with the new configuration files.
- *lwarpmk*: Added the `-p` option to specify the project name.
- *lwarpmk*: Now uses *makeglossaries* for glossary generation, allowing the processing of multiple glossaries at once.
- Added *lwarp* option `GlossaryCmd` to specify the shell command used by **`lwarpmk printglossary`** and **`lwarpmk htmlglossary`**. Defaults to **`makeglossaries`**.
- Docs: Extra indexing options. See section 8.6.14.
- Added support for *makeindex*. (Previously supported only *xindy*.) Also added indexing packages listed below.
- Added *lwarp* options `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to specify shell commands used by **`lwarpmk printindex`**, **`lwarpmk htmlindex`**, and *latexmk*. May be preset with the *makeindex* or *xindy* *lwarp* options. See section 7.5.
- Added *lwarp* options `makeindex` and `xindy` to set `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to sensible values for a typical single index. See section 7.5.

- Added `lwarp` option `makeindexStyle` to tell *lwarpmk* to use a custom style instead of `lwarp.ist`. See section 8.6.20.
- Fix for index entries with `\see`, `\seealso`, `\emph`, `\textbf`, etc.
- Replaced each `\csuse` with `\@nameuse` for improved error detection.
- Additional internal `print/HTML` macro selection improvements.
- Fix: `\printindex` finishes pending `\index` writes first.
- Fixes for `memoir`: `makeidx`, `ccaption`, multiple indexes, `\specialindex`.
- Fixes for `komascript`: Indexing improvements.
- Added `imakeidx`, `index`, `repeatindex`, `splitidx`.
- Added `attachfile`, `attachfile2`, `intopdf`, `pdfpages`, `pdfx`.
- Added `cases`.
- Tested to work as-is: `notes2bib`, `hvinde`.

v0.57: `algorithm2e`, float styles, tabular packages, internal improvements.

- Added support for `MATHJAX` equations with `\footnote`, `\footnotemark`.
- Added `\StartDefiningMath` and `\StopDefiningMath` for use when defining macros in the preamble which contain `$`. See section 8.7.7.
- Added `\inlinemathother` and `\inlinemathnormal` to delimit math expressions which depend on a variable condition such as a counter. Such expressions will not be hashed for reuse, and will be converted to `svg` math images even when `MATHJAX` is enabled. See section 8.7.8.
- Renamed `\EndDefiningTabulars` to `\StopDefiningTabulars`.
- Improved localization for `lateximage` `HTML alt` tags. For `svg` math images, the `alt` tag under some conditions will be set to `\MathImageAltText`, which defaults to `math image`. For packages, the `alt` tag is set using the package name followed by `\PackageDiagramAltText`, which defaults to `diagram`. Ex: `(-xy- diagram)`
See section 7.6.
- Fix: Improved `print/HTML` macro selection.
- Fix: `\href` text catcodes.
- Fix: `\subref` text.
- Fixes: Colored `\rule` and `\boxframe`.
- `float`, `rotfloat`: Adds support for float styles `ruled` and `boxed`.
- `float`: Fix: Do not create `\l@<type>` until `\listof` is used.
- `marginnote`: Fix: Long optional argument.
- `ellipsis`: Adds `\midwordellipsis`.
- `breakurl`: Fix for text catcodes.
- Added `algorithm2e`, `register`, `ltablex`, `xltabular`, `xellipsis`, `trimclip`, `errata`, `vowel`, `xpiano`.
- Prevents `glossary`.
- Tested to work as-is with `gauss`, `phonrule`, `piano`, `Slunits`, `tikzcodeblocks`.

v0.56: Shell escape, tabular packages.

lwarpmk

- Added
`lwarpmk pdftosvg <list-of-PDF-files>`
to quickly convert a document's PDF images to SVG, for use with HTML. See section 8.8.

tabular

- Added support for `--shell-escape`. See section 7.3.
- Added support for `array w` and `W` columns.
- Fix: `\multicolumn` parameter handling.
- Added support for double `\hlines`, `\midrules`, and vertical rules.
- Added support for `arydshln` dashed lines with HTML `tabular`, but reverts to plain rules for `lateximage` and `svg math array`.

misc. fixes

- Fix: `\thinspace`.
- Fix: `paralist` compact environments.

packages

- Added `parnotes`, `quoting`, `lua-check-hyphen`, `tocenter`, `underscore`.
- Added `bibunits`.
- Tested to work as-is with `babelbib`, `bodegraph`, `fast-diagram`, `nicematrix`, `structmech`.

v0.55: Various fixes.

misc fixes

- Fix: Extraneous space in file links, which also prevented *Calibre* EPUB conversions.
- Fix: Float optional argument regression.
- Fix: `\ForceHTMLTOC` with `\phantomsection`.
- Fix: Overfull boxes in `lateximages`.
- Fix: QED symbols in `lateximage`.

packages

- `koma-script`: Fix: Figure with `\centering`, etc.
- Added `clrdblpg`.

v0.54: Float `\centering`, improved image checks.



Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using **`pdflatex filename.tex`** or similar, after which *lwarpmk* may then be used with the new configuration files.

lwarpmk

- `lwarpmk limages` checks for the presence of the HTML version of the document and valid image references before attempting to create the `lateximages`.
- *lwarpmk*: Improved error message if configuration file does not exist.

BibTeX

- Added documentation for avoiding error with BibTeX and `\etalchar`. See section 8.6.9.

polyglossia

- Added documentation regarding `polyglossia`. See section 8.15.4.

macros in section names

- Added documentation regarding the use of macros in section names. See section 8.1.

document encoding



New and revised encoding options

- Renamed and added package options:

Old Package Option	New Package Option
<code>xdyFilename</code>	<code>xindyStyle</code>
<code>IndexLanguage</code>	<code>xindyLanguage</code>
<code>-</code>	<code>xindyCodepage</code>
<code>-</code>	<code>pdftotextEnc</code>

Use these options along with `inputenc` or `inputenx` to process documents in an encoding other than UTF-8. See section 7.4.

floats with `\centering`, etc.

- Floats now honor `\centering`, `\raggedright`, `\raggedleft`, and their `ragged2e` equivalents, when placed directly after:

```
\begin{floattype}
\centering
```

misc. fixes

- `tikz`: `\pgfpicture`, `fit`, `align`, `font`.
- `ragged2e`: `\centering` etc.
- `hyperref`: `\hypertarget` was creating duplicate of `\label`.
- `hyperref`: Active chars inside `\hyperref`, `\hyperlink`.
- `hyperref`: `\ref` inside `\hyperlink` caused a nested HTML link.
- `glossaries`: Fix when not using `babel` or `polyglossia`.
- `textcomp`: `\textperthousand`.
- $\TeX$ core verse environment: line spacing.
- Removed `\citetitle`, adjusted `\attribution`.
- `memoir`: Minor update for v3.7g.
- Added `inputenx`, `bibunits`, `chnpage`, `forest`, `magaz`, `gridset`.
- Prevents loading `ae`, `aecc`, `tlenc`, and `wasysym`.



packages

v0.53: Improved image checks.

lwarpmk

- `lwarpmk`: Added a warning about corrupted images due to the need to recompile the document one more time.
- `lwarpmk`: Added the `lwarpmk cleanimages` command.
- Added documentation for `lwarpmk cleanimages` and `lwarpmk pdftohtml`.

v0.52: Improved footnotes, svg math.

documentation

- Improved install instructions regarding `lwarp_baseline_marker.png`.
- Added documentation regarding footnotes in section headings, and footnotes with `\VerbatimFootnotes` from `fancybox`, `fancyvrb`. See section 8.5.4.
- Added documentation regarding font selection when using $\TeX$ or $\LaTeX$ with `fontspec` and traditional font packages. See section 7.4.

SVG math

- Fix: Limit the number of background tasks when generating `lateximages`.
- Added user-adjustable SVG math font scaling. See section 83.3.
- Added warnings if `lwarp_baseline_marker.png` is not present, or if `graphicx` or `graphics` is not loaded.
- Improved `\ensuremath` hashing expansion.

	• Fix: <code>equation*</code> with <code>split</code>. • <code>tabbing</code> now works inside a <code>lateximage</code>. Use for math in <code>tabbing</code>.
MathJax	• Fix: MATHJAX script was not executing in some conditions. • Added <code>\CustomizeMathJax</code> to add custom functions. See section 8.7.
footnotes	• Fix: Footnote numbering when using <code>HTMLDebugComments</code>. • Fix: Footnote paragraph tags. • Fix: <code>FootnoteDepth</code> defaults to <code>\subsubsection</code>.
misc. fixes	• Fix: <code>\kill</code> in a <code>lateximage</code>. • Fix: <code>\FileDepth</code>, misc. others, when input encoding is not <code>utf8</code>. • Fix: <code>\texorpdfstring</code> in a section name.
packages	• <code>hyperref</code> emulation: Fix for <code>#</code>, <code>%</code>, <code>&</code>, <code>~</code>, <code>_</code> characters in URLs. • <code>fancybox</code>, <code>fancyvrb</code>: Initial support for <code>\VerbatimFootnotes</code>. • <code>nicefrac</code>: Added with fix for <code>\ensuremath</code>. • <code>graphicx</code>: Fix for option defaults. Added v1.1a/b options. • <code>endfloat</code>: Updated for v2.6. • <code>url</code>: Fixes for active characters.
	v0.51: Improved <code>svg</code> math, added numerous chemistry packages.
documentation	• Docs: Added Things to avoid. • Docs: Added to Converting an existing document. • Docs: Multiple authors and affiliations with custom classes. See section 8.6.1. • Docs: <code>tikz</code> with matrices. See section 8.8.1.
SVG math	• Improved <code>svg</code> math baseline. • Improved <code>svg</code> math font and color. • Faster <code>svg</code> math rendering. • Improved support for display math containing complicated math objects, such as <code>tikz-cd</code>. See section 8.7.9. • Fix: <code>\addcontentsline</code> inside <code>svg</code> math. • Fix: <code>svg</code> math containing an embedded <code>lateximage</code>.
MathJax	• MATHJAX now handles <code>\ensuremath</code> in expressions.
misc. fixes	• Fix: Added <code>alignat</code> environment. • Fix: <code>afterpackage</code> no longer required, which conflicted with <code>scrfile</code>. • Fix: <code>titling</code> <code>\thanks</code> mark. • Fix: <code>fancybox</code> improvements. • Fix: <code>tikz</code> <code>\tikz</code> macro. (Previously only the <code>tikzpicture</code> environment worked.) • Fix: <code>tikz</code> with optional argument.
packages	• Added <code>mhchem</code>, <code>chemfig</code>, <code>chemformula</code>, <code>chemmacros</code>, <code>chemnum</code>, <code>chemgreek</code>, <code>epstopdf-base</code>, <code>grid</code>, <code>ltxgrid</code>.

2 Introduction

The **lwarp** project aims to allow a rich $\text{\LaTeX}$ document to be converted to a reasonable HTML5 interpretation, with only minor intervention on the user's part. No attempt has been made to force $\text{\LaTeX}$ to provide for every HTML-related possibility, and HTML cannot exactly render every possible $\text{\LaTeX}$ concept. Where compromise is necessary, it is desirable to allow the print output to remain typographically rich, and compromise only in the HTML conversion.

Several “modern” features of HTML5, CSS3, and SVG are employed to allow a fairly feature-rich document without relying on the use of JAVASCRIPT. Limited testing on older browsers shows that these new features degrade gracefully.

lwarp is a native $\text{\LaTeX}$ package, and operates by either patching or emulating various functions. Source-level compatibility is a major goal, but occasional user intervention is required in certain cases.

As a package running directly in $\text{\LaTeX}$, **lwarp** has some advantages over other methods of HTML conversion. $\text{\TeX}$ itself is still used, allowing a wider range of $\text{\TeX}$ trickery to be understood. Lua expressions are still available with Lua $\text{\TeX}$. Entire categories of $\text{\LaTeX}$ packages work as-is when used with **lwarp**: definitions, file handling, utilities, internal data structures and calculations, specialized math-mode typesetting for various fields of science and engineering, and anything generating plain-text output. Blocks of PDF output may be automatically converted to SVG images while using the same font and spacing as the original print document, directly supporting Tikz and picture. Numerous packages are easily adapted for HTML versions, either by loading and patching the originals, or by creating nullified or emulated replacements, and all without resorting to external programming. As a result, several hundred packages have already been adapted (table 2), and an uncounted number more work as-is.

Packages have been selected according to several criteria: perceived importance, popularity lists, recent CTAN updates, CTAN topics, mention in other packages, support by other HTML conversion methods, and from sample documents taken from public archives. These include some “obsolete” packages as well.¹

Assistance is also provided for modifying the HTML output to suit the creation of EPUB documents, and for modifying the HTML output to ease import into a word processor.

pdf $\text{\LaTeX}$, *x $\text{\LaTeX}$* , or *l $\text{\LaTeX}$* may be used, allowing **lwarp** to process the usual image formats. While generating HTML output, SVG files are used in place of PDF. Other formats such as PNG and JPG are used as-is.

¹An amazing number of decades-old packages are still in use today.

svg images may be used for math, and are also used for picture, Tikz, and similar environments. The svg format has better browser and e-book support than MathML (as of this writing), while still allowing for high-quality display and printing of images (again, subject to potentially bug-ridden² browser support).

Furthermore, svg images allow math to be presented with the same precise formatting as in the print version. Math is accompanied by `<alt>` tags holding the $\text{\LaTeX}$ source for the expression, allowing it to be copy/pasted into other documents.³ Custom $\text{\LaTeX}$ macros may be used as-is in math expressions, since the math is evaluated entirely inside $\text{\LaTeX}$. An MD5 hash is used to combine multiple instances of the same inline math expression into a single image file, which then needs to be converted to svg only a single time.

The MATHJAX JavaScript display engine may be selected for math display instead of using svg images. Subject to browser support and Internet access, MATHJAX allows an HTML page to display math without relying on a large number of external image files.⁴ **lwarp** maintains $\text{\LaTeX}$ control for cross-referencing and equation numbering, and attempts to force MATHJAX to tag equations accordingly.

A *texlua* program called *lwarpmk* is used to process either the print or HTML version of the document. A few external utility programs are used to finish the conversion from a $\text{\LaTeX}$ -generated pdf file which happens to have HTML5 tags, to a number of HTML5 plain-text files and accompanying images.

lwarp automatically generates the extra files necessary for the HTML conversion, such as css and .xdy files, and configuration files for the utility *lwarpmk*. Also included is a parallel version of the user's source document, `<sourcename>-html.tex`, which selects HTML output and then inputs the user's own source. This process allows both the printed and HTML versions to co-exist side-by-side, each with their own auxiliary files.

When requesting packages during HTML conversion, **lwarp** first looks to see if it has its own modified version to use instead of the standard $\text{\LaTeX}$ version. These `lwarp-packagename.sty` files contain code used to emulate or replace functions for HTML output.

²FIREFOX has had an on-again/off-again bug for quite some time regarding printing svgs at high resolution.

³There seems to be some debate as to whether MathML is actually an improvement over $\text{\LaTeX}$ for sharing math. The author has no particular opinion on the matter, except to say that in this case $\text{\LaTeX}$ is much easier to implement!

⁴One svg image file per math expression, except that duplicate inline math expressions are combined into a single file according to the MD5 hash function of its contents. A common scientific paper can easily include several thousand files, and in one case the MD5 hash cut the number of files in half and the rendering time by 30%.

2.1 Typesetting conventions

Font weight, family, and style are used to indicate various objects:

Table 1: Typesetting conventions

package	LaTeX package.
<i>program</i>	Program's executable name.
option	Program or package option.
filename	File name in the operating system.
BRAND NAME	Proper name for a program, operating system, etc.
commands	Commands to be entered by the user.
code	Program code.
\macroname	LaTeX macro.
environment	LaTeX environment.
counter	LaTeX counter.
boolean	LaTeX boolean.
<element>	HTML element.
attribute	HTML attribute.
User Interface	A user-interface item.
ACRO	Acronym.

2.2 Supported packages and features

Table 2 lists some of the various L^AT_EX features and packages which may be used.

Package names are colored according to their support level:

- name:** Supported as-is.
- name:** Modified to work with HTML output, and perhaps also as print output in svg math or lateximage environments.
- name:** Emulated for HTML output.
- name:** Ignored for HTML output, but provides source-level compatibility.
- MJ:** Supported as-is for MATHJAX, subject to limitations.
- MJ:** Emulated for MATHJAX using custom macros, subject to limitations.
- MJ:** Ignored by MATHJAX, but may be used in the document source. May be converted to svg images.

Table 2: L^AT_EX lwarp package — Supported features

Category	Status and supported features.
Engines:	DVI L ^A T _E X, pdfL ^A T _E X, X _Y L ^A T _E X, LuaL ^A T _E X, upL ^A T _E X
Compiling:	<i>latexmk</i> , <i>perltex</i> , <i>pythontex</i> , <i>make</i> , etc.
Classes:	article, book, report, scrartcl, scrbook, scrreprt, memoir, CJK-related as listed below.
Koma-script:	scrxextend , <i>scrhack</i> , scrlayer . Others as listed below.
Memoir:	memhfixc
Languages:	babel , cjkpunct , <i>imnpnatypo</i> , luavl_{na} , polyglossia , xeCJK , xevl_{na} .
Chinese:	C _T _E X, ctex , upzhkinsoku , xpinyin , <i>zhlineskip</i> , <i>zhspacing</i> .
Japanese:	upL ^A T _E X, Lua _T _E X-ja, <i>gentombow</i> , lltjext , plarray , plarydshln , plautopatch , plext , plextarray , plextarydshln , plextcolortbl , plextdelarray , <i>pxatbegshi</i> , <i>pxeveryshi</i> , <i>pxftnright</i> , <i>pxgentombow</i> , <i>pxjahyper</i> , <i>pxpdfpages</i> , <i>pxpgfrcs</i> , <i>pxpgfmark</i> , tascmac , zxjatype . <i>bxjsarticle</i> and related, <i>ltjsarticle</i> and related, <i>luatexja</i> , <i>luatexja-fontspec</i> , <i>ujarticle</i> and related, utarticle and related.
Korean:	kotex , luatexko , xetexko .

lwarp Supported Functions — continued

Category	Status
Page layout:	2in1, 2up, a4, a4wide, a5comb, addlines, anysize, atbegshi , blowup, booklet, bophook, bounddvi, bxpapersize, canoniclayout, changelayout , changepage , chngpage, clrdblpg, continue, draftcopy, drafftfigure, draftwatermark, ebook, everyshi, fancyhdr , fancytabs, flippdf, fullminipage, fullpage, fwlw, geometry, gmeometric, grid, grid-system , gridset, layaureo, layout, layouts, leading, ltxgrid, nccfancyhdr, notespages, nowidow, pagegrid, pagesel, parallel , parcolumns , pdfcolparallel, pdfcolparcolumns, pdfcrypt, pdfprivacy, preview, ragged2e , returntogrid, rmpage, scrlayer-scrpage , scrpage2 , setspace , selectp, textarea, threadcol, thumb, thumbs, titles, tocenter, turnthepage, twoup, typearea, underlin, vmargin, watermark, widows-and-orphans, zwpagelayout.
Sectioning:	Adds <code>FileDepth</code> for splitting the HTML output. Files may be numbered sequentially or named according to section name. Common short words and punctuation are removed from the filenames. anonchap , bsheaders, fncychap, hypbmsec , indentfirst , quotchap , section, sectionbreak , secdot , sectsty, titlesec, tocvsec2 .
Table of contents, figures, tables:	Supported, with hyperlinks. etoc, minitoc, multitoc, shorttoc , tableof , titletoc, tocbasic, tocbibind , tocdata , tocloft, tocstyle, tocvsec2 .
Title page:	<code>\maketitle</code> , titlepage, authblk , authoraftertitle , titling .
Front & back matter:	abstract , appendix .
Indexing:	<i>makeindex</i> , <i>xindy</i> , and <i>xindex</i> are supported, with hyperlinks. gindex , hvindex , idxlayout , imakeidx , index , makeidx , repeatindex , splitidx , varindex , xindex .
Glossary:	gloss , glossaries and <i>xindy</i> , nomencl .
Bibliography:	babelbib , bibtopic , backref , biblatex , bibunits , chapterbib , cite , citeref , collref , drftcite , hypernat , jurabib , mcite , mciteplus , multibib , natbib , notes2bib , splitbib , showtags .

lwarp Supported Functions — continued

Category	Status
Cross-references:	bookmark, breakurl , cleveref , fancyref , hypdestopt , hyperref , perpage , prettyref , titleref , url , varioref , xcite , xr , xr-hyper , xurl , zref .
Margin notes:	marginal , marginfit , marginfix , sclayer-notecolumn , versionotes .
Footnotes:	Adds FootnoteDepth to print footnotes at section breaks. MATHJAX emulation for <code>\footnote</code> , and also as marked in the following: bigfoot , dblnote , endheads , endnotes ^{MJ} , fixfoot , fnbreak , fnpara , fnpos , footmisc , footnote , footnotebackref , footnoterange , footnpag , manyfoot , marginnote ^{MJ} , nccfoots ^{MJ} , pagenote ^{MJ} , parnotes ^{MJ} , pdfcolfoot , pfnote , sepfootnotes , sidenotes ^{MJ} , tablefootnote .
Math:	Converted to SVG images with HTML <code><alt></code> tags containing the $\LaTeX$ source for the math expression. MATHJAX supported as an alternative. amsmath ^{MJ} : $\mathcal{A}\mathcal{M}\mathcal{S}$ environments are supported. User-defined macros are available during conversion, due to native $\LaTeX$ processing.
Theorems:	Native $\LaTeX$ theorems, amsthm , apxproof , nththeorem , shadethm , theorem , thmbox , thmtools .
Additional math:	Math fonts via SVG images, accents ^{MJ} , amscd ^{MJ} , amscdx , autobreak ^{MJ} , autonum , backnaur ^{MJ} , bm ^{MJ} , braket ^{MJ} , breqn ^{MJ} , bussproofs ^{MJ} , cases ^{MJ} , centernot ^{MJ} , cmbright ^{MJ} , colonequals ^{MJ} , decimal ^{MJ} , delarray , DotArrow ^{MJ} , dotlessi ^{MJ} , dotlessj ^{MJ} , esvect ^{MJ} , extrarrows ^{MJ} , fixmath ^{MJ} , fouridx ^{MJ} , fourier ^{MJ} , guass , hhtensor ^{MJ} , icomma ^{MJ} , isomath ^{MJ} , jkmath , kpfonts ^{MJ} , kpfonts-otf ^{MJ} , leftidx ^{MJ} , libertinust1math ^{MJ} , mathalpha ^{MJ} , mathastext ^{MJ} , mathcomp ^{MJ} , mathdesign ^{MJ} , mathdots ^{MJ} , mathfixs ^{MJ} , mathpazo ^{MJ} , mathptmx ^{MJ} , mathpunctspace ^{MJ} , mathspec ^{MJ} , mathtools ^{MJ} , mattens ^{MJ} , maybemath ^{MJ} , mdwmath ^{MJ} , mismath ^{MJ} , mletright ^{MJ} , multiobjective ^{MJ} , nccmath ^{MJ} , nicematrix ^{MJ} , noitcrul ^{MJ} , newpxmath ^{MJ} , newtxmath ^{MJ} , newtxsf ^{MJ} , pb-diagram , pxfonts ^{MJ} , resizegather ^{MJ} , rmathbr ^{MJ} , scalerel ^{MJ} , shuffle ^{MJ} , skmath ^{MJ} , stackrel ^{MJ} , statex2 ^{MJ} , statistics , statmath ^{MJ} , subsupscripts ^{MJ} , tensind , tensor ^{MJ} , textualicomma ^{MJ} , txfonts ^{MJ} , txgreek ^{MJ} , unicode-math ^{MJ} , upgreek ^{MJ} , ushort ^{MJ} , witharrows ^{MJ} , xfakebold ^{MJ} , xy . Many others work as-is.

lwarp Supported Functions — continued

Category	Status
Display math with <code>\displaymath</code> or other:	Complicated math objects in display math, such as <code>tikz-cd</code> , etc.
Units and fractions:	<code>nicefrac</code> ^{MJ} , <code>Slunits</code> ^{MJ} , <code>siunitx</code> ^{MJ} , <code>units</code> ^{MJ} , <code>unitsdef</code> , <code>xfrac</code> ^{MJ} .
Floats:	Appear where declared. <code>capt-of</code> , <code>caption</code> , <code>cutwin</code> , <code>dblfloatfix</code> , <code>endfloat</code> , <code>fewerfloatpages</code> , <code>fix2col</code> , <code>flafter</code> , <code>float</code> , <code>floatflt</code> , <code>floatrow</code> , <code>fltrace</code> , <code>ftcap</code> , <code>hypcap</code> , <code>keyfloat</code> , <code>morefloats</code> , <code>multicap</code> , <code>newfloat</code> , <code>nonfloat</code> , <code>picipar</code> , <code>placeins</code> , <code>rotfloat</code> , <code>stfloats</code> , <code>subcaption</code> , <code>subfig</code> , <code>subfigure</code> , <code>subfloat</code> , <code>swfigure</code> , <code>topcapt</code> , <code>trivfloat</code> , <code>wrapfig</code> .
Tabular:	<code>tabular</code> environment, <code>array</code> ^{MJ} , <code>arydshln</code> ^{MJ} , <code>bigdelim</code> ^{MJ} , <code>bigstrut</code> ^{MJ} , <code>booktabs</code> ^{MJ} , <code>colortbl</code> ^{MJ} , <code>ctable</code> , <code>diagbox</code> , <code>hhline</code> ^{MJ} , <code>longtable</code> , <code>ltablex</code> , <code>ltxable</code> , <code>multirow</code> ^{MJ} , <code>supertabular</code> , <code>tabularx</code> , <code>tabulary</code> , <code>threeparttable</code> , <code>threeparttablex</code> , <code>widetable</code> , <code>xtabular</code> , <code>xtab</code> .
Graphics:	<code>graphics</code> and <code>graphicx</code> . <code>\includegraphics</code> supports width, height, origin, angle, and scale tags, and adds class. References to PDF files are changed to SVG, other image types are accepted as well. <code>\rotatebox</code> and <code>\scalebox</code> are supported as well as HTML can handle. <code>rotating</code> is emulated but all objects are unrotated in HTML. <code>picture</code> , <code>tikz</code> , and <code>xy</code> are converted to an SVG image. <code>asymptote</code> , <code>curves</code> , <code>datatool</code> , <code>eepic</code> , <code>epsf</code> , <code>epsfig</code> , <code>epstopdf</code> , <code>figsize</code> , <code>fitbox</code> , <code>grffile</code> , <code>lpic</code> , <code>luamplib</code> , <code>media9</code> , <code>movie15</code> , <code>multimedia</code> , <code>overpic</code> , <code>pict2e</code> , <code>pinlabel</code> , <code>psfrag</code> , <code>psfragx</code> , <code>pst-eps</code> , <code>pstool</code> , <code>pstricks</code> , <code>rlepsz</code> , <code>rviewport</code> , <code>svg</code> , <code>svg-extract</code> , <code>tikz</code> , <code>tikz-3dplot</code> , <code>tikz-image</code> , <code>labels</code> , <code>xy</code>
<code>xcolor</code> :	Full package color names, any color models, and <code>mixing</code> . <code>\textcolor</code> , <code>\colorbox</code> , <code>\fcolorbox</code> . Enhanced for HTML compatibility.
Lists:	Standard $\LaTeX$ environments, <code>enumerate</code> , <code>enumitem</code> , <code>eqlist</code> , <code>hang</code> , <code>listliketab</code> , <code>paralist</code> .
Environments:	Standard $\LaTeX$ environments.
<code>minipage</code> , <code>\parbox</code> :	Some HTML5-imposed limitations. Nested minipages are supported. <code>eqparbox</code> , <code>minibox</code> , <code>pbox</code> , <code>shapepar</code> .
Quotations:	<code>copyrightbox</code> , <code>csquotes</code> , <code>epigraph</code> , <code>quoting</code> , <code>verse</code> .

lwarp Supported Functions — continued

Category	Status
Verbatim:	<code>fancyvrb</code> , <code>fvextra</code> , <code>moreverb</code> , <code>shortvrb</code> , <code>verbatim</code> .
Frames:	<code>boxedminipage</code> , <code>boxedminipage2e</code> , <code>fancybox</code> , <code>fbox^{MJ}</code> , <code>framed</code> , <code>mdframed</code> , <code>niceframe</code> , <code>shadow</code> , <code>tcolorbox^{MJ}</code> , <code>vertbars</code> .
Multi-columns:	<code>adjmulticol</code> , <code>multicol</code> , <code>multicolrule</code> , <code>vwcol</code> .
Margins:	<code>fullwidth</code> , <code>hanging</code> , <code>midpage</code> .
Line numbering:	<code>fnlineno</code> , <code>lineno</code> .
Direct formatting:	<code>\emph</code> , <code>\textsuperscript</code> , <code>\textbf</code> , etc are supported. <code>\bfseries</code> , etc. are only supported in some cases. <code>cancel^{MJ}</code> , <code>ellipsis</code> , <code>embrac</code> , <code>enparen</code> , <code>hyphenat</code> , <code>lettrine</code> , <code>lips</code> , <code>lua-check-hyphen</code> , <code>luacolor</code> , <code>magaz</code> , <code>moresize</code> , <code>nolbreaks</code> , <code>normalcolor</code> , <code>pdfcol</code> , <code>pdfcolmk</code> , <code>pdfrender</code> , <code>realscripts</code> , <code>relsize^{MJ}</code> , <code>scalefnt</code> , <code>seqsplit^{MJ}</code> , <code>soul</code> , <code>soulpos</code> , <code>soulutf8</code> , <code>stackengine</code> , <code>textfit</code> , <code>thinsp</code> , <code>trimclip</code> , <code>truncate</code> , <code>ulem</code> , <code>umoline</code> , <code>underscore</code> , <code>uspace</code> , <code>xellipsis</code> .
Acronyms:	<code>acro</code> , <code>acronym</code> .
Ordinals:	<code>engord</code> , <code>fmcntcount</code> , <code>nth</code> .
Text ligatures:	Ligatures for symbols are supported. Ligatures for f, q, t are intentionally turned off because many simpler browsers do not display them correctly. Modern full-featured browsers re-create these ligatures on-the-fly.
Horizontal space:	HTML output for <code>thin-unbreakable</code> , <code>unbreakable</code> , <code>\enskip</code> , <code>\quad</code> , <code>\qquad</code> , <code>\hspace</code> .
Rules:	<code>\rule</code> with width, height, raise, text color.
HTML reserved characters:	<code>\&</code> , <code>\textless</code> , and <code>\textgreater</code> are converted to HTML entities.
Fonts:	Used as-is. Appear in svg math expressions or embedded image environments. <code>fontaxes</code> , <code>nfssext-cfr</code> , <code>slantsc</code> , <code>tabfigures</code> . Tested to work as-is: Special font macros in <code>cfr-lm</code> and others which use <code>nfssext-cfr</code> . Also see the math section for math and MATHJAX support for math font packages.

lwarp Supported Functions — continued

Category	Status
Symbols:	Native L ^A T _E X diacriticals, academicons , amssymb ^{MJ} , bbding , chemgreek , dingbat , euro , eurosym , fontawesome , fontawesome5 , gensymb ^{MJ} , latexsym ^{MJ} , marvosym , metalogo , metalogox , pifont , textalpha , textcomp , textgreek , typicons , xunicode .
Files:	attachfile , attachfile2 , hyperxmp , inputtrc , intopdf , pdfpages , pdfx , xmpincl .
Science and engineering:	algorithm2e , algorithmicx , ar ^{MJ} , askmaps , axodraw2 , bitpattern , blochsphere , bodegraph , bohr , bytefield , chemfig , chemformula , chemgreek , chemmacros , chemnum , circuitkz , econometrics ^{MJ} , elements , engtlc ^{MJ} , fast-diagram , ghsystem , hepnickenames , heppennames , hepunits ^{MJ} , isotope ^{MJ} , karnaughmap , karnaugh-map , keystroke , listings , listingsutf8 , linop , menukeys , mhchem ^{MJ} , minted , pgfgantt , phfqit , physics ^{MJ} , physunits ^{MJ} , plimsoll ^{MJ} , qcircuit , register , simplebnf , simpler-wick , slashed ^{MJ} , steinmetz ^{MJ} , structmech , struktex , syntaxdi , tikz-karnaugh , tikzcodeblocks , venndiagram
Arts and humanities:	foreign , forest , lyluatex , musicography , nameauth , octave , phonrule , piano , schemata , semantic-markup , tikz-dependency , vowel , xpiano
Calendars:	termcal
Admonitions:	awesomebox , notes .
Editorial:	changebar , changelog , changes , easy-todo , easyReview , ed , errata , fixme , fixmetodonotes , pdfcomment ^{MJ} , pdfmarginpar , todo , todonotes , tram , xchangebar .
Accessibility:	accessibility ^{MJ} , accsupp ^{MJ} , axessibility ^{MJ} , pdfcomment ^{MJ} , repltext ^{MJ} , tagpdf .
Package handling:	catoptions .
Debug:	chkfloat , cmdtrack , dprogress , lua-visual-debug , refcheck , srcltx , srcetex , vpe , xbmks .

lwarp Supported Functions — continued

Category	Status
Working as-is:	Various utility, calculation, file, and text-only packages, such as <code>calc</code> , <code>fileerr</code> , <code>somedefs</code> , <code>trace</code> , <code>xspace</code> . Also, most math-only packages, including specialized typesetting for various fields of science and engineering.

3 Alternatives

Summarized below are several other ways to convert a $\text{\LaTeX}$ or other document to HTML. Where an existing $\text{\LaTeX}$ document is to be converted to HTML, **lwarp** may be a good choice. For new projects with a large number of documents, it may be worth investigating the alternatives before decided which path to take.

3.1 internet class

Cls internet The closest to **lwarp** in design principle is the internet class by Andrew Stacey — an interesting project which directly produces several versions of markdown, and also HTML and EPUB. <https://github.com/loopspace/latex-to-internet>

3.2 $\text{\TeX}$ 4 $\text{\HTML}$

Prog $\text{\TeX}$ 4ht <http://tug.org/tex4ht/>
 Prog htlatex

This system uses native $\text{\LaTeX}$ processing to produce a DVI file containing special commands, and then uses additional post-processing for the HTML conversion by way of numerous configuration files. In some cases **lwarp** provides a better HTML conversion, and it supports a different set of packages. $\text{\TeX}$ 4ht produces several other forms of output beyond HTML, including ODT and a direct path to EPUB, and is still being developed.

3.3 Translators

These systems use external programs to translate a subset of $\text{\LaTeX}$ syntax into HTML. Search for each on CTAN (<http://ctan.org>).

Prog Hevea **H^Ev^Ea**: <http://hevea.inria.fr/> (not on CTAN)
 Prog TtH **T_TH**: <http://hutchinson.belmont.ma.us/tth/>
 Prog GELLMU **GELLMU**: <http://www.albany.edu/~hammond/gellmu/>
 Prog LaTeXML **$\text{\LaTeX}$ XML**: <http://dlmf.nist.gov/LaTeXML/>
 Prog Plastex **PlasTeX**: <https://github.com/tiarno/plastex>
 Prog LaTeX2HTML **$\text{\LaTeX}$ 2HTML**: <http://www.latex2html.org/>
 and <http://ctan.org/pkg/latex2html>.
 Prog $\text{\TeX}$ 2page **$\text{\TeX}$ 2page**: <http://ds26gte.github.io/tex2page/index.html>

Finally, Glad $\text{\TeX}$ may used to directly insert $\text{\LaTeX}$ math into HTML:

Prog GladTeX **GladTeX**: <http://humenda.github.io/GladTeX/>

3.4 AsciiDoc and AsciiDoctor

AsciiDoc is one of the most capable markup languages, providing enough features to produce the typical technical-writing document with cross-references, and it writes $\LaTeX$ and HTML.

Prog AsciiDoc **AsciiDoctor:** <http://asciidoctor.org/> (More active.)

Prog AsciiDoctor **AsciiDoc:** <http://asciidoc.org/> (The original project.)

3.4.1 AsciiDoctor- $\LaTeX$

The AsciiDoctor-LaTeX project is developing additional $\LaTeX$ -related features.

AsciiDoctor-LateX:

<http://www.noteshare.io/book/asciidoctor-latex-manual>

Prog AsciiDoctor-LaTeX <https://github.com/asciidoctor/asciidoctor-latex>

3.5 PANDOC

Prog Pandoc A markup system which also reads and writes $\LaTeX$ and HTML.

Pandoc: <http://pandoc.org/>

(Watch for improvements in cross-references to figures and tables.)

3.6 Word processors

Prog Word It should be noted that the popular word processors have advanced through the years in
 Prog LibreOffice their abilities to represent math with a $\LaTeX$ -ish input syntax, unicode math fonts, and high-
 Prog OpenOffice quality output, and also generate HTML with varying success. See recent developments in
 MICROSOFT[®] *Word*[®] and LIBREOFFICE[™] *Writer*.

3.7 Commercial systems

Prog Adobe Likewise, several professional systems exist whose abilities have been advancing in the
 Prog FrameMaker areas of typesetting, cross-referencing, and HTML generation. See ADOBE[®] *FrameMaker*[®],
 Prog InDesign ADOBE *InDesign*[®], and MADCAP *Flare*[™].

Prog Flare

Prog Madcap

3.8 Comparisons

AsciiDoc, Pandoc, and various other markup languages typically have a syntax which tries to be natural and human-readable, but the use of advanced features tends to require many combinations of special characters, resulting in a complicated mess of syntax. By

contrast, $\LaTeX$ spells things out in readable words but takes longer to type, although integrated editors exist which can provide faster entry and a graphic user interface. For those functions which are covered by the typical markup language it is arguable that $\LaTeX$ is comparably easy to learn, while $\LaTeX$ provides many more advanced features where needed, along with a large number of pre-existing packages which provide solutions to numerous common tasks.

Text-based document-markup systems share some of the advantages of $\LaTeX$ vs. a typical word processor. Documents formats are stable. The documents themselves are portable, work well with revision control, do not crash or become corrupted, and are easily generated under program control. Formatting commands are visible, cross-referencing is automatic, and editing is responsive. Search/replace with regular expressions provides a powerful tool for the manipulation of both document contents and structure. Markup systems and some commercial systems allow printed output through a $\LaTeX$ back end, yielding high-quality results especially when the $\LaTeX$ template is adjusted, but they lose the ability to use $\LaTeX$ macros and other $\LaTeX$ source-document features.

The effort required to customize the output of each markup system varies. For print output, $\LaTeX$ configuration files are usually used. For HTML output, a CSS file will be available, but additional configuration may require editing some form of control file with a different syntax, such as XML. In the case of **lwarp**, CSS is used, and much HTML output is adjusted through the usual $\LaTeX$ optional macro parameters, but further customization may require patching $\LaTeX$ code.

The popular word processors and professional document systems each has a large base of after-market support including pre-designed styles and templates, and often include content-management systems for topic reuse.

4 Installation

Table 3 shows the tools which are used for the $\text{\LaTeX}$ to HTML conversion. In most cases, these will be available via the standard package-installation tools.

Detailed installation instructions follow.

Table 3: Required software programs

Provided by your $\text{\LaTeX}$ distribution:

From $\text{\TeX}$ Live: <http://tug.org/texlive/>.

$\text{\LaTeX}$: *pdflatex*, *xelatex*, or *lualatex*.

The lwarp package: This package.

The *lwarpmk* utility: Provided along with this package. This should be an operating-system executable in the same way that *pdflatex* or *latexmk* is. It is possible to have the *lwarp* package generate a local copy of *lwarpmk* called *lwarpmk.lua*. See table 4.

***luatex*:** Used by the *lwarpmk* program to simplify and automate document generation.

***xindy*:** The *xindy* program is used by *lwarp* to create indexes. On a MiKTeX system this may have to be acquired separately, but it is part of the regular installer as of mid 2015.

***latexmk*:** Optionally used by *lwarpmk* to compile $\text{\LaTeX}$ code. On a MiKTeX system, *Perl* may need to be installed first.

***pdfcrop*:** Used to pull images out of the $\text{\LaTeX}$ PDF.

POPPLER PDF utilities:

***pdftotext*:** Used to convert PDF to text.

***pdfseparate*:** Used to pull images out of the $\text{\LaTeX}$ PDF.

***pdftocairo*:** Used to convert images to svg.

These might be provided by your operating-system package manager, and MiKTeX provides *miktex-poppler-bin-** packages.

From POPPLER: poppler.freedesktop.org.

For $\text{MACOS}^{\circledR}$, see <https://brew.sh/>, install *Homebrew*, then

Enter $\Rightarrow$ **brew install poppler**

For WINDOWS , see MiKTeX *miktex-poppler-bin-**, or:

<https://sourceforge.net/projects/poppler-win32/> and:

<http://blog.alivate.com.au/poppler-windows/>

***Perl*:**

This may be provided by your operating-system package manager, and may be required for some of the POPPLER PDF utilities.

strawberryperl.com (recommended), perl.org

Automatically downloaded from the internet as required:

***MATHJAX*:** Optionally used to display math. From: mathjax.org

4.1 Installing the lwarp package

There are several ways to install **lwarp**. These are listed here with the preferred methods listed first:

Pre-installed: Try entering into a command line:

Enter $\Rightarrow$ **kpsewhich lwarp.sty**

If a path to **lwarp.sty** is shown, then **lwarp** is already installed and you may skip to the next section.

T_EX Live: If using a T_EX Live distribution, try installing via *tlmgr*:

Enter $\Rightarrow$ **tlmgr install lwarp**

MiK_TE_X:

1. For newer versions of MiK_TE_X, install or update **lwarp** using the *MiKTeX Console* program.
2. For older versions of MiK_TE_X, to install **lwarp** the first time, use the *MiKTeX Package Manager (Admin)*. To update **lwarp**, use *MiKTeX Update (Admin)*.
3. Either way, also update the package **miktex-misc**, which will install and update the *lwarpmk* executable.

Operating-system package: The operating-system package manager may already have **lwarp**, perhaps as part of a set of T_EX-related packages.

CTAN TDS archive: **lwarp** may be downloaded from the Comprehensive T_EX Archive:

1. See <http://ctan.org/pkg/lwarp> for the **lwarp** package.
2. Download the TDS archive: **lwarp.tds.zip**
3. Find the T_EX local directory:

T_EX Live:

Enter $\Rightarrow$ **kpsewhich -var-value TEXMFLOCAL**

MiK_TE_X:

In the **Settings** window, **Roots** tab, look for a local TDS root.

This should be something like:

`/usr/local/texlive/texmf-local/`

4. Unpack the archive in the TDS local directory.
5. Renew the cache:

Enter $\Rightarrow$ **mktextlsr**

— or —

Enter $\Rightarrow$ **texhash**

Or, for WINDOWS MiK_TE_X, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

CTAN .dtx and .ins files: Another form of T_EX package is .dtx and .ins source files. These files are used to create the documentation and .sty files.

1. See <http://ctan.org/pkg/lwarp> for the **lwarp** package.
2. Download the zip archive **lwarp.zip** into your own **lwarp** directory.
3. Unpack **lwarp.zip**.
4. Locate the contents **lwarp.dtx** and **lwarp.ins**
5. Create the **.sty** files:

Enter ⇒ **pdflatex lwarp.ins**

6. Create the documentation:

```
pdflatex lwarp.dtx (several times)
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
makeindex -s gind.ist lwarp.idx
pdflatex lwarp.dtx (several times)
```

7. Copy the **.sty** files somewhere such as the $\text{\TeX}$ Live local tree found in the previous CTAN TDS section, under the subdirectory:


```
<texlocal>/tex/latex/local/lwarp
```
8. Copy **lwarp_baseline_marker.png** and **lwarp_baseline_marker.eps** to the same place as the **.sty** files.
9. Copy the documentation **lwarp.pdf** to a source directory in the local tree, such as:

```
<texlocal>/doc/local/lwarp
```

10. Renew the cache:

Enter ⇒ **mktexlsr**

— or —

Enter ⇒ **texhash**

Or, for WINDOWS $\text{\TeX}$, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

11. See section 4.2.1 to generate your local copy of **lwarpmk**.
12. Once the local version of **lwarpmk.lua** is installed, it may be made available system-wide as per section 4.2.

Project-local CTAN .dtx and .ins files: The **.dtx** and **.ins** files may be downloaded to a project directory, then compiled right there, alongside the document source files. The resultant ***.sty** and **lwarpmk.lua** files may be used as-is, so long as they are in the same directory as the document source. The files **lwarp_baseline_marker.png** and **lwarp_baseline_marker.eps** must also be copied as well. This approach is especially useful if you would like to temporarily test **lwarp** before deciding whether to permanently install it.

Just testing!

4.2 Installing the **lwarpmk** utility

(Note: If **lwarpmk** is not already installed, it is easiest to use a local copy instead of installing it system-wide. See section 4.2.1.)

After the **lwarp** package is installed, you may need to setup the **lwarpmk** utility:

1. At a command line, try executing **lwarpmk**. If the *lwarpmk* help message appears, then *lwarpmk* is already set up. If not, it is easiest to generate and use a local copy. See section 4.2.1.

2. For MiKTeX, try updating the miktex-misc package. This may install the *lwarpmk* executable for you.

Otherwise, continue with the following:

3. Locate the file `lwarpmk.lua`, which should be in the scripts directory of the TDS tree. On a T_EX Live or MiKTeX system you may use

Enter ⇒ **kpsewhich lwarpmk.lua**

(If the file is not found, you may also generate a local copy and use it instead. See section 4.2.1.)

4. Create *lwarpmk*:

Unix: Create a symbolic link and make it executable:

- (a) Locate the T_EX Live binaries:

Enter ⇒ **kpsewhich -var-value TEXMFROOT**

This will be something like:

`/usr/local/texlive/<year>`

The binaries are then located in the `bin/<arch>` directory under the root:

`/usr/local/texlive/<year>/bin/<architecture>/`

In this directory you will find programs such as *pdflatex* and *makeindex*.

- (b) In the binaries directory, create a new symbolic link from the binaries directory to `lwarpmk.lua`:

Enter ⇒ **ln -s <path to lwarpmk.lua> lwarpmk**

- (c) Make the link executable:

Enter ⇒ **chmod 0755 lwarpmk**

Windows T_EX Live: Create a new `lwarpmk.exe` file:

- (a) Locate the T_EX Live binaries as shown above for UNIX.
- (b) In the binaries directory, make a *copy* of `runscript.exe` and call it `lwarpmk.exe`. This will call the copy of `lwarpmk.lua` which is in the scripts directory of the distribution.

Windows MiKTeX: Create a new `lwarpmk.bat` file:

- (a) Locate the MiKTeX binaries. These will be in a directory such as:

`C:\Program Files\MiKTeX 2.9\miktex\bin\x64`

In this directory you will find programs such as `pdflatex.exe` and `makeindex.exe`.

- (b) Create a new file named `lwarpmk.bat` containing:

`texlua "C:\Program Files\MiKTeX 2.9\scripts\lwarp\lwarp.texlua" %*`

This will call the copy of `lwarpmk.lua` which is in the scripts directory of the distribution.

4.2.1 Using a local copy of *lwarpmk*

It is also possible to use a local version of *lwarpmk*:

1. When compiling the tutorial in section 5, use the *lwarpmk* option for the *lwarp* package:

```
\usepackage[lwarpmk]{lwarp}
```

2. When the tutorial is compiled with *pdflatex*, the file *lwarpmk.lua* will be generated along with the other configuration files.
3. *lwarpmk.lua* may be used for this project:

Unix:

- (a) Make *lwarpmk.lua* executable:

```
Enter ⇒ chmod 0755 lwarpmk.lua
```

- (b) Compile documents with

```
Enter ⇒ ./lwarpmk.lua html
```

```
Enter ⇒ ./lwarpmk.lua print
```

etc.

- (c) It may be useful to rename or link to a version without the *.lua* suffix.

WINDOWS:

Compile documents with either of the following, depending on which command shell is being used:

```
Enter ⇒ texlua lwarpmk.lua html
```

```
Enter ⇒ texlua lwarpmk.lua print
```

etc.

Or:

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print
```

etc.

4.3 Installing additional utilities

To test for the existence of the additional utilities:

Enter the following in a command line. If each programs' version is displayed, then that utility is already installed. See table 3 on page 77.

```
Enter ⇒ luatex --version
```

```
Enter ⇒ xindy --version
```

```
Enter ⇒ latexmk --version
```

```
Enter ⇒ perl --version
```

```
Enter ⇒ pdftocrop --version
```

```
Enter ⇒ pdftotext -v
```

```
Enter ⇒ pdfseparate --version
```

```
Enter ⇒ pdftocairo -v
```

To install *xindy*, *latexmk*, and *pdfcrop*:

The T_EX utilities *xindy*, *latexmk*, and *pdfcrop* may be installed in *TeXLive* with *tlmgr*, installed by *MiKTeX*, provided by your operating system's package manager, or downloaded from the *CTAN* archive:

<http://ctan.org/pkg/xindy>

<http://ctan.org/pkg/latexmk>

<http://ctan.org/pkg/pdfcrop>

To install the POPPLER utilities to a UNIX/LINUX system:

Prog [requirement] pdftotext

Prog [requirement] pdfseparate

Prog [requirement] pdftocairo

The tools from the POPPLER project should be provided by your operating system's package manager.

To install the POPPLER utilities to a MacOS machine:

1. Install *Homebrew* from <https://brew.sh/>:

```
/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

2. Install the POPPLER utilities:

Enter ⇒ **brew install poppler**

To install the POPPLER utilities to a WINDOWS machine:

If using MikT_EX, install a miktex-poppler-bin-* package. Otherwise:

1. See table 3 on page 77.
2. Download and extract the POPPLER utilities *pdftotext*, *pdfseparate*, and *pdfseparate* to a directory, such as Poppler.
3. In the **Start** window, type "Path" to search for results related to Path. Or, open the control panel and search for "Path".
4. Choose **Edit the system environment variables** in the control panel.
5. Choose the **Environment Variables** button.
6. Choose the **Path** variable, then the **Edit** button.
7. Choose the **New** button to make an additional entry.
8. Enter the bin directory of the POPPLER utilities, such as:
C:\Users\<myname>\Desktop\Poppler\poppler-0.5_x86\poppler-0.5\bin
Be sure to include \bin.
9. Click **Ok** when done.

Prog [requirement] perl

To install PERL to a WINDOWS machine:

1. Download and install a version of PERL, such as STRAWBERRY PERL, to a directory without a space in its name, such as C:\Strawberry.
2. Edit the **Path** as seen above for the POPPLER utilities.
3. Enter the bin directory of the *perl* utility, such as:
C:\Strawberry\perl\bin
Be sure to include \bin.
4. Click **Ok** when done.

Any utilities installed by hand must be added to the PATH.

5 Tutorial

This section shows an example of how to create an **lwarp** document.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

5.1 Starting a new project

1. Create a new project directory called `tutorial`.

File `tutorial.tex`

2. Inside the `tutorial` directory, create a new file called `tutorial.tex`. This may be done several ways:

Copy from the documentation PDF:

A listing is in [fig. 1](#), which may be copied/pasted from the figure directly into your own editor, depending on the quality of the PDF viewer and editor, or:

Copy from the lwarp documentation directory:

Another copy may be found by entering into a command line:

Enter $\Rightarrow$ **`texdoc -l lwarp_tutorial.txt`**

This should be in the `doc/latex/lwarp/` directory along with this PDF documentation. Copy `lwarp_tutorial.txt` directly into your `tutorial` directory, renamed as `tutorial.tex`.

File `lwarp_tutorial.txt`

⚠ Note: `.txt` suffix!

⚠ Bad formatting!

When using WINDOWS, use an editor other than NOTEPAD, since NOTEPAD does not accept the end-of-line from a UNIX text file.

3. Compile the project:

Enter $\Rightarrow$ **`pdflatex tutorial.tex`**

(several times)

(*x*elatex or lualatex may be used as well. **lwarp** also supports DVI *l*atex for use with .eps images.)

4. View the resulting `tutorial.pdf` with a PDF viewer.

A number of new files are created when `tutorial.tex` is compiled, as shown in [table 4](#). These files are created by the **lwarp** package.

(Two of the new files are configuration files for the helper program *lwarpmk*. Whenever a print version of the document is created, the configuration files for *lwarpmk* are updated to record the operating system, $\TeX$ engine (*latex*, *pdflatex*, *xelatex*, or *lualatex*), the filenames of the source code and HTML output, and whether the additional helper program *latexmk* will be used to compile the document.)

Figure 1: tutorial.tex listing

Note: There are two pages!

```
% Save this as tutorial.tex for the lwarp package tutorial.

\documentclass{book}

\usepackage{iftex}

% --- LOAD FONT SELECTION AND ENCODING BEFORE LOADING LWARP ---

\ifPDFTeX
\usepackage{lmodern}           % pdflatex or dvi latex
\usepackage[T1]{fontenc}
\usepackage[utf8]{inputenc}
\else
\usepackage{fontspec}         % XeLaTeX or LuaLaTeX
\fi

% --- LWARP IS LOADED NEXT ---
\usepackage[
% HomeHTMLFilename=index,      % Filename of the homepage.
% HTMLFilename={node-},        % Filename prefix of other pages.
% IndexLanguage=english,       % Language for xindy index, glossary.
% latexmk,                     % Use latexmk to compile.
% OSWindows,                   % Force Windows. (Usually automatic.)
% mathjax,                      % Use MathJax to display math.
]{lwarp}
% \boolfalse{FileSectionNames} % If false, numbers the files.

% --- LOAD PDFLATEX MATH FONTS HERE ---

% --- OTHER PACKAGES ARE LOADED AFTER LWARP ---
\usepackage{makeidx} \makeindex
\usepackage{xcolor}   % (Demonstration purposes only.)
\usepackage{hyperref,cleveref} % LOAD THESE LAST!

% --- LATEX AND HTML CUSTOMIZATION ---
\title{The Lwarp Tutorial}
\author{Some Author}
\setcounter{tocdepth}{2}      % Include subsections in the \TOC.
\setcounter{secnumdepth}{2}   % Number down to subsections.
\setcounter{FileDepth}{1}     % Split \HTML\ files at sections
\booltrue{CombineHigherDepths} % Combine parts/chapters/sections
\setcounter{SideTOCDepth}{1}  % Include subsections in the side\TOC
\HTMLTitle{Webpage Title}    % Overrides \title for the web page.
\HTMLAuthor{Some Author}     % Sets the HTML meta author tag.
\HTMLLanguage{en-US}         % Sets the HTML meta language.
\HTMLDescription{A description.} % Sets the HTML meta description.
\HTMLFirstPageTop{Name and \fbox{HOMEPAGE LOGO}}
\HTMLPageTop{\fbox{LOGO}}
\HTMLPageBottom{Contact Information and Copyright}
\CSSFilename{lwarp_sagebrush.css}
```

```

\begin{document}

\maketitle % Or titlepage/titlingpage environment.

% An article abstract would go here.

\tableofcontents % MUST BE BEFORE THE FIRST SECTION BREAK!
\listoffigures

\chapter{First chapter}

\section{A section}

This is some text which is indexed.\index{Some text.}

\subsection{A subsection}

See \cref{fig:withtext}.

\begin{figure}\begin{center}
\fbbox{\textcolor{blue!50!green}{Text in a figure.}}
\caption{A figure with text\label{fig:withtext}}
\end{center}\end{figure}

\section{Some math}

Inline math:  $r = r_0 + vt - \frac{1}{2}at^2$ 
followed by display math:
\begin{equation}
a^2 + b^2 = c^2
\end{equation}


\begin{warpprint} % For print output ...
\cleardoublepage % ... a common method to place index entry into TOC.
\phantomsection
\addcontentsline{toc}{chapter}{\indexname}
\end{warpprint}
\ForceHTMLPage % HTML index will be on its own page.
\ForceHTMLTOC % HTML index will have its own toc entry.
\printindex

\end{document}

```

Table 4: Configuration files created by print version

tutorial.pdf:	The PDF output from $\LaTeX$. The print version of the document.
tutorial_html.tex:	A small .tex file used to create a parallel HTML version of the document, which co-exists with usual the PDF version, and which will have its own auxiliary files. In this way, both PDF and HTML documents may co-exist side-by-side.
Auxiliary files:	The usual $\LaTeX$ files .aux, .log, .out, .toc, .lof, .idx. When an HTML version of the document is created, _html versions of the auxiliary files will also be generated.
lwarpmk.conf:	A configuration file for <i>lwarpmk</i> , which is used to automate the compilation of PDF or HTML versions of the document.
tutorial.lwarpmkconf:	Another configuration file used by <i>lwarpmk</i> , which is only useful if you wish to have several projects residing in the same directory.
.css files:	lwarp.css, lwarp_formal.css, lwarp_sagebrush.css These files are standard for <i>lwarp</i> , and are not meant to be modified by the user.
sample_project.css:	An example of a user-customized css file, which may be used for project-specific changes to the <i>lwarp</i> defaults.
lwarp.ist:	Used by <i>lwarp</i> while creating an index using <i>makeindex</i> . This file should not be modified by the user. A custom file may be used instead, if necessary.
lwarp.xdy:	Used by <i>lwarp</i> while creating an index using <i>xindy</i> . This file should not be modified by the user. A custom file may be used instead, if necessary.
lwarp_one_limage.txt:	For WINDOWS only. Used to process svg images in the background. Copied to lwarp_one_limage.cmd when images are generated.
lwarp_mathjax.txt:	Inserted into the HTML files when MATHJAX is used to display math. Do not modify, see \MathJaxFileName instead.
comment_*.cut:	Temporary files used by <i>lwarp</i> to conditionally process blocks of text. These files may be ignored.

When the *lwarpmk* option is given to the *lwarp* package:

lwarpmk.lua: A local copy of the *lwarpmk* utility.

On UNIX-related operating systems this file must be made executable:

```
chmod u+x lwarpmk.lua
```

This may be useful to have to archive with a project for future use.

5.2 Compiling the print version with *lwarpmk*

The *lwarpmk* utility program is used to compile either the printed or the HTML version of the document.

`lwarpmk print` is used to recompile a printed version of the document.

1. Re-compile the print version:

Enter $\Rightarrow$ **lwarpmk print**

lwarpmk prints an introduction then checks to see if the document must be recompiled. If it seems that the files are up-to-date, then *lwarpmk* informs you of that fact and then exits.

2. Make a small change in the original document, such as adding a space character.
3. Recompile again.

Enter $\Rightarrow$ **lwarpmk print**

The document is recompiled when a change is seen in the source. Several compilations may be necessary to resolve cross-references.

4. Force a recompile to occur.

Enter $\Rightarrow$ **lwarpmk again**

Enter $\Rightarrow$ **lwarpmk print**

`lwarpmk again` updates the date code for the file, triggering a recompile the next time the document is made.⁵

5. Process the index.^{6 7}

Enter $\Rightarrow$ **lwarpmk printindex**

6. Recompile again to include the index.

Enter $\Rightarrow$ **lwarpmk print**

7. To force a single recompile when needed, even if no changes were detected:

Enter $\Rightarrow$ **lwarpmk print1**

Note that the HTML customization commands are ignored while making the print version.

⁵Although, when using the utility *latexmk* (introduced later), the changed date is ignored and an actual change in contents must occur to cause a recompile.

⁶The command **lwarpmk printglossary** is also available to process a glossary produced with the *glossaries* package. See section 8.6.12.

⁷Also see section 8.6.15 for index options.

5.3 Compiling the HTML version with *lwarpmk*

`lwarpmk html` is used to recompile an HTML version of the document.

1. Compile the HTML version:

Enter $\Rightarrow$ **`lwarpmk html`**

- (a) *lwarpmk* uses $\LaTeX$ to process `tutorial_html.tex` to create `tutorial_html.pdf`.
- (b) *pdftotext* is then used to convert to the file `tutorial_html.html`. This file is a plain-text file containing HTML tags and content for the entire document.
- (c) *lwarpmk* manually splits `tutorial_html.html` into individual HTML files according to the HTML settings. For this tutorial, the result is `tutorial.html` (the home page), along with `First-chapter.html`⁸, `Some-math.html`, and the document's index in `_Index.html`.⁹

2. View the HTML page in a web browser.

Open the file `tutorial.html` in a web browser.

math

Note that math is still displayed as its alt tag, which is the plain-text $\LaTeX$ source, until the images of the math expressions have been generated. Math may be displayed as SVG images or by a MATHJAX script, as seen in sections 5.4 and 5.5.

3. Force a recompile:

Enter $\Rightarrow$ **`lwarpmk again`**

Enter $\Rightarrow$ **`lwarpmk html`**

Enter $\Rightarrow$ **`lwarpmk print`**

4. Process the HTML index and recompile:¹⁰¹¹

Enter $\Rightarrow$ **`lwarpmk htmlindex`**

Enter $\Rightarrow$ **`lwarpmk html`**

`_Index.html` is updated for the new $\LaTeX$ index.

5. Reload the web page to see the added index.

6. To force a single recompile when needed, even if no changes were detected:

Enter $\Rightarrow$ **`lwarpmk html1`**

⁸`First-chapter.html` also contains the first section, even though the second section is its own HTML page. This behavior is controlled by the boolean `CombineHigherDepths`.

⁹`index.html` is commonly used as a homepage, so the document index is in `_Index.html`.

¹⁰The command **`lwarpmk htmlglossary`** is also available to process a glossary produced with the `glossaries` package. See section 8.6.12.

¹¹Also see section 8.6.15 for index options.

5.4 Generating the svg images

math as svg images By default **lwarp** represents math as svg images, with the $\LaTeX$ source included in `alt` attributes. In this way, the math is displayed as it was drawn by $\LaTeX$, and the $\LaTeX$ source may be copied and pasted into other documents.

picture and Tikz **lwarp** uses the same mechanism for `picture` and `Tikz` environments.

1. Create the svg images:

Enter $\Rightarrow$ **lwarpmk limages**

Enter $\Rightarrow$ **lwarpmk html**

2. Move to the tutorial's HTML math page and reload the document in the browser.
3. The math images are displayed using the same font and formatting as the printed version.
4. Copy/paste a math expression into a text editor to see the $\LaTeX$ source.

 **adding/removing** When a math expression, `picture`, or `Tikz` environment is added or removed, the svg images must be re-created by entering **lwarpmk limages** to maintain the proper image-file associations. Inline svg math may be hashed and thus not need to be recreated, but display math and objects such as `Tikz` may move to new image numbers when the document is changed.

recompile first Before attempting to create the svg image files, *lwarpmk* verifies that the HTML version of the document exists and has correct internal image references.¹² If it is necessary to recompile the document's HTML version one more time, *lwarpmk* usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the $\LaTeX$ recompile warnings.

 **HTML instead of images** If HTML appears where an svg image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

 **page counter** Incorrect svg images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

 **Lots of files!** Expressing math as svg images has the advantage of representing the math exactly as $\LaTeX$ would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, **lwarp** uses an MD5 hash on its $\LaTeX$ source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `Tikz` require one image file each. For a document with a large amount of math, see section 5.5 to use MATHJAX instead.

¹²This becomes important when dealing with a document containing thousands of images.

5.5 Using MATHJAX for math

math with MATHJAX Math may also be represented using the MATHJAX JAVASCRIPT project.

1. In the tutorial's source code, uncomment the `mathjax` package option for `lwarp`:

```
mathjax, % Use MathJax to display math.
```

2. Recompile

```
Enter ⇒ lwarpmk html
```

3. Reload the math page.



MATHJAX requirements

MATHJAX requires web access unless a local copy of MATHJAX is available, and it also requires that JAVASCRIPT is enabled for the web page. The math is rendered by MATHJAX. Right-click on math to see several options for rendering, and for copying the $\LaTeX$ source.

While using MATHJAX has many advantages, it may not be able to represent complex expressions or spacing adjustments as well as $\LaTeX$, and it may not support some math-related packages.

5.6 Changing the css style

For a formal css style, add to the preamble:

```
\usepackage{lwarp}  
...  
\CSSFilename{lwarp_formal.css}  
...  
\begin{document}
```

For a modern css style, `lwarp_sagebrush.css` is also provided:

```
\CSSFilename{lwarp_sagebrush.css}
```

See section [7.7](#) for more information about modifying the css styling of the document.

5.7 Customizing the HTML output

A number of settings may be made to control the HTML output, including filename generation, automatic compilation, math output, document splitting, meta data, and page headers and footers.

See section [7.6](#) for more information.

5.8 Using *latexmk*

latexmk is a $\TeX$ utility used to monitor changes in source files and recompile as needed.

1. In the tutorial's source code uncomment the *latexmk* option for the *lwarp* package:

```
latexmk, % Use latexmk to compile.
```

2. Recompile the printed version of the document.

```
Enter ⇒ lwarpmk print
```

lwarp updates its own configuration files (*lwarpmk.conf* and *tutorial.lwarpmkconf*) whenever the printed version of the document is compiled. These configuration files remember that *lwarpmk* should use *latexmk* to compile the document.

3. Recompile the document.

```
Enter ⇒ lwarpmk print
```

and/or

```
Enter ⇒ lwarpmk html
```

Changes are detected by comparing checksums rather than modification times, so *lwarpmk* again will not trigger a recompile, but *latexmk* has a much better awareness of changes than the *lwarpmk* utility does and it is likely to correctly know when to recompile. A recompile may be forced by making a small change to the source, and a single recompile may be forced with:

```
Enter ⇒ lwarpmk print1
```

and/or

```
Enter ⇒ lwarpmk html1
```

forced single-pass recompile

5.9 Using Xe_{La}TeX or Lua_{La}TeX

Xe_{La}TeX or Lua_{La}TeX may be used instead of $\LaTeX$.

1. Remove the auxiliary files for the project:

Enter $\Rightarrow$ **lwarpmk cleanall**

2. Use *xelatex* or *lualatex* to compile the printed version a single time.

Enter $\Rightarrow$ **xelatex tutorial.tex**

— or —

Enter $\Rightarrow$ **lualatex tutorial.tex**

When the compile occurs, the configuration files for *lwarpmk* are modified to remember which $\TeX$ engine was used. Xe_{La}TeX or Lua_{La}TeX will be used for future runs of *lwarpmk*.

3. To recompile the document:

Enter $\Rightarrow$ **lwarpmk print**

-and-

Enter $\Rightarrow$ **lwarpmk html**

4. Also remember to update the indexes and recompile again:

Enter $\Rightarrow$ **lwarpmk htmlindex**

Enter $\Rightarrow$ **lwarpmk html**

Enter $\Rightarrow$ **lwarpmk printindex**

Enter $\Rightarrow$ **lwarpmk print**

5.10 Using DVI $\LaTeX$

Traditional DVI $\LaTeX$ may also be used along with .eps image files. An svg version of each image must also be provided. *lwarpmk* may be used to convert image formats.

To convert EPS files to PDF:

Enter $\Rightarrow$ **lwarpmk epstopdf *.eps** (or a list of files)

To convert PDF files to SVG:

Enter $\Rightarrow$ **lwarpmk pdftosvg *.pdf** (or a list of files)

 **bitmapped fonts** See section 7.4 regarding font selection to avoid the use of bitmapped fonts.

5.11 Using a glossary

lwarp supports the `gloss` and `glossaries` packages, although this tutorial does not supply an example.

5.11.1 `gloss` package

See section [8.6.11](#).

5.11.2 `glossaries` package

To process the glossary for the print version:

```
Enter ⇒ lwarpmk printglossary
```



(If `makeglossaries` is not found, see section [8.6.12](#).)

To process the glossary for the HTML version:

```
Enter ⇒ lwarpmk htmlglossary
```

In each case, the document will have to be recompiled afterwards:

```
Enter ⇒ lwarpmk html1
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print1
```

```
Enter ⇒ lwarpmk print
```

See section [8.6.12](#) to set options for processing glossaries.

5.12 Cleaning auxiliary files

To remove the auxiliary files `.aux`, `.toc`, `.lof`, `.lot`, `.idx`, `.ind`, `.log`, and `.gl*`, and a few others:

```
Enter ⇒ lwarpmk clean
```

5.13 Cleaning auxiliary and output files

To remove the auxiliary files, and also remove the `.pdf` and `.html` files:

```
Enter ⇒ lwarpmk cleanall
```

5.14 Cleaning the images from the `<project>-images` directory

The `<project>-images` directory contains SVG images automatically generated for inline and display math, tikz, etc. To remove all the images from the `<project>-images` directory:

```
Enter ⇒ lwarpmk cleanimages
```

5.15 Converting PDF or EPS images to SVG

HTML cannot display PDF or EPS images, so any external PDF graphics images must be converted to SVG format. *pdftocairo* and *epstopdf* may be used one image at a time, but *lwarpmk* also provides a way to convert PDF or EPS images in bulk:

```
Enter ⇒ lwarpmk epstopdf *.eps (or a list of files)
```

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of files)
```

Be sure to always provide SVG files for HTML output.

5.16 Creating HTML from an incomplete compile

During testing it may be useful to finish the HTML conversion even when the document had errors and did not compile successfully. To attempt an HTML conversion of an incomplete document:

```
Enter ⇒ lwarpmk pdftohtml [-p project]
```

5.17 Processing multiple projects in the same directory

 `xr`, `xr-hyper`, `xcite`

It is possible to have several projects in the same directory. *lwarpmk* has an optional parameter which is the document to compile.

To create each project:

```
Enter ⇒ pdflatex project_a
```

```
Enter ⇒ pdflatex project_b
```

Each project is given its own configuration file:

```
project_a.lwarpmkconf, project_b.lwarpmkconf
```

To compile each project with `lwarkmk`:

```
Enter ⇒ lwarpmk print -p project_a
```

```
Enter ⇒ lwarpmk print -p project_b
```

```
Enter ⇒ lwarpmk html -p project_a
```

```
Enter ⇒ lwarpmk html -p project_b
```

To generate each project's images:

```
Enter ⇒ lwarpmk limages -p project_a
```

```
Enter ⇒ lwarpmk limages -p project_b
```

To clean each project's images:

```
Enter ⇒ lwarpmk cleanlimages -p project_a
```

```
Enter ⇒ lwarpmk cleanlimages -p project_b
```

To clean each project's auxiliary files:

```
Enter ⇒ lwarpmk cleanall -p project_a
```

```
Enter ⇒ lwarpmk cleanall -p project_b
```

If using *bibtex*, for example, the HTML version must also be processed:

```
Enter ⇒ bibtex project_a_html
```

5.18 Using the *make* utility

lwarpmk has an action which may be useful for integration with the common *make* utility:

```
lwarpmk pdftohtml [-p project]
```

make may be used to compile the code to PDF with HTML tags (`project_html.pdf`), then *lwarpmk* may be used to convert each target to HTML files.

5.19 What next?

How do I do something? See the [General Index](#).

Something do not work! See the [Troubleshooting Index](#) or section 13: [Troubleshooting](#).

Package options: See section 29, [Package options](#).

HTML and filename settings: See section 7.6, [Customizing the HTML output](#).

Footnote placement: See section 7.6, [Customizing the HTML output](#).

Title page, indexing, glossaries: See section 8.6, [Front and back matter](#).

Shell escape: See section 7.3, [Shell escape](#).

css customization: See section 7.7, [Customizing the css](#).

MATHJAX customization: See section 8.7.5, [Customizing MATHJAX](#).

Localization: (languages) — See section 7.1, [Localization](#).

Accessibility: (alt and title tags) — See section 7.2, [Accessibility](#).

Converting an existing document: See section 6, [Converting an existing document](#).

EPUB conversion: See section 10, [EPUB conversion](#).

Word processor conversion: See section 11, [Word-processor conversion](#).

6 Converting an existing document

To convert an existing document for use with `lwarp`:

1. Arrange the document in the following order:

- (a) Declare the `\documentclass`.
- (b) Load text fonts.
- (c) Load `inputenc` or `inputenx`, `fontenc`, or `fontspec`.
- (d) Load `lwarp`.
- (e) Load remaining packages.

2. Modify the document:

⚠ **math in section names**

- (a) If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section{Some math \texorpdfstring{$1+2=3$}{three}}
```

⚠ **scale**

- (b) Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{...}
```

to:

```
\includegraphics[width=<yy>\linewidth]{...}
```

⚠ **tabular**

- (c) Possible changes to `tabular` environments include: `* columns`, `multirow`, `longtable`, `supertabular`, `xtab`, `bigdelim`. See section 8.10.1.

⚠ **package options**

- (d) If using braces in package options, such as with `caption`, see section 8.1.

- (e) Possible option clashes with `memoir`. See section 8.13.

⚠ **indexes**

- (f) If using indexes, see section 8.6.15.

- (g) If using many indexes, glossaries, `.aux` files, etc., see section 8.6.15 regarding `morewrites`. If `morewrites` is already used, be sure to add the setup with `allocate=10`.

- (h) Other changes as per **Special cases and limitations**, section 8.

3. Convert any PDF images to SVG. See section 8.8.

4. Manually compile the print version with `latex`, `pdflatex`, `lualatex`, or `xelatex`.

5. `lwarpmk print` to finish the print version.

6. `lwarpmk html` to create the HTML version.

7. `lwarpmk limages` to create the SVG images of any SVG math, `lateximage`, `Tikz`, etc.

Need help?

See the **General Index** for “how-to”, and the **Troubleshooting Index** if something doesn’t work. A **Troubleshooting** section is also available. The **Index of Objects** contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

Table 5: Localization settings

Object names: $\LaTeX$ provides redefinable names for various objects, and `lwarp` adds a few more. Use `\renewcommand` to change these.

`\abstractname`: This macro is honored by `lwarp`.

`\linkhomename`: Displayed by the link to the homepage.

`\linkpreviousname`: Displayed by the link to the previous page

`\linknextname`: Displayed by the link to the next page.

`\sitetocname`: Displayed at the head of the `sideroc`.

HTML settings: See table 8 and section 7.6 for details.

`\HTMLLanguage`: The language to declare for each web page.

`\ImageAltText`, `\MathImageAltText`, `\PackageDiagramAltText`, `\AltTextOpen`, `\AltTextClose`: The defaults used for HTML alt text for images. See section 7.2.

`\CSSFilename`: The name of the css file to use.

`\MathJaxFilename`: The name of the MATHJAX script to use.

Package options:

`ImagesName` and `ImagesDirectory`: These options control the filenames used by `lwarp` when it automatically generates images. See table 7 and section 7.5.

`xindyStyle`, `xindyLanguage`, `xindyCodepage`: When using `xindy`, these options may be set according to local use. See section 8.6.21.

`pdftotextEnc`: To adjust the encoding of `pdftotext`.

7 Additional details

7.1 Localization

Regional localization is supported by `lwarp` via the package options and macros shown in table 5.

7.2 Accessibility

`lwarp` provides several methods for improving access to the document using tools such as text-only browsers, copy/paste, text-to-speech readers, or Braille readers. HTML provides the `alt` text attribute for images, which is used by `lwarp` as describe below. HTML also provides the `title` attribute, which usually generates a pop-up text. `lwarp` can add this to a reference or hyperlink. MATHJAX also has provisions for improved accessibility as well. See table 6.

Table 6: Accessibility settings

\ImageAltText: The default HTML alt text for `\includegraphics` and `lateximages`. Set with `\renewcommand`.

\includegraphics alt key: For `\includegraphics`, `lwarp` adds the alt key/value. For example:

```
\includegraphics[alt={Some text.}]{filename}
```

svg math: For simple svg math, `lwarp` places the $\LaTeX$ math expression in the alt text, so that the $\LaTeX$ expression may be copied and pasted to another document as plain text.

\MathImageAltText: For complicated svg math, such as enclosed in `\InlineMathOther/`, `\InlineMathNormal`, or `\DisplayMathOther/`, `\DisplayMathNormal`, the HTML alt text will be set to `\MathImageAltText`. Set with `\renewcommand`.

MATHJAX: For MATHJAX, the accessibility tools provided by MATHJAX are enabled by default by `lwarp`'s MATHJAX scripts.

\PackageDiagramAltText: Various packages create diagrams which `lwarp` converts into svg images. These are given alt text set to `\PackageDiagramAltText`. Set with `\renewcommand`.

\ThisAltText: The HTML alt text of the next image may be set with:

```
\ThisAltText{Custom text about the image.}
<SVG math, Tikz, picture, etc.>
```

The next single image will be generated with the given text, and the following images will revert to back to their defaults.

`\ThisAltText` may also be used to assign an HTML title to the next reference or hyperlink.

```
\ThisAltText{Custom text about the link.}
Text ... \ref{label_name} ... text.
```

See section 7.6.

\AltTextOpen and \AltTextClose: By default, HTML alt text is enclosed by parentheses. This may be changed by redefining `\AltTextOpen` and `\AltTextClose`. Set with `\renewcommand`.

7.3 Shell escape

Opt `--shell-escape` Some documents require the use of an external program, which is allowed when using the `--shell-escape` command-line option. When the document is first compiled manually, and also whenever the print version is recompiled, **lwarp** detects and remembers whether shell escape is enabled. If so, it will also be enabled when the document is recompiled with *lwarpmk*.

7.4 Font and UTF-8 support

⚠ **type 3 bitmapped fonts** **lwarp** uses *pdftotext* to convert PDF output into UTF-8-encoded text. This process requires that UTF-8 information be embedded in the PDF file, which may prevent the use of older “type 3” bit-mapped fonts, and of older packages such as **ae**. The **lwarp** option `pdftotextEnc` may be useful in some situations. See section 7.5.

vector fonts While using DVI *latex* or PDF *pdflatex*, if no font-related package is specified then the default COMPUTER MODERN font is used, which may be a “type 3” bit-mapped font which may not convert well to plain text. A “type 1” vector font is required.

⚠ **pdflatex**

⚠ **DVI latex**

Pkg **cm-super**

To use the updated **cm-super**’s type 1 fonts instead of Computer Modern, install the **cm-super** font package.

Pkg **lmodern**

To use Latin Modern instead, add

```
usepackage{lmodern}
```

to the preamble.

Pkg **dejavu**

Another useful option is the Deja Vu series of fonts, which have an increased coverage of language and glyphs:

```
\usepackage{dejavu}
```

latex, pdflatex, T1, UTF8 While using DVI *latex* or PDF *pdflatex*, **lwarp** automatically loads **fontenc** with T1 encoding. **fontenc** may be loaded with an additional encoding after **lwarp**. **inputenc** is automatically loaded with UTF8 encoding if it has not yet been loaded, but may also be specified with another encoding such as `latin1`. See the next section regarding index encoding.

⚠ **xelatex, lualatex, fontspec** Xe_{La}TeX and Lua_{La}TeX users must use the **fontspec** package. Do NOT use **fontenc**!

Place **fontspec** or **fontenc**, **xunicode**, and other font and UTF-8 related commands after the `\documentclass` command and before `\usepackage{lwarp}`.

⚠ **package conflicts** In some cases, a package conflict may require that a font package be loaded after **lwarp**, which should work as well:

1. `documentclass{article/book/report}` comes first, followed by any of:

2. Font and UTF-8 related commands:

- For Xe_{La}TeX or Lua_{La}TeX:

- **fontspec** and font choices

Pkg **fontspec**

ligatures

lwarp sets the following to turn off T_EX ligatures during the generation

of HTML tags, and turn off common ligatures in regular text, since older browsers may not display them correctly and newer browsers can automatically re-create them.

```
\defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
```

• For *pdf_latex*:

- (a) `\usepackage{lmodern}`, or other font-related packages
- (b) `\usepackage[T1]{fontenc}`
- (c) `\usepackage[utf8]{inputenc}`, or `latin1`, etc. Or use `inputenx`.
- (d) `\usepackage{newunicodechar}` along with related definitions.
- (e) To assist with the PDF-HTML conversion:
 - i. `\input glyphtounicode.tex`
 - ii. `\input glyphtounicode-cmr.tex`% from the pdfx package
 - iii. `\pdfgentounicode=1`
- (f) Another option to assist with the PDF-HTML conversion, such as the dotless `j` (`\j`):
 - `\usepackage{cmap}` – or –
 - `\usepackage{mmap}` – or –
 - `\usepackage[noTeX]{mmap}`
- (g) `\usepackage{textcomp}`

Pkg lmodern

Pkg fontenc

Pkg inputenc

Pkg inputenx

Pkg newunicodechar

File glyphtounicode.tex

⚠ dotless j

Pkg cmap

Pkg mmap

Pkg textcomp

3. `\usepackage{newtxmath}` or other math-related font packages. Many of these load `amsmath`, which may now be loaded before `lwarp`.

4. `\usepackage{lwarp}` (section 7.5) is placed after any of the above, followed by:

⚠ **fontspec with monospaced fonts**

5. `\setmonofont{TeX Gyre Cursor}` or similar may be required if using Xe_lTeX or Lua_lTeX and **fontspec** along with traditional font packages such as **txfonts**, **newtxtext**, etc. This is required to turn off the monospaced font’s ligatures with **fontspec** after loading the traditional font packages. Monospaced output ligatures must be turned off to produce the correct HTML characters.

Any monospace font with built-in ligatures may require these ligatures to be disabled for HTML. In one example, JETBRAIN MONO, it is required to use

```
\setmonofont{JetBrains Mono}[%
...
Contextuals=AlternateOff,
]
```

After `lwarp` is loaded, the ligature may be re-enabled for print mode by using `\setmonofont` again inside a `warpprint` environment.

6. ... the rest of the preamble and the main document.

⚠ JETBRAIN MONO

⚠ HTML corrupted

⚠ **UTF-8 locale** In some cases, an external program may require a UTF-8 “locale”. See section 9.8.

7.4.1 Indexes, glossaries, and encoding

lwarp supports *makeindex*, *xindy*, *xindex*, and glossaries, gloss, and nomencl.

See section 8.6.14 for indexing, and section 8.6.12 for the glossaries package.

7.5 lwarp package loading and options

lwarp supports `book`, `report`, and `article` classes, as well as the equivalent Koma-script classes and `memoir`, and various CJK-related classes and packages.

Load the `lwarp` package immediately after the font and UTF-8 setup commands.

Package options may be set while loading `lwarp`, or later with

```
\lwarpsetup{<key=value, . . . >}
```

Pkg lwarp **lwarp** package options are as follows:

Opt `mathsvg` **mathsvg** and **mathjax**: Selects SVG images or MATHJAX for math display. See section 8.7.

Opt `mathjax`

Default: `mathsvg`

Opt `latexmk`

Default: `false`

latexmk: Tells *lwarpmk* to use *latexmk* to recompile the document several times if necessary. Otherwise, *lwarpmk* attempts to determine for itself whether to recompile. See section 7.6.

Opt `dvips`

Default: `false`

dvips: Tells *lwarpmk* to use *dvips* and *ps2pdf* to convert DVI output to PDF.

Opt `dvipdfm`

Default: `false`

dvipdfm: Tells *lwarpmk* to use *dvipdfm* to convert DVI output to PDF.

Opt `dvipdfmx`

Default: `false`

dvipdfmx: Tells *lwarpmk* to use *dvipdfmx* to convert DVI output to PDF.

Opt `HomeHTMLFilename`

Default: `\BaseJobname`

HomeHTMLFilename:

Filename of the homepage, without the “.html” suffix. Defaults to the `\BaseJobname`. A common setting is:

```
HomeHTMLFilename=index
```

causing the homepage to be the file `index.html`. Underscores are allowed in `HomeHTMLFilename` and `HTMLFilename` options, but may need to be escaped elsewhere, such as when appearing in a list:

```
\item [\href{file\_name.pdf}{text}] \
```

See section 7.6.1 for examples of naming and numbering HTML files.

Opt `HTMLFilename`

Default: `<empty>`

HTMLFilename: A filename prefix for the rest of the HTML web pages. Useful for numbered web pages with a common prefix. May be empty. See section 7.6.1 for examples of naming and numbering HTML files.

Opt `ImagesName`

Default: `image-`

ImagesName: The prefix for the images automatically generated by `lwarp` for objects such as `svg math` and `lateximages`.

Opt `ImagesDirectory`

Default: `\jobname-images`

ImagesDirectory: The directory for the images automatically generated by `lwarp` for objects such as `svg math` and `lateximages`. By default, these images will appear in a

filename underscores

Table 7: Lwarp package options

Option	Description
mathsvg	Show math using SVG images.
mathjax	Show math using MATHJAX.
latexmk	Use <i>latexmk</i> for compiling documents.
dvips	Use <i>dvips</i> and <i>ps2pdf</i> to convert DVI documents.
dvipdfm	Use <i>dvipdfm</i> to convert DVI documents.
dvipdfmx	Use <i>dvipdfmx</i> to convert DVI documents.
HomeHTMLFilename	The filename of the home page.
HTMLFilename	A prefix for the filenames of the remaining web pages.
ImagesName	A prefix for the filenames of generated images.
ImagesDirectory	The directory used to hold generated images.
PrintLatexCmd	The shell commands for lwarpmk print .
HTMLLatexCmd	The shell commands for lwarpmk html .
For indexing (section 8.6.15) and glossaries (section 8.6.12):	
makeindex	Use <i>makeindex</i> to generate indices.
makeindexStyle	Set a custom style for <i>makeindex</i> .
xindy	Use <i>xindy</i> to generate indices.
xindyStyle	Set a custom style for <i>xindy</i> .
xindyLanguage	The <i>xindy</i> language option used for index generation.
xindyCodepage	The <i>xindy</i> codepage option used for index generation.
xindex	Use <i>xindex</i> to generate indices.
xindexConfig	Set a custom configuration file for <i>xindex</i> .
PrintIndexCmd	Shell commands executed by lwarpmk printindex .
HTMLIndexCmd	Shell commands executed by lwarpmk htmlindex .
LatexmkIndexCmd	Shell commands executed by <i>latexmk</i> .
IndexRef	How to format index links.
GlossaryCmd	Shell command executed by lwarpmk printglossary and lwarpmk htmlglossary .
Seldom necessary:	
OSWindows	Force compatibility with MS-WINDOWS.
pdftotextEnc	Set the encoding for <i>pdftotext</i> .
lwarpmk	Generate a local copy of <code>lwarpmk.lua</code> .
Used internally by lwarp:	
warpprint	Generate print output, and also generate configuration files.
warphTML	Generate HTML output.
BaseJobname	The <code>\jobname</code> to use. Set to the <code>\jobname</code> of the printed version even while generating HTML.

directory named <jobname>-images, and the images will be named and numbered image-<nn>.

- Opt `PrintLatexCmd` **PrintLatexCmd:** Sets the shell commands executed by **lwarpmk print**. If not specified, will automatically be set according to the detected $\text{\LaTeX}$ engine and the use of `--shell-escape`.
Default: <automatic>
- Opt `HTMLLatexCmd` **HTMLLatexCmd:** Sets the shell commands executed by **lwarpmk html**. If not specified, will automatically be set according to the detected $\text{\LaTeX}$ engine and the use of `--shell-escape`.
Default: <automatic>
- Opt `makeindex` **makeindex:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use *makeindex* when generating indexes with **lwarpmk printindex**, **lwarpmk htmlindex**, or *latexmk*. If neither `makeindex` nor `xindy` is used, `makeindex` is assumed.
Default: `makeindex`
- Opt `makeindexStyle` **makeindexStyle:** If you wish to use a custom `.ist` file for index generation, see section 8.6.20.
Default: `lwarp.ist`
- Opt `xindy` **xindy:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use *xindy* when generating indexes with **lwarpmk printindex**, **lwarpmk htmlindex**, or *latexmk*.
Default: `makeindex`
- Opt `xindyStyle` **xindyStyle:** If you wish to use a custom `.xdy` file for index generation, see section 8.6.21.
Default: `lwarp.xdy`
- Opt `xindyLanguage` **xindyLanguage:** If using an index or glossary, see section 29.
Default: `english`
- Opt `xindyCodepage` **xindyCodepage:** If using an index, see section 29.
Default: `utf8`
- Opt `xindex` **xindex:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use *xindex* when generating indexes with **lwarpmk printindex**, **lwarpmk htmlindex**, or *latexmk*.
Default: `makeindex`
- Opt `xindexConfig` **xindexConfig:** If you wish to use a custom `xindex-*.lua` file for index generation, see section 8.6.22.
Default: <empty>
- Opt `PrintIndexCmd` **PrintIndexCmd:** Sets the shell commands executed by **lwarpmk printindex**. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.15.
Default: <automatic>

Examples:

```
makeindex -s lwarp.ist projectname.idx (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname.idx (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `PrintIndexCmd` to sensible values for each of those programs while compiling a single index. **lwarp**'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.



xindy

If specifying `PrintIndexCmd` manually, be sure to assign an *xindy* language and

codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `PrintIndexCmd` option when it is set manually.

This option is stored in the configuration files `lwarpmk.conf` and `*.lwarpmkconf`, and is then passed by the `lwarpmk printindex` command to the operating system to compile the print indexes. Since the command string is parsed by $\text{\TeX}$, written to a file, read from the file by $\text{\LaTeX}$, and finally passed to the operating system, any attempt at quoting will be problematic. For complicated commands, it would be best to create a shell script, and simply refer to the script with the `lwarp PrintIndexCmd` option.

Opt HTMLIndexCmd **HTMLIndexCmd:** Sets the shell commands executed by `lwarpmk htmlindex`. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.15.

Default: <automatic>

⚠ filenames

Example settings are similar to `PrintIndexCmd`, but append `_html` to the filenames:

```
makeindex -s lwarp.ist projectname_html.idx (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname_html.idx (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `HTMLIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

⚠ xindy

If specifying `HTMLIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `HTMLIndexCmd` option when it is set manually.

As with `PrintIndexCmd`, to generate complicated indexes it may be worthwhile to use a shell script, then refer to that script with `HTMLIndexCmd`.

Opt LatexmkIndexCmd **LatexmkIndexCmd:** Sets the shell commands executed by *latexmk*. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include any filenames, which will be provided instead by *latexmk*. See section 8.6.15.

Default: <automatic>

Example settings are similar to `PrintIndexCmd`, but without a filename:

```
makeindex -s lwarp.ist (makeindex)
xindy -M lwarp.xdy -L english -C utf8 (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `LatexmkIndexCmd` to either of the two settings show above. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, *latexmk* uses either of the single-line settings of `LatexmkIndexCmd` shown above to compile each of multiple indexes if necessary.

⚠ xindy

If specifying `LatexmkIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `LatexmkIndexCmd` option when it is set manually.

Opt IndexRef **IndexRef:** Describes how to display the index entries for HTML output. Possible values are `ref`, `nameref`, `refnameref`, `cref`, `crefnameref`, `autoref`, or a text string such

Default: cref

as (link) or (*) for each index entry reference. (Adding parentheses around a single character makes the link larger and easier to click on.) The default is cref, which is available even if the print document does not use **cleveref**, as the **lwarp** package relies on **cleveref** during HTML output. Option **autoref** gives the same results as cref.

\ref and \cref to starred or otherwise unknown links will display as (*) instead of ??.

△ ??

If using cref (the default), and if a reference appears as ?? with a non-functional link, use **cleveref**'s \crefname to give a name to that type of label.

In general, crefnameref gives the most information, but the index can become quite verbose. Using (*) or similar yields a very compact index.

Opt GlossaryCmd **GlossaryCmd:** Sets the shell command executed by **lwarpmk printglossary** and **lwarpmk htmlglossary**.
Default: **makeglossaries** The print or HTML glossary filename is appended to this command. See section 8.6.12.

Opt OSWindows **OSWindows:** **lwarp** attempts to automatically sense WINDOWS, but it may be forced with this option. See section 7.9.

Opt pdftotextEnc **pdftotextEnc:** Used to specify the encoding used by **pdftotext** during the PDF-HTML conversion. In most situations, the default is the correct choice.
Default: UTF-8

Opt lwarpmk **lwarpmk:** If you wish to have **lwarp** generate a local copy of **lwarpmk.lua** for archival or local-installation purposes, compile the print version with the **lwarpmk** option set. See section 29.

The following options are used internally by **lwarp**, and usually are not used in the user's document:

Opt warpprint **warpprint** and **warphTML:** Usually controlled by **lwarpmk**, and not set in the document.
Opt warphTML Select the warpprint option to generate print output (default), or the warphTML option to generate HTML5 output. The default is print output, so the print version may be compiled with the usual **pdflatex**, etc. When **lwarp** is loaded in print mode, it creates <project>_html.tex, which sets the warphTML option before calling the user's source code <project>.tex. In this way, <project>.tex can \usepackage{lwarp} without any options to create a printed version, while <project>_html.tex will create an HTML version.

Opt BaseJobname **BaseJobname:** Not intended for the user. Used internally by **lwarp** when creating the
Default: \jobname *_html.tex file used to compile the HTML version. See section 29.

7.6 Customizing the HTML output

⚠ Placement!

Table 8 shows several settings may be used to customize the HTML output. Watch for the correct placement of each!

⚠ Changes!

Note that if changes are made, it is best to first:

1. Clear all the HTML, PDF, and auxiliary files:

Enter $\Rightarrow$ `lwarpmk clearall`

2. Recompile the print version in order to recreate the configuration files for *lwarpmk*:

Enter $\Rightarrow$ `lwarpmk print`

3. Finally, recompile the HTML version with the new settings:

Enter $\Rightarrow$ `lwarpmk html`

Placed in the preamble before `\begin{document}`:

<code>\HTMLFirstPageTop</code> Default: <empty>	\HTMLFirstPageTop: $\{\langle contents \rangle\}$ A user-definable custom action applied to the top of the home page. Useful for logos, etc. <code>\LinkNext</code> may be used to link to the next web page. Defaults empty. Ignored in print output.
<code>\HTMLFirstPageBottom</code> Default: <empty>	\HTMLFirstPageBottom: $\{\langle contents \rangle\}$ A user-definable custom action applied to the bottom of the home page. Useful for logos, etc. <code>\LinkNext</code> may be used to link to the next web page. Defaults empty. Ignored in print output.
<code>\linkhomename</code> Default: Home	\linkhomename: Name of the link to the home page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>\linkpreviousname</code> Default: Previous	\linkpreviousname: Name of the link to the previous page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>\linknextname</code> Default: Next	\linknextname: Name of the link to the next page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
Ctrl tocdepth	tocdepth: Sectioning depth of the table of contents. See section 16 for a list of $\LaTeX$ stack depths.
Ctrl SideTOCDepth Default: 1 sideroc	SideTOCDepth: Sectioning depth of the sideroc. Defaults to 1, causing the sideroc to show sections but not subsections. Each subpage of the website has its own small table of contents on the side (the “sideroc”). Its depth is set by SideTOCDepth. This sideroc is only shown if the browser display is wide enough. When using a narrow web browser window, “responsive web design” is used to show the sideroc at the top of the page, as well as a link back to Home at the top and bottom.

It is recommended to set:

SideTOCDepth=FileDepth

or

SideTOCDepth=FileDepth+1

Table 8: HTML settings

Macro/Cntr/Bool	Loc *	Description
\linkhomename	P	Name of the link to the homepage.
\linkpreviousname	P	Name of the link to the previous page.
\linknextname	P	Name of the link to the next page.
SideTOCDepth	P	Sectioning depth of the sideroc.
\sidetocname	P	Name of the sideroc.
FileDepth	P	Sectioning depth of the file splits.
CombineHigherDepths	P	Combine higher section levels.
FileSectionNames	P	Use section names for file names, else use numbers.
\FilenameLimit	P	Maximum length of the generated filenames.
FootnoteDepth	P	Sectioning depth of footnotes.
\abstractname	P	The name of the abstract.
\ImageAltText	PD	\includegraphics and other images' alt tag.
\ThisAltText {{text}}	PD	Assigns an alt/title tag for the next image or link.
\MathImageAltText	PD	The svg math image lateximage alt tag.
\PackageDiagramAltText	PD	The suffix for a package's lateximage alt tags.
\AltTextOpen	PD	Start an HTML alt tag.
\AltTextClose	PD	End an HTML alt tag.
\CSSFilename	PS	The css for the following files.
\MathJaxFilename	PS	The MATHJAX script for the following files.
\HTMLLanguage	PS	The HTML lang tag.
\HTMLTitle	PS	The homepage's <title>, overriding \title.
\HTMLTitleBeforeSection	PS	Set subpage <title>s to \HTMLTitle - sectionname
\HTMLTitleAfterSection	PS	Set subpage <title>s to sectionname - \HTMLTitle
\HTMLAuthor	PS	The HTML author meta tag, overriding \author.
\HTMLDescription	PS	The HTML description meta tag.
\HTMLFirstPageTop	P	Heading for the home page.
\HTMLFirstPageBottom	P	Footer for the home page.
\HTMLPageTop	PS	Heading for the other pages.
\HTMLPageBottom	PS	Footer for the other pages.
\IndexPageSeparator	P	Index page list separator.
\IndexRangeSeparator	P	Index page range separator.
FixSmallCaps	P	Set true if small caps rendered as all caps.
HTMLDebugComments	P	Boolean to generate HTML comments.

* **P**: Preamble, **D**: Anywhere in the document. **S**: Before a section.

inaccessible pages

`\sidoctocname`
Default: Contents

\sidoctocname: Name of the sideroc. Paragraphs are allowed. Redefine with `\renewcommand`.

Ctrl `FileDepth`
Default: -5

FileDepth: Sectioning depth of file splits. Defaults to -5, causing the entire HTML website to be one single file.

- To place the entire file into one HTML page, use:
`\setcounter{FileDepth}{-5}`
- To split the HTML file at `\section` depth, use:
`\setcounter{FileDepth}{1}`
- To ensure that the HTML pages/files are accessible:
Place a `\tableofcontents` somewhere before the first section break (therefore in the “home page”), and set
`tocdepth >= FileDepth`



Bool `CombineHigherDepths`
Default: true

CombineHigherDepths: Combine a higher section with its first lower subsections, down to the `FileDepth`. Defaults to true. Set to false to simulate the concept of a chapter opening on its own page, for example.

The file splits are controlled by the counter `FileDepth` and the boolean `CombineHigherDepths`. Setting `FileDepth` to 0 splits the file at chapters, 1 at sections, etc. `CombineHigherDepths` controls whether to combine pages at levels higher than the chosen `FileDepth`, such as in this tutorial where the page which opens the chapter also contains the first section. Be careful to set `tocdepth` and `SideTOCDepth` to allow access to each page of the website. Set `tocdepth` and `SideTOCDepth` to be greater than or equal to `FileDepth`.

Inaccessible pages!

Lost in an old page!

When making changes to the file structure, it is possible to end up with the web browser pointing to an old file which is no longer in use. When this occurs, changes to the web site will not appear in the browser, even if reloading the page, because that page is no longer in use. It is best to return to the home page, clean the files (`lwarpmk cleanall`), change `FileDepth` and/or `CombineHigherDepths`, then finally recompile and renavigate to the desired page using the new file structure.

Bool `FileSectionNames`
Default: true

FileSectionNames: If true, web page filenames are derived from a sanitized version of the section names. If false, web pages are numbered. Either way, the `HTMLFilename` option is used as a prefix. See section 7.6.1 for examples of naming and numbering HTML files. The user must ensure that filenames are unique after begin sanitized. For example, math in the section name is removed before creating the filename, so the rest of the filename must be sufficiently unique to avoid name collisions.

Unique filename!

`\FilenameLimit`
Default: 80

\FilenameLimit: The maximum length of the filenames generated by `lwarp`. “.html” is added to this length. Redefine with `\renewcommand`.

Ctrl `FootnoteDepth`
Default: 3

FootnoteDepth: Determines where to place pending footnotes. 3 places footnotes before each break down to the `\subsubsection` level. 1 places footnotes before each `\section` break. Any pending footnotes are also placed at the bottom of each page before each file break.

Bool `FixSmallCaps`
Default: false

FixSmallCaps: Set true if SMALL CAPS are rendering in all caps (“SMALL CAPS”).

May be required for some fonts (*erewhon*, *utopia*, *fbb*, et al.), and packages such as *embrac*.

Bool	<code>HTMLDebugComments</code> Default: <code>false</code>	HTMLDebugComments: Set true to generate HTML comments, such as which section or <code><div></code> is being opened or closed.
	<code>\abstractname</code> Default: <code>Abstract</code>	\abstractname: The name of the abstract. This may also be over-written by the <i>babel</i> package. Defaults to “Abstract”. Redefine with <code>\renewcommand</code> .
	<code>\IndexPageSeparator</code> Default: <code>“ , ”</code>	\IndexPageSeparator: Index page list separator. Adjust to match index style file. If using <i>gindex</i> , this is set automatically to <i>gindex</i> ’s <code>\indexpagessep</code> .
	<code>\IndexRangeSeparator</code> Default: <code>“--”</code>	\IndexRangeSeparator: Index page range separator. Adjust to match index style file. If using <i>gindex</i> , this is set automatically to <i>gindex</i> ’s <code>\indexrangesep</code> .

Placed before `\begin{document}`, or before any sectioning command which causes a file break:

`\CSSFilename`
Default: `lwarp.css`

\CSSFilename: `{\filename.css}` Sets the css file to use for the following files. May be changed before each each sectioning command which would cause a file split.

The css styles of the web pages are set by the `\CSSFilename` command. If `\CSSFilename` is not used, a default plain style is used to mimic printed $\TeX$ output. `lwarp_sagebrush.css` is a semi-fancy colored style as shown in this tutorial. Change it to `lwarp_formal.css` for a more formal look, or comment out the `\CSSFilename` command to see the default. `\CSSFilename` may be used before each file break to set the css for individual pages of the website.

`\MathJaxFilename`
Default: `lwarp_mathjax.txt`

\MathJaxFilename: `{\filename}` Sets the *MATHJAX* script file to use for the following files. May be changed before each each sectioning command which would cause a file split.

The *MATHJAX* script file is copied into the head of each HTML file. This may be used to point to a local repository, add extensions, or change the script somewhere in the middle of the document. `\MathJaxFilename` may be used before each file break to set the script file for individual pages of the website.

`\HTMLLanguage`
Default: `en-US`

\HTMLLanguage: `{\langauge}` The HTML file’s HTML lang meta tag. Defaults to `en-US`.

`\HTMLTitle`
Default: `\thetitle`

\HTMLTitle: `{\title}` Overrides `\title` for the HTML header’s meta title. Defaults to `\thetitle`, which is set by `\title`, or empty otherwise. Unlike the author, `\thetitle` is set by `\title` even if not using the *titling* package.

`\HTMLTitleBeforeSection`
Default: `\HTMLTitleBeforeSection`

\HTMLTitleBeforeSection: Sets subpage `<title>` tags to show the website title followed by the section name.

`\HTMLTitleAfterSection`

\HTMLTitleAfterSection: Sets subpage `<title>` tags to show the section name followed by the website title.

`custom <title>`

To customize subpage `<title>`s, redefine `\theHTMLTitleSection`, which defaults to:

```
\def\theHTMLTitleSection{%
  \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
}
```


<code>\HTMLAuthor</code> Default: <code>\theauthor</code>	\HTMLAuthor: $\{\langle author \rangle\}$ The HTML header's meta author. Defaults to <code>\theauthor</code> , which is set by <code>\author</code> if using the titling package, but is empty otherwise. There are several ways to represent the author and affiliations, especially if using the authblk package, most of which do not result in a sensible <code>\theauthor</code> , so <code>\HTMLAuthor</code> is useful to create a list of authors without their affiliations.
<code>\HTMLDescription</code> Default: <code><empty></code>	\HTMLDescription: $\{\langle description \rangle\}$ Sets the HTML description tag for the following files. May be changed before each sectioning command which would cause a file split.
<code>\HTMLPageTop</code> Default: <code><empty></code>	\HTMLPageTop: $\{\langle contents \rangle\}$ A user-definable custom action applied to the top of pages other than the home page. Useful for logos, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\HTMLPageBottom</code> Default: <code><empty></code>	\HTMLPageBottom: $\{\langle contents \rangle\}$ A user-definable custom action applied to the bottom of pages other than the home page. Useful for authors, copyright notices, contact information, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\LinkHome</code>	\LinkHome: Creates a link to the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkPrevious</code>	\LinkPrevious: Creates a link to the previous HTML page, unless already at the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkNext</code>	\LinkNext: Creates a link to the next HTML page, unless already at the end. Usually used in <code>\HTMLPageTop</code> and related.

Placed in the home page before the first sectioning command which causes a file break:

 <code>\tableofcontents</code> TOC on the homepage!	\tableofcontents: Used to place a table of contents on the home page. This command must be used before the first file split, so that a way is available to navigate to other files from the homepage. Links to each chapter/section are provided, as selected by <code>tocdepth</code> .
---	--

Placed in the document wherever necessary:

<code>\ImageAltText</code> Default: <code>image</code>	\ImageAltText: Redefine with <code>\renewcommand</code> . <code>\includegraphics</code> and other images are assigned an HTML alt tag according to <code>\ImageAltText</code> along with <code>\AltTextOpen</code> and <code>\AltTextClose</code> . This text is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is "image", and it may be changed according to the document's language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following <code>\includegraphics</code> and other images.
<code>\ThisAltText</code>	\ThisAltText: $\{\langle text \rangle\}$ <code>\ThisAltText</code> can be used to assign an HTML alt text attribute to the next image generated by a <code>lateximage</code> , <code>picture</code> , <code>tikzpicture</code> , or any other similar environment which generates an image, or the next <code>svg</code> math expression. This tag is cleared after use. The tag is also cleared after

each MATHJAX expression, in case the user changes between svg math and MATHJAX.

`\ThisAltText` also may be used to add an HTML title to a reference or hyperlink, such as a `\ref`, `\cref`, `\href`, `\url`, `\hyperref`, or `\hyperlink`. In each case, the alternative text is cleared after use.

`\MathImageAltText`
Default: math image

\MathImageAltText: Redefine with `\renewcommand`. When creating an svg math image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the alt tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following svg math images.

`\PackageDiagramAltText`
Default: diagram

\PackageDiagramAltText: Redefine with `\renewcommand`. For many packages, the output is placed inside a `lateximage` with an HTML alt tag set to the package name followed by `\PackageDiagramAltText`. For example:

`(-xy- diagram)`

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

`\AltTextOpen`
Default: (
`\AltTextClose`
Default:)

\AltTextOpen: Redefine with `\renewcommand`.

\AltTextClose: Redefine with `\renewcommand`. HTML alt text is enclosed by the macros `\AltTextOpen` and `\AltTextClose`, which default to an opening and closing parenthesis.

Env warpprint

warpprint: An environment which is only used while generating print output. Place inside anything which does not apply to HTML and which may cause problems with `lwarp`. If `lwarp` knows about and emulates or supports a package then its related macros, lengths, counters, etc. probably won’t have to be placed inside a `warpprint` environment, but unknown packages may cause problems which may be isolated from `lwarp` using this environment.



Do not place anything else on the same line as `\end{warpprint}`. Also do not nest `warpprint` inside itself.

Env warpHTML

warpHTML: An environment which is only included while generating HTML output. This is useful for website logos and other items which have no purpose in printed output.



Do not place anything else on the same line as `\end{warpHTML}`. Also do not nest `warpHTML` inside itself.

`\warpprintonly`

\warpprintonly: `{<contents>}` A macro version of the `warpprint` environment.

`\warpHTMLonly` **`\warpHTMLonly: {<contents>}`** A macro version of the warpHTML environment.

7.6.1 Example HTML file naming

Examples of ways to name or number HTML files:

Numbered HTML nodes:

Example: Homepage `index.html`, and `node-1`, `node-2`.¹³

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={node-}
]{lwarp}
\boolfalse{FileSectionNames}
```

Named HTML sections, no prefix:

Example: `index.html`, and `About.html`, `Products.html`

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={}
]{lwarp}
\booltrue{FileSectionNames}
```

Named HTML sections, with prefix:

Example: Homepage `mywebsite.html`, and additional pages such as `mywebsite-About.html`, `mywebsite-Products`, etc.

```
\usepackage[
  HomeHTMLFilename=mywebsite,
  HTMLFilename={mywebsite-}
]{lwarp}
\booltrue{FileSectionNames}
```

7.7 Customizing the css

`\CSSFilename` `{<filename>}`
 Default: `lwarp.css`

`\CSSFilename` may be used to choose which `.css` file is used to display each page of the web site. Use `\CSSFilename` before `\begin{document}` to assign the style of the home page. If different parts of the website should have different styles, call `\CSSFilename` again before each section heading which creates a new file. This may be changed numerous times throughout the file, resulting in different HTML pages having different css files assigned:

¹³See `\SetHTMLFileNumber` to number in groups by chapter, for example.

```
...
\CSSFilename{myCSS.css}
\chapter{Another Chapter}
...
```

The styles provided by **lwarp** include:

lwarp.css: A default style if `\CSSFilename` is not used. This style is comparable to a plain $\LaTeX$ document. To set this style, you may use `\CSSFilename{lwarp.css}`, or no `\CSSFilename` call at all.

lwarp_formal.css: A formal style with a serif fonts and a traditional look.

lwarp_sagebrush.css: A style with muted colors, gradient backgrounds, additional borders, and rounded corners.

To see each style in use, change the `\CSSFilename` entry in the tutorial, `lwarpmk.html` again, and then reload the tutorial webpage.

Custom css A customized style may also be created. For each new project a file called `sample_project.css` is generated. This may be renamed to `<project>.css` then used by assigning `\CSSFilename{<project>.css}`.

 **Rename it!** Note that `sample_project.css` is overwritten whenever **lwarp** is loaded in print mode. It is therefore important to rename the file to something like `<project>.css` before using it, so that your own changes are not overwritten.

`<project>.css` has an entry which loads `lwarp.css`, and this entry may be changed to load `lwarp_formal.css` or `lwarp_sagebrush.css` if desired. Additional changes to the css may be made by making entries later in the `<project>.css` file.

File lwarp.css File project.css File sample_project.css	It is best to make a local project-specific css file such as <code>project.css</code> , containing only things which are different from <code>lwarp.css</code> . The file <code>project.css</code> should refer to <code>lwarp.css</code> as follows:
---	---

```
/* ( --- Start of project.css --- ) */
/* ( --- A sample project-specific CSS file for lwarp --- ) */

/* Uncomment one of the following: */
@import url("lwarp.css") ;
/* @import url("lwarp_formal.css") ; */
/* @import url("lwarp_sagebrush.css") ; */

/* Project-specific CSS setting follow here. */
/* . . . */

/* ( --- End of project.css --- ) */
```

Finally use `\CSSFilename{<project>.css}` in the document to activate the custom css.

7.8 Assigning css classes and styles

HTML CSS classes and styles may be assigned to fragments of the document.

Env BlockClass [$\langle style \rangle$] [$\langle class \rangle$]

An entire block of text, including paragraphs, may be assigned a css class and optional css style using the BlockClass environment. The result is placed inside a `<div>`. A BlockClass may nest other BlockClasses or \InlineClasses.

\InlineClass ($\langle wp\ css\ style \rangle$) [$\langle web\ css\ style \rangle$] [$\langle css\ class \rangle$] [$\langle text \rangle$]

A section of text without paragraphs may be assigned a css class and optional css style using the \InlineClass macro. The result is placed inside a `<span>`. \InlineClass may be nested, but per the HTML standard it must not contain BlockClass, nor may it contain a paragraph, nor several other objects such as HTML figures. \InlineClass also accepts a second optional parameter, enclosed inside parentheses, which assigns the style while generating output for a word processor, while ignoring the web style.

Nullified versions of BlockClass and \InlineClass are provided for the print version, so they may be used in the document without placing them inside warpHTML or \warpHTMLonly.

7.9 Selecting the operating system

Prog	Unix	lwarp tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and MS-WINDOWS is supported as well.
Prog	Mac OS	
Prog	Linux	
Prog	MS-Windows	If MS-WINDOWS is not correctly detected, use the lwarp option OSWindows.
Prog	Windows	
Opt	OSWindows	When detected or specified, the operating-system path separator used by lwarp is modified, and the boolean usingOSWindows is set true. This boolean may be tested by the user for later use.

7.10 Selecting actions for print, HTML, or MATHJAX output

The following environments and macros are used to select actions which only apply to either traditional $\text{\LaTeX}$ print-formatted PDF generation, or to HTML generation, or to HTML with MATHJAX.

For most of built-in $\text{\LaTeX}$ and many additional packages there is user-level source code support or emulation, so no special handling will be required. For those cases which **lwarp** does not handle by itself, the following environments and macros may be used to isolate sections of code for print-only or HTML-only.

These environments are also useful for creating a special version of the titlepage for print and another for HTML.

Env	warpHTML	Anything which is to be done only for HTML5 output is surrounded by a warpHTML environment:
-----	----------	---

```
\begin{warphTML}
... something to be done only during \HTML\ generation
\end{warphTML}
```

 `\end{warphTML}` Do *not* place anything else on the same line as `\end{warphTML}`. The exact phrase is used to mark the end of the environment. Do not nest `warphTML` inside itself. `warpMathJax` may be used inside `warphTML`.

 **nesting**

Env `warpprint` Anything which is to be done only for print output is surrounded by a `warpprint` environment:

```
\begin{warpprint}
... something to be done only during traditional \PDF\ generation
\end{warpprint}
```

 `\end{warpprint}` As above, do not place anything else on the line with `\end{warpprint}`. Do not nest `warpprint` inside itself.

 **nesting**

Env `war pall` Anything which is to be done for any output may be surrounded by a `war pall` environment. Doing so is optional.

```
\begin{war pall}
... something to be done during print \PDF\ or \HTML\ output
\end{war pall}
```

 `\end{war pall}` As above, do not place anything else on the line with `\end{war pall}`. Do not nest `war pall` inside itself.

 **nesting**

Macros are also provided for print-only or HTML-only code:

`\warpprintonly` $\{\langle actions \rangle\}$

Performs the given actions only when print output is being generated.

`\warphTMLonly` $\{\langle actions \rangle\}$

Performs the given actions only when HTML output is being generated.

Env `warpMathJax` Anything which is to be done only while using HTML output with MATHJAX is surrounded by a `warpMathJax` environment. Usually, this is `\CustomizeMathJax`, used to add emulation macros. `\end{warpMathJax}` must appear on its own line. Do not nest `warpMathJax` inside itself. `warpMathJax` may be used inside `warphTML`.

 `\end{warpMathJax}`

 **nesting**

7.11 Commands to be placed into the warpprint environment

Certain print-related commands should always be placed inside a `warpprint` environment, or may need other special handling. These are unrelated to HTML output, but are hard to isolate automatically. For example:

- Paragraph formatting: `\parindent` `\parskip`
- Manual page positions such as the `textpos` package, which is emulated but only in a limited way.
- Anything changing the page counter. `lwarp` requires that the page counter not be adjusted during HTML output.

Some packages require additional setup commands. Where these packages are emulated for HTML, setup commands may work for the emulated HTML output as well as for print output. See the details for each package in this document for more information.

Also see section 13: [Troubleshooting](#).

7.12 Title page

In the preamble, place an additional block of code to set the following:

```
\title{Document Title} % One line only
\author{Author One\affiliation{Affiliation One} \and
        Author Two\affiliation{Affiliation Two} }
\date{Optional date}
```

The title is used in the meta tags in the HTML files, unless overridden by `\HTMLTitle`, and the rest are used in `\maketitle`. To use a `\subtitle` or `\published` field, see section 68.8.

`\maketitle` Use `\maketitle` just after the `\begin{document}`, as this will establish the title of the homepage. Optionally, use a `titlepage` environment instead.

Env `titlepage` The `titlepage` environment may be used to hold a custom title page. The `titlepage` will be set in a `<div>` class `titlepage`, and `\printtitle`, etc. may be used inside this environment.

Env `titlingpage` Another form of custom title page, where `\maketitle` is allowed, and additional information may be included as well.

`\title` `{\title}`

 **HTML corrupted** Avoid newlines in the `\title`; these will interfere with the file break and CSS detection.
 **newlines** Use a `\subtitle` command instead (section 68.8). The title will appear in the document `\maketitle` as a heading `<h1>`. The HTML meta title tag will also have this title, unless `\HTMLTitle` is used to set the meta title to something else instead.

`\author` `{\author}`

In `\author`, `\protect` may be needed before some formatting commands. In HTML, the author will appear in a `<div>` of class `author` in the `\maketitle`. If the `titling` package is used, the author will also appear in a HTML meta tag, but `\HTMLAuthor` may be necessary to create a plain list of names if `\author` had affiliations added. `\affiliation` is a new addition to `lwarp`.

`\date` `{\date}`

`\date` works as expected. In HTML, this will appear in a `<div>` class titled `date`.

`\thanks` `{\text{}}`

`\thanks` are allowed in the titlepage fields, and will be rendered as HTML notes at the bottom of the title page.

7.13 HTML page meta descriptions

`\HTMLDescription` `{\textit{A description of the web page.}}`

Default: (none)

limitations

Each page of HTML output should have its own HTML meta description, which usually shows up in web search results, is limited to around 150 characters in length, and should not include the ASCII double quote character (`"`).

placement

Use `\HTMLDescription` just before `\begin{document}` to set the description of the home page, and also just before each sectioning command such as `\chapter` or `\section` where a new file will be generated, depending on `FileDepth`. For example, if `FileDepth` is 1, use `\HTMLDescription` just before each `\section` command, and that description will be placed inside the HTML page for that `\section`. The same description will be used for all following HTML files as well, until reset by a new `\HTMLDescription`. It is best to use a unique description for each HTML file.

disabling

To disable the generation of HTML description meta tags, use:

```
\HTMLDescription{}
```

7.14 HTML homepage meta title

`\HTMLTitle` `{\textit{title}}`

Default: `\HTMLtitle{\thetitle}`

Sets the contents of the web page `<meta name="title">` element. May be set empty to cancel the meta title tag.

See section 7.6 for `\HTMLTitleBeforeSection` and `\HTMLTitleAfterSection`, used to set the title for HTML subpages.

7.15 HTML page meta author

`\HTMLAuthor` `{\textit{author}}`

Default: `\HTMLAuthor{\theauthor}`

Sets the contents of the web page `<meta name="author">` element. May be set empty to cancel the meta author tag.

`\author` may be used to create a list of authors and their affiliations, in several formats if using `authblk`, and these may not successfully parse properly into a sensible list for `\theauthor`. `\HTMLAuthor` may be used to set the meta tag to a simple list of names.

8 Special cases and limitations

Some commonly-used $\LaTeX$ expressions should be modified as follows to allow for a smooth conversion to both HTML and print-formatted outputs.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

8.1 Things to avoid

In the document, avoid the following:

 **options with braces** **Package options:** Package options may cause problems with `lwarp`, especially if they include curly braces.

If selecting options with braces in `\usepackage` does not work:

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading `lwarp`:

```
\PassOptionsToPackage{font={it,small}}{caption}
```

```
...
```

```
\usepackage{lwarp}
```

```
...
```

```
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
```

```
\captionsetup{font={it,small}}
```

page counter: Do not adjust the page counter. If doing so is required for the print version, place the adjustment inside a `warpprint` environment.

Custom math environment macros: Do not use expressions such as `\beq` as a replacement for `\begin{equation}`.

Custom macros in section, figure, table names: Custom macros which appear in sectioning commands or float captions then appear in the `.toc`, `.lof`, and `.lot` lists, and should be made robust using `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

When setting `FileSectionNames` to true to name the HTML files from the section names, the file names are created from sanitized versions of the chapter or section names, but the section names must be plain text or something which expands into plain text. Robust macros will not work at the sectioning level which is used for file names, but a robust macro or other complicated name may be used for the mandatory argument of `\chapter`, `\section`, etc., if a plain-text version is also included in the optional argument:

```
\chapter[Plain Name]{\ARobustMacro{Fancy Name}}
```

8.1.1 Invalid HTML

Additionally, some objects are valid $\LaTeX$, but invalid HTML. An example is a tabular inside `\textbf`, since HTML does not allow a table inside a span. **lwarp** will create the table, and the browser may support it, but the result is technically invalid.

8.2 Formatting

8.2.1 Text formatting

- ⚠ \bfseries, etc. `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.
- ⚠ HTML special chars `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.
- program listings For program listings, the `listings` package is supported, and its `literate` option is used to convert `&`, `<`, and `>` to proper HTML entities.
- verbatim The various verbatim-related environments do not convert `&`, `<`, and `>`, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

8.2.2 Small caps

- Bool FixSmallCaps Some fonts, such as `erewhon`, `utopia`, or `fbf`, and some packages such as `embrac`, copy/paste “SMALL CAPS” as all caps (“SMALL CAPS”), which **lwarp** then reads as all caps, so the text is printed in all caps. If small caps are being rendered as all caps, set:

```
\booltrue{FixSmallCaps}
```

- ⚠ CJK fonts Some CJK fonts may not work if `FixSmallCaps` is set true.

8.2.3 Horizontal and vertical space and rules

- `\hspace` `\hspace` is converted to an inline HTML span of the given width, except that `0` width is ignored, a width of `.16667em` is converted to an HTML thin breakable space (U+2009), and a `\fill` is converted to a `\quad`.
- `\vspace` `\vspace` is ignored for HTML.
- `\,` `\,` and `\,` are converted to HTML entities.
- `\kern` `\kern` and `\hskip` are entered into the HTML PDF output as-is, then interpreted by *pdftotext*, and thus usually appear as a single space.
- `\rule` `\rule` is converted to an HTML rule of the same dimensions, of the currently selected text color.

`\hrule` Both `\hrule` and `\vrule` are ignored for HTML. To create a horizontal dividing rule across the page, use `\hrulefill` in its own paragraph.

`\hrulefill` `\hrulefill` usually creates a one-inch rule, similar to a “fill in the blank”. If it is used at the start of a new paragraph, it creates a `<div>` with a thin horizontal border across the page, as would often be done with `\hrule`.

8.2.4 Text alignment

Use the environments `center`, `flushright`, `flushleft` instead of the macros `\centering`, `\raggedright`, `\raggedleft`.

 **figure & table alignment** `\centering`, etc. are honored in a figure or table if they are the first command inside the float:

```
\begin{table*}
\centering
\caption{A Table}
...
```

8.2.5 Accents

Native $\TeX$ accents such as `\`` will work, but many more kinds of accents are available when using Unicode-aware  $\XeTeX$  and  $\LuaTeX$ . If using accents in section names which will become file names, it is recommended to use the  $\TeX$  accents such as `\`` and `\v` instead of Unicode accents. The $\TeX$ accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

8.2.6 textcomp package

Pkg `textcomp` Some `textcomp` symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many `textcomp` symbols are not supported by many system/browser fonts. In the CSS try referencing fonts which are more complete, but expect to see gaps in coverage.

8.2.7 Superscripts and other non-math uses of math mode

Use `\textsuperscript{x}` instead of `^{x}`

8.2.8 Empty `\item` followed by a new line of text or a nested list:

[lists](#) Use a trailing backslash: `\item[label] \`

8.2.9 Filenames and URLs in lists or footnotes

filename underscore Escape underscores in the filenames:

```
\item[\href{file\_name.pdf}{text}]
```

8.2.10 relsize package

Pkg relsize For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

8.3 Boxes and minipages

8.3.1 Marginpars

`\marginpar` [*left*] [*right*] `\marginpar` may contain paragraphs, but in order to remain inline with the surrounding text **lwarp** nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `<br />` tags.

`\marginparBlock` [*left*] [*right*] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a `<span>`. A line break will occur in the text where the `\marginBlock` occurs.

8.3.2 Save Boxes

 **HTML corrupted**

 **boxes** TeX boxes are placed inline and do not allow line breaks, so boxes with long contents may overflow the line during HTML conversion. **lwarp** uses methods which help avoid this problem.

 **minipage, \parbox** `\savebox` and related do not (yet) support `minipage` or `\parbox`.

8.3.3 Minipages

 **inline** A line of text with an inline `minipage` or `\parbox` will have the `minipage` or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made inline-block.

placement `minipages` and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.

- side-by-side** Side-by-side minipages may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a center environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side minipages and these spacing commands, but not at the start or end of the paragraph.
-  **minipage in a span** There is limited support for minipages inside an HTML `<span>`. An HTML `<div>` cannot appear inside a `<span>`. While in a `<span>`, minipages, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.
-  **minipage size** When using `minipage`, `\parbox`, and `fminipage`, a virtual 6 × 9 inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.
- if width is \linewidth** If a minipage or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.
- full-width if HTML** A new macro `\minipagefullwidth` requests that, during HTML output, the next single minipage or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version’s width makes no sense in HTML.
-  **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every minipage or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `lwarp` to honor the specified widths of all following minipages and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwarp` to ignore the specified widths.
-  **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.
-  **text alignment** Nested minipages adopt their parent’s text alignment in HTML, whereas in regular `LaTeX` PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

8.3.4 Side-by-side minipages

Place side-by-side minipages inside a center environment, with horizontal space between them, such as `\quad`, `\qquad`, `\hspace`, or `\hfill`. The result is similar in print and HTML. Do not use space commands at the start or end of the line.

8.3.5 Framed minipages and other environments

`\fbox` can only be used around inline `<span>` items during HTML output, but HTML cannot place a block element such as a `<div>` for a minipage or a list inside of a `<span>`. Several options are provided for framing an object, depending on which kind of object and which packages are loaded:

<code>\fbox</code>	For a framed object, options include:
<code>\fboxBlock</code>	
Env <code>fminipage</code>	

To remove the frame in HTML output: Place the `\fbox` command and its closing brace inside `warpprint` environments. This will nullify the frame for HTML output.

To frame the contents inline with some formatting losses in HTML: This is the default action of `\fbox` when enclosing a minipage. During HTML output, `\fbox` nullifies the HTML tags for minipage, `\parbox`, and lists. The contents are included as inline text inside the `\fbox`'s `<span>` of class `framebox`. For lists, line breaks are converted to HTML breaks. The result is a plain-text inline version of the contents, framed inline with the surrounding text, but lacking any extra HTML markup.

For inline text:

To frame the contents on their own line with improved formatting in HTML:

For inline minipage and lists:

A new command `\fboxBlock` is included, intended to be a direct replacement for `\fbox` for cases where the `\fbox` surrounds a minipage, table, or list. For print output, this behaves as `\fbox`. For HTML output, the contents are placed inside an HTML `<div>` with the class `framed`, resulting in the contents being placed on their own line with a frame surrounding them. The contents preserve their HTML formatting, so lists and minipages look nicer, and valid HTML is created for a tabular. While an `\fbox` containing a tabular is valid $\text{\LaTeX}$ code, the result in HTML is problematic since a table is a `<div>` not a `<span>`, so use `\fboxBlock` around a tabular, or else place the tabular inside a minipage, or use `fminipage`, described next. Also see below regarding the “Misplaced alignment tab character &.” error.

To create a framed minipage in both print and HTML: A new environment `fminipage` is included. For print output, this is identical to `minipage`, except that it is also framed. For HTML output, this forms a `<div>` of class `framed`, the contents preserve their HTML formatting, and valid HTML is created for a tabular. Also see section 88 for a new environment `fcolorminipage`. Also see below regarding the “Misplaced alignment tab character &.” error.

For display tabular, minipages, and lists:

colored boxes and frames: **To create colored frames and boxes:** See section 650 for `xcolor`'s `\colorbox` and `\fcolorbox`, and `lwarp`'s additional `\colorboxBlock` and `\fcolorboxBlock`.

To frame tables or verbatim environments: Place the contents inside a `fminipage`, or perhaps a `\fboxBlock` for a tabular. Also, if using `\fboxBlock` with tabular, you will have to use `\StartDefiningTabulars` before the start of the macro which uses `\fboxBlock` and the tabular, and `\StopDefiningTabulars` afterwards. Also see the `lwarp` documentation for the `fancybox` package.

⚠ Misplaced alignment tab character &

To frame equations: See section 251 for the `fancybox` package.

For fancy framed minipages: See packages `boxedminipage`, `shadow`, `fancybox`, `framed`, `mdframed`.

Custom environments: Use a custom environment to create a sidebar, containing a `BlockClass` environment with custom CSS formatting, and `\warpprintonly{\hrule}` command:

```
\begin{BlockClass}{frameminipage}% ignored in print output
% use \CSS\ to format div class framedminipage
\warpprintonly{\hrule} % only appears in print output
Contents
\warpprintonly{\hrule} % only appears in print output
\end{BlockClass}
```

8.3.6 fancybox package

Pkg fancybox
framed equation example

fancybox's documentation has an example `FramedEqn` environment which combines `math`, `\Sbox`, a `minipage`, and an `\fbox`. This combination requires that the entire environment be enclosed inside a `lateximage`, which is done by adding `\lateximage` at the very start of `FramedEqn`'s beginning code, and `\endlateximage` at the very end of the ending code. Unfortunately, the `HTML alt` attribute is not used here.

```
\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
\[\fbox{\TheSbox}\]
\endlateximage% NEW
}
```

framing alternatives

`\fbox` works with **fancybox**. Also see **lwarp**'s `\fboxBlock` macro and `fminipage` environment for alternatives to `\fbox` for framing environments.

framed table example

The **fancybox** documentation's example of a framed table using an `\fbox` containing a `tabular` does not work with **lwarp**, but the `FramedTable` environment does work if `\fbox` is replaced by `\fboxBlock`. This method does lose some `HTML` formatting. A better method is to enclose the table's contents inside a `fminipage` environment. The caption may be placed either inside or outside the `fminipage`:

```
\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}
```

⚠ framed verbatim

lwarp does not support the `verbatim` environment inside a `span`, `box`, or **fancybox**'s `\Sbox`, but a `verbatim` may be placed inside a `fminipage`. The **fancybox** documentation's example `FramedVerb` may be defined as:

```
\newenvironment{FramedVerb}[1] % width
{
\VerbatimEnvironment
\fminipage{#1}
\beginVerbatim
}{
\endVerbatim
\endfminipage
}
```

framed \VerbBox

fancybox's `\VerbBox` may be used inside `\fbox`.

indented alignment

`LVerbatim`, `\LVerbatimInput`, and `\LUseVerbatim` indent with horizontal space which may not line up exactly with what *pdf_{totext}* detects. Some lines may be off slightly in their left edge.

8.3.7 mdframed package

Pkg `mdframed` Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for `mdframed` environments and frame titles.

 **loading** When used, `lwarp` loads `mdframed` in HTML with `framemethod=none`.

font For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the `mdframed` source). Since `lwarp` does not support `\bfseries` and friends, only one font selection may be made at a time.

theoremtitlefont `theoremtitlefont` is not supported, since the following text is not in braces in the `mdframed` source.

ignored options `userdefinedwidth` and `align` are currently ignored.

css classes Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `|mdframedtitle|`. Subtitles are in a `<div>` of class `|mdframedsubtitle|`, and likewise for subsubtitles.

8.3.8 tcolorbox package

Pkg `tcolorbox` `tcolorbox` is emulated for HTML and MATHJAX, and supported as-is inside a `lateximage` or `svg math`.

What has been tested to work (at least partly) includes:

- `tcolorbox`, `\tcbox`.
- Title, subtitle.
- Upper, lower parts.
- Colors and title fonts.
- Floating objects.
- Some layered box features.
- Counters, labels, references.
- `listings`, `listingsutf8`.
- theorems: Theorems are supported. `math`, `ams equation`, etc. are not supported.
- Fitting features: `\tcboxfit` becomes `\tcbox` in HTML.
- Footnote numbering does not match the printed output.
- MATHJAX emulation is provided for common macros.

 **math** Use a `tcolorbox` with regular `math` inside it. `\tcboxmath` and `\tcbhighmath` are supported in `svg math`, and emulated in MATHJAX.

 **footnotes** • Footnote numbering does not match the printed output.

 **undefined references** If using `cleveref`, it may be necessary to name theorems such as:

```
\crefname{tcb@cnt@mytheo}{my theorem}{my theorems}
```

8.4 Section names

If using named HTML files, by selecting `\booltrue{FileSectionNames}`, the generated filenames may be simplified by using `\FilenameSimplify` and `\FilenameNullify`:

```
\FilenameSimplify {<text>}
```

To remove common short words from the automatically-generated filenames, replacing each with a single hyphen “-”, use `\FilenameSimplify`:

```
\FilenameSimplify*{-in-}
\FilenameSimplify*{A-}
```

The first example removes the word “in” in the middle of a filename, and the second example removes “A” at the start of the filename. The star forces the arguments to be detokenized, which is required for a plain-text comparison. (The unstarred form is used for a token-sensitive comparison, which is seldom required by the user.) After simplification, repeated hyphen characters will be further simplified to a single hyphen “-”. Finally, single hyphens at the start or end of the filename are removed.

```
\FilenameNullify {<macros>}
```

 **macros in section names** Macro names may appear in the automatically-generated file names. To remove these, create *non-robust* nullified versions of the macros, ensuring that each line ends with a percent character % as shown below. These are placed inside `\FilenameNullify`, which adds them to the list of macros which are nullfied during filename generation. Low-level macros such as `\begingroup` will cause problems when nullfied. Many macros such as `\textbf` are already nullfied. `lwarp` also already nullifies built-in symbol and `textcomp` macros, including if defined by `xunicode`, but not all `xunicode` macros. See the definition of `\LWR@nullfonts` for a complete list.

```
\FilenameNullify{%
  \renewcommand*{\macroname}[1]{#1}%
  \renewcommand*{\anothermacro}{}%
}
```

 **duplicate filename** Avoid duplicate file names. Section names at levels which result in HTML file splits must be unique. `lwarp` will generate an error if a duplicate HTML filename is generated. Use the optional toc caption entry parameter for formatting. Remember to `\protect` $\TeX$ commands which appear in section names and toc captions.

 **math in section names** If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the toc entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section{Some math \texorpdfstring{$1+2=3$}{three}}
```

8.5 Cross-references

-  **labels** Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French).
-  **\nameref** **empty link** `\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.

8.5.1 Page references

-  **LaTeX page numbers** The printed page does not translate to the HTML page, so `\pageref` references are converted to parentheses containing `\pagerefPageFor`, which defaults to “see”, followed by a hyperlink to the appropriate object.

Ex:

```
\ref{sec:name} on page \pageref{sec:name}
in HTML becomes:
“Sec. 1.23 on page (see sec. 1.23)”.
```

`\pagerefPageFor` may be redefined to “page for”, empty, etc. See page 504.

8.5.2 cleveref and varioref packages

-  **cleveref page numbers** `Pkg cleveref` `Pkg varioref` `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 733 to redefine the message which is printed for page number references.

-  **varioref types** `cleveref` changes the behavior of `varioref` in that the reference type is automatically printed if `cleveref` is loaded. `Lwarp` requires `cleveref`, so the HTML version will always automatically print the reference types even if the print mode does not. The simplest way to make them match is to require the `cleveref` package for the document.

8.5.3 Hyperlinks, hyperref, and url

-  **comments between arguments** `Pkg hyperref` `Pkg url` `lwarp` emulates `hyperref`, including the creation of active hyperlinks, but does not require that `hyperref` be loaded by the document.
-  **comments between arguments** Do not place a comment with a % character between arguments for `\hyperref`, etc., as it is neutralized for inclusion in HTML URLs.

lwarp can also load **url**, but **url** should not be used at the same time as **hyperref**, since they both define the `\url` command. **lwarp** does not (yet) attempt to convert **url** links into hyperlinks during HTML output, nor does the print version of **url** create hyperlinks.

 **backref** When generating HTML, **lwarp**'s emulation of **hyperref** does not automatically load **backref**, so **backref** must be loaded explicitly.

8.5.4 Footnotes, endnotes, and page notes

lwarp uses native $\LaTeX$ footnote code, although with its own `\box` to avoid the $\LaTeX$ output routine. The usual functions mostly work as-is.

footnote numbering To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For **bigfoot**, **manyfoot**, or **perpage**:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

 **MathJax, \footnotemark** If using **MATHJAX**, after each math expression with a `\footnotemark`, adjust the footnote counter by the number of `\footnotemarks`:

```
\[ (math expression with two instances of \footnotemark) \]
\warphTMLonly{\addtocounter{footnote}{2}}
```

Similarly for **endnotes**, but *not* **sidenotes**.

Also for **MATHJAX**, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading **lwarp**:

```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for **sidenotes**. For **endnotes**:

```
\def\endnotename{something}% \def allows name to start with "end"
```

For the **pagenote** package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

footmisc The **footmisc** `stable` option is emulated by **lwarp**.

 **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the **footmisc** package with the `stable` option, provide a short toc entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

memoir with footmisc

⚠ memoir

If using memoir class, with which lwarp preloads footmisc, the stable option must be declared before lwarp is loaded:

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
...
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust \secnumdepth instead.

fancybox, fancyvrb

⚠ \VerbatimFootnotes

⚠ sectioning or displaymath

If using fancybox or fancyvrb with \VerbatimFootnotes, and using footnotes in a sectioning command or display math, use \footnotemark and \footnotetext:

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}
```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when \VerbatimFootnotes are selected. The browser usually compensates.

pfnote

⚠ pfnote numbers

While emulating pfnote, lwarp is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. lwarp therefore uses continuous footnote numbering even for pfnote.

bigfoot, manyfoot

⚠ verbatim

Verbatim footnotes are not yet supported.

If using the bigfoot package, and possibly also manyfoot, problems may occur with counter allocation because lwarp uses many counters, and there is a difference in how counters numbered 256 and up are handled in pdf $\LaTeX$. With bigfoot this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as an input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining bigfoot or manyfoot footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use Xe $\LaTeX$ or Lua $\LaTeX$ instead of pdf $\LaTeX$.

8.5.5 xr, xr-hyper, and xcite packages

See section 5.17.

8.6 Front and back matter

8.6.1 Custom classes with multiple authors and affiliations

Some classes allow multiple authors and affiliations. Often it is possible to emulate these using a standard class along with `authblk`:

```
%\documentclass{customclass} % for print document
\documentclass{article} % for html document

\usepackage{lwarp}
\begin{warpHTML}
\usepackage{authblk}
\let\affiliation\affil % maybe required
\end{warpHTML}
```

8.6.2 Starred chapters and sections

[HTML page and TOC](#) The following describes `\ForceHTMLPage` and `\ForceHTMLTOC`, which may be used for endnotes, glossaries, `tocbibind`, bibliographies, and the index. See the following sections where applicable. Continue here if interested in the reason for adding these commands to `lwarp`.

Some packages use `\chapter*` or `\section*` to introduce reference material such as notes or lists, often to be placed in the back matter of a book. These starred sections are placed inline instead of on their own HTML pages, and they are not given TOC entries.

`lwarp` provides a method to cause a starred section to be on its own HTML page, subject to `FileDepth`, and also a method to cause the starred section to have its own TOC entry during HTML output.

`\ForceHTMLPage` To place a starred section on its own HTML page, use `\ForceHTMLPage` just before the `\chapter*` or `\section*`. `lwarp` will create a new page for the starred sectional unit.

A starred sectional unit does not have a TOC entry unless one is placed manually. The typical method using `\phantomsection` and `\addcontentsline` works for inline text but fails when the new starred section is given its own webpage after the TOC entry is created, or when creating an EPUB where the TOC entry will point to the page before the starred section. If the starred section has its own HTML page but no correct TOC entry pointing to that page, the page will be inaccessible unless some other link is created.

 **inaccessible HTML page**

`\ForceHTMLTOC` To automatically force the HTML version of the document to have a TOC entry for a starred section, use `\ForceHTMLTOC` just before the `\chapter*` or `\section*`, and place `\phantomsection` and `\addcontentsline` inside a `warpprint` environment.

For print output, `\ForceHTMLTOC` and `\ForceHTMLPage` have no effect.

8.6.3 abstract package

`Pkg abstract` If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

 **missing TOC**

8.6.4 titling and authblk

Pkg titling

Pkg authblk

package support

⚠ load order

\published and \subtitle

lwarp supports the native $\LaTeX$ titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.

If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 68.8.

8.6.5 tocloft package

Opt [tocloft] titles

Pkg tocloft

Pkg tocloft

If using `tocloft` with `tocbibind`, `anonchap`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard $\LaTeX$ commands to create the titles, allowing other packages to work with it.

⚠ tocloft & other packages

8.6.6 appendix package

Pkg appendix

⚠ incorrect toc link

During HTML conversion, the option `toc` without the option `page` results in a toc link to whichever section was before the `appendices` environment. It is recommended to use both `toc` and also `page` at the same time.

8.6.7 pagenote package

Pkg pagenote

`pagenote` works as-is, but the `page` option is disabled.

⚠ labels

Note that labels in page notes do not appear as expected, even in the print version.

8.6.8 endnotes package

Pkg endnotes

table of contents

To place the endnotes in the TOC, use:

```
\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional
```

HTML page

To additionally have the endnotes on their own HTML page, if `FileDepth` allows:

```
\ForceHTMLPage
\theendnotes
```

⚠ \endnotemark
numbering

If using `MATHJAX`, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.

8.6.9 BibTeX

\etalchar

Displays a superscript “+” to indicate “and others”.

⚠ Modify *.bib

When enough authors are cited for a source, `BibTeX` may use the `\etalchar` command to

display a math superscript with a + character to indicate “and others”. Without modification, this will result in an “Improper \prevdepth” error. At present, **lwarp** requires that `\etalchar` be replaced by a text superscript. To do so, add to the start of the `.bib` file the following:

```
@PREAMBLE{"\let\etalchar\relax \newcommand{\etalchar}[1]{\textsuperscript{#1}}"}{
```

8.6.10 xcite package

See section 5.17.

8.6.11 gloss package

Pkg gloss To process the HTML glossary:

 **compiling** `bibtex <projectname>_html.gls`

8.6.12 glossaries package

Pkg glossaries *lwarpmk* has the commands **lwarpmk printglossary** and **lwarpmk htmlglossary**, which process the glossaries created by the **glossaries** package using that package’s *makeglossaries* program.

Opt GlossaryCmd

Default: *makeglossaries*

Opt [lwarpmk] printglossary

Opt [lwarpmk] htmlglossary

The shell command to execute is set by the **lwarp** option `GlossaryCmd`, which defaults to **makeglossaries**. The print or HTML glossary filename is appended to this command.

In some situations it may be required to modify the default command, such as to add the **perl** command in front:

```
\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarp}
```

xindy language To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for *makeglossaries* may be set as well.

placement and toc options The glossaries may be placed in a numbered or unnumbered section, given a TOC entry, and placed inline or on their own HTML page:

Numbered section, on its own HTML page:

```
\usepackage[xindy,toc,numberedsection= nolabel]{glossaries}
...
\printglossaries
```

Unnumbered section, inline with the current HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

Unnumbered section, on its own HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

 **glossary style** The default `style=item` option for `glossaries` conflicts with `lwarp`, so the style is forced to `index` instead.

 **number list** The page number list in the printed form would become `\namerefs` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

print/HTML versions The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

8.6.13 `nomenc1` package

Pkg `nomenc1` To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomenc1.ist -o <project>_html.nls
```

8.6.14 Indexing overview

There are many ways to process indexes for a $\text{\LaTeX}$ document, including native $\text{\LaTeX}$ capabilities, a number of packages and classes, the possible availability of shell escape and *latexmk*, and the need to process print and HTML versions. `lwarp` attempts to provide easy recompilation of indexes along with the rest of the document, but the various indexing options must be set correctly. Numerous examples are given below. Some differ in minor details, so the important parts are highlighted in red, and options are in green.

Once set up properly, the entire document may be recompiled with `lwarpmk print` and `lwarpmk html`. In some cases, it will also be necessary to compile the indexes with `lwarpmk printindex` and `lwarpmk htmlindex`. A recompile may then be forced with `lwarpmk print1` and `lwarpmk html1`.

manual processing The user may continue to process indexes manually or by shell script without the use of *lwarpmk*, but adjustments will be required to process HTML indexes as well. In general, `*.idx` and `*.ind` files will be accompanied by `*_html.idx` and `*_html.ind` files.

custom index style If using a custom indexing style file, see sections 8.6.20 to 8.6.22.

link appearance To control how the index links appear in the HTML output, see the `IndexRef` option in section 7.5, page 107.

source code See section 78 for `lwarp`'s core index and glossary code, section 330 for `index`, section 552

for `splitidx`, section 328 for `imakeidx`, section 605 for `tocbibind`, and section 671.17 for memoir's indexing patches.

8.6.15 Indexing with `makeidx`, `makeindex`, `xindy`, `xindex`, `gindex`

lwarpmk processing The following allow the user to process indexes automatically, or using *lwarpmk*'s commands:

Enter ⇒ `lwarpmk printindex`

Enter ⇒ `lwarpmk htmlindex`

Prog `makeindex` **For a single index using *makeindex*:**

```
\usepackage[makeindex,latexmk]{lwarp}
```

The usual `.idx` and `.ind` files will be used, along with the new `lwarp.ist` style file. When creating the HTML index, “`_html`” is automatically appended to each of the names.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ `lwarpmk printindex`

Enter ⇒ `lwarpmk htmlindex`

to compile the indexes.

To use a custom configuration file, see section 8.6.20.

Prog `xindy` **For a single index using *xindy*:**

```
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,              <optional>
  latexmk                          <optional>
]{lwarp}
```

The usual `.idx` and `.ind` files will be used, along with the new `lwarp.xdy` style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ `lwarpmk printindex`

Enter ⇒ `lwarpmk htmlindex`

to compile the indexes.

To use a custom configuration file, see section 8.6.21.

Prog xindex **For a single index using *xindex*:**

```
\usepackage[
  xindex,
  latexmk
]{lwarp}                                <optional>
```

The usual .idx and .ind files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section 8.6.22.

Pkg gindex **For a single index using *gindex*:**

```
\usepackage[
  makeindex,
  makeindexStyle=gindex.ist,
  . . . or . . .
  makeindexStyle=gindexh.ist,
  latexmk
]{lwarp}                                <optional>
```

The usual .idx and .ind files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, copy `gindex.ist` to a new file, modify, then specify it with `MakeindexStyle` as above. **lwarp** will automatically adapt to **gindex**'s `\indexpessesep` and `\indexrangesep` settings.

8.6.16 Indexing with index

Prog index

lwarp is told how to use *makeindex* using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file `lwarp.ist` is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

For multiple indexes using *makeindex* and *index*:

(Assuming that the second index has file extensions *.sist* and *.sind*)

```
\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist
      -o <projectname>.sidx <projectname>.sidx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist
      -o <projectname>_html.sidx <projectname>_html.sidx
  }
]{lwarp}
\usepackage{index}
...
\makeindex
\newindex{secondname}{sidx}{sind}{Second Index}
```



WINDOWS

For *WINDOWS*, replace the two “;” characters with “&”.

When creating the HTML index, “_html” is automatically appended to the index filenames.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

If the *latexmk* option is selected for *lwarp*, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

8.6.17 Indexing with *splitidx*

Prog *splitidx*

lwarp is told how to use *splitindex* using the *PrintIndexCmd* and *HTMLIndexCmd* options. The file *lwarp.ist* is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

If the *latexmk* option is selected for *lwarp*, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.



\thepage

When using *\AtWriteToIndex* or *\AtNextWriteToIndex*, the user must not refer to *\thepage* during HTML output, as the concept of a page number is meaningless. Instead, do

```
\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}
```

where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 671.17 in the `lwarp-patch-memoir` package for the `\@wrsindexhyp` macro as an example.

For multiple indexes using *makeindex* and *splitidx*:

```
\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    splitindex <projectname> -- -s lwarp.ist
  },
  HTMLIndexCmd={
    splitindex <projectname>_html -- -s lwarp.ist
  }
]{lwarp}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “_html” is automatically appended to each of the names.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes using *xindy* and *splitidx*:

```
\usepackage[
  xindy, latexmk,
  PrintIndexCmd={
    splitindex -m xindy <projectname> -- -M lwarp.xdy
    -L english -C utf8 <optional>
  },
  HTMLIndexCmd={
    splitindex -m xindy <projectname>_html -- -M lwarp.xdy
    -L english -C utf8 <optional>
  }
]{lwarp}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “_html” is automatically appended to each of the names.

Use

Enter ⇒ **lwarpmk printindex**

Enter $\Rightarrow$ **lwarpmk htmlindex**
to compile the indexes.

8.6.18 Indexing with imakeidx

Prog imakeidx

Due to the number of methods which may be used to process multiple indexes, the options for style file and *xindy* language and codepage must be specified in one of several different ways. These are described in detail later in this section, but are summarized here.

If shell escape is used, *imakeidx* will automatically compile the indexes by itself. Options specifying a custom style file and *xindy* language and codepage must be specified for each `\makeindex` command using its `options=` option, which must include *lwarp*'s special *lwarp.ist* or *lwarp.xdy* file, or a file based on them. If using a custom indexing style file, see sections 8.6.20 to 8.6.22.

The *splitindex* option is also available if shell escape is used, in which case the *splitidx* package and *splitindex* program will also be used.

If shell escape is not possible, *latexmk* may be used to automatically compile the indexes. The style, language, and codepage options are specified with *lwarp*'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options. These are passed to *latexmk* by *lwarpmk*'s **lwarpmk printindex** and **lwarpmk htmlindex** commands.

Where shell escape and *latexmk* are not possible, *lwarpmk* may be used to manually compile the indexes. *lwarp*'s `PrintIndexCmd` and `HTMLIndexCmd` options are used.

For a single or multiple indexes using *makeindex* and *imakeidx*:

The index style *lwarp.ist* is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk]{lwarp}
\usepackage[makeindex]{imakeidx}
...
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```

imakeidx will automatically compile the indexes. Shell escape is not required while using *makeindex*. *latexmk* may be specified, and if so it will be used for **lwarpmk print** and **lwarpmk html**, but *imakeidx* will actually create the indexes.

For a single or multiple indexes using *makeindex* and *splitindex* with *imakeidx*:

The index style *lwarp.ist* is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk]{lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
...
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```

⚠ enable shell escape

Shell escape is required while using *splitindex*. For the first compile, use

Enter ⇒ `pdflatex --shell-escape projectname.tex`

Enter ⇒ `pdflatex --enable-write18 projectname.tex` (MiKTeX)

or similar with *xelatex* or *lualatex*. *lwarp* will remember that shell escape was used. *imakeidx* will automatically execute *splitindex*, and will also use *makeindex* to compile the indexes.

latexmk may be specified, and if so it will be used for `lwarpmk print` and `lwarpmk html`, but *imakeidx* will actually create the indexes.

For multiple indexes using *xindy* and *imakeidx*, using shell escape:

Options may be given to *imakeidx*'s `\makeindex` command. The style file `lwarp.xdy` is automatically used for HTML output, and is not necessary for print output since the output will be similar. If language or codepage must be set, they should be specified as options for `\makeindex`, since *imakeidx* will process the indexes.

```
\usepackage[xindy,latexmk]{lwarp}
\usepackage[xindy,splitindex]{imakeidx}
...
\makeindex[
  options={ -M lwarp.xdy -L english -c utf8 }
]
\makeindex[
  name=secondname,
  options={ -M lwarp.xdy -L english -c utf8 }
]
```

⚠ enable shell escape

For the first compile, use

Enter ⇒ `pdflatex --shell-escape projectname.tex`

Enter ⇒ `pdflatex --enable-write18 projectname.tex` (MiKTeX)

or similar with *xelatex* or *lualatex*. *lwarp* will remember that shell escape was used. *imakeidx* will automatically execute *splitindex* if selected, and will also use *xindy* to compile the indexes.

If selected, *latexmk* will automatically recompile the entire document as necessary.

For indexes using *xindy* and *imakeidx*, without shell escape, but with *latexmk*:

lwarp's options are used, and are passed to *latexmk*.

```
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk,
]{lwarp}
\usepackage[xindy]{imakeidx}
...
\makeindex
\makeindex[name=secondname]
```

latexmk will create the indexes automatically when `lwarpmk print` and `lwarpmk html` are executed.

For indexes using *xindy* and *imakeidx*, without shell escape, and *without latexmk*:

lwarpmk must be told how to create the indexes:

```
\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
\usepackage[xindy]{imakeidx}
...
\makeindex
\makeindex[name=secondname]
```

WINDOWS

For WINDOWS, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes using *xindex* and *imakeidx*, using shell escape:

xindex, *makeindex*, *imakeidx*, and *splitindex* can all work together:

```
\usepackage[%
  xindex,
  xindexConfig=-imakeidx,
  latexmk
]{lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
...
\makeindex[%
  options={ -s lwarp.ist} }
]
\makeindex[
  name=secondname,
  options={ -s lwarp.ist} }
]
```

enable shell escape

For the first compile, use:

Enter ⇒ `pdflatex --shell-escape projectname.tex`

Enter ⇒ `pdflatex --enable-write18 projectname.tex` (MiKTeX)

or similar with *xelatex* or *lualatex*. lwarp will remember if shell escape was used.

xindex will use *imakeidx*, and *imakeidx* will automatically execute *splitindex* if selected.

If selected, *latexmk* will automatically recompile the entire document as necessary.

8.6.19 Indexes with memoir

For a single index with memoir and *makeindex*:

```
\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
...
\makeindex
```

The usual `.idx` and `.ind` files will be used, along with the `lwarp.ist` style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ `lwarpmk printindex`

Enter ⇒ `lwarpmk htmlindex`

to compile the indexes.

For multiple indexes with memoir and *makeindex*, using *latexmk*:

lwarp's options are used, and are passed to *latexmk*.

```
\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
...
\makeindex
\makeindex[secondname]
```

lwarpmk will use *latexmk* to create the indexes automatically when the user executes `lwarpmk print` and `lwarpmk html`.

For multiple indexes with memoir and *makeindex*, without latexmk:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
  makeindex,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist secondname.idx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist secondname_html.idx
  }
]{lwarp}
...
\makeindex
\makeindex[secondname]
```

WINDOWS

For WINDOWS, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For a single index with memoir and *xindy*:

```
\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk                          <optional>
]{lwarp}
...
\xindyindex
\makeindex
```

The usual .idx and .ind files will be used, along with the lwarp.xdy style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes with memoir and xindy, using latexmk:

lwarp's options are used, and are passed to *latexmk*.

```
\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,
  xindyCodepage=utf8,
  latexmk
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

<optional>
<optional>

lwarpmk will use *latexmk* to create the indexes automatically.

For multiple indexes with memoir and xindy, without latexmk:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

WINDOWS

For WINDOWS, replace the four “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

8.6.20 Using a custom *makeindex* style file

Prog `makeindex` When using *makeindex*, *lwarpmk* uses the file `lwarp.ist` to process the index. This file is
 File `lwarp.ist` over-written by *lwarp* whenever a print version of the document is processed.

To use a custom *makeindex* style file:

1. Copy `lwarp.ist` to a new filename such as `projectname.ist`
2. Make changes to `projectname.ist`. Keep the lines which refer to `\hyperindexref`. These lines creates the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

3. If changing

```
delim_n -and- delim_r
```

in `projectname.ist`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

Opt `makeindexStyle`

4. In the document source use the `makeindexStyle` option for *lwarp*:

```
\usepackage[
... other options ...
makeindex,
makeindexStyle=projectname.ist,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes *lwarp* to rewrite the `lwarpmk.conf` configuration file. This tells *lwarpmk* to use the custom `projectname.ist` file instead of `lwarp.ist`.

8.6.21 Using a custom *xindy* style file

Prog `xindy` When using *xindy*, *lwarpmk* uses the file `lwarp.xdy` to process the index. This file is
 File `lwarp.xdy` over-written by *lwarp* whenever a print version of the document is processed.

To use a custom *xindy* style file:

1. Copy `lwarp.xdy` to a new filename such as `projectname.xdy`
2. Make changes to `projectname.xdy`.

Keep the lines which refer to `\hyperindexref`:

```
(define-attributes (("hyperindexref"))
(markup-locref :open "\hyperindexref{" :close "}")
...
(markup-locref :open "\textit{\hyperindexref{" :close "}" :attr "textit")
```

These lines create the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

To create custom styles, refer to the lines for `\textbf` and `\textit`.

3. If changing any of

```
markup-locref-list :sep
markup-locclass-list :open
markup-locclass-list :sep
markup-crossref-layer-list :sep
markup-range :sep
```

in `projectname.xdy`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

Opt xindyStyle

4. In the document source use the `xindyStyle` option for `lwarp`:

```
\usepackage[
... other options ...
xindy,
xindyStyle=projectname.xdy,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.xdy` file instead of `lwarp.xdy`.

8.6.22 Using a custom *xindex* style file

Prog xindex To use a custom *xindex* style file:

 filename

1. Copy `xindex-cfg.lua` to a new filename such as `xindex-projectname.lua`. The filename must start with `xindex-` and end with `.lua`.

2. Make changes to `xindex-projectname.lua`.

3. If changing

```
itemPageDelimiter -and- rangeSymbol
```

in `xindex-projectname.lua`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

Opt xindexConfig

4. In the document source use the `xindexConfig` option for `lwarp`:

```
\usepackage[
... other options ...
xindex,
xindexConfig=projectname, % (without xindex- or .lua)
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes **lwarp** to rewrite the `lwarpmk.conf` configuration file. This tells *lwarpmk* to use the custom `xindex-projectname.lua` file instead of the default `xindex-cfg.lua`.

8.6.23 Additional indexing limitations

- ⚠ *xindy* with *hyperref* *xindy* and *hyperref* may not work well together for print output with “see”, “see also”, reference ranges, or stylized index references. It may be necessary to turn off hyper-referencing for indexes:

```
\usepackage[hyperindex=false]{hyperref}
```

- ⚠ empty index If an HTML index is empty, it may be necessary to add the following before **lwarp** is loaded:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
...
\usepackage{lwarp}
```

- makeindex* custom display styles When using *makeindex*, custom display styles are possible:

```
\begin{warpprint}
\newcommand{\notesstyle}[1]{#1nn}
\end{warpprint}

\begin{warpHTML}
\makeatletter
\newcommand{\notesstyle}[1]{\LWR@doindexentry{#1} notes }
\makeatother
\end{warpHTML}
...
A sentence.\index{key|notesstyle}
```

- xindy* custom display styles For custom styles with *xindy*, see `lwarp.xdy` for `\textbf` and `\textit` as examples.

8.6.24 Index positions, `toc`, `tocbibind`

- placement and `toc` options An index may be placed inline with other HTML text, or on its own HTML page:

Pkg `makeidx` **Inline, with a manual `toc` entry:**

A commonly-used method to introduce an index in a $\TeX$ document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex
```

Pkg `makeidx` **On its own HTML page, with a manual toc entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

Pkg `tocbibind` **Inline, with an automatic toc entry:**

The `tocbibind` package may be used to automatically place an entry in the toc.

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex
```

Pkg `tocbibind` **On its own HTML page, with an automatic toc entry:**

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex
```

Opt [tocbibind] `numindex` Use the `tocbibind` `numindex` option to generate a numbered index. Without this option, the index heading has no number.

[numbered index section](#)

Other packages, such as `imakeidx`, may also have options for including the index in the Table of Contents.

Pkg `tocloft` If using `tocloft` with `tocbibind`, `anonchp`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard $\LaTeX$ commands to create the titles, allowing other packages to work with it.

 **tocloft & other packages**

8.7 Math

8.7.1 Math in section names

 **math in section names** If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the toc entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section{Some math \texorpdfstring{$1+2=3$}{three}}
```

8.7.2 Rendering tradeoffs

[Math rendering](#) Math may be rendered as SVG graphics or using the MATHJAX JavaScript display engine.

- svg files** Rendering math as images creates a new svg file for each expression, except that an MD5 hash is used to combine identical duplicates of the same inline math expression into a single file, which must be converted to svg only once. Display math is still handled as individual files, since it may contain labels or references which are likely to change.
- svg inline** The svg images are currently stored separately, but they could be encoded in-line directly into the HTML document. This may reduce the number of files and potentially speed loading the images, but slows the display of the rest of the document before the images are loaded.
- png files** Others $\text{\LaTeX}$ -to-HTML converters have used png files, sometimes pre-scaled for print resolution but displayed on-screen at a scaled down size. This allows high-quality print output at the expense of larger files, but svg files are the preferred approach for scalable graphics.
- MathML** Conversion to MathML might be a better approach, among other things allowing a more compact representation of math than svg drawings. Problems with MathML include limited browser support and some issues with the fine control of the appearance of the result. Also see section 10 regarding EPUB output with MATHJAX.

8.7.3 svg option

- svg math option** For svg math, math is rendered as usual by $\text{\LaTeX}$ into the initial PDF file using the current font¹⁴, then is captured from the PDF and converted to svg graphics via a number of utility programs. The svg format is a scalable-vector web format, so math may be typeset by $\text{\LaTeX}$ with its fine control and precision, then displayed or printed at any size, depending on (sometimes broken) browser support. An HTML alt attribute carries the $\text{\LaTeX}$ code which generated the math, allowing copy/paste of the $\text{\LaTeX}$ math expression into other documents.

- svg image font size** For the `lateximage` environment, the size of the math and text used in the svg image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline svg math, font size is instead controlled by `\LateximageFontScale`, which defaults to:

```
\newcommand*{\LateximageFontScale}{.75}
```

- svg math copy/paste** For svg math, text copy/paste from the HTML `<alt>` tags lists the equation number or tag for single equations, along with the $\text{\LaTeX}$ code for the math expression. For $\mathcal{AMS}$ environments with multiple numbers in the same environment, only the first and last is copy/pasted, as a range. No tags are listed inside a starred $\mathcal{AMS}$ environment, although the `\tag` macro will still appear inside the $\text{\LaTeX}$ math expression.



- svg math size, baseline** svg math sizing and baselines are improved if the `graphics` or `graphicx` package is loaded. An almost-invisible marker is placed at either end of the image to assist in cropping and computing the baseline. A warning is issued at the end of the compile if `graphics` or `graphicx` are not used.

¹⁴See section 656 regarding fonts and fractions.

⚠ **svg math in T_EX boxes** svg math does not work inside T_EX boxes, since a `\newpage` is required before and after each image.

8.7.4 MATHJAX option

MATHJAX math option The MATHJAX (mathjax.org) L^AT_EX-math to HTML converter may be used to display math.

Prog MathJax

When MATHJAX is enabled, math is rendered twice:

1. As regular L^AT_EX PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of L^AT_EX, and
2. As detokenized printed L^AT_EX commands placed directly into the HTML output for interpretation by the MATHJAX display scripts. An additional script is used to pre-set the equation number format and value according to the current L^AT_EX values, and the MATHJAX equation numbering system is ignored in favor of the L^AT_EX internal system, seamlessly integrating with the rest of the HTML output, including any math appearing in non-MATHJAX SVG output.

8.7.5 Customizing MATHJAX

equation numbering lwarp detects and adjusts MATHJAX equation numbering format for **article** and **book** style equations as well as **amsmath** `\numberwithin` for chapters, sections, and subsections. Custom equation number formats may be set as follows, for example:

```
\renewcommand*{\theequation}{\Alph{section}.\arabic{equation}}
\AtBeginDocument{
  \renewcommand*{\theMathJaxsection}{\Alph{section}.}
}
```

⚠ **subequation** The **amsmath** subequations environment is supported, but only with `\alpha` subequation numbering.

global customizations MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined in the preamble. These will be declared at the start of each HTML page, and thus will have a global effect across all HTML pages.

Examples:

```
\begin{warpMathJax}
\CustomizeMathJax{
  \newcommand{\expval}[1]{\langle#1\rangle}
  \newcommand{\abs}[1]{\lvert#1\rvert}
}
\CustomizeMathJax{\newcommand{\arcsinh}{\text{arcsinh}}}
\CustomizeMathJax{\newcommand{\arccosh}{\text{arccosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}
\end{warpMathJax}
```

⚠ **slow compilation** To avoid a slowdown in compile speed, use the `warpMathJax` environment to prevent its contents from being processed in print or svg math output. Also, place each new definition

inside its own `\CustomizeMathJax`. A warning to this effect is issued if an overly-long definition is attempted.

`lwarp` already provides MATHJAX customizations for some packages.

siunitx When using `siunitx`, a similar process may be used to add custom units:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\myunit}{\mathrm{WXYZ}}}}
\CustomizeMathJax{\newcommand{\umyunit}{\mathrm{\micro\myunit}}}}
\end{warpMathJax}
```

advanced control For more advanced control over dynamically creating custom definitions, see as an example the `lwarp` definition for `\DeclarePairedDelimiterX`, in section 386, [mathtools](#).

local customizations For customizations local to the current HTML page only, macros may be defined as follows:

```
\begin{warpMathJax}
\(\ \newcommand{\macroname}{. . . } \)
\(\ \newcommand{\anothername}{. . . } \)
\end{warpMathJax}
```

To maintain compile speed, use the `warpMathJax` environment, and use a separate `math` environment for each definition.

`\ifstar` For MATHJAX, use `\ifstar` instead of `\@ifstar`:

```
\CustomizeMathJax{
\def\myname{
\ifstar\starredaction\unstarredaction
% (Do not place anything after!)
} }
```

`\ifnextchar` For MATHJAX, use `\ifnextchar` instead of `\@ifnextchar`:

```
\CustomizeMathJax{\def\myname{\ifnextchar X \found\notfound}}
```

“X” may be a single ASCII character, or a hex number inside braces, ex:

```
\CustomizeMathJax{\def\myname{\ifnextchar{0x7B}\found\notfound}}
```

Use “(” or “{0x28}” for a left parenthesis, “{0x7B}” for a left brace, “{0x7D}” for a right brace, or “{0x5C}” for a backslash.

8.7.6 MATHJAX limitations

MATHJAX limitations Limitations when using MATHJAX include:

Prog MathJax



`\multicolumn`, `\multirow`

- MATHJAX does not support `\multicolumn` or `\multirow`. These may be used in text tabulars or SVG math, but in MATHJAX math arrays they are emulated. `\multicolumn` only fills a single cell, resulting in a short row. `\multirow` simply prints its text on the first line.



`footnotes`

- Footnotes are emulated when used inside a MATHJAX expression. For an equation with a single footnote, the correct footnote number is used. For non-equations,

- $\triangle$ **references**
- `\footnotename` is used instead, since the actual number cannot be tracked. See section 8.5.4 regarding the use of footnotes with MATHJAX.
- lateximage**
- Math appearing inside a `lateximage`, and therefore also inside a `Tikz` or `picture` environment, is rendered as SVG math even if MATHJAX is used in the rest of the document.
- siunitx**
- For `siunitx`, see **siunitx package**, section 8.7.12.
- physics**
- For `physics`, see **physics package**, section 8.7.14.
- tabbing**
- A `tabbing` environment is emulated using an HTML `<pre>`. While MATHJAX is enabled inside `tabbing`, the browser may not correctly render the horizontal alignment of the math and text following after on the same line.
- \text**
- MATHJAX includes the *textmacros* extension, which supports various macros which are commonly used inside `\text`, such as `\textbf` and text accents. **Lwarp** supports this extension.
- $\triangle$ **other macros and packages**
- Many other math-related macros and packages are not directly supported by MATHJAX, including `\ensuremath` and occasionally-used macros such as `\relax`. While using MATHJAX, **lwarp** provides emulation for many of these macros, as well as for footnotes and emulation for dozens of packages (see table 2). In many cases these emulations simply ignore the package in a source-compatible way. Others produce a result which represents the meaning, even if they don't look exact. Look up each package in this document for a description of the limitations of each.

8.7.7 Catcode changes

preamble macros with math The math shift character `$` is not set for HTML output until after the preamble. Macros defined in the preamble which contain `$` must be enclosed between `\StartDefiningMath` and `\StopDefiningMath` to temporarily change to the HTML meaning of `$`:

```
\StartDefiningMath
\newcommand{. . .}
\StopDefiningMath
```

As an alternative, use `\(` and `\)` instead of `$`, in which case `\StartDefiningMath` and `\StopDefiningMath` are not necessary.

If a package defines macros using `$`, it may be necessary to use `\StartDefiningMath` and `\StopDefiningMath` before and after loading the package.

8.7.8 Complicated inline math objects

\inlinemathnormal
\inlinemathother
changing contents An inline math expression is usually converted to a reusable hashed SVG math image, or a MATHJAX expression. The hash or expression depends on the contents of the math expression. In most cases this math expression is static, such as $x+1$, so the image can be reused for multiples instances of the same expression. In some cases, the math

complicated alt tag
MATHJAX limitations

expression includes a counter or other object which may change between uses. Another problem is complicated contents which do not expand well in an alt tag. Yet another problem is math packages which are only partially emulated in MATHJAX. The macro `\inlinemathother` may be used before a sequence of dynamic or complicated math expressions, and `\inlinemathnormal` after. Doing so tells **lwarp** to use unhashed svg math images for those particular expressions, even if MATHJAX is otherwise in use. See section 44.

8.7.9 Complicated display math objects

`\displaymathnormal`

By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML for MATHJAX to interpret, and svg display math environments render their contents as svg images and use their contents as the alt tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated Tikz pictures, compilation will fail.

`\displaymathother`
MATHJAX unsupported
complicated alt tag

When selecting `\displaymathother`, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate Tikz picture, which will not render in MATHJAX and will not make sense as an HTML alt tag. In this mode, MATHJAX is turned off, math display environments become svg images, even if MATHJAX is selected, and the HTML alt tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as Tikz pictures are more likely to compile successfully.

8.7.10 ntheorem package

Pkg ntheorem

This conversion is not total. Font control is via CSS, and the custom $\LaTeX$ font settings are ignored.

⚠ Font control

⚠ cref reference format
undefined

If the print version does not use `cleveref`, place all `\theoremstyle` and `\newtheorem` declarations in the preamble inside `\AtBeginDocument`.¹⁵ For some theorems, it may also be required to add inside `\AtBeginDocument` something such as:

```
\AtBeginDocument{ % if not using cleveref package
  \theoremstyle{definition}
  \newtheorem{dtheorem}{Definition}
  . . .
  \usepackage{etoolbox} % for \ifdef
  \ifdef{\cref}{
    \crefname{Proof}{Proof}{Proofs}
  }{
  }
```

⚠ Equation numbering

ntheorem has a bug with equation numbering in $\mathcal{AMS}$ environments when the option `thref` is used. **lwarp** does not share this bug, so equations with `\split`, etc, are numbered correctly with **lwarp**’s HTML output, but not with the print output. It is recommended to use `cleveref` instead of **ntheorem**’s `thref` option.

¹⁵**lwarp** uses `cleveref` for the HTML conversion, and loads `cleveref` `\AtEndPreamble`, just before `\AtBeginDocument`.

8.7.11 mathtools package

-  **equation numbering** Pkg `mathtools` `showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarp`. Equation numbers may not match the print version.
-  **italic correction** `mathic` is not emulated for HTML.
-  **MATHJAX** If using MATHJAX:
- `mathtools` `disallowspace` does not work for MATHJAX. Protect brackets which are not optional arguments, such as:


```
\begin{gathered}{{} 
[p]=1 . . .
\end{gathered}
```
 - `showonlyrefs` does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
 - Due to MATHJAX limitations, the following do not render well: `\overbracket`, `\underbracket`, `\overbrace`, `\underbrace`, `rcases`, `drcases`, `\Aboxed`, and `\ArrowBetweenLines`.
 - For the new cases-like environments, `\text` must be used to set the normal roman font if desired.
 - `alignat` in MATHJAX requires math mode, but in $\text{\LaTeX}$ it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
 - `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.

8.7.12 siunitx package

- Pkg `siunitx` Due to *pdf~~to~~text* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.
-  **math mode required** `fractions` Some units will require that the expression be placed inside math mode.
-  **tabular** Tabular `S` columns are rendered as simple `c` columns, and tabular `s` columns are not supported. These may be replaced by `c` columns with each cell contained in `\num` or `\si`.
-  **MathJax** For math mode with `svg display`, the original `siunitx` code is used while generating the `svg` image. For text mode, `lwarp` uses an emulation which provides a very effective HTML interpretation of `siunitx`. For math expressions while using MATHJAX, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. Complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

Document modifications required for MATHJAX:

- custom units**
- Custom units may be added with `\CustomizeMathJax`. See the `lwarp-siunitx` code for examples.

⚠ unit spacing

- Units work better using `~` between units instead of using periods.

⚠ `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

Also see [MATHJAX option](#), section 8.7.4.

8.7.13 units and nicefrac packages

Pkg units units and nicefrac work with `lwarp`, but MATHJAX does not have an extension for units or nicefrac. These packages do work with `lwarp`'s option `svgmath`.

8.7.14 physics package

Pkg physics physics works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 physics extension is used.

8.8 Graphics

Pkg graphics Avoid using the `\includegraphics` scale option. Change:

Pkg graphicx `\includegraphics[scale=<xx>]{...}`

⚠ scale

to:

```
\includegraphics[width=<yy>\linewidth]{...}
```

`\includegraphics` file formats For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, `lwarp` will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

Prog pdftocairo To convert a PDF image to SVG, use the utility *pdftocairo*:
PDF to SVG

```
Enter ⇒ pdftocairo -svg filename.pdf
```

Prog lwarpmk pdftosvg For a large number of images, use *lwarpmk*:

Enter $\Rightarrow$ **lwarpmk pdftosvg *.pdf** (or a list of filenames)

Prog lwarpmk epstopdf For EPS images converted to PDF using the package epstopdf, use

Prog epstopdf
epstopdf package

Enter $\Rightarrow$ **lwarpmk pdftosvg *.PDF**

to convert to SVG images.

DVI $\LaTeX$ When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter $\Rightarrow$ **lwarpmk epstopdf *.eps** (or a list of filenames)

Enter $\Rightarrow$ **lwarpmk pdftosvg *.pdf** (or a list of filenames)

PNG and JPG For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

GIF GIF files may be used for HTML, but another format must also be provided for print output.

file extension priorities If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

⚠ graphics vs. graphicx If using the older **graphics** syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer **graphicx** syntax. Note that viewports are not supported by **lwarp** — the entire image will be shown.

⚠ viewport

⚠ viewport
units

For `\includegraphics`, avoid px and % units for width and height, or enclose them inside **warphTML** environments. For font-proportional image sizes, use ex or em. For fixed-sized images, use cm, mm, in, pt, or pc. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.

options `\includegraphics` accepts width and height, origin, rotate and scale, plus new class and alt keys.

HTML class With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

HTML alt tags Likewise, the `\includegraphics alt` key adds an HTML alt tag to an image, and is ignored for print output. If not assigned, each image is given an alt tag according to `\ImageAltText`.

`\rotatebox` `\rotatebox` accepts the optional origin key.

⚠ browser support `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The CSS3 standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike $\LaTeX$, so expect some ugly results for scaling and rotating.

8.8.1 tikz package

Pkg tikz If using display math with `tikzpicture` or `\tikz`, along with matrices with the & character, the document must be modified as follows:

⚠ displaymath and matrices

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of & in the tikz expression must be replaced with \&.

8.8.2 grffile package

 **matching PDF and SVG** Pkg grffile grffile is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

8.8.3 color package

Pkg color color is superseded by xcolor, and lwarp requires several of the features of xcolor. When color is requested, xcolor is loaded as well.

8.8.4 xcolor package

Pkg xcolor \colorboxBlock and \fcolorboxBlock are provided for increased HTML compatibility, and they are identical to \colorbox and \fcolorbox in print mode. In HTML mode they place their contents into a <div> instead of a . These <div>s are set to display: inline-block so adjacent \colorboxBlocks appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for \colorboxBlock and \fcolorboxBlock are created by lwarp's core if xcolor is loaded.

background: none \fcolorbox and \fcolorboxBlock allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.

color support Color definitions, models, and mixing are fully supported without any changes required.

colored tables \rowcolors is supported, except that the optional argument is ignored so far.

colored text and boxes \textcolor, \colorbox, and \fcolorbox are supported.

\color and \pagecolor \color and \pagecolor are ignored. Use css or \textcolor where possible.

8.8.5 epstopdf package

 **convert to .svg** Pkg epstopdf Images with an .eps extension will be converted to .pdf. The HTML output uses the .svg version, so use

```
Enter => \warpmk pdftosvg <listofPDFfiles>
```

to generate .svg versions.

8.8.6 pstricks package

Pkg pstricks All pstricks content should be contained inside a pspicture environment.

 use pspicture

8.8.7 pdftricks package

Pkg pdftricks The pdftricks image files <jobname>-fig*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

 convert image files

Enter ⇒ **lwarpmk pdftosvg <jobname>-fig*.pdf**

8.8.8 psfrag package

Pkg psfrag The psfrags environment is modified to use lateximage to encapsulate the image. Always use a psfrags environment to contain any local \psfrag macros and the associated \includegraphics or \epsfig calls. Outside of a psfrags environment, psfrags adjustments will not be seen by lwarp.

 use psfrags

 Tip: Use a mono-spaced font for the tags in the EPS file.

8.8.9 pstool package

Pkg pstool \graphicspath is ignored, and the file directory must be stated.

 path and filename The filename must not have a file extension.

Use

Enter ⇒ **lwarpmk html**

followed by

Enter ⇒ **lwarpmk limages**

.

8.8.10 asymptote package

Pkg asymptote To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

8.8.11 overpic package

Pkg overpic
 scaling

The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.

8.8.12 Multimedia packages

Pkg multimedia
 Pkg movie15
 Pkg media9

The packages `multimedia`, `movie15`, and `media9` are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the `HTML` document.

`HTML5` media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a `YOUTUBE™` video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

8.9 Tabbing

The tabbing environment works, except that `svg math` and `lateximages` do not yet work inside the environment.

⚠ **math in tabbing** If math is used inside tabbing, place tabbing inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

8.10 Tabular

8.10.1 tabular environment

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, `multirows`, `siunitx` `S` columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.

Defining macros and environments:

⚠ **Misplaced alignment tab character &**

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are ignored in print mode.

`\StartDefiningTabulars`

`<define macros or environments using tabular and & here>`

`\StopDefiningTabulars`

⚠ **floatrow**

This includes before and after defining any macro which used `\ttabbox` from `floatrow`.

⚠ **tabular inside another environment**

- When creating a new environment which contains a `tabular` environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted `HTML` rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```

\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars

```

For developers:

- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an HTML environment definition to automatically change the catcode of `&` before absorbing the arguments. Another environment may be embedded as well.
 - % Does the work after the catcode has been changed:
 - `\newcommand*{\LWR@HTML@subsomenam}[2]{%`
 - `...`
 - `\otherenvironmentname [<args>] {<args>} % for example`
 - `}`
 - % Change catcode before absorbing arguments:
 - `\newcommand*{\LWR@HTML@somenam}{%`
 - `\StartDefiningTabulars`
 - `\LWR@HTML@subsomenam`
 - `}`
 - % Change catcode again at the end:
 - `\newcommand*{\LWR@HTML@endsomenam}{%`
 - `...`
 - `\endotherenvironmentname % for example`
 - `\StopDefiningTabulars`
 - `}`
 - % Combine with the existing print definition:
 - `\LWR@formattedenv{somenam}`

Cell contents:

 macro in a table

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \\
```

Column specifiers:

@ and !

- Only one each of `@` and `!` is used at each column, and they are used in that order.

\multirow

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the HTML version.

 \newcolumn type

- `\newcolumn type` is ignored; unknown column types are set to `l`.

Rules:

vertical rules

width and trim

combined rules

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an `@` or `!` column are displayed on both sides of the column.
- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with `@` or `!` columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.
- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:


```
\cmidrule{2-3} \\[-2ex]
\bottomrule
```

 The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.
- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warppHTML` environment, if a “Misplaced `\noalign`” error occurs, change


```
This & That \endhead
```

 to


```
\warpprintonly{This & That \endhead}
```

 and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

⚠ `\warpprintonly`
 ⚠ Misplaced `\noalign`

Other:

longtable headings

⚠ `S` columns

- `tabularx` ignores the width, but `X` columns do produce paragraph columns or multicolumns.
- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.
- For `S` columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside `{}` braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`’s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:


```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
\warppHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```
- In $\text{\LaTeX}$, a tabular may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a `<span>`. If this situation is detected, a warning is printed instructing the user to isolate the `<span>` using `\warpprintonly` or the `warpprint` environment.

⚠ tabular inside a `<span>`

8.10.2 multirow package

vposn

multirow cells

- Note that recent versions of `multirow` include a new optional `vposn` argument.
- For `multirow`, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

colored cells

- The `multirow` documentation regarding colored cells recommends using a negative number of rows. This will not work with `lwarp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

with `\multicolumn`

⚠ `\multicolumn & \multirow`

- See section 416.2 for `\multicolumnrow`.

`lwarp` does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

⚠ skipped cells

As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

⚠ empty cells

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

⚠ MathJax

- MATHJAX does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

8.10.3 longtable package

Pkg `longtable` Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```
\begin{longtable}{ [column specifiers] }
[ ... ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ ... ] \endhead % or \endfirsthead
[ ... ] \endfoot
[ <lastfoot macros> ] \endlastfoot
}
... table contents ...
\warpHTMLonly{
[ <lastfoot macros> ] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}
```

⚠ Misplaced `\noalign` Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ `\kill` `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} ... \end{warpprint}
```

or place it inside `\warpprintonly`.

 **lateximage** `longtable` is not supported inside a `lateximage`.

8.10.4 threeparttablex package

Pkg `threeparttablex` `threeparttablex` is used with `longtable` and `booktabs` as follows:

```
\begin{longtable}[column specifiers] {
[ . . . ] \endfirsthead    % or \endhead, for print and HTML
\warpprintonly{           % not used in HTML
[ . . . ] \endhead        % or \endfirsthead
[ . . . ] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warppHTMLonly{           % HTML last footer
\bottomrule
\UseMinipageWidths       % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}
```

table width The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

8.10.5 supertabular and xtab packages

Pkg `supertabular` For `\tablefirsthead`, etc., enclose them as follows:

```
Pkg xtab
\StartDefiningTabulars
\tablefirsthead
. . .
\StopDefiningTabulars
```

 **Misplaced alignment tab character &**

See section 8.10.1.

 **lateximage** `supertabular` and `xtab` are not supported inside a `lateximage`.

8.10.6 colortbl package

Pkg `colortbl` Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

 **row/cell color** `colortbl` ignores the overhang arguments.

8.10.7 ctable package

- ⚠ Misplaced alignment tab character & Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand & character.

8.10.8 bigdelim package

- Pkg bigdelim `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

```

\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\}{3}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}

```

```

<->   a   b
      {
left  { c   d
      { e   f
      { g   h
<->   i   j

```

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

8.11 Floats

8.11.1 Float contents alignment

- ⚠ figure & table alignment `\centering`, etc. are honored in a figure or table if they are the first command inside the float:

```

\begin{table*}
\centering
\caption{A Table}
...

```

8.11.2 float, trivfloat, and/or algorithmicx together

- Pkg float If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 616.1.
- Pkg trivfloat
- Pkg algorithmicx
- ⚠ package conflicts

8.11.3 caption and subcaption packages

Pkg caption Package options may cause problems with `lwarp`, especially if they include curly braces.
 Pkg subcaption If selecting options with braces in `\usepackage` does not work:

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading `lwarp`:

```
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{lwarp}
...
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
\captionsetup{font={it,small}}
```

⚠ numbering To ensure proper float numbering, set caption positions such as:

```
\captionsetup[figure]{position=bottom}
\captionsetup[subfigure]{position=bottom}
\captionsetup[table]{position=top}
\captionsetup[subtable]{position=top}
```

Similarly for `longtable`. These positions depend on where the user places the `\caption` command inside each float.

8.11.4 subfig package

Pkg subfig

⚠ table numbering To have correct sub table numbers:

```
\usepackage{caption}
\captionsetup[table]{position=top}
```

⚠ lof/lotdepth At present, the package options for `lofdepth` and `lotdepth` are not working. These counters must be set separately after the package has been loaded.

⚠ horizontal spacing In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

8.11.5 floatrow package

Pkg floatrow Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.

⚠ Misplaced alignment tab character & subfig package

When combined with the `subfig` package, while inside a `subfloatrow` `\ffigbox` and

`\ttabbox` must have the caption in the first of the two of the mandatory arguments.

The emulation of `floatrow` does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:

⚠ `\FBwidth, \FBheight`

- Use fixed lengths. `lwarp` will scale the HTML lengths appropriately.
- Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
- Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

8.11.6 keyfloat package

Pkg `keyfloat`

⚠ `keywrap`

If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a `minipage`, which internally adjusts for a virtual 6-inch wide `minipage`, which then corrupts the `lw` option.)

8.12 KOMA-SCRIPT classes

Cls `komascript`

Many features are ignored during the HTML conversion. The goal is source-level compatibility.

`\captionformat`, `\figureformat`, and `\tableformat` are not yet emulated.

⚠ Not fully tested! [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

8.13 MEMOIR class

Cls `memoir`

⚠ `captions`

`lwarp` uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.

⚠ `options clash`

While emulating `memoir`, `lwarp` pre-loads a number of packages (section 671.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading `lwarp`:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}
```

- ⚠ **version numbers** memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since **lwarp** is intended to support the freestanding packages, which are often newer than the date declared by **memoir**, it is hoped that **memoir** will update and change its emulated version numbers to match.
- \label{bookmark}{tag}** \label accepts an optional (bookmark) argument, but this is ignored in HTML.
- ⚠ **comment** The comment environment is from the **comment** package, and thus requires that the \begin and \end each be on its own line:
- ```
\begin{comment}
This is a comment.
\end{comment}
```
- \newcomment** Comments defined with \newcomment use memoir's definitions, and behave as expected, where the \begin and \end do have to each be on its own line.
- ⚠ **verbatim footnotes** \verbfootnote is not supported.
- ⚠ **\newfootnoteseries** \newfootnoteseries, etc. are not supported.
- ⚠ **page notes** **lwarp** loads **pagenote** to perform memoir's pagenote functions, but there are minor differences in \pagenotesubhead and related macros.
- page notes with cleveref** To add support for pagenotes with **cleveref**, add:
- ```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```
- page note \nameref** Note that for print mode, \nameref print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.
- ⚠ **poems** Poem numbering is not supported.
- ⚠ **verbatim** The verbatim environment does not yet support the **memoir** enhancements. It is currently recommended to load and use **fancyvrb** instead.
- ⚠ **glossaries** The **memoir** glossary system is not yet supported by **lwarpmk**. The **glossaries** package may be used instead, but does require the glossary entries be changed from the **memoir** syntax to the **glossaries** syntax.
- ⚠ **framewithtitle, titledframe** The custom frame commands in the **memoir** manual may be emulated by placing the original definitions in the preamble inside warpprint environments, and then providing an HTML equivalent:
- ```
\begin{warpHTML}
\newcommand{\FrameTitle}[2]{%
 \textbf{#2}}
}

\newenvironment{framewithtitle}[2][\FrameFirst@Lab\ (cont.)]{%
 \begin{fminipage}{\linewidth}
 \textbf{#2}
 \begin{minipage}{\linewidth}

```

```

{\end{minipage}\end{fminipage}}

\newcommand{\TitleFrame}[2]{%
 \par
 \textbf{#1}\par
 \fboxBlock{#2}
}

\newenvironment{titledframe}[2][\FrameFirst@Lab\ (cont.)]{%
 \par
 \textbf{#2}
 \begin{fminipage}{\linewidth}
}
{\end{fminipage}}
\end{warpHTML}

```

## 8.14 International languages



### section and file names

If using *pdflatex* with the setting `\booltrue{FileSectionNames}`, non-ASCII text in section names can result in corrupted HTML file names. *pdflatex* may be used if setting `\boolfalse{FileSectionNames}`, in which case HTML file numbers will be generated.

For correct HTML file names, use *xelatex*, *lualatex*, or dedicated document classes/engines.

(As of this writing, this warning is only relevant to the *kotex* package.)

## 8.15 Miscellaneous packages

### 8.15.1 verse and memoir

**Pkg** `verse` When using `verse` or `memoir`, always place a `\\` after each line.

**Cls** `memoir`  
**\attrib** The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. *lwarp* provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

**Len** `\leftskip` These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

**Len** `\leftmargini`

**Len** `\HTMLleftskip`

**Len** `\HTMLleftmargini`



### spacing

Horizontal spacing relies on *pdftotext*’s ability to discern the layout (`-layout` option)

### ⚠ verse margin

of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargin` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.

## 8.15.2 newclude package

Pkg newclude

### ⚠ loading

**newclude** modifies `\label` in a non-adaptive way, so **newclude** must be loaded before **lwarp** is loaded:

```
\documentclass{article}
...
\usepackage{newclude}
\usepackage[warppHTML]{lwarp}
...
```

## 8.15.3 babel package

Pkg babel

### ⚠ \CaptionSeparator

When French is used, the caption separator is changed to a dash. To restore it to a colon, the following may be placed before **lwarp** is loaded:

```
\renewcommand*{\CaptionSeparator}{:~}
```

### punctuation spaces

Also when French is used, **lwarp** creates fixed-width space around punctuation by patching `\FBcolonspace`, `\FBthinspace`, `\FBguillspace`, `\FBmedkern`, `\FBthickkern`, `\FBtextellipsis`, and the tilde. If the user's document also changes these parameters,

### ⚠ customized spacing

the user's changes should be placed inside a `warpprint` environment so that the user's changes do not affect the HTML output.

## 8.15.4 polyglossia package

Pkg polyglossia

**lwarp** uses **cleveref**, which has some limitations when using **polyglossia**, possibly resulting in the error

```
! Undefined control sequence. ... __hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by **cleveref**, then select other languages using `\setotherlanguages`.

Once the print version works with **cleveref** and **polyglossia**, the HTML version should work as well using **lwarp**.

### 8.15.5 todonotes and luatodonotes packages

Pkg todonotes The documentation for **todonotes** and **luatodonotes** have an example with a todo inside  
 Pkg luatodonotes a caption. If this example does not work it will be necessary to move the todo outside of  
 the caption.

### 8.15.6 fixme

Pkg fixme External layouts (`\fxloadlayouts`) are not supported.  
 ⚠ external layouts User control is provided for setting the HTML styling of the “faces”. The defaults are as  
 follows, and may be changed in the preamble after **fixme** is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

### 8.15.7 acro package

⚠ formats Define acronymn formats using `\textbf` instead of `\bfseries` etc.

### 8.15.8 chemfig package

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{...}
\polymerdelim[...]{...}
\end{lateximage}
```

### 8.15.9 chemformula package

⚠ chemformula with **MATHJAX** **chemformula** works best without **MATHJAX**. If **MATHJAX** is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The **chemformula** package adapts to `array`, but does not know about **MATHJAX**, and **MATHJAX** does not know about **chemformula**.)

While using **MATHJAX**, `\displaymathother` may also be used for other forms of display and inline math which contain **chemformula** expressions.

### 8.15.10 mhchem package

See section 397.

### 8.15.11 kotex package

Pkg kotex See section 8.14 regarding *pdf<sub>l</sub>atex* and Korean section names.



Korean section names

## 9 Compiling using custom shell commands

**lwarp** and *lwarpmk* try to make it easy to process print and HTML compilation tasks in most situations. Depending on the operating system, command-line options, T<sub>E</sub>X engine, and **lwarp** options, the commands **lwarpmk print** and **lwarpmk html** are automatically set up to correctly recompile the project. These actions may be overridden using **lwarp** options, thus allowing the use of packages such as **pertex** and **pythontex**.

### 9.1 Command options

Opt `PrintLatexCmd` The **lwarp** options `PrintLatexCmd` and `HTMLLatexCmd` are used to set customized commands to be executed by **lwarpmk print** and **lwarpmk html**.

Opt `HTMLLatexCmd`

**PrintLatexCmd** should be set to shell commands which take `project.tex` and generate `project.pdf`.

**HTMLLatexCmd** should be set to take `project_html.tex` and generate `project_html.pdf`. *lwarpmk* will then take `project_html.pdf` and automatically convert it and generate `project.html`.

### 9.2 Literal character macros

The **lwarp** package options are parsed by T<sub>E</sub>X, and so some characters require the use of a special macro to represent them. See table 9. `\LWRopquote` and `\LWRopseq` may be used to increase operating-system portability. `\jobname` must have `_html` appended for processing HTML. `\space` may be necessary between other macros.

 **macro not found** To use these macros, either **kvoptions-patch** must be loaded before **lwarp**:

---

```
\usepackage{kvoptions-patch}
\usepackage[
 PrintLatexCmd={ ... } ,
 HTMLLatexCmd={ ... }
]{lwarp}
```

---

Table 9: Literal character macros

| Character | Macro         | Comment                          |
|-----------|---------------|----------------------------------|
| %         | \LWRpercent   |                                  |
| \$        | \LWRdollar    |                                  |
| &         | \LWRamp       |                                  |
| %         | \LWRhash      |                                  |
| \         | \LWRbackslash |                                  |
| ' or "    | \LWRopquote   | Depends on the operating system. |
| & or &&   | \LWRopseq     | Depends on the operating system. |
| (space)   | \space        | Forces an extra space.           |
| (jobname) | \jobname      | Without file extension.          |

or \lwarpsetup must be used to set PrintLatexCmd and HTMLLatexCmd:

---

```

\usepackage[...]{lwarp}
\lwarpsetup{
 PrintLatexCmd=
 {
 latex tm \LWRopseq
 dvips -o tm-pics.ps tm.dvi \LWRopseq
 ps2pdf tm-pics.ps \LWRopseq
 pdflatex tm.tex
 } ,
 HTMLLatexCmd=
 {
 latex tm_html \LWRopseq
 dvips -o tm_html-pics.ps tm_html.dvi \LWRopseq
 ps2pdf tm_html-pics.ps \LWRopseq
 pdflatex tm_html.tex
 }
}

```

---

### 9.3 *latexmk*

Prog `latexmk` If *latexmk* is used for a project, it may be easiest to continue using it.

**latexmk project.tex** would create `project.pdf` as normal.

**latexmk project\_html.tex** would create `project_html.pdf`, then

**lwarpmk pdftohtml project\_html.pdf** would take `project_html.pdf` and convert it to `project.html`.



Pkg `sagetex` *latexmk* may simplify the use of packages such as `sagetex`.

## 9.4 `perltex` package

Pkg `perltex` The `lwarp` package option settings to use `perltex` would be similar to:

```
\usepackage[
. . .
PrintLatexCmd={perltex -latex=pdflatex project.tex} ,
HTMLLatexCmd={perltex -latex=pdflatex project_html.tex} ,
. . .
]{lwarp}
```

 “impure” math Place `perltex` math expressions between `\displaymathother` and `\displaymathnormal`, or `\inlinemathother` and `\inlinemathnormal`. See section 8.7.9.

## 9.5 `pythontex` package

Pkg `pythontex` An example using `pythontex`:

```
\usepackage[
. . .
PrintLatexCmd={
pdflatex project.tex \LWRopseq
pythontex project \LWRopseq
pdflatex project.tex
} ,
HTMLLatexCmd={
pdflatex project_html.tex \LWRopseq
pythontex project_html \LWRopseq
pdflatex project_html.tex
} ,
. . .
]{lwarp}
```

Another possibility is to use *latexmk*, placing the `latexmk . . .` commands in the `PrintLatexCmd` and `HTMLLatexCmd` options. While using these options, the `lwarp` option `latexmk` would not be used.

 “impure” math No attempt has yet been made to make `pythontex` robust with HTML output. Some math objects must be surrounded by `\displaymathother . . . \displaymathnormal`, or `\inlinemathother . . . \inlinemathnormal`. Displays of code may have to be enclosed

 HTML look-alike inside a `lateximage` environment to prevent `<`, `>` and similar from being interpreted by the browser as HTML entities.

## 9.6 Other packages

Pkg `sympytex` Other packages such as `sympytex` and `rterface` would be set up similar to `pythontex`, and  
Pkg `rterface` the same warnings would apply.

## 9.7 *make* program

Prog make To use **lwarp** with the *make* program, have the makefile take `project.tex` and generate the print version `project.pdf`, as normal. `\usepackage{lwarp}` must be used, and it generates `lwarpmk.conf` when the print version is created.

To generate HTML, first have `project_html.tex` be compiled to generate `project_html.pdf`. This must be in PDF format. Finally, have `project_html.pdf` be converted to HTML using **lwarpmk** `pdftohtml project_html.pdf`, and convert SVG math with **lwarpmk** `limages`.

## 9.8 UTF-8 locale

 **UTF-8 locale** *lwarpmk* uses the *texlua* program, which sets the “locale” to “C”, including for external operating-system calls such as when executing **lwarpmk** `html`. In some cases, an external program called from the user’s document may require the use of a UTF-8 “locale”. For UNIX-related operating systems, it may be required to use **lwarp**’s custom compilation options to add a locale change:

```
\usepackage{lwarp}[
 PrintLatexCmd={
 env LC_CTYPE=en_US.UTF-8
 xelatex -shell-escape project.tex
 }
 HTMLLatexCmd={
 env LC_CTYPE=en_US.UTF-8
 xelatex -shell-escape project_html.tex
 }
]
```

Pkg ditaa The only example seen so far where this is required is the **ditaa** package, where the locale change allows the use of UTF-8 with Xe<sub>La</sub>TeX and **ditaa**. To use Lua<sub>La</sub>TeX instead, the locale change would have to be made inside the **ditaa** package where it calls the *ditaa* program.

## 10 EPUB conversion

**lwarp** does not produce EPUB documents, but it may be told to modify its HTML output to greatly assist in the conversion. An external program may then be used to finish the conversion to EPUB.

**<meta> author** To assign the author's name for regular **lwarp** HTML files, and also for the EPUB, use `\HTMLAuthor {<name>}`. This assigns the name to the `<meta> author` element. It may be set empty, and it defaults to `\theauthor`.

A special boolean is provided to simplify the process of converting **lwarp** HTML output to EPUB:

| FormatEPUB |                                                                                                                                                                  |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bool       | FormatEPUB                                                                                                                                                       |
|            | Default: <code>false</code>                                                                                                                                      |
|            | FormatEPUB changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section. |

To help convert **lwarp** HTML output to EPUB, add

```
\booltrue{FormatEPUB}
```

to the project's source preamble after `\usepackage{lwarp}`. The EPUB version of the document cannot co-exist with the regular HTML version, so

```
Enter ⇒ lwarpmk cleanall
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk limages
```

to recompile with the `FormatEPUB` boolean turned on. Several changes are then made to the HTML output:

- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.

The resulting files will be ready to be loaded into an EPUB conversion program, such as the open-source program **Calibre** (<https://calibre-ebook.com/>).

 **search order**

The EPUB conversion program must know what order the files are included. For **lwarp** projects, set the EPUB conversion software to do a breadth-first search of the files. For **Calibre**, this option is found in

**Preferences → Plugins → File type plugins → HTML to Zip**

 **encoding**

Check the box **Add linked files in breadth first order**. Set the document encoding as `utf-8`, which is what **lwarp** generates for HTML, even if the original printed document uses some other encoding.

 **section breaks** The EPUB-conversion program must also know where the section breaks are located. For a list of **lwarp**'s section headings, see table 11. For example, an article class document would break at `\section`, which is mapped to HTML heading level `<h4>`, whereas a book class document would break at `\chapter`, which is HTML heading level `<h3>`. For *Calibre*, this option is found in

**Preferences → Conversion (Common Options) → Structure Detection → Detect chapters at (XPath expression)**

Select the “magic wand” to the right of this entry box, and set the first entry

**Match HTML tags with tag name:**

to “h4”. (Or “h3” for document classes with `\chapters`.) The **Detect chapters at** field should then show

`//h:h4`      — or —      `//h:h3`

This option is also available on the main tool bar at the **Convert books** button.

Once these settings have been made, the **lwarp**-generated HTML files may be loaded by *Calibre*, and then converted to an EPUB.

---

#### *MATHJAX support*

---

MATHJAX may be used in EPUB documents. Some e-readers include MATHJAX, but any given reader may or may not have a recent version, and may or may not include extensions such as support for **siunitx**.

**lwarp** adds some modifications to MathML to support equations numbered by chapter. These modifications may not be compatible with the e-reader's version of MATHJAX, so **lwarp** requests that a known version be loaded instead. In some cases chapter numbering of equations still doesn't work.

Until math support in EPUB documents is improved, it is recommended to use SVG images instead of MATHJAX, especially for equations numbered by chapter, or where **siunitx** support is important.

---

## 11 Word-processor conversion

**lwarp** may be told to modify its HTML output to make it easier to import the HTML document into a word processor. At the time of this writing, it seems that **LIBREOFFICE** works best at preserving table layout, but it still has some limitations, such as an inability to automatically assign figure and table frames and captions according to user-selected HTML classes. **lwarp** provides some assistance in locating these frame boundaries, as shown below.

### 11.1 Activating word-processor conversion

A special boolean is provided to simplify the process of converting **lwarp** HTML output to EPUB:

| FormatWP                           |                                                                                                                                                                                                                                                                                         |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bool    FormatWP<br>Default: false | Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments. Additionally, honors the booleans WPMarkFloats, WPMarkMinipages, WPMarkTOC, and WPMarkLOFT. |

To help modify **lwarp** HTML output for easier import to a word processor, add

```
\booltrue{FormatWP}
```

formatting adjustments

to the project's source preamble after **lwarp** is loaded. The following changes are then made to the HTML output:

- If using a class without chapters, `\section` and lower are shifted up in level for the HTML heading tags. The CSS has not been changed, so the section heading formats will not match the normal HTML output, but when imported to *LibreOffice Writer* the higher section headings will import as **Heading 1** for the title, **Heading 2** for `\section`, etc.
- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.
- Forces single-file output.
- Turns off HTML debugging comments. These are comments appearing inside the HTML code, marking the opening/closing of sections and `<div>`s, but they are no longer useful when the document has been imported into a word processor.
- An additional `<div>` with an id encapsulates each float and minipage, which on import into *LibreOffice Writer* causes a thin frame to appear around the text block for each.
- Float captions are given an explicit italic formatting.

- Tabular rule borders are made explicit for *LibreOffice Writer*. LIBREOFFICE displays a light border around each cell while editing, even those which have no border when printed, and **lwarp** also uses a light border for thin rules, so it will be best to judge the results using the print preview instead of while editing in LIBREOFFICE.
- `\includegraphics` and `svg` math width and height are made explicit for LIBREOFFICE.
- `\hspace` is approximated by a number of `\quads`, and rules are approximated by a number of underscores.
- Explicit HTML styles are given to:
  - `\textsc`, etc.
  - `\underline`, `soul` and `ulem` markup.
  - `center`, `flushleft`, `flushright`.
  - `\marginpar`, `keyfloat`, `sidenotes`, `floatflt`, and `wrapfig`.
  - `fancybox` `\shadowbox`, etc.
  - The  $\LaTeX$  and  $\TeX$  logos.
- Honors several booleans:

**WPMarkFloats:** Marks the begin and end of floats.

**WPMarkMinipages:** Marks the begin and end of minipages.

**WPMarkTOC:** Marks the location of the Table of Contents.

**WPMarkLOFT:** Marks the locations of the List of Figures/Tables.

**WPMarkMath:** Prints  $\LaTeX$  math instead of using images.

**WPTitleHeading:** Adjusts title and section headings.

Several of these may be used to add markers to the HTML text which help determine where to adjust the word processor document after import.

## 11.2 Additional modifications

WPMarkFloats

---

Bool WPMarkFloats  
Default: false

Adds

```
=== begin table ===
...
=== end ===
```

or

```
=== begin figure ===
...
=== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.

---

---

WPMarkMinipages

---

Bool WPMarkMinipages  
Default: false

Adds  
`=== begin minipage ===`  
`...`  
`=== end minipage ===`

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

---



---

WPMarkTOC

---

Bool WPMarkTOC  
Default: true

While formatting for word processors, adds  
`=== table of contents ===`

where the Table of Contents would have been. This helps identify where to insert the actual toc.

*If set false, the actual toc is printed instead.*

---



---

WPMarkLOFT

---

Bool WPMarkLOFT  
Default: false

While formatting for word processors, adds  
`=== list of figures ===`    *and/or*  
`=== list of tables ===`

where each of these lists would have been. This helps identify where to insert the actual lists.

*If set false, the actual lists are printed instead.*

---



---

WPMarkMath

---

[siunitx](#)  
 Bool WPMarkMath  
 Default: false  
 Prog TeXMaths

While formatting for word processors, prints math as  $\LaTeX$  code instead of creating svg images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

When using the `siunitx` package, enter

`\usepackage{siunitx}`

in the *TeXMaths* preamble. Equation numbering is problematic for  $\mathcal{AMS}$  math environments.

---



---

WPTitleHeading

---

Table 10: Section HTML headings for word-processor conversion

| Section       | HTML headings*         |                         |                        |                         |
|---------------|------------------------|-------------------------|------------------------|-------------------------|
|               | With \chapter          |                         | Without \chapter       |                         |
|               | WPTitleHeading<br>true | WPTitleHeading<br>false | WPTitleHeading<br>true | WPTitleHeading<br>false |
| Title         | <h1>                   | plain                   | <h1>                   | plain                   |
| \book         | <div>                  | <div>                   | <div>                  | <div>                   |
| \part         | <h2>                   | <h1>                    | <h2>                   | <h1>                    |
| \chapter      | <h3>                   | <h2>                    | —                      | —                       |
| \section      | <h4>                   | <h3>                    | <h3>                   | <h2>                    |
| \subsection   | <h5>                   | <h4>                    | <h4>                   | <h3>                    |
| \paragraph    | <h6>                   | <h5>                    | <h5>                   | <h4>                    |
| \subparagraph | <span>                 | <h6>                    | <h6>                   | <h5>                    |

\* For default depths when not FormatWP, see table 11 on page 200.

Bool WPTitleHeading  
Default: false  
section headings

While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

See table 10 on page 184.

11.3 Recommendations

TOC, LOF, LOT For use with *LibreOffice Writer*, it is recommended to:

- 1. Set \booltrue{FormatWP}
- 2. Set \booltrue{WPMarkTOC} and \boolfalse{WPMarkLOFT}
- 3. Use lwarp to generate the HTML document.
- 4. Copy/paste from the HTML document into an empty *LibreOffice Writer* document.
- 5. Manually insert a LIBREOFFICE TOC in the LIBREOFFICE document.
- 6. Manually add frames around each float, adding a caption which is cut/pasted from each float’s simulated caption.
- 7. Manually create cross references.

This process yields a document with an actual LIBREOFFICE Table of Contents, but a simulated List of Figures and List of Tables.



**siunitx** For **siunitx**, remember to adjust the preamble as mentioned above.

**LO view border options** **LIBREOFFICE** has options in the **View** menu to turn on/off the display of thin borders around table cells and text objects.

## 11.4 Limitations

Floats and captions are not explicitly converted to **LIBREOFFICE** floats with their own captions. Floats are surrounded by a thin frame in the **LIBREOFFICE** editor, and may be marked with **WPMarkFloats**, but are not given a proper **LIBREOFFICE** object frame. Captions are given an explicit italic formatting, but not a proper **LIBREOFFICE** paragraph style.

Cross references are not actual **LIBREOFFICE** linked cross references.

The List of Figures and List of Tables are not linked. The pasted pseudo LOF and LOT match the numbering of the **TEX** and **HTML** versions.

Equation numbering is not automatic, but the equation numbers in **svg** math will match the **TEX** and **HTML** output. **svg** math is recommended when using the **AMS** environments, which may have multiple numbered equations per object.

As of when last checked, **LIBREOFFICE** ignores the following:

- Minipage alignment.
- Tabular cell vertical alignment.
- Image rotation and scaling.
- Rounded border corners, which are also used by:
  - `\textcircled`
  - `booktabs trim`
- `\hspace` and rules, also used by **algorithmic**.
- Coloring of text decorations, used by **soul** and **ulem**.
- Overline text decoration, used by **romanbar**.

**LIBREOFFICE** also has limitations with frames and backgrounds:

- Multiple lines in an object are framed individually instead of as a whole.
- Nested frames are not handled correctly.
- Images inside boxes are not framed correctly.
- Spans with background colors and frames are not displayed correctly.

## 12 Modifying lwarp

**locating something** To quickly find the source for a package in `lwarp.dtx`, search for `*packagename`, such as `*siunitx`.

Likewise, to quickly find the source for a file in `lwarp.dtx`, search for `*filename`, such as `*lwarp.css`.

Purely text-based packages probably will work as-is when generating HTML.

Look to existing code for ideas on how to expand into new code.

**image of T<sub>E</sub>X output** An environment may be converted to a `lateximage` then displayed with an image of the resulting L<sup>A</sup>T<sub>E</sub>X output. See section 92 for an example of the `picture` environment.

**css classes** To create a custom HTML block or inline CSS class, see section 52.10.

**print/HTML macros** To create print and HTML versions of the same macro or environment, see section 36.

 **T<sub>E</sub>X boxes** Any T<sub>E</sub>X boxes must be undone, as SVG math or `lateximages` require `\newpage`, which will not work in a T<sub>E</sub>X box.

### 12.1 Creating a development system

The following creates a local development system for `lwarp` on a TeXLive system in a UNIX-like environment. Doing so allows anything requesting `lwarp` to use the development version instead of whichever version is installed in TeXLive.

#### Create a development directory:

Place into this directory `lwarp.dtx` and `lwarp.ins`.

To create `lwarp.sty`, execute

Enter  $\Rightarrow$  **`pdflatex lwarp.ins`**

which creates `lwarp.sty` and several hundred additional `lwarp-*.sty` files for the various packages which are supported.

To create the initial documentation `lwarp.pdf`, execute

Enter  $\Rightarrow$  **`pdflatex lwarp.dtx`**

#### To make the development files visible to other projects:

Create the directory

```
/usr/local/texlive/texmf-local/tex/latex/local/lwarp
```

Inside this directory, create the file `update`, containing:

---

```
rm lwarp-*.sty
ln -s /path_to_dev_directory/lwarp*.sty .
ln -s /path_to_dev_directory/lwarp_baseline_marker.png .
ln -s /path_to_dev_directory/lwarp_baseline_marker.eps .
mktexlsr
```

---

Run `./update` now, and whenever a new `lwarp-*` package is added.

**To make the development version of *lwarpmk* visible to other projects:**

---

```
cd /opt
ln -s /usr/local/texlive/texmf-local/bin/x86_64-linux texbin_local
cd texbin_local
ln -s ../../scripts/lwarp/lwarpmk.lua lwarpmk
cd /usr/local/texlive/texmf-local/scripts/
mkdir lwarp
cd lwarp
ln -s /path_to_dev_directory/lwarpmk.lua lwarpmk
```

---

Verify that the correct version is found with

Enter  $\Rightarrow$  **which lwarpmk**

**To make the local versions visible to the shell:**

Paths must be set by the shell startup, such as in `.bashrc` and `.cshrc`:

In `.bashrc`:

---

```
PATH=/opt/texbin_local:/opt/texbin:$PATH
```

---

In `.cshrc`:

---

```
setenv PATH ${HOME}/bin:/opt/texbin_local:/opt/texbin:${PATH}
```

---

**To fully compile the lwarp documentation and indexes:**

```
pdflatex lwarp.ins
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx - -s gind.ist
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx - -s gind.ist <again>
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
```

(The second round of index processing is required to fully resolve the final Index of Indexes.)

To make it easier to update the documentation after a minor change, it is useful to create a command script called `make_index`, containing:

```
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
splitindex lwarp.idx -- -s gind.ist
```

 **references**

Note that Index of Indexes and the cross-references to the indexes may not be correct until the above has been accomplished.

## 12.2 Modifying a package for lwarp

If a class loads additional packages, it will be required to modify the class for **lwarp**, since **lwarp** must be loaded before most other packages.

To work with **lwarp**, a class must first set up anything which replicates the functions of the basic  $\text{\LaTeX}$  classes, load any required fonts, then load **lwarp**, then finally load and adjust any other required packages.

When creating **HTML**, **lwarp** redefines the `\usepackage` and `\RequirePackage` macros such that it first looks to see if a `lwarp-<packagename>.sty` version exists. If so, the **lwarp** version is used instead. This modular system allows users to create their own versions of packages for **lwarp** to use for **HTML**, simply by creating a new package with a `lwarp-` prefix. If placed in the local directory along with the source code, it will be seen by that project alone. If placed alongside the other `lwarp-` packages where  $\text{\TeX}$  can see it, then the user's new package will be seen by any documents using **lwarp**. (Remember `mktxlsrc` or `texhash`.)

An `lwarp-<packagename>.sty` package is only used during **HTML** generation. Its purpose is to pretend to be the original package, while modify anything necessary to create a successful **HTML** conversion. For many packages it is sufficient to simply provide nullified macros, lengths, counters, etc. for anything which the original package does, while passing the raw text on to be typeset. See the pre-existing `lwarp-` packages for examples.

Anything the user might expect of the original package must be replaced or emulated by the new `lwarp-` package, including package options, user-adjustable counters, lengths, and booleans, and conditional behaviors. In many of these packages, most of the new definitions have a “local” prefix according to the package name, and `@` characters inside the name, which hides these names from the user. In most cases these macros will not need to be emulated for **HTML** output. Only the “user-facing” macros need to be nullified or emulated.

Each `lwarp-*` package should first call either of:

```
\LWR@ProvidesPackageDrop
— or —
\LWR@ProvidesPackagePass
```

If “Drop”ped, the original print-version package is ignored, and only the `lwarp-` version is used. Use this where the original print version is useless for **HTML**. If “Pass”ed, the original package is loaded first, with the user-supplied options, then the `lwarp-` version continues loading as well. See section 443 (**ntheorem**) for an example of selectively disabling user options for a package. Use this when **HTML** output only requires some modifications of the original package. For a case where the original package is usable without changes, there is no need to create a `lwarp-` version.

### 12.2.1 Adding a package to the `lwarp.dtx` file

When adding a package to `lwarp.dtx` for permanent including in **lwarp**, provide the `lwarp-<packagename>` code in `lwarp.dtx`, add its entry into `lwarp.ins`, and also remember to add

```
\LWR@loadafter{<packagename>}
```

to `lwarp.dtx` in section 20.1. This causes `lwarp` to stop with an error if `packagename` is loaded before `lwarp`. Finally, add an entry in table 2, **Supported packages and features**, and also the Updates section.

### 12.3 Modifying a class for `lwarp`

If a class loads additional packages, it will be required to modify the class for `lwarp`, since `lwarp` must be loaded before most other packages.

To work with `lwarp`, a class must first set up anything which replicates the functions of the basic  $\text{\LaTeX}$  classes, load any required fonts, then load `lwarp`, then finally load and adjust any other required packages.

### 12.4 Testing `lwarp`

When changes have been made, test the print output before testing the HTML. The print output compiles faster, and any errors in the printed version will be easier to figure out than the HTML version.

Remember that the configuration files are only rewritten when compiling the printed version of the document.

When changing the source to *lwarpmk* or a css file in `lwarp.dtx`:

1. Change the source in `lwarp.dtx`.
2. `pdflatex lwarp.ins`
3. `pdflatex lwarp.dtx`
4. If modifying *lwarpmk* the new version should now be active.
5. If modifying css files:
  - (a) For the document, `lwarpmk print` to update the css files in the project.
  - (b) Reload the HTML document to see the effect of the new css files.

Sometimes it is worth checking the `<project>_html.pdf` file, which is the PDF containing HTML tags. Also, `<project>_html.html` has the text conversion of these tags, before the file is split into individual HTML files.

It is also worth checking the browser's tools for verifying the correctness of HTML and CSS code.

### 12.5 Modifying *lwarpmk*

|                                                            |                                                                                                       |
|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Prog <code>lwarpmk</code><br>File <code>lwarpmk.lua</code> | In most installations, <code>lwarpmk.lua</code> is an executable file located somewhere the operating |
|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|

system knows about, and it is called by typing **lwarpmk** into a terminal.

A project-local copy of `lwarpmk.lua` may be generated, modified, and then used to compile documents:

1. Add the `lwarpmk` option to the `lwarp` package.
2. Recompile the printed version of the document. The `lwarpmk` option causes `lwarp` to create a local copy of `lwarpmk.lua`
3. The `lwarpmk` option may now be removed from the `lwarp` package.
4. Copy and rename `lwarpmk.lua` to a new file such as `mymake.lua`.
5. Modify `mymake.lua` as desired.
6. If necessary, make `mymake.lua` executable.
7. Use `mymake.lua` instead of `lwarpmk.lua`.

## 13 Troubleshooting

### 13.1 lwarp package error conditions and warnings

lwarp tests for a number of error conditions and prints appropriate warnings. The following is a summary of these conditions.

#### 13.1.1 Configuration file `lwarpmk.conf`

**File does not exist:** The configuration file must exist for `lwarpmk`.

**Incorrect Unix /Windows selection:** The operating system which was detected by `lwarp`. So far only Unix and Windows are supported.

**Incorrect delimiter characters.** Older versions of *lwarpmk* used a different delimiter.

**Source name is set to `lwarp`:** `lwarp` has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if *lwarpmk* is executed in `lwarp`'s source directory.

**Incorrect operating system:** The configuration file was set for a different operating system, perhaps due to sharing in a collaborative project.

**Outdated configuration files:** `lwarp` has been updated since this project was last compiled. If there appears to be a valid print command in the file, `lwarpmk` displays this to instruct the user how to recompile the print version, which then updates the configuration files.

**The designated source file does not exist:** For whatever reason...

**Unknown engine:** `lwarp` cannot determine which engine is being used. Supported are DVI  $\text{\LaTeX}$ , PDF  $\text{\LaTeX}$ , X $\text{\LaTeX}$ , Lua $\text{\LaTeX}$ , and up $\text{\LaTeX}$ .

#### 13.1.2 Image generation with `lwarpmk` `limages`

**“Wait a moment for the images to complete before reloading page.”:**

Images are generated by background tasks. If the document is reloaded before these tasks are complete, some images may not yet be generated. *lwarpmk* tries to wait for background tasks to complete before exiting.

**HTML version does not exist:** Images are extracted from the HTML version, which must be compiled before images are generated.

**\*-images.txt does not exist:** This file tells which images to extract from the HTML file. If the file does not exist, it may be that no SVG math or `lateximages` were used. If so, `lwarpmk` `limages` is not necessary.

**Cross references are not correct:** The document must have up-to-date cross references to locate the images to extract. A number of conditions may cause incorrect cross references.

**“WARNING: Images will be incorrect.”:** An image reference was not found. Recompile.

**lwarpmk epstopdf \* or lwarpmk pdftosvg \*:** Errors if filenames are not found.

### 13.1.3 Default bitmapped font

lwarp requires the use of a vector font. If lwarp detects that the document uses the default COMPUTER MODERN font, and the **cm-super** package is not installed, it is assumed that the font is bitmapped. An error is generated, along with the recommendation to install **cm-super** or use **lmodern**.

### 13.1.4 Packages

**Loaded before lwarp:** Some packages and classes must be loaded before lwarp. These include input and font encoding, **morewrites** and **newclude**, and a number of CJK-related packages and classes.

**Loaded after lwarp:** Most packages which are modified by lwarp must be loaded after lwarp.

**Loaded never:** Some packages do not work with lwarp. An error is generated, along with a list of alternatives to consider.

**Specific packages:** Some packages enforce a specific load order vs. certain other packages.

**Patching error:** lwarp tries to patch some packages using **xpatch**. If the original package has been updated more recently than lwarp, a patch may not work. It may be necessary to use an older version of the package until lwarp is updated.

**longtable:** lwarp’s **longtable** package issues detailed error messages regarding the use of the table headers and footers.

**polyglossia:** If used, an informative message is printed to instruct the user to be sure to set a language, without which an error will occur.

**babel or polyglossia:** An informative message is printed to note that not all languages are supported by **cleveref**.

### 13.1.5 Compiling

**SideTOCDepth < FileDepth:** A warning is displayed if these counters are set such that the sidetoc will not be able to access all pages of the website.

**Filenames:** lwarp may generate file names from section names. While doing so, the filenames are simplified, and special characters and math are removed. If this process generates a duplicate filename, an error is generated, describing the filename and which section name generated it. A warning is issued if dollar-delimited math is used. Parenthesis-delimited math is recommended instead.



-  **HTML corrupted** **Multirow:** When `\multirow` or `\multicolrow` are used, `\mrowcell` or `\mcolrowcell` must be placed in the appropriate cells to avoid corrupted HTML output.
- (width,height) missing a comma:** `\makebox` and `\framebox` can accept a parenthesis-delimited width and height, which must be separated by a comma.
- “Load graphicx or graphics for improved svg math baselines.”:** svg math sizing and baselines are improved if either of these packages are used.
- “Load graphicx or graphics for improved XeTeX logo.”:** If these packages are loaded, the Xe<sub>La</sub>TeX logo can use the reversed “E”.
- “It is recommended to use [width=xx\linewidth] instead of [scale=yy]”:** Browser support of scale does not have the same effect as in L<sup>A</sup>T<sub>E</sub>X.

## 13.2 Using the lwarp package

The following address problems which may occur, and possible solutions to each.

Also see:

Section 7.11: **Commands to be placed into the warpprint environment**

Section 8: **Special cases and limitations**

-  **HTML corrupted** **Text is not converting correctly / corrupted HTML tags:**
- Font-related UTF-8 information must be embedded in the PDF file. See section 7.4 regarding bitmapped vs. vector fonts.
  - See section 8.2.1 regarding HTML entities and the characters `&`, `<`, and `>`.

-  **dotlessj** **Dotless j (\j):** See section 7.4 regarding `cmap`, `mmap`.

**Undefined HTML settings:**

- See the warning regarding the placement of the HTML settings at section 7.6.

**Tabular problems:** See section 8.10.1.

**Obscure error messages:**

**Print first:** Be sure that a print version of the document compiles and that your document’s L<sup>A</sup>T<sub>E</sub>X code is correct, before attempting to generate an HTML version.

`\end{warphTML}`, `\end{warpprint}`, `\end{warpall}`, `\end{warpMathJax}`:  
Each of these must be without any other characters on the same line.

**“Runaway argument? File ended while scanning use of \next:**  
Don’t use `warphTML`, `warpprint`, `warpall`, or `warpMathJax` inside itself.

**Options clash:** If using `memoir`, see section 8.13.

**“Missing \begin{document}.”:** Some packages require that their options be specified before `lwarp` is loaded, or via the package’s setup macro, especially if these options include the use of braces. See section 8.1.

 **warphTML, warpprint, warpMathJax, warpall**

**“No room for a new \write.”:** Before `\usepackage{lwarp}`, add:

```
\usepackage{morewrites}
\morewritesetup{allocate=10}
```

**“! TeX capacity exceeded, sorry [text input levels=15].”:** Packages were nested too many levels deep. Locate the file `texmf.cnf` for your distribution, and add the line

```
max_in_open = 30
```

**“Missing \$ inserted.”:** If using a filename or URL in a footnote or `\item`, escape underscores with `\_.`

**“Label(s) may have changed. Rerun to get cross-references right.”:**

This warning may repeat endlessly if a math expression is used in a caption. Simple math expressions such as  $X=1$  may be replaced with

```
\textit{X}\,,=\,,1
```

**“Temporary page! LaTeX was unable to guess the total number of pages ...”:**

Harmless. Recompile the document one more time.

**“Leaders not followed by proper glue”:**

This can be caused by a missing `\le@floastype` or `\le@sectiontype` definition. See `lwarp`’s definitions for examples.

**“Improper \prevdepth”:** `lateximages` and `svg` math require `\newpage`, which cannot work inside `TEX` boxes or `\ensuremath`. Anything using `\newsavebox`, `\newbox`, `\rbox`, `\savebox`, `\hbox`, `\vbox`, `\usebox`, `\sbox`, etc., must be modified to work without box commands.

If you find something using `\ensuremath`, have it temporarily set:

```
\LetLtxMacro\@ensuredmath\LWR@origensuredmath
```

inside a group first.

As a stop-gap measure, you may wish to try incrementing the counter `LWR@texboxdepth` before the problematic macro, and then decrementing it after. Doing so tells `lwarp` to avoid using a `\newpage` inside the macro, which may avoid this error.

Also, custom macros which appear inside a section, figure, or table name should be made robust since they appear inside the `.toc`, `.lof`, or `.lot` files. Use `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

If using BibTeX, see section 8.6.9.

**“! Undefined control sequence. . . \\_\_hook begindocument”:**

See section 8.15.4 if using `polyglossia`.

**“\begin{equation} ended by \end{document}”:** Do not use custom macros such as `\beq` and `\eeq` to replace

```
\begin{equation}
...
\end{equation}
```

**“Misplaced \omit”:** If using `\LWR@formatted` to define new macros for print and HTML modes, see section 36 regarding `\LWR@expandableformatted`.

`LWR@texboxdepth`

⚠ macros in section, table,  
figure names

⚠ BibTeX

⚠ polyglossia

⚠ custom macros for  
environments

⚠ `\LWR@formatted`

**“Token not allowed in a PDF string”:** This `hyperref` warning appears while creating the print-mode document, not HTML. A low-level macro is being used in a section name which appears in the PDF bookmarks. `hyperref` removes this macro from the bookmark, and warns of doing so. To avoid this warning, use `\pdfstringdefDisableCommands` in the preamble to define simplified replacement macros for each, or use `\texorpdfstring` in the `\section` or related macro to declare what to use for the  $\TeX$  text, v.s. the PDF bookmark. See the `hyperref` manual.

⚠ quote character

**“Command `\textquoteright` invalid in math mode”:** This can occur when the document source has math containing the slanted quote `'` character, instead of using the upright quote `'` character.

⚠ “impure” math objects

**Complicated objects inside math:** Some objects, such as `Tikz`, may not compile in `lwarp`’s normal math emulation. Insert

`\displaymathother` — or — `\inlinemathother`

before the math, and then

`\displaymathnormal` — or — `\inlinemathnormal`

when displaying “normal” math. See section 8.7.9.

**Slow compilation of math objects:** Complicated math objects can also cause problems with `alt` tags, resulting in very slow compilation, large `alt` tags, and possible crashes. Use `\inlinemathother ... \inlinemathnormal` or `\displaymathother ... \displaymathnormal` around the math expression.

⚠ MATHJAX

**Incorrect MATHJAX:** Some objects do not convert to MATHJAX. Use `\displaymathother` before these objects, then `\displaymathnormal` to return to “normal” display math. See section 8.7.9.

**Missing sections:** See section 7.6 regarding the `FileDepth` and `SideTOCDepth` counters, and the use of `\tableofcontents` in the home page.

**Misnumbered footnotes from section headings:** See section 8.5.4.

**Missing HTML files:**

- See the warning regarding changes to the HTML settings at section 7.6.
- Ensure that the filenames are unique after math and short words are removed. See `FileSectionNames` at section 7.6.

**Missing / incorrect cross-references:**

- Use `lwarpmk` again followed by `lwarpmk html` or `lwarpmk print` to compile the document one more time.
- Labels with special characters may be a problem. It is best to stick with alphanumeric, hyphen, underscore, and perhaps the colon (if not French). `\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.
- `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

labels

⚠ label characters

`\nameref`

⚠ empty link

⚠ cleveref page numbers

Ex:  
`\cpageref{tab:first,tab:second}`  
 in html becomes:  
 “pages **for** table 4.1 and **for** table 4.2”  
 See `\cpagerefFor` at page 733 to redefine the message which is printed for page number references.

**BibTeX errors with `\etalchar`:** See section 8.6.9.

**Malformed URLs:** Do not use the % character between arguments of `\hyperref`, etc., as this character is among those which is neutralized for inclusion in HTML URLs.

**Em-dashes or En-dashes in listing captions and titles:**

Use  $\LaTeX$  or  $\Lua\LaTeX$ .

**Floats out of sequence:**

**Mixed “Here” and floating:** Floats [H]ere and regular floats may become out of order. `\clearpage` if necessary.

**Caption setup:** With `\captionsetup` set the positions for the captions above or below to match their use in the source code.

**Images are appearing in strange places:**

- Enter **`lwarpmk limages`** to refresh the `lateximage` images.

**svg images:**

⚠ adding/removing

When a math expression, picture, or Tikz environment is added or removed, the svg images must be re-created by entering **`lwarpmk limages`** to maintain the proper image-file associations. Inline svg math may be hashed and thus not need to be recreated, but display math and objects such as Tikz may move to new image numbers when the document is changed.

recompile first

Before attempting to create the svg image files, *lwarpmk* verifies that the HTML version of the document exists and has correct internal image references.<sup>16</sup> If it is necessary to recompile the document’s HTML version one more time, *lwarpmk* usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the  $\LaTeX$  recompile warnings.

⚠ HTML instead of images

If HTML appears where an svg image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

⚠ page counter

Incorrect svg images will also occur if the document changes the page counter:

`\setcounter{page}{<value>}`

The page counter must *not* be adjusted by the user.

⚠ Lots of files!

Expressing math as svg images has the advantage of representing the math exactly as  $\LaTeX$  would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, *lwarp* uses an MD5 hash on its  $\LaTeX$  source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `Tikz` require one image file each. For a document with a large amount of math, see section 5.5 to use `MATHJAX` instead.

<sup>16</sup>This becomes important when dealing with a document containing thousands of images.

**Plain-looking document:**

- The document's CSS stylesheet may not be available, or may be linked incorrectly. Verify any `\CSSFilename` statements point to a valid CSS file.

**HTML corrupted****Broken fragments of HTML:**

- Check the PDF file used to create HTML to see if the tags overflowed the margin. (This is why such large page size and margins are used.)

**Changes do not seem to be taking effect:**

- Be sure to `lwarpmk clean`, recompile, then start by reloading the home page. You may have been looking at an older version of the document. If you changed a section name, you may have been looking at the file for the old name.
- See the warning regarding changes to the HTML settings at section 7.6.
- Verify that the proper CSS is actually being used.
- The browser may compensate for some subtle changes, such as automatically generating ligatures, reflowing text, etc.

**Un-matched conditional compiles:**

- Verify the proper begin/end of `warpprint`, `warpHTML`, and `warpall` environments.

**13.2.1 Debug tracing output**

`\tracinglwarp` When `\tracinglwarp` is used, `lwarp` will add extra tracing messages to the `.log` file. The last several messages may help track down errors.

Place `\tracinglwarp` just after `\usepackage{lwarp}` to activate tracing.

**13.3 Compiling the `lwarp.dtx` file**

**lwarp\_tutorial.tex:** Copy or link `lwarp_tutorial.txt` from the TDS doc directory to the source directory, or wherever you wish to compile the documentation. This file is included verbatim in the documentation, but is in the doc directory so that it may be found by *texdoc* and copied by the user.

**Illogical error messages caused by an out-of-sync `lwarp.sty` file:**

1. Delete the `lwarp.sty` file.
2. Enter `pdflatex lwarp.ins` to generate a new `lwarp.sty` file.
3. Enter `pdflatex lwarp.dtx` to recompile the `lwarp.pdf` documentation.

**Un-nested environments:**

Be sure to properly nest:

- `\begin{macrocode}` and `\end{macrocode}`
- `\begin{macro}` and `\end{macro}`
- `\begin{environment}` and `\end{environment}`

## 14 Trademarks

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File 1 **lwarp.sty**

## 15 Implementation

This package is perhaps best described as a large collection of smaller individual technical challenges, in many cases solved through a number of ~~erude-hacks~~ clever tricks. Reference sources are given for many of the solutions, and a quick internet search will provide additional possibilities.

Judgement calls were made, and are often commented. Improvements are possible. The author is open to ideas and suggestions.

Packages were patched for re-use where they provided significant functionality. Examples include `xcolor` with its color models and conversion to HTML color output, and `siunitx` which provides many number and unit-formatting options, almost all of which are available in pure-text form, and thus easily used by *pdftotext*.

Packages were emulated where their primary purpose was visual formatting which is not relevant to HTML output. For example, packages related to sectioning are already patched by numerous other packages, creating a difficult number of combinations to try to support, and yet in HTML output all of the formatting is thrown away, so these packages are merely emulated.

Packages with graphical output are allowed as-is, but must be nested inside a `lateximage` environment to preserve the graphics.

Testing has primarily been done with the Iceweasel/Firefox browser.

Table 11: Section depths and HTML headings

| Section                     | $\LaTeX$<br>depth | HTML headings *                           |
|-----------------------------|-------------------|-------------------------------------------|
| Title of the entire website |                   | <h1>                                      |
| (none)                      | -5                | new for this package                      |
| book                        | -2                | <div class = "book">                      |
| part                        | -1                | <h2>                                      |
| chapter                     | 0                 | <h3>                                      |
| section                     | 1                 | <h4>                                      |
| subsection                  | 2                 | <h5>                                      |
| subsubsection               | 3                 | <h6>                                      |
| paragraph                   | 4                 | <span class = "paragraph">                |
| subparagraph                | 5                 | <span class = "subparagraph">             |
| listitem                    | 7                 | new for this package, used for list items |

\* If FormatWP is true, section headings may be adjusted, depending on WPTitleHeading. See table 10 on page 184.

## 16 Section depths and HTML headings

Stacks are created to track depth inside the  $\LaTeX$  document structure. This depth is translated to HTML headings as shown in table 11. “Depth” here is not depth in the traditional computer-science stack-usage sense, but rather a representation of the nesting depth inside the  $\LaTeX$  document structure.

When starting a new section, the program first must close out any existing sections and lists of a deeper level to keep the HTML tags nested correctly.

Support for the `memoir` package will require the addition of a book level, which may push the HTML headings down a step, and also cause subsubsection to become a <div> due to a limit of six HTML headings.

It is possible to use HTML5 <section> and <h1> for all levels, but this may not be well-recognized by older browsers.

Fixed levels for parts and chapters allow the CSS to remain fixed as well.



## 17 Source code

This is where the documented source code for **lwarp** begins, continuing through the following sections all the way to the change log and index at the end of this document.

The following sections document the actual implementation of the **lwarp** package.

**line numbers** The small numbers at the left end of a line refer to line numbers in the `lwarp.sty` file.

**subjects** Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph.

**objects** Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are command

**index entries** macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

**for HTML output:** Green-colored tags in the left margin show which sections of source code apply to the  
**for PRINT output:** generation of HTML, print, or both forms of output.  
**for HTML & PRINT:**

## 18 Detecting the T<sub>E</sub>X engine — *pdf<sub>l</sub>atex*, *lua<sub>l</sub>atex*, *xel<sub>l</sub>atex*

See: <http://tex.stackexchange.com/a/47579>.

Detects X<sub>Y</sub>T<sub>E</sub>X and Lua<sub>Y</sub>T<sub>E</sub>X:

```

1 \RequirePackage{iftex}[2019/11/07]
2 \RequirePackage{ifpdf}
3 \RequirePackage{ifptex}
4
5 \newif\ifxetexorluatex
6
7 \ifXeTeX
8 \xetexorluatextrue
9 \else
10 \ifLuaTeX
11 \xetexorluatextrue
12 \else
13 \xetexorluatexfalse
14 \fi
15 \fi

```

## 19 Early package requirements

Pkg etoolbox Provides \ifbool and other functions.

Pkg xpatch Patches macros with optional arguments.

```

16 \RequirePackage{etoolbox}[2011/01/03]% v2.6 for \BeforeBeginEnvironment, etc.
17 \RequirePackage{xpatch}

```

Pkg ifplatform Provides \ifwindows to try to automatically detect WINDOWS OS.

```

18 \RequirePackage{ifplatform}% sense op-system platform

```

Pkg letltxmacro

```

19 \RequirePackage{letltxmacro}

```

## 20 Package load order

Several packages must never be used with **lwarp**, others should only be loaded before **lwarp**, and others should only be loaded after. The **lwarp** core checks most of these cases. In some **lwarp-\*** packages, `\LWR@loadbefore` is used to trigger an error if they are loaded after **lwarp**, while additional code provides necessary patches for when they are loaded before.

Packages which must be loaded after **lwarp** are enforced by a large number of `\LWR@loadafter` statements, below. Some packages are emulated by **memoir**, and so these are tested by `\LWR@notmemoirloadafter`, which does not cause an error if **memoir** is used.

`\LWR@checkloadfilename` is used to check each filename to see if it must never be loaded, or must always be loaded before **lwarp**.

## 20.1 Tests of package load order

`\LWR@loadafter`  $\langle\textit{packagename}\rangle$  Error if this package was loaded before **lwarp**.

```

20 \newcommand*\LWR@loadafter}[1]{%
21 \@ifpackageloaded{#1}
22 {
23 \PackageError{lwarp}
24 {%
25 Package #1,\MessageBreak
26 or one which uses #1,\MessageBreak
27 must be loaded after Lwarp.\MessageBreak
28 Enter 'H' for possible solutions%
29 }
30 {%
31 Move “\protect\usepackage{#1}” after
32 “\protect\usepackage{lwarp}”.\MessageBreak
33 Package #1 may also be loaded by something else,\MessageBreak
34 which must also be moved after Lwarp.%
35 }
36 }
37 {\relax}
38 }
```

`\LWR@notmemoirloadafter`  $\langle\textit{packagename}\rangle$  Error if not **memoir** class and this package was loaded before **lwarp**.

**memoir** emulates many packages, and pretends that they have already been loaded.

```

39 \@ifclassloaded{memoir}
40 {\newcommand*\LWR@notmemoirloadafter}[1]{} }
41 {\LetLtxMacro\LWR@notmemoirloadafter\LWR@loadafter}
```

`\LWR@notltjloadafter`  $\langle\textit{packagename}\rangle$  Error if not a **ltjs\*** class and this package was loaded before **lwarp**.

```

42 \LetLtxMacro\LWR@notltjloadafter\LWR@loadafter
43
44 \@ifclassloaded{ltjarticle}{\renewcommand*\LWR@notltjloadafter}[1]{} }
45 \@ifclassloaded{ltjbook}{\renewcommand*\LWR@notltjloadafter}[1]{} }
46 \@ifclassloaded{ltjreport}{\renewcommand*\LWR@notltjloadafter}[1]{} }
47 \@ifclassloaded{ltjsarticle}{\renewcommand*\LWR@notltjloadafter}[1]{} }
48 \@ifclassloaded{ltjsbook}{\renewcommand*\LWR@notltjloadafter}[1]{} }
49 \@ifclassloaded{ltjsreport}{\renewcommand*\LWR@notltjloadafter}[1]{} }
50 \@ifclassloaded{ltjspf}{\renewcommand*\LWR@notltjloadafter}[1]{} }
51 \@ifclassloaded{ltjskiyou}{\renewcommand*\LWR@notltjloadafter}[1]{} }
52 \@ifclassloaded{ltjtarticle}{\renewcommand*\LWR@notltjloadafter}[1]{} }
```

```

53 \@ifclassloaded{ltjtbook}{\renewcommand*\LWR@notltjloadafter}[1]{}{}}
54 \@ifclassloaded{ltjtreport}{\renewcommand*\LWR@notltjloadafter}[1]{}{}}

```

`\LWR@loadbefore` `{\langle packagename \rangle}` Error if this package is loaded after `lwarp`.

```

55 \newcommand*\LWR@loadbefore}[1]{%
56 \ifpackageloaded{#1}%
57 {\relax}
58 {
59 \PackageError{lwarp}
60 {%
61 Package #1 must be loaded before lwarp.\MessageBreak
62 Enter 'H' for possible solutions%
63 }
64 {Move “\protect\usepackage{#1}” before “\protect\usepackage{lwarp}”’.}
65 }
66 }

```

`\LWR@checkloadbefore` `{\langle thispackagename \rangle}{\langle packagename \rangle}`

If package names match, error if it is loaded after `lwarp`.

```

67 \newcommand*\LWR@checkloadbefore}[2]{%
68 \edef\LWR@tempone{#1}%
69 \ifdefstring{\LWR@tempone}{#2}{%
70 \LWR@loadbefore{#1}%
71 }{}%
72 }

```

`\LWR@loadnever` `{\langle badpackagename \rangle}{\langle replacementpkgnames \rangle}`

The first packages is not supported, so tell the user to use the second instead.

```

73 \newcommand*\LWR@loadnever}[2]{%
74 \PackageError{lwarp}
75 {%
76 Package #1 is not supported\MessageBreak
77 by lwarp's HTML conversion.\MessageBreak
78 Package(s)\MessageBreak
79 \space\space#2\MessageBreak
80 may be useful instead%
81 }
82 {%
83 Package #1 might conflict with lwarp in some way,\MessageBreak
84 or is superceded by another package.\MessageBreak
85 For a possible alternative, see package(s) #2.
86 }
87 }

```

`\LWR@checkloadnever` `{\langle thispackagename \rangle}{\langle badpackagename \rangle}{\langle replacementpkgnames \rangle}`

If this package name is the bad packagename, suggest the replacements instead.

```

88 \newcommand*{\LWR@checkloadnever}[3]{%
89 \edef\LWR@tempone{#1}%
90 \ifdefstring{\LWR@tempone}{#2}{%
91 \LWR@loadnever{#2}{#3}%
92 }{}%
93 }

```

`\LWR@earlyloadnever`  $\{\langle badpackagename \rangle\} \{\langle replacementpkgname \rangle\}$

The first package is not supported, so tell the user to use the second instead. This version checks immediately for packages which may have been loaded before `lwarp`.

```

94 \newcommand*{\LWR@earlyloadnever}[2]{%
95 \@ifpackageloaded{#1}{%
96 \LWR@loadnever{#1}{#2}%
97 }{}%
98 }

```

`\LWR@earlyclassloadnever`  $\{\langle badclassname \rangle\} \{\langle replacementclassname \rangle\}$

The first class is not supported, so tell the user to use the second instead. This version checks immediately for classes which may have been loaded before `lwarp`.

```

99 \newcommand*{\LWR@earlyclassloadnever}[2]{%
100 \@ifclassloaded{#1}{%
101 \PackageError{lwarp}
102 {%
103 Class #1 is not supported\MessageBreak
104 by lwarp's HTML conversion.\MessageBreak
105 Class(es) #2 may be useful instead
106 }
107 {%
108 Class #1 might conflict with lwarp in some way,\MessageBreak
109 or is superceded by another class.\MessageBreak
110 For a possible alternative, see class(es) #2.
111 }
112 }{\relax}%
113 }

```

## 20.2 Error for disallowed packages and classes loaded before lwarp

```

114 \LWR@earlyclassloadnever{jarticle}{ujarticle}
115 \LWR@earlyclassloadnever{jbook}{ujbook}
116 \LWR@earlyclassloadnever{jreport}{ujreport}
117 \LWR@earlyclassloadnever{tarticle}{utarticle}
118 \LWR@earlyclassloadnever{tbook}{utbook}
119 \LWR@earlyclassloadnever{treport}{utreport}
120 \LWR@earlyloadnever{ae}{cm-super, lmodern}
121 \LWR@earlyloadnever{aeimpl}{cm-super, lmodern}
122 \LWR@earlyloadnever{aecc}{cm-super, lmodern}
123 \LWR@earlyloadnever{alg}{algorithm2e, algorithmicx}
124 \LWR@earlyloadnever{algorithmic}{algorithm2e, algorithmicx}

```

```

125 \LWR@earlyloadnever{bitfield}{bytefield}
126 \LWR@earlyloadnever{caption2}{caption}
127 % \LWR@earlyloadnever{ccaption}{caption}% might be preloaded by memoir
128 \LWR@earlyloadnever{colortab}{colortbl}
129 \LWR@earlyloadnever{csvtools}{datatool}
130 \LWR@earlyloadnever{doublespace}{setspace}
131 \LWR@earlyloadnever{fancyheadings}{fancyhdr}
132 \LWR@earlyloadnever{fncylab}{cleveref}
133 \LWR@earlyloadnever{formula}{siunitx}
134 \LWR@earlyloadnever{glossary}{glossaries}
135 \LWR@earlyloadnever{hyper}{hyperref}
136 \LWR@earlyloadnever{libgreek}{libertinustlmath, newtx}
137 \LWR@earlyloadnever{newthm}{ntheorem}
138 \LWR@earlyloadnever{pdfcpot}{microtype}
139 \LWR@earlyloadnever{picins}{floatflt, wrapfig}
140 \LWR@earlyloadnever{rplain}{fancyhdr}
141 \LWR@earlyloadnever{si}{siunitx}
142 \LWR@earlyloadnever{sistyle}{siunitx}
143 \LWR@earlyloadnever{slashbox}{diagbox}
144 \LWR@earlyloadnever{statex}{statex2}
145 \LWR@earlyloadnever{tlenc}{fontenc, inputenc, inputenx}
146 \LWR@earlyloadnever{ucs}{inputenc, inputencx}
147 \LWR@earlyloadnever{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}

```

The older CJK and CJKut8 only work with xeCJK:

```

148 \ifpackageloaded{xeCJK}{}{
149 \LWR@earlyloadnever{CJK}{ctex, xeCJK}
150 \LWR@earlyloadnever{CJKut8}{ctex, xeCJK}
151 }

```

**bxckatype** is based on CJK:

```

152 \LWR@earlyloadnever{bxckatype}{upLaTeX, bxjsarticle, uarticle, utarticle}

```

**hangul** is not in TeXLive, and is not tested:

```

153 \LWR@earlyloadnever{hangul}{kotex, xetexko, luatexko}

```

## 20.3 Enforcing package loading after lwarp

Packages which should only be loaded after **lwarp** are tested here to trip an error if they have already been loaded.

The following packages must be loaded after **lwarp**:

```

154 \LWR@loadafter{2in1}
155 \LWR@loadafter{2up}
156 \LWR@loadafter{a4}
157 \LWR@loadafter{a4wide}
158 \LWR@loadafter{a5comb}
159 \LWR@notmemoirloadafter{abstract}
160 \LWR@loadafter{academicons}
161 \LWR@loadafter{accents}
162 \LWR@loadafter{accessibility}

```

```
163 \LWR@loadafter{accsupp}
164 \LWR@loadafter{acro}
165 \LWR@loadafter{acronym}
166 \LWR@loadafter{adjmulticol}
167 \LWR@loadafter{addlines}
168 \LWR@loadafter{afterpage}
169 \LWR@loadafter{algorithm2e}
170 \LWR@loadafter{algorithmicx}
171 \LWR@loadafter{alltt}
172 \LWR@loadafter{amscdx}
173 % \LWR@loadafter{amsmath}% may be preloaded
174 % \LWR@loadafter{amsthm}% may be preloaded
175 \LWR@loadafter{anonchp}
176 \LWR@loadafter{anysize}
177 \LWR@notmemoirloadafter{appendix}
178 \LWR@loadafter{ar}
179 \LWR@loadafter{arabicfront}
180 \LWR@notmemoirloadafter{array}
181 \LWR@loadafter{arydshln}
182 \LWR@loadafter{asymptote}
183 % \LWR@loadafter{atbegshi}% now in LaTeX core, also used by morewrites
184 \LWR@loadafter{attachfile}
185 \LWR@loadafter{attachfile2}
186 \LWR@loadafter{authblk}
187 \LWR@loadafter{authoraftertitle}% Supported as-is, but must be loaded after.
188 \LWR@loadafter{autobreak}
189 \LWR@loadafter{autonum}
190 \LWR@loadafter{awesomebox}
191 \LWR@loadafter{axessibility}
192 \LWR@loadafter{axodraw2}
193 \LWR@loadafter{backnaur}
194 \LWR@loadafter{backref}
195 \LWR@loadafter{balance}
196 \LWR@loadafter{bbding}
197 \LWR@loadafter{bigdelim}
198 \LWR@loadafter{bigfoot}
199 \LWR@loadafter{bigstrut}
200 \LWR@loadafter{bitpattern}
201 \LWR@loadafter{blowup}
202 \LWR@loadafter{bm}
203 \LWR@loadafter{booklet}
204 \LWR@loadafter{bookmark}
205 \LWR@notmemoirloadafter{booktabs}
206 \LWR@loadafter{bophook}
207 \LWR@loadafter{bounddvi}
208 \LWR@loadafter{boxedminipage}
209 \LWR@loadafter{boxedminipage2e}
210 \LWR@loadafter{braket}
211 \LWR@loadafter{breakurl}
212 \LWR@loadafter{breqn}
213 \LWR@loadafter{bsheaders}
214 \LWR@loadafter{bussproofs}
215 \LWR@loadafter{bypapersize}
216 \LWR@loadafter{bytefield}
217 \LWR@loadafter{cancel}
```

```
218 \LWR@loadafter{canoniclayout}
219 \LWR@loadafter{caption}
220 \LWR@loadafter{caption2}
221 \LWR@loadafter{caption3}
222 \LWR@loadafter{cases}
223 % catoptions is supported by the lwarp core
224 % \LWR@loadafter{ccaption}% may be preloaded by memoir
225 % \LWR@loadafter{centernot}% may be preloaded by newtx
226 \LWR@loadafter{changebar}
227 \LWR@loadafter{changelayout}
228 \LWR@notmemoirloadafter{change page}
229 \LWR@loadafter{changes}
230 \LWR@loadafter{chappg}
231 \LWR@loadafter{chapterbib}
232 \LWR@loadafter{chemfig}
233 \LWR@loadafter{chemformula}
234 \LWR@loadafter{chemgreek}
235 \LWR@loadafter{chemmacros}
236 \LWR@loadafter{chemnum}
237 \LWR@loadafter{chkfloat}
238 \LWR@notmemoirloadafter{chn page}
239 \LWR@loadafter{cite}
240 \LWR@loadafter{citeref}
241 \LWR@loadafter{cleveref}
242 % cmbright may be preloaded
243 \LWR@loadafter{cmdtrack}
244 \LWR@loadafter{colonequals}
245 \LWR@loadafter{color}
246 \LWR@loadafter{colortbl}
247 \LWR@loadafter{continue}
248 \LWR@loadafter{copyrightbox}
249 \LWR@notmemoirloadafter{crop}
250 % ctex must be loaded before lwarp
251 \LWR@loadafter{ctable}
252 \LWR@loadafter{cuted}
253 \LWR@loadafter{cutwin}
254 \LWR@loadafter{dblfloatfix}
255 \LWR@loadafter{dblfnote}
256 \LWR@notmemoirloadafter{dcolumn}
257 \LWR@loadafter{decimal}
258 \LWR@loadafter{diagbox}
259 \LWR@loadafter{dingbat}
260 \LWR@loadafter{DotArrow}
261 \LWR@loadafter{dotlessi}
262 \LWR@loadafter{dprogress}
263 \LWR@loadafter{draftcopy}
264 \LWR@loadafter{draftfigure}
265 \LWR@loadafter{draftwatermark}
266 \LWR@loadafter{drftcite}
267 \LWR@loadafter{easy-todo}
268 \LWR@loadafter{ebook}
269 \LWR@loadafter{econometrics}
270 \LWR@loadafter{ed}
271 \LWR@loadafter{ellipsis}
272 \LWR@loadafter{embrac}
```



```
273 \LWR@loadafter{emptypage}
274 \LWR@loadafter{endfloat}
275 \LWR@loadafter{endheads}
276 \LWR@loadafter{endnotes}
277 \LWR@loadafter{engtlc}
278 \LWR@notmemoirloadafter{enumerate}
279 \LWR@loadafter{enumitem}
280 \LWR@notmemoirloadafter{epigraph}
281 \LWR@loadafter{epsf}
282 \LWR@loadafter{epsfig}
283 \LWR@loadafter{epstopdf}
284 \LWR@loadafter{epstopdf-base}
285 \LWR@loadafter{eqlist}
286 \LWR@loadafter{eqparbox}
287 \LWR@loadafter{errata}
288 \LWR@loadafter{eso-pic}
289 \LWR@loadafter{esvect}
290 \LWR@loadafter{etoc}
291 \LWR@loadafter{eurosym}
292 \LWR@loadafter{everypage}
293 % \LWR@loadafter{everyshi}% now in LaTeX core
294 \LWR@loadafter{extrarrows}
295 \LWR@loadafter{extramarks}
296 \LWR@loadafter{fancybox}
297 \LWR@loadafter{fancyhdr}
298 \LWR@loadafter{fancyref}
299 \LWR@loadafter{fancytabs}
300 \LWR@loadafter{fancyvrb}
301 \LWR@loadafter{fbox}
302 \LWR@loadafter{fewerfloatpages}
303 \LWR@loadafter{figcaps}
304 \LWR@loadafter{figsize}
305 \LWR@loadafter{fitbox}
306 \LWR@loadafter{fix2col}
307 \LWR@loadafter{fixmath}
308 \LWR@loadafter{fixme}
309 \LWR@loadafter{fixmetodonotes}
310 \LWR@loadafter{flafter}
311 \LWR@loadafter{flippdf}
312 \LWR@loadafter{float}
313 \LWR@loadafter{floatflt}
314 \LWR@loadafter{floatpag}
315 \LWR@loadafter{floatrow}
316 \LWR@loadafter{fltrace}
317 \LWR@loadafter{flushend}
318 \LWR@loadafter{fnbreak}
319 \LWR@loadafter{fncychap}
320 \LWR@loadafter{fnlineno}
321 \LWR@loadafter{fnpara}
322 \LWR@loadafter{fnpos}
323 \LWR@loadafter{fontawesome}
324 \LWR@loadafter{fontawesome5}
325 % fontenc must be loaded before lwarp
326 % fontspec must be loaded before lwarp
327 \LWR@loadafter{footmisc}
```

```
328 \LWR@loadafter{footnote}
329 \LWR@loadafter{footnotebackref}
330 \LWR@loadafter{footnotehyper}
331 \LWR@loadafter{footnoterange}
332 \LWR@loadafter{footnpag}
333 \LWR@loadafter{foreign}
334 \LWR@loadafter{forest}
335 \LWR@loadafter{fouridx}
336 % fourier may be loaded before lwarp
337 \LWR@loadafter{framed}
338 \LWR@loadafter{ftcap}
339 \LWR@loadafter{ftnright}
340 \LWR@loadafter{fullminipage}
341 \LWR@loadafter{fullpage}
342 \LWR@loadafter{fullwidth}
343 \LWR@loadafter{fvextra}
344 \LWR@loadafter{fwlw}
345 \LWR@loadafter{gensymb}
346 \LWR@loadafter{gentombow}
347 % geometry is always loaded by lwarp, and lwarp-geometry is AtBeginDocument
348 \LWR@loadafter{ghsystem}
349 \LWR@loadafter{gindex}
350 \LWR@loadafter{glossaries}
351 \LWR@loadafter{gmeometric}
352 % \LWR@loadafter{graphics}% pre-loaded by xunicode
353 % \LWR@loadafter{graphicx}% pre-loaded by xunicode
354 \LWR@loadafter{gloss}
355 \LWR@loadafter{glossary}
356 \LWR@loadafter{grffile}
357 \LWR@loadafter{grid}
358 \LWR@loadafter{grid-system}
359 \LWR@loadafter{gridset}
360 \LWR@loadafter{hang}
361 \LWR@loadafter{hanging}
362 \LWR@loadafter{hepunits}
363 \LWR@loadafter{hhline}
364 \LWR@loadafter{hhtensor}
365 \LWR@loadafter{hybpbmsec}
366 \LWR@loadafter{hypcap}
367 \LWR@loadafter{hypdestopt}
368 \LWR@loadafter{hypernat}
369 \LWR@loadafter{hyperref}
370 \LWR@loadafter{hyperxmp}
371 \LWR@loadafter{hyphenat}
372 \LWR@loadafter{idxlayout}
373 \LWR@loadafter{ifoddpag}
374 \LWR@loadafter{imakeidx}
375 \LWR@loadafter{imnpattypo}
376 \LWR@notmemoirloadafter{index}
377 % inputenc must be loaded before lwarp
378 % inputenx must be loaded before lwarp
379 % inputtrc may be loaded before lwarp
380 \LWR@loadafter{intopdf}
381 \LWR@loadafter{isomath}
382 \LWR@loadafter{isotope}
```

```
383 \LWR@loadafter{jurabib}
384 \LWR@loadafter{karnaugh-map}
385 \LWR@loadafter{keyfloat}
386 \LWR@loadafter{keystroke}
387 % kpfonts may be loaded before lwarp
388 % kpfonts-otf may be loaded before lwarp
389 \LWR@loadafter{layaureo}
390 \LWR@loadafter{layout}
391 \LWR@loadafter{layouts}
392 \LWR@loadafter{leading}
393 \LWR@loadafter{leftidx}
394 \LWR@loadafter{letterspace}
395 \LWR@loadafter{lettrine}
396 % libertinustlmath may be loaded before lwarp
397 \LWR@loadafter{lineno}
398 \LWR@loadafter{lips}
399 \LWR@loadafter{listings}
400 \LWR@loadafter{listliketab}
401 \LWR@loadafter{longtable}
402 \LWR@loadafter{lpic}
403 \LWR@loadafter{lscape}
404 \LWR@loadafter{ltabex}
405 \LWR@loadafter{ltcaption}
406 \LWR@loadafter{ltxgrid}
407 \LWR@loadafter{ltxtable}
408 \LWR@loadafter{lua-check-hyphen}
409 \LWR@loadafter{lua-visual-debug}
410 \LWR@loadafter{luacolor}
411 \LWR@loadafter{luamplib}
412 \LWR@loadafter{uatodonotes}
413 \LWR@loadafter{luavlna}
414 \LWR@loadafter{lyluatex}
415 \LWR@loadafter{magaz}
416 \LWR@notmemoirloadafter{makeidx}
417 \LWR@loadafter{manyfoot}
418 \LWR@loadafter{marginfit}
419 \LWR@loadafter{marginfix}
420 \LWR@loadafter{marginnote}
421 \LWR@loadafter{marvosym}
422 % mathalpha may be loaded before lwarp
423 \LWR@loadafter{mathastext}
424 \LWR@loadafter{mathcomp}
425 \LWR@loadafter{mathdesign}
426 \LWR@loadafter{mathdots}
427 \LWR@loadafter{mathfixs}
428 \LWR@loadafter{mathpazo}
429 \LWR@loadafter{mathptmx}
430 \LWR@loadafter{mathspec}
431 \LWR@loadafter{mathtools}
432 \LWR@loadafter{mattens}
433 \LWR@loadafter{maybemath}
434 \LWR@loadafter{mcaption}
435 \LWR@loadafter{mdframed}
436 \LWR@loadafter{mdwmath}
437 \LWR@loadafter{media9}
```

```
438 \LWR@loadafter{memhfixc}
439 \LWR@loadafter{menukeys}
440 \LWR@loadafter{metalogo}
441 \LWR@loadafter{metalogoX}
442 \LWR@loadafter{mhchem}
443 \LWR@loadafter{microtype}
444 \LWR@loadafter{midfloat}
445 \LWR@loadafter{midpage}
446 \LWR@loadafter{minibox}
447 \LWR@loadafter{minitoc}
448 \LWR@loadafter{minted}
449 \LWR@loadafter{mismath}
450 \LWR@loadafter{mleftright}
451 % morefloats must be allowed early for print mode
452 \LWR@notmemoirloadafter{moreverb}
453 % morewrites must be loaded before lwarp
454 \LWR@notmemoirloadafter{movie15}
455 \LWR@notmemoirloadafter{mparhack}
456 \LWR@loadafter{multibib}
457 \LWR@loadafter{multicap}
458 % \LWR@loadafter{multicol}% loaded by ltxdoc
459 \LWR@loadafter{multicolrule}
460 \LWR@loadafter{multimedia}
461 \LWR@loadafter{multiobjective}
462 \LWR@loadafter{multirow}
463 \LWR@loadafter{multitoc}
464 \LWR@loadafter{musicography}
465 \LWR@loadafter{nameauth}
466 \LWR@loadafter{nameref}
467 \LWR@loadafter{natbib}
468 \LWR@notmemoirloadafter{nccfancyhdr}
469 \LWR@loadafter{nccfoot}
470 \LWR@loadafter{nccmath}
471 \LWR@notmemoirloadafter{needspace}
472 % newclude must be loaded before lwarp
473 % newpxmath may be preloaded
474 % newtxmath may be loaded before lwarp
475 % newtxsf may be loaded before lwarp
476 % newunicodechar must be loaded before lwarp
477 \LWR@notmemoirloadafter{nextpage}
478 \LWR@loadafter{nicefrac}
479 \LWR@loadafter{niceframe}
480 \LWR@loadafter{nicematrix}
481 \LWR@loadafter{noitcrul}
482 \LWR@loadafter{nolbreaks}
483 \LWR@loadafter{nomenc}
484 \LWR@loadafter{nonfloat}
485 \LWR@loadafter{nonumonpart}
486 \LWR@loadafter{nopageno}
487 \LWR@loadafter{notes}
488 \LWR@loadafter{notespages}
489 \LWR@loadafter{nowidow}
490 \LWR@loadafter{ntheorem}
491 \LWR@loadafter{octave}
492 \LWR@loadafter{overpic}
```

```
493 \LWR@loadafter{pagegrid}
494 \LWR@notmemoirloadafter{pagenote}
495 \LWR@loadafter{pagesel}
496 \LWR@loadafter{paralist}
497 \LWR@loadafter{parallel}
498 \LWR@loadafter{parcolumns}
499 \LWR@loadafter{parnotes}
500 \LWR@notmemoirloadafter{parskip}
501 \LWR@loadafter{pbox}
502 \LWR@loadafter{pdfcol}
503 \LWR@loadafter{pdfcolfoot}
504 \LWR@loadafter{pdfcolmk}
505 \LWR@loadafter{pdfcolparallel}
506 \LWR@loadafter{pdfcolparcolumns}
507 \LWR@loadafter{pdfcomment}
508 \LWR@loadafter{pdfcrypt}
509 \LWR@loadafter{pdfscape}
510 \LWR@loadafter{pdfmarginpar}
511 \LWR@loadafter{pdfpages}
512 \LWR@loadafter{pdfprivacy}
513 \LWR@loadafter{pdfrender}
514 \LWR@loadafter{pdfsync}
515 \LWR@loadafter{pdftricks}
516 \LWR@loadafter{pdfx}
517 \LWR@loadafter{perpage}
518 \LWR@loadafter{pfnote}
519 \LWR@loadafter{phfqit}
520 \LWR@loadafter{physics}
521 \LWR@loadafter{physunits}
522 \LWR@loadafter{picinpar}
523 \LWR@loadafter{pifont}
524 \LWR@loadafter{pinlabel}
525 \LWR@loadafter{placeins}
526 \LWR@loadafter{plarray}
527 \LWR@loadafter{plarydshln}
528 \LWR@loadafter{plextarray}
529 \LWR@loadafter{plextarydshln}
530 \LWR@loadafter{plcolortbl}
531 \LWR@loadafter{plextdelarray}
532 \LWR@loadafter{plimsoll}
533 \LWR@loadafter{prelim2e}
534 \LWR@loadafter{prettyref}
535 \LWR@loadafter{preview}
536 \LWR@loadafter{psfrag}
537 \LWR@loadafter{psfragx}
538 \LWR@loadafter{pst-eps}
539 \LWR@loadafter{pstool}
540 \LWR@loadafter{pstricks}
541 % \LWR@loadafter{pxatbegshi}% may be used by morewrites
542 \LWR@loadafter{pxeveryshi}
543 % \LWR@loadafter{pxfonts}% may be loaded before lwarp
544 \LWR@loadafter{pxftnright}
545 \LWR@loadafter{pxjahyper}
546 \LWR@loadafter{quotchap}
547 \LWR@loadafter{quoting}
```

```
548 \LWR@loadafter{ragged2e}
549 \LWR@loadafter{realscripts}
550 \LWR@loadafter{refcheck}
551 \LWR@loadafter{register}
552 \LWR@loadafter{relsize}
553 \LWR@loadafter{repeatindex}
554 \LWR@loadafter{resizegather}
555 \LWR@loadafter{returntogrid}
556 \LWR@loadafter{rlepsf}
557 \LWR@loadafter{rmathbr}
558 \LWR@loadafter{rmpage}
559 \LWR@loadafter{romanbar}
560 \LWR@loadafter{romanbarpagenumber}
561 \LWR@loadafter{rotating}
562 \LWR@loadafter{rotfloat}
563 \LWR@loadafter{rviewport}
564 \LWR@loadafter{savetrees}
565 % scalefnt is loaded by babel-french
566 \LWR@loadafter{scalereel}
567 \LWR@loadafter{schemata}
568 \LWR@loadafter{scrextend}
569 \LWR@loadafter{scrhack}
570 \LWR@loadafter{scrlayer}
571 \LWR@loadafter{scrlayer-notecolumn}
572 \LWR@loadafter{scrlayer-scrpage}
573 \LWR@loadafter{scrpage2}
574 \LWR@loadafter{section}
575 \LWR@loadafter{sectionbreak}
576 \LWR@loadafter{sectsty}
577 \LWR@loadafter{selectp}
578 \LWR@loadafter{semantic-markup}
579 \LWR@notmemoirloadafter{setspace}
580 \LWR@loadafter{shadow}
581 \LWR@loadafter{shapepar}
582 \LWR@notmemoirloadafter{showidx}
583 \LWR@loadafter{showkeys}
584 \LWR@loadafter{showtags}
585 \LWR@loadafter{shuffle}
586 \LWR@loadafter{sidecap}
587 \LWR@loadafter{sidenotes}
588 \LWR@loadafter{simplebnf}
589 \LWR@loadafter{SIunits}
590 \LWR@loadafter{siunitx}
591 \LWR@loadafter{skmath}
592 \LWR@loadafter{slantsc}
593 \LWR@loadafter{slashed}
594 \LWR@loadafter{soul}
595 \LWR@loadafter{soulpos}
596 \LWR@loadafter{soulutf8}
597 \LWR@loadafter{splitbib}
598 \LWR@loadafter{splitidx}
599 \LWR@loadafter{srcltx}
600 \LWR@loadafter{srctex}
601 \LWR@loadafter{stabular}
602 \LWR@loadafter{stackengine}
```

```
603 \LWR@loadafter{stackrel}
604 \LWR@loadafter{statex2}
605 \LWR@loadafter{statistics}
606 \LWR@loadafter{statmath}
607 \LWR@loadafter{steinmetz}
608 \LWR@notltjloadafter{stfloats}
609 \LWR@loadafter{struktex}
610 \LWR@loadafter{subcaption}
611 \LWR@loadafter{subfig}
612 \LWR@loadafter{subfigure}
613 \LWR@loadafter{subsupscripts}
614 \LWR@loadafter{supertabular}
615 \LWR@loadafter{svg}
616 \LWR@loadafter{swfigure}
617 \LWR@loadafter{syntonly}
618 \LWR@loadafter{tlinc}
619 \LWR@loadafter{tabfigures}
620 \LWR@loadafter{tabls}
621 \LWR@loadafter{tablefootnote}
622 \LWR@notmemoirloadafter{tabularx}
623 \LWR@loadafter{tabulary}
624 \LWR@loadafter{tagpdf}
625 \LWR@loadafter{tascmac}
626 \LWR@loadafter{tcolorbox}
627 \LWR@loadafter{tensor}
628 \LWR@loadafter{termcal}
629 \LWR@loadafter{textarea}
630 % \LWR@loadafter{textcomp}% maybe before lwarp with font packages
631 \LWR@loadafter{textfit}
632 \LWR@loadafter{textpos}
633 \LWR@loadafter{theorem}
634 \LWR@loadafter{thinsp}
635 \LWR@loadafter{thm-listof}
636 \LWR@loadafter{thm-restate}
637 \LWR@loadafter{thmbox}
638 \LWR@loadafter{thmtools}
639 \LWR@loadafter{threadcol}
640 \LWR@loadafter{threeparttable}
641 \LWR@loadafter{threeparttablex}
642 \LWR@loadafter{thumb}
643 \LWR@loadafter{thumbs}
644 \LWR@loadafter{tikz}
645 \LWR@loadafter{tikz-image-labels}
646 \LWR@loadafter{titleps}
647 \LWR@loadafter{titlesec}
648 \LWR@loadafter{titletoc}
649 \LWR@notmemoirloadafter{titling}
650 % \LWR@loadafter{tocbasic}% preloaded by koma-script classes
651 \LWR@notmemoirloadafter{tocbibind}
652 \LWR@loadafter{tocdata}
653 \LWR@loadafter{tocenter}
654 \LWR@notmemoirloadafter{tocloft}
655 \LWR@loadafter{tocstyle}
656 \LWR@loadafter{todo}
657 \LWR@loadafter{todonotes}
```

```
658 \LWR@loadafter{topcapt}
659 \LWR@loadafter{tram}
660 \LWR@loadafter{transparent}
661 \LWR@loadafter{trimclip}
662 \LWR@loadafter{trivfloat}
663 \LWR@loadafter{truncate}
664 \LWR@loadafter{turnthepage}
665 \LWR@loadafter{twoup}
666 % \LWR@loadafter{txfonts}% may be loaded before lwarp
667 % txgreek may be loaded before lwarp

668 % \LWR@loadafter{typearea}% preloaded by koma-script classes
669 \LWR@loadafter{typicons}
670 % \LWR@loadafter{ulem}% preloaded by ctexart and related classes
671 \LWR@loadafter{umoline}
672 \LWR@loadafter{underscore}
673 % unicode-math may be loaded before lwarp
674 \LWR@loadafter{units}
675 \LWR@loadafter{unitsdef}
676 \LWR@loadafter{upgreek}
677 \LWR@loadafter{upref}
678 \LWR@loadafter{url}
679 \LWR@loadafter{ushort}
680 \LWR@loadafter{uspace}
681 \LWR@loadafter{varioref}
682 \LWR@notmemoirloadafter{verse}
683 \LWR@loadafter{versionotes}
684 \LWR@loadafter{vertbars}
685 \LWR@loadafter{vmargin}
686 \LWR@loadafter{vowel}
687 \LWR@loadafter{vpe}
688 \LWR@loadafter{vwcol}
689 \LWR@loadafter{wallpaper}
690 \LWR@loadafter{watermark}
691 \LWR@loadafter{widetable}
692 \LWR@loadafter{widows-and-orphans}
693 \LWR@loadafter{witharrows}
694 \LWR@loadafter{wrapfig}
695 \LWR@loadafter{xbmks}
696 \LWR@loadafter{xcolor}
697 \LWR@loadafter{xexchangebar}
698 \LWR@loadafter{xellipsis}
699 % xetexko-vertical must be loaded before lwarp
700 \LWR@loadafter{xevlna}
701 \LWR@loadafter{xfakebold}
702 \LWR@loadafter{xfrac}
703 \LWR@loadafter{xltabular}
704 \LWR@loadafter{xltextra}
705 \LWR@loadafter{xmpinl}
706 \LWR@loadafter{xpiano}
707 \LWR@loadafter{xpinyin}
708 \LWR@loadafter{xr}
709 \LWR@loadafter{xr-hyper}
710 \LWR@loadafter{xtab}
711 % xunicode must be loaded before lwarp
```



```

712 \LWR@loadafter{xurl}
713 \LWR@loadafter{xy}
714 \LWR@loadafter{zwpagelayout}

```

## 21 MD5 hashing

The MD5 hash is used for lateximage filenames for svg math.

```

715 \newcommand{\LWR@mdfive}[1]{%
716 \PackageError{lwarp}
717 {No MD5 macro was found}
718 {%
719 Lwarp must find the macros \protect\pdfmdfivesum\space
720 or \protect\mdfivesum.%
721 }
722 }

```

The default for pdf<sub>La</sub>TeX, DVI<sub>La</sub>TeX, up<sub>La</sub>TeX, etc:

```

723 \let\LWR@mdfive\pdfmdfivesum

```

For Lua<sub>La</sub>TeX:

```

724 \ifLuaTeX
725 \RequirePackage{pdftexcmds}
726 \let\LWR@mdfive\pdfmdfivesum
727 \fi

```

For Xe<sub>La</sub>TeX:

```

728 \ifXeTeX
729 \ifundefined{pdfmdfivesum}{}
730 {\let\LWR@mdfive\pdfmdfivesum}
731 \ifundefined{mdfivesum}{}
732 {\let\LWR@mdfive\mdfivesum}
733 \fi

```

## 22 pdf<sub>La</sub>TeX T1 and UTF-8 encoding

When using pdf<sub>La</sub>TeX, **lwarp** requires T1 font encoding, and recommends UTF-8 input encoding.

If some other input encoding is already defined, **lwarp** will try to use it instead, and hope for the best.

Xe<sub>La</sub>TeX and Lua<sub>La</sub>TeX are both UTF-8 by nature.

`\LWR@pdfencoding` Sets T1, and also utf8 if not already set.

```

734 \newcommand*{\LWR@pdfencoding}{%
735 \RequirePackage[T1]{fontenc}
736
737 \@ifpackageloaded{inputenc}{%
738 \@ifpackageloaded{inputenx}{%
739 \RequirePackage[utf8]{inputenc}
740 }
741 }
742 }

743 \ifPDFTeX% pdflatex or dvi latex
744 \LWR@pdfencoding
745 \fi
746
747 \ifpTeX
748 \LWR@pdfencoding
749 \fi

```

## 23 Unicode input characters

**for HTML & PRINT:** If using *pdflatex*, convert a minimal set of Unicode characters. Additional characters may be defined by the user, as needed.

A commonly-used multiply symbol is declared to be `\texttimes`.

The first arguments of `\newunicodechar` below are text ligatures in the source code, even though they are not printed in the following listing.

```

750 \ifpTeX
751 \else
752 \RequirePackage{newunicodechar}
753
754 \newunicodechar{×}{\texttimes}
755
756 \ifPDFTeX% pdflatex or dvi latex
757 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
758 \newunicodechar{fi}{fi}
759 \newunicodechar{fl}{fl}
760 \newunicodechar{ffi}{ffi}
761 \newunicodechar{ffl}{ffl}
762 \newunicodechar{--}{--}
763 \newunicodechar{-}{-}
764 \fi
765
766 \fi

```

## 24 Avoid a bitmapped font

If DVI or PDF  $\text{\LaTeX}$ , and if the default Computer Modern is the selected font family, ensure that `cm-super` or `lmodern` is used to provide a vector font.

```

767 \ifxetexorluatex
768 \else
769 \ifdefstring{\f@family}{cmr}{
770 \IfFileExists{type1ec.sty}% found in cm-super
771 {}
772 {% cm-super not installed
773 \IfFileExists{lmodern.sty}{
774 \PackageInfo{lwarp}{cm-super not installed, loading lmodern}
775 \RequirePackage{lmodern}
776 }{
777 \PackageError{lwarp}
778 {%
779 Lwarp requires a vector font.\MessageBreak
780 Install and load cm-super, lmodern, or another\MessageBreak
781 Type-1 vector font before loading lwarp.\MessageBreak
782 Enter 'H' for possible solutions%
783 }
784 {%
785 Install cm-super or lmodern.\MessageBreak
786 If lmodern, load it before lwarp:\MessageBreak
787 \space\space\protect\usepackage{lmodern}\MessageBreak
788 \space\space\protect\usepackage{lwarp}%
789 }
790 }
791 }% cm-super not installed
792 }{}% f@family
793 \fi

```

## 25 Upright quotes

In pdfTeX, preserve upright quotes in verbatim text. `upquote` also loads `textcomp`.

```

794 \ifPDFTeX
795 \RequirePackage{upquote}
796 \fi
797
798 \ifpTeX
799 \RequirePackage{upquote}
800 \fi

```

## 26 Avoid bad font combinations

For Xe<sub>La</sub>TeX and Lua<sub>La</sub>TeX, certain font combinations cause problems with `lwarp`.

`libertinus-otf` has special handling for `\textquotedbl`. Search for `\LWR@orig@textquotedbl`.

```

801 \ifxetexorluatex
802 \AtBeginDocument{
803 \@ifpackageloaded{kpfonts}{
804 \PackageError{lwarp}

```

```

805 {%
806 When using XeLaTeX or LuaLaTeX, \MessageBreak
807 use kpfonts-otf instead of kpfonts%
808 }
809 {%
810 Replace: \protect\usepackage{kpfonts}\MessageBreak
811 with: \protect\usepackage{kpfonts-otf}
812 }
813 }{}
814 }
815 \fi

```

## 27 Miscellaneous tools

### 27.1 Variables

```

816 \newlength{\LWR@templengthone}
817 \newlength{\LWR@templengthtwo}
818 \newlength{\LWR@templengththree}
819 \newcounter{LWR@tempcountone}

```

### 27.2 Lengths and units

`\LWR@providelength` `{\langle lengthname \rangle}` Provides the length if it isn't defined yet.

Used to provide source compatibility for lengths which will be ignored, but might or might not be already provided by other packages.

```

820 \newcommand*\LWR@providelength[1]{%
821 \ifdeflength{#1}{ }\newlength{#1}}%
822 }

```

`\LWR@convertto` `{\langle dest unit \rangle}{\langle length \rangle}`

Prints a length in the given units, without printing the unit itself.

```

823 \newcommand*\LWR@convertto[2]{\strip@pt\dimexpr #2*65536/\number\dimexpr 1#1}

```

`\LWR@printpercentlength` `{\langle smaller \rangle}{\langle larger \rangle}`

Prints a percent ratio of the two lengths.

```

824 \newcommand*\LWR@printpercentlength[2]{%
825 \setcounter{LWR@tempcountone}{100*\ratio{#1}{#2}}%
826 \arabic{LWR@tempcountone}%
827 }

```

## 27.3 Counters

`\defaddtocounter`  $\{\langle name \rangle\} \{\langle value \rangle\}$

Locally add to a counter.

```
828 \providecommand*\defaddtocounter}[2]{%
829 \defcounter{#1}{\value{#1}+#2}%
830 }
```

## 27.4 Patching

`\LWR@patcherror`  $\{\langle packagename \rangle\} \{\langle macroname \rangle\}$

Prints an error if could not patch a macro.

```
831 \newcommand*\LWR@patcherror}[2]{%
832 \PackageError{lwarp}%
833 {%
834 Unable to patch package #1,\MessageBreak
835 macro \LWRbackslash #2.\MessageBreak
836 Lwarp or #1 may need to be updated%
837 }%
838 {Please contact the maintainer of the Lwarp package.}%
839 }
```

## 27.5 Chinese text isolation

`\LWR@isolate`  $\{\langle text \rangle\}$  Isolates Chinese characters from the surrounding text. This is required to avoid extra spaces on either side of the Chinese characters, especially when written to a file.

```
840 \newcommand{\LWR@isolate}[1]{#1}%
841
842 \ifpackageloaded{ctexpatch}{
843 \renewcommand{\LWR@isolate}[1]{\null#1\null}%
844 }{}
845
846 \ifpackageloaded{xeCJK}{
847 \renewcommand{\LWR@isolate}[1]{\null#1\null}%
848 }{}
```

`\LWR@disablepinyin` Disable `xpinyin` during file, sideTOC, and footnote generation. Set by `xpinyin`.

```
849 \newcommand*\LWR@disablepinyin{}
```

## 27.6 Inserting vertical space

`\LWR@forceemptyline` Extra vertical space in the HTML output. Use after `\LWR@stoppars`.

```

850 \newcommand*{\LWR@forceemptyline}{%
851 \LWR@origrule{0pt}{1\baselineskip}%
852 \LWR@orignewline%
853 }

```

## 27.7 Argument selection

`\LWR@firstofffour`  $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\}$

`\LWR@secondofffour`  $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\}$

`\LWR@thirdofffour`  $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\}$

`\LWR@fourthofffour`  $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\}$

Expands to the *n*th of the four arguments. Used for extra cross referencing.

```

854 \long\def\LWR@firstofffour#1#2#3#4{#1}
855 \long\def\LWR@secondofffour#1#2#3#4{#2}
856 \long\def\LWR@thirdofffour#1#2#3#4{#3}
857 \long\def\LWR@fourthofffour#1#2#3#4{#4}

```

## 27.8 Inside boxes

Greater than zero if currently inside a  $\TeX$  box, thus should not use `\LWR@orignewpage`.  
See section [13.2](#).

```

858 \newcounter{LWR@texboxdepth}
859 \setcounter{LWR@texboxdepth}{0}

```

`\LWR@maybe@orignewpage` Only do `\LWR@orignewpage` if not inside a  $\TeX$  box.

```

860 \newcommand*{\LWR@maybe@orignewpage}{%
861 \LWR@traceinfo{LWR@maybe@orignewpage}%
862 \ifnumgreater{\value{LWR@texboxdepth}}{0}%
863 {}%
864 {\LWR@orignewpage}%
865 \LWR@traceinfo{LWR@maybe@orignewpage done}%
866 }

```

## 27.9 Global boxes

`\LWR@gsavebox`  $\{\langle macroname \rangle\} \{\langle contents \rangle\}$

From <https://tex.stackexchange.com/questions/288702/savebox-forgets-its-content-across-columns-inside-align>

```

867 \DeclareRobustCommand\LWR@gsavebox[1]{%

```

```

868 \@ifnextchar(%)
869 {\LWR@@gsavepicbox#1}{\ifnextchar[{\LWR@@gsavebox#1}{\LWR@gsbox#1}}}%
870 \long\def\LWR@gsbox#1#2{\global\setbox#1\hbox{%
871 \color@setgroup#2\color@endgroup}}
872 \def\LWR@@gsavebox#1[#2]{%
873 \ifnextchar [{\LWR@@igsavebox#1[#2]}{\LWR@@igsavebox#1[#2][c]}}
874 \long\def\LWR@@igsavebox#1[#2][#3]#4{%
875 \LWR@gsbox#1{\@imakebox[#2][#3]{#4}}}%
876 \def\LWR@@gsavepicbox#1(#2,#3){%
877 \ifnextchar[%]
878 {\LWR@@igsavepicbox#1(#2,#3)}{\LWR@@igsavepicbox#1(#2,#3)[]}}
879 \long\def\LWR@@igsavepicbox#1(#2,#3)[#4]#5{%
880 \LWR@gsbox#1{\@imakepicbox(#2,#3)[#4]{#5}}}%

```

Env LWR@glrbox {*<macroname>*}

```

881 \def\LWR@glrbox#1{%
882 \edef\reserved@a{%
883 \endgroup
884 \global\setbox#1\hbox{%
885 \begingroup\aftergroup}%
886 \def\noexpand\@currentenv{\@currentenv}%
887 \def\noexpand\@currentline{\on@line}}%
888 \reserved@a
889 \@endpfalse
890 \color@setgroup
891 \ignorespaces}
892 \let\LWR@endglrbox\LWR@endlrbox

```

## 27.10 Converting a macro name to a cs name

\macroto csname {*<macro name with backslash>*}

Results in the macro name without the leading backslash.

Ref: <https://tex.stackexchange.com/questions/42318/removing-a-backslash-from-a-character-sequence>

```

893 \newcommand*{\macroto csname}[1]{%
894 \ifcat\relax\noexpand#1%
895 \expandafter\expandafter\expandafter\@gobble\expandafter\string
896 \fi
897 #1%
898 }

```

## 27.11 Title case

\LWRtexttitlecase

```

899 \ExplSyntaxOn
900 \newcommand*{\LWRtexttitlecase}[1]{%

```

```

901 \text_titlecase:n{#1}%
902 }
903 \ExplSyntaxOff

```

## 27.12 LetLtxMacroc

`\LWR@LetLtxMacroc`  $\{\langle newcsname \rangle\} \{\langle oldcsname \rangle\}$

`\LetLtxMacro` with cs names.

```

904 \newcommand*{\LWR@LetLtxMacroc}[2]{%
905 \expandafter\LtxMacro\csname #1\expandafter\endcsname%
906 \csname#2\endcsname%
907 }

```

## 27.13 Absorbing a star

`\LWR@absorbstar`  $\{\langle csname \rangle\}$

Modifies a macro to absorb a star. Used for `cleveref`, since `hyperref` is emulated, so the starred macros are not created by `cleveref`.

```

908 \newcommand*{\LWR@absorbstar}[1]{%
909 \LWR@LetLtxMacroc{\LWR@origins@#1}{#1}%
910 \csdef{#1}{\@ifstar{\csuse{\LWR@origins@#1}}{\csuse{\LWR@origins@#1}}}
911 \expandafter\robustify\csname #1\endcsname
912 }

```

# 28 Operating-System portability

|      |            |                                                                                                                                                                                                                   |
|------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prog | Unix       | <b>lwarp</b> tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and MS-WINDOWS is supported as well.     |
| Prog | Mac OS     |                                                                                                                                                                                                                   |
| Prog | Linux      |                                                                                                                                                                                                                   |
| Prog | MS-Windows | If MS-WINDOWS is not correctly detected, use the <b>lwarp</b> option <code>OSWindows</code> .                                                                                                                     |
| Prog | Windows    |                                                                                                                                                                                                                   |
| Opt  | OSWindows  | When detected or specified, the operating-system path separator used by <b>lwarp</b> is modified, and the boolean using <code>OSWindows</code> is set true. This boolean may be tested by the user for later use. |

## 28.1 Literal characters

Literal characters to be used in `PrintLatexCmd` and `HTMLLatexCmd`. These are defined without @ to easily allow their inclusion in the user’s document.

The literal % character:

```

913 \let\LWRpercent\@percentchar

```



The literal \$ character:

```
914 \catcode'\$=12
915 \def\LWRdollar{$}
916 \catcode'\$=3
```

The literal & character:

```
917 \catcode'\&=12
918 \def\LWRamp{&}
919 \catcode'\&=4
```

The literal \ character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

```
920 \catcode'\&=0
921 &catcode'\&=12
922 \def\LWRbackslash{\}
923 &catcode'\&=0
924 \catcode'\&=4
```

The literal { character. The ampersand is temporarily set to the begin group character during the definition of the leftbrace macro.

```
925 \catcode'\&=1
926 \catcode'\{=12
927 \def\LWRleftbrace&{ }
928 \catcode'\{=1
929 \catcode'\&=4
```

The literal } character. The ampersand is temporarily set to the end group character during the definition of the leftbrace macro.

```
930 \catcode'\&=2
931 \catcode'\}=12
932 \def\LWRrightbrace{ }&
933 \catcode'\}=2
934 \catcode'\&=4
```

The literal # character:

```
935 \catcode'\#=12
936 \def\LWRhash{#}
937 \catcode'\#=6
```

`\LWRopquote` The operating system's quote mark, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```
938 \def\LWRopquote{' }
```

`\LWRopseq` The operating system's sequential execution command, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```
939 \def\LWRopseq{\space\LWRamp\LWRamp\space\space }
```

## 28.2 Common portability code

**Bool**    **usingOSWindows**    Set if the OSWindows option is used, or if WINDOWS is automatically detected.

```
940 \newbool{usingOSWindows}
941 \boolfalse{usingOSWindows}
```

## 28.3 UNIX, LINUX, and MAC OS

**\OSPathSymbol**    Symbol used to separate directories in a path.

```
942 \newcommand*{\OSPathSymbol}{/}
```

## 28.4 MS-WINDOWS

For MS-WINDOWS:

**\LWR@setOSWindows**    Set defaults for the MS-WINDOWS operating system. **lwarp** attempts to auto-detect the operating system, and the OSWindows option may also be used to force MS-WINDOWS compatibility.

```
943 \newcommand*{\LWR@setOSWindows}
944 {
945 \booltrue{usingOSWindows}
946 \renewcommand*{\OSPathSymbol}{\@backslashchar}
947 \def\LWRopquote{"}
948 \def\LWRopseq{\space\LWRamp\space\space}
949 }
```

Test for windows during compile. The user may also specify OSWindows package option in case this test fails.

```
950 \ifwindows
951 \LWR@setOSWindows
952 \fi
```

## 29 Package options

**Pkg**    **kvoptions**    Allows key/value package options.

```
953 \RequirePackage{kvoptions}
954 \SetupKeyvalOptions{family=LWR,prefix=LWR@}
```

**\lwarpsetup**    A user interface to set the keys:

```
955 \newcommand{\lwarpsetup}[1]{\setkeys{LWR}{#1}}
```

Bool warpingprint  
 Bool warpingHTML Set to true/false depending on the package option selections for print/HTML/EPUB output  
     Bool mathjax and mathsvg/mathjax.  
 Bool LWR@origmathjax LWR@origmathjax remembers the original setting to be restored by `\displaymathnormal`.

```

956 \newbool{warpingprint}
957 \newbool{warpingHTML}
958 \newbool{mathjax}
959 \newbool{LWR@origmathjax}

```

**defaults** The default is print output, and svg math if the user chose HTML output.

```

960 \booltrue{warpingprint}%
961 \boolfalse{warpingHTML}%
962 \boolfalse{mathjax}%

```

Opt warpprint If the warpprint option is given, boolean warpingprint is true and boolean warpingHTML is false, and may be used for `\ifbool` tests.

```

963 \DeclareVoidOption{warpprint}{%
964 \PackageInfo{lwarp}{Using option 'warpprint'}
965 \booltrue{warpingprint}%
966 \boolfalse{warpingHTML}%
967 }

```

Opt warpHTML Anything in the warpHTML environment will be generated for HTML output only.

Opt warpHTML If the warpHTML option is given, boolean warpingHTML is true and boolean warpingprint is false, and may be used for `\ifbool` tests.

```

968 \DeclareVoidOption{warpHTML}{%
969 \PackageInfo{lwarp}{Using option 'warpHTML'}%
970 \booltrue{warpingHTML}%
971 \boolfalse{warpingprint}%
972 }

```

Opt mathsvg Option mathsvg selects svg math display: If the mathsvg option is given, boolean mathjax is false, and may be used for `\ifbool` tests.

```

973 \DeclareVoidOption{mathsvg}{%
974 \PackageInfo{lwarp}{Using option 'mathsvg'}
975 \boolfalse{mathjax}%
976 \boolfalse{LWR@origmathjax}%
977 }

```

Opt mathjax Option mathjax selects MATHJAX math display: If the mathjax option is given, boolean mathjax is true, may be used for `\ifbool` tests.

```

978 \DeclareVoidOption{mathjax}{%
979 \PackageInfo{lwarp}{Using option 'mathjax'}
980 \booltrue{mathjax}%
981 \booltrue{LWR@origmathjax}%

```

982 }

Opt BaseJobname Option BaseJobname sets the \BaseJobname for this document.

Default: \jobname

This is the \jobname of the printed version, even if currently compiling the HTML version. I.e. this is the \jobname without \_html appended. This is used to set \HomeHTMLFilename if the user did not provide one.

983 \DeclareStringOption[\jobname]{BaseJobname}

Opt ImagesDirectory Option ImagesDirectory sets the name of the directory to use for the lateximage images.

Default: \jobname-images

984 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}

Opt ImagesName Option ImagesName sets the prefix to use for the lateximage images.

Default: image-

985 \DeclareStringOption[image-]{ImagesName}

Opt makeindexStyle Selects a custom .ist file. A customized file should be based on lwarp.ist. See section 8.6.20.

Default: lwarp.ist

986 \DeclareStringOption[lwarp.ist]{makeindexStyle}

Opt xindyStyle Selects a custom .xdy file. A customized file should be based on lwarp.xdy. See section 8.6.21.

Default: lwarp.xdy

987 \DeclareStringOption[lwarp.xdy]{xindyStyle}

Opt xindyLanguage Sets the *xindy* language to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index and glossary.

Default: english

988 \DeclareStringOption[english]{xindyLanguage}

Opt xindyCodepage Sets the *xindy* codepage to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index.

Default: utf8

989 \DeclareStringOption[utf8]{xindyCodepage}

Opt xindexConfig Selects a custom xindex-\*.lua file. A customized file should be based on xindex-cfg.lua. See section 8.6.22.

Default: <empty>

990 \DeclareStringOption[] {xindexConfig}

Opt pdftotextEnc The option pdftotextEnc sets the encoding used by *pdftotext*. This is passed to *pdftotext* using its -enc option, and is used when converting L<sup>A</sup>T<sub>E</sub>X PDF output with HTML tags into a plain-text file with HTML tags.

Default: UTF-8

991 \DeclareStringOption[UTF-8]{pdftotextEnc}

Opt `lwarpmk` Tells **lwarp** to generate a local copy of *lwarpmk* called `lwarpmk.lua`. Useful for archiving for future use. This file may be made executable and acts just like *lwarpmk*.

If `lwarpmk` option, creates a local copy of `lwarpmk.lua`:

```
992 \newbool{LWR@creatinglwarpmk}
993 \boolfalse{LWR@creatinglwarpmk}
994
995 \DeclareVoidOption{lwarpmk}{
996 \PackageInfo{lwarp}{Using option 'lwarpmk'}
997 \booltrue{LWR@creatinglwarpmk}
998 }
```

Opt `OSWindows` Tells **lwarp** to use MS-WINDOWS compatibility. Auto-detection of the operating system is attempted, and this option is only necessary if the auto-detection fails. See the automatically-generated `lwarpmk.conf` file to find out whether the operating system was detected correctly.

```
999 \DeclareVoidOption{OSWindows}{
1000 \PackageInfo{lwarp}{Using option 'OSWindows'}
1001 \LWR@setOSWindows
1002 }
```

Opt `HomeHTMLFilename` The filename of the homepage. The default is the jobname. This option is stored into `\LWR@HomeHTMLFilename`, and later transferred into `\HomeHTMLFilename` for internal use.  
Default: `\BaseJobname`

```
1003 \DeclareStringOption[]{HomeHTMLFilename}
```

Opt `HTMLFilename` The filename prefix of web pages after the homepage. The default is empty, no prefix. This option is stored into `\LWR@HTMLFilename`, and later transferred into `\HTMLFilename` for internal use.  
Default: `<empty>`

```
1004 \DeclareStringOption[]{HTMLFilename}
```

Opt `PrintLatexCmd` The shell commands to use to compile the print document.  
Default: `<automatic>`

```
1005 \DeclareStringOption[]{PrintLatexCmd}
```

Opt `HTMLLatexCmd` The shell commands to use to compile the HTML document.  
Default: `<automatic>`

```
1006 \DeclareStringOption[]{HTMLLatexCmd}
```

Opt `PrintIndexCmd` The shell commands to use to compile the print indexes.  
Default: `<empty>`

```
1007 \DeclareStringOption[]{PrintIndexCmd}
```

Opt `HTMLIndexCmd` The shell commands to use to compile the HTML indexes.  
Default: `<empty>`

```
1008 \DeclareStringOption[]{HTMLIndexCmd}
```

Opt `LatexmkIndexCmd` The shell commands to be used by *latexmk* to compile the print indexes. Unlike  
Default: `<empty>`

PrintIndexCmd and HTMLIndexCmd, LatexmkIndexCmd does not include the filename, which will be provided by *latexmk*.

```
1009 \DeclareStringOption[]{\LatexmkIndexCmd}
```

Opt `makeindex` Tells **lwarp** to use *makeindex* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *makeindex* with a single index file.

```
1010 \DeclareBoolOption[false]{makeindex}
```

Opt `xindy` Tells **lwarp** to use *xindy* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *xindy* with a single index file.

```
1011 \DeclareBoolOption[false]{xindy}
```

Opt `xindex` Tells **lwarp** to use *xindex* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *xindex* with a single index file.

```
1012 \DeclareBoolOption[false]{xindex}
```

Opt `IndexRef` Tells **lwarp** how to display the index entries in HTML output. See section 7.5.  
Default: `cref`

```
1013 \DeclareStringOption[cref]{IndexRef}
```

Opt `GlossaryCmd` The shell command to use to compile the glossary. The print or HTML version of the glossary filename will be appended to this command.  
Default: `makeglossaries`

```
1014 \DeclareStringOption[makeglossaries]{GlossaryCmd}
```

Opt `latexmk` Option `latexmk` tells **lwarpmk** to use *latexmk* when compiling documents.

```
1015 \DeclareBoolOption[false]{latexmk}
```

Opt `dvips` Option `dvips` tells **lwarpmk** to use *dvips* when compiling DVI *latex* documents.

```
1016 \DeclareBoolOption[false]{dvips}
```

Opt `dvipdfm` Option `dvipdfm` tells **lwarpmk** to use *dvipdfm* when compiling DVI *latex* documents.

```
1017 \DeclareBoolOption[false]{dvipdfm}
```

Opt `dvipdfmx` Option `dvipdfmx` tells **lwarpmk** to use *dvipdfmx* when compiling DVI *latex* documents.

```
1018 \DeclareBoolOption[false]{dvipdfmx}
```

**Execute options** Execute the package options, with the defaults which have been set just above:

```
1019 \ProcessKeyvalOptions*\relax
```

## 29.1 Additional options support

Assign the \BaseJobname if the user hasn't provided one:

```
1020 \providecommand*\BaseJobname{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```
1021 \ifcsempy{\LWR@HomeHTMLFilename}{
1022 \newcommand*\HomeHTMLFilename{\BaseJobname}
1023 }{
1024 \csedef\HomeHTMLFilename{\LWR@HomeHTMLFilename}
1025 }
1026
1027 \csedef\HTMLFilename{\LWR@HTMLFilename}
```

Special handling for underscores in labels and filenames.

`\LWR@sanitized` The sanitized version of what was given to `\LWR@sanitize`. Characters are set to their detokenized versions. Required for underscores in labels and filenames.

```
1028 \newcommand*\LWR@sanitized{}
```

`\LWR@sanitize` `{\text}`

Sanitizes the text and returns the result in `\LWR@sanitized`.

```
1029 \newcommand*\LWR@sanitize[1]{%
1030 \edef\LWR@sanitized{#1}%
1031 \edef\LWR@sanitized{\detokenize\expandafter\LWR@sanitized}%
1032 }
```

Sanitize some string options to neutralize underscores.

```
1033 \LWR@sanitize{\LWR@BaseJobname}
1034 \edef\LWR@BaseJobname{\LWR@sanitized}
1035
1036 \LWR@sanitize{\LWR@ImagesDirectory}
1037 \edef\LWR@ImagesDirectory{\LWR@sanitized}
1038
1039 \LWR@sanitize{\LWR@ImagesName}
1040 \edef\LWR@ImagesName{\LWR@sanitized}
```

`\LWR@PrintIndexCmd` and `\LWR@HTMLIndexCmd` are tested to see if they are empty. If so, they are set to a reasonable defaults for a single index using *makeindex*, then possibly set to defaults for *xindy* if the *lwarp* *xindy* option was selected, then likewise for *xindex* if the *xindex* option was selected.

```
1041 \ifdefempty{\LWR@PrintIndexCmd}{
1042 \renewcommand{\LWR@PrintIndexCmd}{%
1043 makeindex -s \LWR@makeindexStyle \space \jobname.idx%
1044 }
```

```

1045 \ifbool{LWR@xindy}{
1046 \renewcommand{\LWR@PrintIndexCmd}{%
1047 xindy
1048 -M \LWR@xindyStyle \space
1049 -L \LWR@xindyLanguage \space
1050 -C \LWR@xindyCodepage \space
1051 \jobname.idx%
1052 }
1053 }{}
1054 \ifbool{LWR@index}{
1055 \ifdefvoid{\LWR@indexConfig}{
1056 \renewcommand{\LWR@PrintIndexCmd}{%
1057 xindex
1058 \jobname.idx%
1059 }
1060 }{
1061 \renewcommand{\LWR@PrintIndexCmd}{%
1062 xindex
1063 -c \LWR@indexConfig \space
1064 \jobname.idx%
1065 }
1066 }
1067 }{}
1068 }{}
1069
1070 \ifdefempty{\LWR@HTMLIndexCmd}{
1071 \renewcommand{\LWR@HTMLIndexCmd}{%
1072 makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
1073 }
1074 \ifbool{LWR@xindy}{
1075 \renewcommand{\LWR@HTMLIndexCmd}{%
1076 xindy
1077 -M \LWR@xindyStyle \space
1078 -L \LWR@xindyLanguage \space
1079 -C \LWR@xindyCodepage \space
1080 \jobname_html.idx%
1081 }
1082 }{}
1083 \ifbool{LWR@index}{
1084 \ifdefvoid{\LWR@indexConfig}{
1085 \renewcommand{\LWR@HTMLIndexCmd}{%
1086 xindex
1087 \jobname_html.idx%
1088 }
1089 }{
1090 \renewcommand{\LWR@HTMLIndexCmd}{%
1091 xindex
1092 -c \LWR@indexConfig \space
1093 \jobname_html.idx%
1094 }
1095 }
1096 }{}
1097 }{}
1098
1099 \ifdefempty{\LWR@LatexmkIndexCmd}{

```



```

1100 \renewcommand{\LWR@LatexmkIndexCmd}{%
1101 makeindex -s \LWR@makeindexStyle%
1102 }
1103 \ifbool{LWR@xindy}{
1104 \renewcommand{\LWR@LatexmkIndexCmd}{%
1105 xindy
1106 -M \LWR@xindyStyle \space
1107 -L \LWR@xindyLanguage \space
1108 -C \LWR@xindyCodepage%
1109 }
1110 }{}
1111 \ifbool{LWR@index}{
1112 \ifdefvoid{\LWR@indexConfig}{
1113 \renewcommand{\LWR@LatexmkIndexCmd}{%
1114 xindex
1115 }
1116 }{
1117 \renewcommand{\LWR@LatexmkIndexCmd}{%
1118 xindex
1119 -c \LWR@indexConfig
1120 }
1121 }
1122 }{}
1123 }{}

```

## 29.2 Conditional compilation

`\warpprintonly` {<contents>}

Only process the contents if producing printed output.

```
1124 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{}}
```

`\warpHTMLonly` {<contents>}

Only process the contents if producing HTML output.

```
1125 \newcommand{\warpHTMLonly}[1]{\ifbool{warpingHTML}{#1}{}}
```

`Pkg comment` Provides conditional code blocks.

Attempts to use `versions` or `verbatim` fail in some cases, and do not provide much of a speed benefit even when they do work.

```
1126 \RequirePackage{comment}
```

`\LWR@includecomment` {<env name>} {<partial filename>}

`\LWR@excludecomment` {<env name>} {<partial filename>}

Use many `comment` cut files to avoid collision in case the user uses the `comment` package. Each filename is “comment\_#2.cut”. Based on the `comment` package.

```

1127 \def\LWR@includecomment
1128 #1#2{\message{Lwarp: Including comment '#1'}%
1129 \csarg\def{After#1Comment}{%
1130 \CloseAndInputCutFile%
1131 \csundef\LWR@#1commentused}%
1132 }
1133 \csarg\def{#1}{%
1134 \endgroup
1135 \ifcsdef\LWR@#1commentused{%
1136 \PackageError{lwarp}%
1137 {Nested #1 environment}%
1138 {%
1139 Environment #1 cannot be nested.\MessageBreak
1140 This can happen when a package is loaded
1141 from inside a\MessageBreak
1142 #1 environment.%
1143 }%
1144 }\relax}
1145 \csdef\LWR@#1commentused{}%
1146 \message{Including '#1' comment.}%
1147 \def\CommentCutFile{comment_#2.cut}
1148 \SetUpCutFile
1149 \ProcessComment{#1}
1150 }%
1151 \CommentEndDef{#1}
1152 }
1153
1154 \def\LWR@excludecomment
1155 #1#2{\message{Lwarp: Excluding comment '#1'}%
1156 \csarg\def{#1}{
1157 \endgroup
1158 \message{Excluding '#1' comment.}%
1159 \begingroup
1160 \def\CommentCutFile{comment_#2.cut}
1161 \def\ProcessCutFile{}%
1162 \def\ThisComment####1{}%
1163 \ProcessComment{#1}
1164 }%
1165 \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}
1166 \CommentEndDef{#1}}

```

Env **warpall** Anything in the warpall environment will be generated for print or HTML outputs.

```
1167 \LWR@includecomment{warpall}{all}
```

Env **warpHTML** For HTML output:

```

1168 \ifbool{warpingHTML}
1169 {\LWR@includecomment{warpHTML}{html}}
1170 {\LWR@excludecomment{warpHTML}{html}}

```

Env **warpprint** Anything in the warpprint environment will be generated for print output only.

```
1171 \ifbool{warpingprint}
```

```

1172 {\LWR@includecomment{warpprint}}{print}}
1173 {\LWR@excludecomment{warpprint}}{print}}

```

Env `warpMathJax` Only if `MATHJAX` is being used along with `HTML`.

```

1174 \begin{warpprint}
1175 \LWR@excludecomment{warpMathJax}{mathjax}
1176 \end{warpprint}
1177
1178 \begin{warpHTML}
1179 \ifbool{mathjax}
1180 {\LWR@includecomment{warpMathJax}{mathjax}}
1181 {\LWR@excludecomment{warpMathJax}{mathjax}}
1182 \end{warpHTML}

```

Env `LWRcreatelwarpmk` Optionally generate a local copy of *lwarpmk*. Default to no.

```

1183 \ifbool{LWR@creatinglwarpmk}
1184 {\LWR@includecomment{LWRcreatelwarpmk}{lwarpmk}}
1185 {\LWR@excludecomment{LWRcreatelwarpmk}{lwarpmk}}

```

## 30 Required packages

These packages are automatically loaded by `lwarp` when generating HTML output. Some of them are also automatically loaded when generating print output, but some are not.

**for HTML output:** 1186 \begin{warpHTML}

Pkg `fontspec` Load `fontspec` if necessary:

```

1187 \ifxetexorluatex
1188 \@ifpackageloaded{fontspec}{}{
1189 \usepackage[no-math]{fontspec}
1190 }

```

The monospaced font is used for HTML tags, so turn off its TeX ligatures and common ligatures:

```

1191 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
1192 \defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
1193 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1194 \else

```

**pdf<sub>l</sub>atex only:** Only pre-loaded if *pdf<sub>l</sub>atex* is being used.

Pkg `microtype`

**ligatures** Older browsers don't display ligatures. Turn off letter ligatures, keeping `TeX` dash and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```

1195 \RequirePackage {microtype}

```

```

1196
1197 \microtypesetup{
1198 protrusion=false,
1199 expansion=false,
1200 tracking=false,
1201 kerning=false,
1202 spacing=false}
1203 % \begin{macrocode}
1204 %
1205 % Disable ligatures for typewriter fonts.
1206 % The comma was causing issues with \brand{MathJax} and \cs{,} followed by a comma.
1207 % Ligatures for f, q, t, etc used to be disabled for non-typewriter fonts, but
1208 % are now allowed.
1209 % \changes{v0.89}{2020/08/01}{Disable typewriter ligatures.}
1210 % ^^A \DisableLigatures[,{,},f,q,t,T,Q]{encoding = *,family = *}% previous
1211 % \begin{macrocode}
1212 \DisableLigatures{encoding = *,family = tt*}

1213 \fi

1214 \end{warpHTML}

```

Pkg geometry Tactics to avoid unwanted page breaks and margin overflow:

- Uses a very long and wide page to minimize page breaks and margin overflow.
- Uses a scriptsize font.
- Uses extra space at the margin to avoid HTML tag overflow off the page.
- Forces a new PDF page before some environments.
- Forces line break between major pieces of long tags.

for HTML output: 1215 \begin{warpHTML}

If **geometry** has not yet been loaded, use the preexisting page and text sizes to be preserved for later reuse. These will be replaced by **lwarp** \AtBeginDocument with a very large page size to reduce HTML tag overflow off the page.

```

1216 \@ifpackageloaded{geometry}
1217 {}{
1218 \RequirePackage[
1219 reset,
1220 paperwidth=\paperwidth,
1221 paperheight=\paperheight,
1222 textwidth=\textwidth,
1223 textheight=\textheight,
1224 left=\oddsidemargin,
1225 top=\topmargin,
1226 marginparsep=\marginparsep,
1227 marginparwidth=\marginparwidth,
1228]{geometry}
1229 }

```

Remember the original definitions for later reuse. If the **geometry** package is loaded by the user, **lwarp-geometry** will nullify the user-level originals.

```
1230 \LetLtxMacro\LWR@origgeometry\geometry
1231 \LetLtxMacro\LWR@orignewgeometry\newgeometry
1232 \LetLtxMacro\LWR@origrestoregeometry\restoregeometry
1233 \LetLtxMacro\LWR@origsavegeometry\savegeometry
1234 \LetLtxMacro\LWR@origloadgeometry\loadgeometry
```

**Bool** **LWR@allowanothergeometry** **geometry** may be loaded by the user before **lwarp**, after **lwarp**, or not at all. If before **lwarp**, it will have already been loaded by now and its page layout has already been saved. If **geometry** is loaded after **lwarp**, its layout will be set at that time and the user macros nullified. `\AtEndPreamble` this layout will be saved. If the user never loads **geometry**, **lwarp-geometry** will be loaded `\AtBeginDocument`, but it should not change the page layout set here. This is controlled by the boolean **LWR@allowanothergeometry**. Geometry may be adjusted throughout the preamble until `\AtEndPreamble`, when this boolean is set false.

```
1235 \newbool{LWR@allowanothergeometry}
1236 \booltrue{LWR@allowanothergeometry}
```

Use `\AtEndPreamble` to avoid class and option conflict by changing settings after other packages load, instead of using **geometry** package options:

```
1237 \AtEndPreamble{
```

Whatever geometry choices the user has made in the preamble, either before or after **lwarp** was loaded, are now saved for possible temporary reuse, such as by **lyl**atex.

See the **lwarp-geometry** section for what happens if **geometry** is loaded after **lwarp**.

```
1238 \LWR@origsavegeometry{LWR@usergeometry}
```

The user's paper size is saved for later reuse, such as by the **pdfpages** or **parallel** packages.

```
1239 \newlength{LWR@userspaperwidth}
1240 \setlength{LWR@userspaperwidth}{\paperwidth}
1241
1242 \newlength{LWR@userspaperheight}
1243 \setlength{LWR@userspaperheight}{\paperheight}
1244
1245 \newlength{LWR@usersmarginparwidth}
1246 \setlength{LWR@usersmarginparwidth}{\marginparwidth}
1247
1248 \newlength{LWR@userstextwidth}
1249 \setlength{LWR@userstextwidth}{\textwidth}
1250
1251 \newlength{LWR@userstextheight}
1252 \setlength{LWR@userstextwidth}{\textheight}
```

For **lwarp**, use a very large page and margins to help avoid letting HTML tags run off the edge:

```

1253 \LWR@origgeometry{
1254 reset,
1255 paperheight=190in,
1256 paperwidth=20in,
1257 left=2in,
1258 right=6in,
1259 top=1in,
1260 bottom=1in,
1261 heightrounded,%
1262 }

```

The **lwarp** page geometry is saved for future restore:

```
1263 \LWR@origsavegeometry{\LWR@lwarpgeometry}
```

No longer adjust the page layout when **lwarp-geometry** is loaded \AtBeginDocument:

```
1264 \boolfalse{\LWR@allowanothergeometry}%
```

**ltjsbook** and other classes can print vertically, and require these to be reset by **lwarp**:

```

1265 \setlength{\textheight}{0.8\paperheight}
1266 \setlength{\textwidth}{0.7\paperwidth}
1267
1268 \@twosidefalse
1269 \@mparswitchfalse
1270 }% \AtEndPreamble
1271
1272 \end{warpHTML}

```

**for HTML & PRINT:** 1273 \begin{warpall}

Pkg xparse

LaTeX3 command argument parsing

```
1274 \RequirePackage{xparse}
```

Pkg calc

```
1275 \RequirePackage{calc}
```

```
1276 \end{warpall}
```

**for HTML output:** 1277 \begin{warpHTML}

Pkg expl3

LaTeX3 programming

```
1278 \RequirePackage{expl3}
```

Pkg gettitlestring

Used to emulate `\nameref`.

```
1279 \RequirePackage{getttitlestring}
```

Pkg everyhook

**everyhook** is used to patch paragraph handling.

```
1280 \@ifundefined{bxjs@everypar}{}{\let\everypar\bxjs@everypar}
1281
1282 \RequirePackage{everyhook}
1283 \end{warpHTML}
```

**for HTML & PRINT:** 1284 \begin{warpall}

Pkg filecontents

Used to write helper files while creating the print version.

Recent versions of  $\text{\LaTeX}$  (as of Fall 2019) now include the functionality of the **filecontents** package, but with a new optional argument used to specify whether to force the overwriting of an existing file. If an older  $\text{\LaTeX}$  kernel is used, the original **filecontents** package is used, but it is patched to throw away the new optional argument.

```
1285 \@ifundefined{filec@ntents@opt}{% older kernel, discard optional args
1286
1287 \RequirePackage{filecontents}
1288
1289 \LetLtxMacro\LWR@orig@filec@ntents\filec@ntents
1290
1291 \@ifpackagelater{filecontents}{2011/10/08}
1292 {
```

For a newer version of the **filecontents** package, simply discard the optional argument.

```
1293 \renewcommand*{\filec@ntents}[1][\LWR@orig@filec@ntents]
1294 }
1295 {% patch older package for morewrites
```

For an older version of **filecontents**, discard the optional argument, and also patch to work with **morewrites**, per <https://tex.stackexchange.com/questions/312830/does-morewrites-not-support-filecontents-and-can-i-write-body-of-environment-us/312910>

```
1296 \newwrite\fcwrite
1297 \renewcommand*{\filec@ntents}[1][\LWR@orig@filec@ntents]{%
1298 \def\chardef##1\write{\let\reserved@c\fcwrite}%
1299 \LWR@orig@filec@ntents%
1300 }
1301 }
1302
1303 }% older kernel
1304 {% newer kernel
```

For a newer kernel with a filecontents environment which accepts the optional overwrite argument, use the environment as-is.

```
1305}% newer kernel, filecontents env accepts optional args, do not load package
```

```
1306 \end{warpall}
```

**for HTML output:** 1307 \begin{warpHTML}

Pkg xifthen

```
1308 \RequirePackage{xifthen}
```

Pkg verbatim

```
1309 \RequirePackage{verbatim}
```

Pkg refcount

Provides \setcounterref, \setcounterpageref, etc.

```
1310 \RequirePackage{refcount}
```

Pkg newfloat

```
1311 \RequirePackage{newfloat}
```

```
1312 \end{warpHTML}
```

**for HTML & PRINT:** 1313 \begin{warpall}

Pkg xstring There was a short-term bug in xstring regarding \IfInteger which affected lwarp's index generation. The updated version is requested here.



index

```
1314 \RequirePackage{xstring}[2019/02/01]
```

Pkg environ Used to encapsulate math environments for re-use in HTML <alt> text.

```
1315 \RequirePackage{environ}
```

```
1316 \end{warpall}
```

**for HTML output:** 1317 \begin{warpHTML}

Pkg printlen Used to convert lengths for image width/height options.

```
1318 \RequirePackage{printlen}
```

\LWR@printlength  $\{\langle length \rangle\}$

Prints a length using a locally-controlled unit and space. Rounding is used unless the length is small.



```

1319 \newrobustcmd*{\LWR@printlength}[1]{%
1320 \begingroup%
1321 \uselengthunit{PT}%
1322 \renewcommand*{\unitspace}{}%
1323 \ifdimless{#1}{10pt}{%
1324 \printlength{#1}%
1325 }{%
1326 \rndprintlength{#1}%
1327 }%
1328 \endgroup%
1329 }

```

```
1330 \end{warpHTML}
```

**for PRINT output:** 1331 \begin{warpprint}

Pkg varwidth Used for print-mode lateximage.

```
1332 \RequirePackage{varwidth}
```

```
1333 \end{warpprint}
```

## 31 Loading packages

**for HTML & PRINT:** 1334 \begin{warppall}

Remember the original \RequirePackage:

```
1335 \LetLtxMacro\LWR@origRequirePackage\RequirePackage
```

```
1336 \LetLtxMacro\LWR@origRequirePackageWithOptions\RequirePackageWithOptions
```

\LWR@requirepackagenames Stores the list of required package names.

```
1337 \newcommand*{\LWR@requirepackagenames}{}

```

\LWR@parsedrequirepackagenames Stores the parsed list of required package names after spaces are removed and lwarp- is prepended.

```
1338 \newcommand*{\LWR@parsedrequirepackagenames}{}

```

\LWR@nullifycomment Remove the preexisting comment environment. Certain packages define it for their own use.

```
1339 \newcommand*{\LWR@nullifycomment}{%

```

```
1340 \PackageInfo{lwarp}%

```

```
1341 {Nullifying the comment environment before loading \LWR@strresulttwo,}%

```

```
1342 \let\comment\relax%

```

```
1343 \let\endcomment\relax%

```

```
1344 }

```

`\LWR@findword` [*<1: separator>*] [*<2: list>*] [*<3: index>*] [*<4: destination>*]

Note that argument 4 is passed directly to `\StrBetween`.

```
1345 \newcommand*\LWR@findword[3][,]{%
1346 \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
1347 }
```

`\LWR@checkloadfilename` {*<filename>*} Checks if this filename should be loaded after `lwarp`, or never at all.

The following should never be loaded:

```
1348 \newcommand*\LWR@checkloadfilename[1]{%
1349 \LWR@checkloadnever{#1}{ae}{cm-super, lmodern}
1350 \LWR@checkloadnever{#1}{aecc}{cm-super, lmodern}
1351 \LWR@checkloadnever{#1}{aeccopl}{cm-super, lmodern}
1352 \LWR@checkloadnever{#1}{alg}{algorithm2e, algorithmicx}
1353 \LWR@checkloadnever{#1}{algorithmic}{algorithm2e, algorithmicx}
1354 \LWR@checkloadnever{#1}{bitfield}{bytefield}
1355 \LWR@checkloadnever{#1}{caption2}{caption}
1356 \LWR@checkloadnever{#1}{ccaption}{caption}% might be preloaded by memoir
1357 \LWR@checkloadnever{#1}{colortab}{colortbl}
1358 \LWR@checkloadnever{#1}{csvtools}{datatool}
1359 \LWR@checkloadnever{#1}{doublespace}{setspace}
1360 \LWR@checkloadnever{#1}{fancyheadings}{fancyhdr}
1361 \LWR@checkloadnever{#1}{fncylab}{cleveref}
1362 \LWR@checkloadnever{#1}{formula}{siunitx}
1363 \LWR@checkloadnever{#1}{glossary}{glossaries}
1364 \LWR@checkloadnever{#1}{hyper}{hyperref}
1365 \LWR@checkloadnever{#1}{libgreek}{libertinust1math, newtx}
1366 \LWR@checkloadnever{#1}{newthm}{ntheorem}
1367 \LWR@checkloadnever{#1}{pdfcprot}{microtype}
1368 \LWR@checkloadnever{#1}{picins}{floatflt, wrapfig}
1369 \LWR@checkloadnever{#1}{rplain}{fancyhdr}
1370 \LWR@checkloadnever{#1}{si}{siunitx}
1371 \LWR@checkloadnever{#1}{sistyle}{siunitx}
1372 \LWR@checkloadnever{#1}{slashbox}{diagbox}
1373 \LWR@checkloadnever{#1}{statex}{statex2}
1374 \LWR@checkloadnever{#1}{t1enc}{fontenc, inputenc, inputenx}
1375 \LWR@checkloadnever{#1}{ucs}{inputenc, inputencx}
1376 \LWR@checkloadnever{#1}{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}
1377 \LWR@checkloadnever{#1}{bxcjkatype}{upLaTeX, bxjsarticle, uarticle, utarticle}
1378 \LWR@checkloadnever{#1}{hangul}{kotex, xetexko, luatexko}
```

The following should only be loaded before `lwarp`:

```
1379 \LWR@checkloadbefore{#1}{ctex}
1380 \LWR@checkloadbefore{#1}{fontspec}
1381 \LWR@checkloadbefore{#1}{inputenc}
1382 \LWR@checkloadbefore{#1}{inputenx}
1383 \LWR@checkloadbefore{#1}{nfssect-cfr}
1384 \LWR@checkloadbefore{#1}{fontaxes}
1385 \LWR@checkloadbefore{#1}{kotex}
1386 \LWR@checkloadbefore{#1}{kpfonts}% textcomp option clash
1387 \LWR@checkloadbefore{#1}{luatexja}
```

```

1388 \LWR@checkloadbefore{#1}{luatexja-fontspec}
1389 \LWR@checkloadbefore{#1}{luatexko}
1390 \LWR@checkloadbefore{#1}{morewrites}
1391 \LWR@checkloadbefore{#1}{newclude}
1392 \LWR@checkloadbefore{#1}{newunicodechar}
1393 \LWR@checkloadbefore{#1}{plext}
1394 \LWR@checkloadbefore{#1}{xeCJK}
1395 \LWR@checkloadbefore{#1}{xetexko}
1396 \LWR@checkloadbefore{#1}{zxjatype}
1397 }

```

`\LWR@lookforpackagename` {<*index*>}

If HTML, and if this is an **lwarp**-supported package name, re-direct it to the **lwarp** version by renaming it **lwarp-** followed by the original name.

Looks `index` deep into the list of package names, `\LWR@requirepackagenames`, and builds `\LWR@parsedrequirepackagenames` which is the modified list of names.

```

1398 \newcommand*{\LWR@lookforpackagename}[1]{%

```

Find the `index`'th package name from the list:

```

1399 \LWR@findword{\LWR@requirepackagenames}{#1}[\LWR@strresult]%

```

Remove blanks. The original name with blanks is in `LWR@strresult` and the final name with no blanks goes into `LWR@strresulttwo`.

```

1400 \StrSubstitute[100]{\LWR@strresult}{ }{ }[\LWR@strresulttwo]%

```

See if the package name was found:

```

1401 \IfStrEq{\LWR@strresulttwo}{}%
1402 {}% no filename
1403 {}% yes filename was found

```

Possible adjustments before loading the package. Maybe nullify the comment environment if the new package will be redefining it for a new purpose.

```

1404 \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
1405 \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%

```

If HTML, check if the package should be loaded before **lwarp**, or never at all:

```

1406 \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{%

```

If HTML, and if found, and if an **lwarp**-equivalent name exists, use **lwarp-\*** instead.

```

1407 \ifboolexpr{
1408 bool{warpingHTML} and
1409 test{\IfFileExists{lwarp-\LWR@strresulttwo.sty}}
1410 }%
1411 {}% lwarp-* file found
1412 \ifdefvoid{\LWR@parsedrequirepackagenames}{%

```

```

1413 \edef\LWR@parsedrequirepackagenames{lwarp-\LWR@strresulttwo}%
1414 }{%
1415 \edef\LWR@parsedrequirepackagenames{%
1416 \LWR@parsedrequirepackagenames,lwarp-\LWR@strresulttwo%
1417 }%
1418 }%
1419 }%
1420 {%

```

Otherwise, use the current package name.

```

1421 \ifdefined\LWR@parsedrequirepackagenames{%
1422 \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1423 }{%
1424 \edef\LWR@parsedrequirepackagenames{%
1425 \LWR@parsedrequirepackagenames,\LWR@strresulttwo%
1426 }%
1427 }%
1428 }% no lwarp-* file
1429 }% yes filename
1430 }

```

`\RequirePackage` [*<1: options>*] [*<2: package names>*] [*<3: version>*]

For each of many package names in a comma-separated list, if an `lwarp` version of a package exists, select it instead of the  $\LaTeX$  version.

```

1431 \RenewDocumentCommand{\RequirePackage}{o m o}{%

```

Redirect up to twenty names:<sup>17</sup>

```

1432 \renewcommand*{\LWR@requirepackagenames}{#2}%
1433 \renewcommand*{\LWR@parsedrequirepackagenames}{}%
1434 \LWR@lookforpackagename{1}%
1435 \LWR@lookforpackagename{2}%
1436 \LWR@lookforpackagename{3}%
1437 \LWR@lookforpackagename{4}%
1438 \LWR@lookforpackagename{5}%
1439 \LWR@lookforpackagename{6}%
1440 \LWR@lookforpackagename{7}%
1441 \LWR@lookforpackagename{8}%
1442 \LWR@lookforpackagename{9}%
1443 \LWR@lookforpackagename{10}%
1444 \LWR@lookforpackagename{11}%
1445 \LWR@lookforpackagename{12}%
1446 \LWR@lookforpackagename{13}%
1447 \LWR@lookforpackagename{14}%
1448 \LWR@lookforpackagename{15}%
1449 \LWR@lookforpackagename{16}%
1450 \LWR@lookforpackagename{17}%
1451 \LWR@lookforpackagename{18}%
1452 \LWR@lookforpackagename{19}%
1453 \LWR@lookforpackagename{20}%

```

<sup>17</sup>This was originally nine names, but then I came across a package which used twelve...

\RequirePackage depending on the options and version:

```

1454 \IfValueTF{#1}%
1455 {% options given
1456 \IfValueTF{#3}% version given?
1457 {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}[#3]}%
1458 {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}}%
1459 }%
1460 {% no options given
1461 \IfValueTF{#3}% version given?
1462 {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}[#3]}%
1463 {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}}%
1464 }%
1465 }
1466 \LetLtxMacro\usepackage\RequirePackage
1467 \@onlypreamble\RequirePackage
1468 \@onlypreamble\usepackage

1469 \end{warpall}

```

for HTML output: 1470 \begin{warpHTML}

\LWR@ProvidesPackagePass {<pkgname>} [<version>]

Uses the original package, including options.

```

1471 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{
1472 \PackageInfo{lwarp}{%
1473 Using package ‘#1’,\MessageBreak
1474 and adding lwarp modifications, including options,\MessageBreak%
1475 }%
1476 \IfValueTF{#2}%
1477 {\ProvidesPackage{lwarp-#1}[#2]}%
1478 {\ProvidesPackage{lwarp-#1}}%
1479 \DeclareOption*{%
1480 \PassOptionsToPackage{\CurrentOption}{#1}%
1481 }%
1482 \ProcessOptions\relax%

```

If using **catoptions**, an error occurs if a package is loaded with an option then loaded again with no options. **lwarp** does this if a package is preloaded then later patched. To avoid an error while using **catoptions**, if a package has already been loaded, it is loaded again with its original options.

```

1483 \@ifpackageloaded{#1}{%
1484 \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1485 \IfValueTF{#2}%
1486 {%
1487 \expandafter\LWR@origRequirePackage%
1488 \expandafter[\LWR@tempone]{#1}[#2}%
1489 }%
1490 {%
1491 \expandafter\LWR@origRequirePackage%
1492 \expandafter[\LWR@tempone]{#1}%

```

```

1493 }%
1494 }{%
1495 \IfValueTF{#2}%
1496 {\LWR@origRequirePackage{#1}[#2]}%
1497 {\LWR@origRequirePackage{#1}}%
1498 }%

```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading `xcolor` with options.

```

1499 \DeclareOption*{%
1500 \ProcessOptions\relax%
1501 }

```

`\LWR@ProvidesPackageDropA` `{<name>}{<date or -NoValue->}`

Declares the package. Factored for reuse.

```

1502 \newcommand*{\LWR@ProvidesPackageDropA}[2]{%
1503 \PackageInfo{lwarp}{%
1504 Replacing package ‘#1’ with the lwarp version,\MessageBreak
1505 and discarding options,%
1506 }%
1507 \IfValueTF{#2}
1508 {\ProvidesPackage{lwarp-#1}[#2]}
1509 {\ProvidesPackage{lwarp-#1}}
1510 }

```

`\LWR@ProvidesPackageDropB` Nullifies then processes the options.

Seems to be required when options contain curly braces, which were causing “Missing `\begin{document}`”.

```

1511 \newcommand*{\LWR@ProvidesPackageDropB}{%
1512 % \ProcessOptions\relax% original LaTeX code
1513 \let\ds@{} from the original \ProcessOptions
1514 \edef\@curroptions{}% lwarp modification to \ProcessOptions
1515 \@processoptions\relax% from the original \ProcessOptions
1516 }

```

`\LWR@ProvidesPackageDrop` `{<pkgname>}[<version>]`

Ignores the original package and uses lwarp’s version instead. Drops/discards all options.

```

1517 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{

```

Declare the package:

```

1518 \LWR@ProvidesPackageDropA{#1}[#2]

```

Ignore all options:

```

1519 \DeclareOption*{

```

Process the options:

```
1520 \LWR@ProvidesPackageDropB
1521 }

1522 \end{warpHTML}
```

## 32 File handles

Defines file handles for writes.

**for HTML & PRINT:** 1523 \begin{warpall}

\LWR@quickfile For quick temporary use only. This is reused in several places.

```
1524 \newwrite\LWR@quickfile%

1525 \end{warpall}
```

**for HTML output:** 1526 \begin{warpHTML}

\LWR@lateximagesfile For <project>-images.txt:

```
1527 \newwrite\LWR@lateximagesfile

1528 \end{warpHTML}
```

## 33 Include a file

During HTML output, \include{<filename>} causes the following to occur:

1. **lwarp** creates <filename>\_html\_inc.tex whose contents are:  

```
\input <filename>.tex
```
2. <filename>\_html\_inc.tex is then \included instead of <filename>.tex.
3. <filename>\_html\_inc.aux is automatically generated and used by  $\LaTeX$ .

**for HTML output:** 1529 \begin{warpHTML}

\@include {<filename>} Modified to load \_html\_inc files.

(Below, \clearpage caused missing text, and was changed to \newpage.)

```
1530 \def\@include#1 {%
1531 \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
```

```

1532 \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1533 \immediate\closeout\LWR@quickfile% lwarp
1534 \LWR@maybe@orignewpage% changed from clearpage
1535 \if@filesw
1536 \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1537 \fi
1538 \@tempswattrue
1539 \if@partsw
1540 \@tempswafalse
1541 \edef\reserved@a{\b{#1}}%
1542 \@for\reserved@a:=\@partlist\do
1543 {\ifx\reserved@a\reserved@b\@tempswattrue\fi}%
1544 \fi
1545 \if@tempswa
1546 \let\@auxout\@partaux
1547 \if@filesw
1548 \immediate\openout\@partaux #1_html_inc.aux % changed
1549 \immediate\write\@partaux{\relax}%
1550 \fi
1551 \@input@{#1_html_inc.tex}% changed
1552 \LWR@maybe@orignewpage% changed from clearpage
1553 \@writeckpt{#1}%
1554 \if@filesw
1555 \immediate\closeout\@partaux
1556 \fi
1557 \else
1558 \deadcycles\z@
1559 \@nameuse{cp@#1}%
1560 \fi
1561 \let\@auxout\@mainaux%
1562 }

1563 \end{warpHTML}

```

## 34 Copying a file

**for HTML output:** 1564 \begin{warpHTML}

\LWR@copyfile {<source filename>} {<destination filename>}

Used to copy the .toc file to .sidetoc to re-print the TOC in the sideTOC navigation pane.

```

1565 \newwrite\LWR@copyoutfile % open the file to write to
1566 \newread\LWR@copyinfile % open the file to read from
1567
1568 \newcommand*{\LWR@copyfile}[2]{%
1569 \LWR@traceinfo{\LWR@copyfile: copying #1 to #2}
1570
1571 \immediate\openout\LWR@copyoutfile=#2
1572 \openin\LWR@copyinfile=#1
1573 \begingroup\endlinechar=-1
1574 \makeatletter

```



```

1575
1576 \LWR@traceinfo{LWR@copyfile: about to loop}
1577
1578 \loop\unless\ifeof\LWR@copyinfile
1579 \LWR@traceinfo{LWR@copyfile: one line}
1580 \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1581 % \LWR@fileline\par % print the content into the pdf
1582 % print the content:
1583 \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1584 \repeat
1585 \immediate\closeout\LWR@copyoutfile
1586 \LWR@traceinfo{LWR@copyfile: done}
1587 \endgroup
1588 }

1589 \end{warpHTML}

```

## 35 Debugging messages

**HTML comments** To have the HTML output include additional HTML comments, such as which `<div>` is closing, use

```
\booltrue{HTMLDebugComments}
```

**debugging information** To have debug information written to the log, use

```
\tracinglwarp
```

**for HTML & PRINT:** 1590 \begin{warpall}

Bool LWR@tracinglwarp True if tracing is turned on.

```
1591 \newbool{LWR@tracinglwarp}
```

\tracinglwarp Turns on the debug tracing messages.

```
1592 \newcommand{\tracinglwarp}{\booltrue{LWR@tracinglwarp}}
```

\LWR@traceinfo `{\langle text \rangle}` If tracing is turned on, writes the text to the .log file.

```

1593 \newcommand{\LWR@traceinfo}[1]{%
1594 \ifbool{LWR@tracinglwarp}%
1595 {%
1596 \typeout{*** lwarp: #1}%
1597 }%
1598 {}%
1599 }

```

Bool HTMLDebugComments Add comments in HTML about closing `<div>`s, sections, etc.

Default: false

```

1600 \newbool{HTMLDebugComments}
1601 \boolfalse{HTMLDebugComments}

```

If `\tracinglwarp`, show where preamble hooks occur:

```

1602 \AfterEndPreamble{
1603 \LWR@traceinfo{AfterEndPreamble}
1604 }
1605
1606 \AtBeginDocument{
1607 \LWR@traceinfo{AtBeginDocument}
1608 }

1609 \end{warpall}

```

## 36 Defining print and HTML versions of macros and environments

The following refers to defining objects inside `lwarp`, and is not for the user's document.

Many macros and environments must be provided as both print and HTML versions.

While generating the print version of a document, the original macros as defined by  $\TeX$  and its packages are used as-is.

While generating the HTML version of a document, the original macro or environment is redefined to call a new HTML version or a copy of the original print version. The new HTML versions of macros and environments are used most of the time. Copies of the print versions are used inside a `lateximage` environment, which draws and remembers an image of the printed output, and also several other places.

The general structure for providing print and HTML versions of a macro or environment is as follows:

**For a preexisting macro, not defined with `xparse`:** An HTML version is provided with a special name, inside a `warpHTML` environment, then `\LWR@formatted` is used to redefine and patch various macros:

```

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}% may also use xparse

\LWR@formatted{name}
\end{warpHTML}

```

`\LWR@formatted{name}` copies the original print version, then redefines `\name` to use either the print or HTML version depending on which mode `lwarp` is using. `xparse` may be used to define the new HTML version, even if the original did not use `xparse`. `expl3` syntax may be used as well.

**For a preexisting environment, not defined with `xparse`:** The process is similar. Note the use of `\LWR@formattedenv` instead of `\LWR@formatted`.

```

\begin{warpHTML}
\newenvironment{LWR@HTML@name}{...}% may also use xparse

\LWR@formattedenv{name}
\end{warpHTML}

```

**If the original used `xparse`:** A copy must be made using a new name:

```

\begin{warpHTML}
\NewDocumentCommand{\LWR@print@name}{..}{..}% copy the original

\NewDocumentCommand{\LWR@HTML@name}{..}{..}% or use \newcommand

\LWR@formatted{name}
\end{warpHTML}

```

Similar for an environment, using `\LWR@formattedenv`. (`\LWR@formatted` and `\LWR@formattedenv` use `\LetLtxMacro` to copy the original print definition, which may not work with macros and environments created by `xparse`, so the print version must be manually recreated in the `lwarp` source.)

**For a new macro or environment, not using `xparse` for the print version:**

```

\begin{warppall}
\newcommand{\name}{...}% NOT xparse!
\end{warppall}

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}% may use xparse for HTML

\LWR@formatted{name}
\end{warpHTML}

```

Similar for an environment. The plain `\name` or environment name is used for the printed version, and is placed inside `warppall`. `xparse` may be used for the `\LWR@HTML@<name>` version. `expl3` syntax may be used for the print and HTML versions.

**For a new macro or environment, using `xparse`:** It is possible to use `xparse` for an entirely new macro or environment by defining the `\LWR@print@<name>` version with `xparse`, along with `\name` defined without `xparse` to refer directly to the `\LWR@print` version:

```

\begin{warppall}
\NewDocumentCommand{\LWR@print@name}{...} {...}% -or-
\NewDocumentEnvironment{\LWR@print@name}{...} {...} {...}

% Simply a call to \LWR@print@name:
\newcommand{\name}{\LWR@print@name}% -or-
\newenvironment{name}{\LWR@print@name}{\end\LWR@print@name}
\end{warppall}

\begin{warppHTML}
\NewDocumentCommand{\LWR@HTML@name}{...} {...}% -or-
\NewDocumentEnvironment{\LWR@HTML@name}{...} {...} {...}

\LWR@formatted{name}% -or-
\LWR@formattedenv{name}
\end{warppHTML}

```

In general, `\LWR@formatted` or `\LWR@formattedenv` are placed inside a `warppHTML` environment, and while producing an HTML document they do the following:

- Macros are modified:
  1. The pre-existing print version `\name` is saved as `\LWR@print@<name>`, unless `\LWR@print@<name>` is already defined.
  2. The original `\name` is redefined to call either the print or HTML version depending on which format is in use at the moment, as set by `\LWR@formatting`, which is defined as either “print” or “HTML”.
- When `lwarp` is producing a print document, the original definitions are used, as well as any new definitions defined in `warppall` above.
- When `lwarp` is generating HTML output, `\LWR@formatting` is set to “HTML”, and `\name` is directed to `\LWR@HTML@<name>`.
- When `lwarp` is generating HTML output but enters a `lateximage` environment, or for some other reason needs to draw images using the original print definitions, `\LWR@formatting` is changed to “print” and `\name` is then redirected to `\LWR@print@<name>`, which was the original `\name`.

Since arguments are not handled by the new `\name`, any star and other arguments are processed by the print or HTML version.

Expandable versions are also provided as well. These usually are necessary for anything which could appear inside a `tabular`, without which a “Misplaced `\omit`” error may occur.

```

\LWR@expandableformatted
\LWR@expandableformattedenv

```

(Older versions of `lwarp` used `\LetLtxMacro` for everything, but this could fail when using macros defined by `xparse`. This older system is still in use for many definitions.)



Misplaced `\omit` error

for HTML output: 1610 \begin{warpHTML}

\LWR@formatting Remembers if selected print/HTML formatting.

Used while \LWR@restoreorigformatting, such as in an lateximage. May be set to either “print” or “HTML”.

```
1611 \newcommand*{\LWR@formatting}{HTML}
```

\LWR@formatted@checkname {<name>}

```
1612 \newcommand*{\LWR@formatted@checkname}[1]{%
1613 \ifcsundef{LWR@HTML@#1}{%
1614 \PackageError{lwarp}
1615 {%
1616 \protect\LWR@HTML@#1 is not defined%
1617 }
1618 {Perhaps it is misspelled.}
1619 }{\relax}%
1620 }
```

\LWR@formatted@checkendname {<name>}

```
1621 \newcommand*{\LWR@formatted@checkendname}[1]{%
1622 \ifcsundef{endLWR@HTML@#1}{%
1623 \PackageError{lwarp}
1624 {%
1625 \protect\endLWR@HTML@#1 is not defined%
1626 }
1627 {Perhaps it is misspelled.}
1628 }{\relax}%
1629 }
```

\LWR@formatted {<macroname>} No backslash in the macro name.

If not yet defined, defines \LWR@print@<name> as the original print-mode \<name>. Also redefines \<name> to use \LWR@<format>@<name>, where <format> is set by \LWR@formatting, and is print or HTML.

```
1630 \newcommand*{\LWR@formatted}[1]{%
1631 \LWR@formatted@checkname{#1}%
1632 \ifcsundef{LWR@print@#1}{%
1633 \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1634 \csname#1\endcsname%
1635 }{%
1636 \ifcsundef{#1}{%
1637 \expandafter\newrobustcmd\csname #1\endcsname{%
1638 \@nameuse{LWR@\LWR@formatting @#1}%
1639 }%
1640 }{%
1641 \expandafter\renewrobustcmd\csname #1\endcsname{%
1642 \@nameuse{LWR@\LWR@formatting @#1}%
1643 }%
1644 }%
1645 }%
1646 }
```

```
1644 }%
1645 }
```

`\LWR@expandableformatted` `{\macroname}` No backslash in the macro name.

An expandable version of `\LWR@formatted`.

```
1646 \newcommand*{\LWR@expandableformatted}[1]{%
1647 \LWR@formatted@checkname{#1}%
1648 \ifcsundef\LWR@print@#1{%
1649 \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1650 \csname#1\endcsname%
1651 }{%
1652 \ifcsundef{#1}{%
1653 \expandafter\newcommand\csname #1\endcsname{%
1654 \@nameuse{\LWR@\LWR@formatting @#1}%
1655 }%
1656 }{%
1657 \expandafter\renewcommand\csname #1\endcsname{%
1658 \@nameuse{\LWR@\LWR@formatting @#1}%
1659 }%
1660 }%
1661 }
```

`\LWR@formattedenv` `{\environmentname}`

If not yet defined, defines the environment `LWR@print@<name>` as the original print-mode `<name>`. Also redefines the environment `<name>` to use environment `LWR@<format>@<name>`, where `<format>` is set by `\LWR@formatting`, and is print or HTML.

```
1662 \newcommand*{\LWR@formattedenv}[1]{%
1663 \LWR@formatted@checkname{#1}%
1664 \LWR@formatted@checkendname{#1}%
1665 \ifcsundef\LWR@print@#1{%
1666 \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1667 \csname#1\endcsname%
1668 \csletcs{endLWR@print@#1}{end#1}%
1669 }{%
1670 \DeclareDocumentEnvironment{#1}{}%
1671 {%
1672 \@nameuse{\LWR@\LWR@formatting @#1}%
1673 }%
1674 {%
1675 \@nameuse{endLWR@\LWR@formatting @#1}%
1676 }%
1677 }
```

`\LWR@expandableformattedenv` `{\environmentname}`

An expandable version of `LWR@formattedenv`.

```
1678 \newcommand*{\LWR@expandableformattedenv}[1]{%
1679 \LWR@formatted@checkname{#1}%
1680 }
```

```

1680 \LWR@formatted@checkendname{#1}%
1681 \ifcsundef{LWR@print@#1}{%
1682 \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1683 \csname#1\endcsname%
1684 \csletcs{endLWR@print@#1}{end#1}%
1685 }{}%
1686 \DeclareExpandableDocumentEnvironment{#1}{}%
1687 {%
1688 \@nameuse{LWR@\LWR@formatting @#1}%
1689 }%
1690 {%
1691 \@nameuse{endLWR@\LWR@formatting @#1}%
1692 }%
1693 }

1694 \end{warpHTML}

```

## 37 HTML-conversion output modifications

These booleans modify the HTML output in various ways to improve conversion to EPUB or word processor imports.

**for HTML & PRINT:** 1695 \begin{warpall}

### 37.1 User-level controls

**Bool** `FormatEPUB` Changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.

Default: `false`

```

1696 \newbool{FormatEPUB}
1697 \boolfalse{FormatEPUB}

```

**Bool** `FormatWP` Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments.

Default: `false`

```

1698 \newbool{FormatWP}
1699 \boolfalse{FormatWP}

```

**Bool** `WPMarkFloats` Adds

Default: `false`

```
=== begin table ===
```

```
...
```

```
=== end ===
```

or

```
=== begin figure ===
```

```
...
```

```
=== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.<sup>18</sup>

```
1700 \newbool{WPMarkFloats}
1701 \boolfalse{WPMarkFloats}
```

Bool WPMarkMinipages Adds  
Default: false  
=== begin minipage ===  
...  
=== end minipage ===

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

```
1702 \newbool{WPMarkMinipages}
1703 \boolfalse{WPMarkMinipages}
```

Bool WPMarkTOC While formatting for word processors, adds  
Default: true  
=== table of contents ===

where the Table of Contents would have been. This helps identify where to insert the actual toc.

*If set false, the actual toc is printed instead.*

```
1704 \newbool{WPMarkTOC}
1705 \booltrue{WPMarkTOC}
```

Bool WPMarkLOFT While formatting for word processors, adds  
Default: false  
=== list of figures === and/or  
=== list of tables ===

where each of these lists would have been. This helps identify where to insert the actual lists.

*If set false, the actual lists are printed instead.*

```
1706 \newbool{WPMarkLOFT}
1707 \boolfalse{WPMarkLOFT}
```

Bool WPMarkMath While formatting for word processors, prints math as  $\LaTeX$  code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

```
1708 \newbool{WPMarkMath}
1709 \boolfalse{WPMarkMath}
```

Bool WPTitleHeading While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at

<sup>18</sup>Perhaps some day word processors will have HTML import options for identifying <figure> and caption tags for figures and tables.



**Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

See table 10 on page 184.

```
1710 \newbool{WPTitleHeading}
1711 \boolfalse{WPTitleHeading}

1712 \end{warpall}
```

## 37.2 Heading adjustments

If formatting the HTML for a word processor, adjust heading levels.

If WPTitleHeading is true, adjust so that part is **Heading 1**.

If WPTitleHeading is false, use <h1> for the title, and set part to **Heading 2**.

```
for HTML output: 1713 \begin{warpHTML}

1714 \AtBeginDocument{
1715 \ifbool{FormatWP}{
1716 \@ifundefined{chapter}{
1717 \ifbool{WPTitleHeading}{% part and section starting at h2
1718 \renewcommand*{\LWR@tagtitle}{h1}
1719 \renewcommand*{\LWR@tagtitleend}{/h1}
1720 \renewcommand*{\LWR@tagpart}{h2}
1721 \renewcommand*{\LWR@tagpartend}{/h2}
1722 \renewcommand*{\LWR@tagsection}{h3}
1723 \renewcommand*{\LWR@tagsectionend}{/h3}
1724 \renewcommand*{\LWR@tagsubsection}{h4}
1725 \renewcommand*{\LWR@tagsubsectionend}{/h4}
1726 \renewcommand*{\LWR@tagsubsubsection}{h5}
1727 \renewcommand*{\LWR@tagsubsubsectionend}{/h5}
1728 \renewcommand*{\LWR@tagparagraph}{h6}
1729 \renewcommand*{\LWR@tagparagraphend}{/h6}
1730 \renewcommand*{\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
1731 \renewcommand*{\LWR@tagsubparagraphend}{/span}
1732 }% WPTitleHeading
1733 {% not WPTitleHeading, part and section starting at h1
1734 \renewcommand*{\LWR@tagtitle}{div class=\textquotedbl{}title\textquotedbl}
1735 \renewcommand*{\LWR@tagtitleend}{/div}
1736 \renewcommand*{\LWR@tagpart}{h1}
1737 \renewcommand*{\LWR@tagpartend}{/h1}
1738 \renewcommand*{\LWR@tagsection}{h2}
1739 \renewcommand*{\LWR@tagsectionend}{/h2}
1740 \renewcommand*{\LWR@tagsubsection}{h3}
1741 \renewcommand*{\LWR@tagsubsectionend}{/h3}
1742 \renewcommand*{\LWR@tagsubsubsection}{h4}
1743 \renewcommand*{\LWR@tagsubsubsectionend}{/h4}
1744 \renewcommand*{\LWR@tagparagraph}{h5}
1745 \renewcommand*{\LWR@tagparagraphend}{/h5}
1746 \renewcommand*{\LWR@tagsubparagraph}{h6}
1747 \renewcommand*{\LWR@tagsubparagraphend}{/h6}
```

```

1748 }% not WPTitleHeading
1749 }% chapter undefined
1750 {% chapter defined
1751 \ifbool{WPTitleHeading}{}
1752 {% not WPTitleHeading, part and chapter starting at h1
1753 \renewcommand*{\LWR@tagtitle}{div class=\textquotedbl{}title\textquotedbl}
1754 \renewcommand*{\LWR@tagtitleend}{/div}
1755 \renewcommand*{\LWR@tagpart}{h1}
1756 \renewcommand*{\LWR@tagpartend}{/h1}
1757 \renewcommand*{\LWR@tagchapter}{h2}
1758 \renewcommand*{\LWR@tagchapterend}{/h2}
1759 \renewcommand*{\LWR@tagsection}{h3}
1760 \renewcommand*{\LWR@tagsectionend}{/h3}
1761 \renewcommand*{\LWR@tagsubsection}{h4}
1762 \renewcommand*{\LWR@tagsubsectionend}{/h4}
1763 \renewcommand*{\LWR@tagsubsubsection}{h5}
1764 \renewcommand*{\LWR@tagsubsubsectionend}{/h5}
1765 \renewcommand*{\LWR@tagparagraph}{h6}
1766 \renewcommand*{\LWR@tagparagraphend}{/h6}
1767 \renewcommand*{\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
1768 \renewcommand*{\LWR@tagsubparagraphend}{/span}
1769 }% not WPTitleHeading
1770 }% chapter defined
1771 {}% FormatWP
1772 }% AtBeginDocument

1773 \end{warpHTML}

```

## 38 Remembering original formatting macros

for HTML output: 1774 \begin{warpHTML}

Remember original definitions of formatting commands. Will be changed to HTML commands for most uses. Will be temporarily restored to original meaning inside any lateximage environment. Also nullify unused commands.

Some packages redefine \#, which is used to generate HTML, so the original must be remembered here.

```

1775 \chardef\LWR@origpound='\#

1776 \let\LWR@origcomma\,
1777 \let\LWR@origthinspace\thinspace
1778 \let\LWR@orignegthinspace\negthinspace
1779 \let\LWR@origtilde~
1780 \let\LWR@origenskip\enskip
1781 \let\LWR@origquad\quad
1782 \let\LWR@origqqquad\qqquad
1783 \let\LWR@orighfil\hfil
1784 \let\LWR@orighss\hss
1785 \let\LWR@origllap\llap
1786 \let\LWR@origrlap\rlap

```

```

1787 \let\LWR@origfilneg\hfilneg
1788 \let\LWR@origspace\hspace
1789
1790 \let\LWR@origrule\rule
1791
1792 \let\LWR@origmedskip\medskip
1793 \let\LWR@origbigskip\bigskip
1794
1795 \let\LWR@origtextellipsis\textellipsis

```

```

1796 \let\LWR@origvdots\vdots

```

**libertinus-otf** has too much kerning for `\textquotedbl`, causing an extra space.

```

1797 \LetLtxMacro\LWR@orig@@textquotedbl\textquotedbl
1798 \LetLtxMacro\LWR@orig@textquotedbl\LWR@orig@@textquotedbl
1799
1800 \AtEndPreamble{
1801 \ifpackageloaded{libertinus-otf}{
1802 \renewcommand{\LWR@orig@textquotedbl}{\LWR@orig@@textquotedbl\kern-.15em}
1803 \LetLtxMacro\textquotedbl\LWR@orig@textquotedbl
1804 }{}
1805 }

1806 \LetLtxMacro\LWR@origttfamily\ttfamily
1807
1808 \LetLtxMacro\LWR@origem\em
1809
1810 \LetLtxMacro\LWR@orignormalfont\normalfont
1811
1812 \let\LWR@origonecolumn\onecolumn
1813
1814 \let\LWR@origsp\sp
1815 \let\LWR@origsb\sb
1816
1817 \LetLtxMacro\LWR@origunderline\underline

1818 \let\LWR@orignewpage\newpage
1819
1820 \let\LWR@origpagestyle\pagestyle
1821 \let\LWR@origthispagestyle\thispagestyle
1822 \LetLtxMacro\LWR@origpagenumbering\pagenumbering
1823
1824 \let\LWR@orignewline\newline
1825
1826 \AtBeginDocument{% in case packages change definition
1827 \let\LWR@orig@trivlist\@trivlist
1828 \let\LWR@origtrivlist\trivlist
1829 \let\LWR@origendtrivlist\endtrivlist
1830 \LetLtxMacro\LWR@origitem\item
1831 \LetLtxMacro\LWR@origitemize\itemize
1832 \LetLtxMacro\LWR@endorigitemize\enditemize
1833 \LetLtxMacro\LWR@origenumerate\enumerate
1834 \LetLtxMacro\LWR@endorigenumerate\endenumerate

```

```

1835 \LetLtxMacro\LWR@origdescription\description
1836 \LetLtxMacro\LWR@endorigdescription\enddescription
1837 \let\LWR@orig@mklab@mklab
1838 \let\LWR@origmakelabel\makelabel
1839 \let\LWR@orig@donoparitem\@donoparitem
1840 \LetLtxMacro\LWR@orig@item\@item
1841 \let\LWR@orig@nbitem\@nbitem
1842 }
1843
1844 \let\LWR@origpar\par
1845
1846 \LetLtxMacro\LWR@origfootnote\footnote
1847 \let\LWR@orig@mpfootnotetext\@mpfootnotetext
1848
1849
1850 \AtBeginDocument{% in case packages change definition
1851 \LetLtxMacro\LWR@orighline\hline%
1852 \LetLtxMacro\LWR@origcline\cline%
1853 }

1854 \end{warpHTML}

```

## 39 Accents

Native  $\text{\LaTeX}$  accents such as `\`` will work, but many more kinds of accents are available when using Unicode-aware  $\text{\XeLaTeX}$  and  $\text{\LuaLaTeX}$ . If using accents in section names which will become file names, it is recommended to use the  $\text{\LaTeX}$  accents such as `\`` and `\v` instead of Unicode accents. The  $\text{\LaTeX}$  accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

for HTML output: 1855 \begin{warpHTML}

Without `\AtBeginDocument`, `\t` was being re-defined somewhere.

```
1856 \AtBeginDocument{
```

The following are restored for print when inside a `lateximage`.

For Unicode engines, only `\t` needs to be redefined:

```
1857 \LetLtxMacro\LWR@origtie\t
```

For  $\text{\pdfLaTeX}$ , additional work is required:

```

1858 \ifPDFTeX% pdflatex or dvi latex
1859 \LetLtxMacro\LWR@origgraveaccent\`
1860 \LetLtxMacro\LWR@origacuteaccent\'
1861 \LetLtxMacro\LWR@origcircumflexaccent\^
1862 \LetLtxMacro\LWR@origtildeaccent\~
1863 \LetLtxMacro\LWR@origmacronaccent\=
1864 \LetLtxMacro\LWR@origbreve\u

```

```

1865 \LetLtxMacro\LWR@origdotaccent\
1866 \LetLtxMacro\LWR@origdiaeresisaccent"
1867 \LetLtxMacro\LWR@origdoubleacuteaccent\H
1868 \LetLtxMacro\LWR@origcaronaccent\v
1869 \LetLtxMacro\LWR@origdotbelowaccent\d
1870 \LetLtxMacro\LWR@origcedillaaccent\c
1871 \LetLtxMacro\LWR@origmacronbelowaccent\b

```

The HTML redefinitions follow.

For pdf<sub>La</sub>TeX, Unicode diacritical marks are used:

```

1872 \renewcommand*{\'}[1]{#1\HTMLUnicode{0300}}
1873 \renewcommand*{\'}[1]{#1\HTMLUnicode{0301}}
1874 \renewcommand*{\^}[1]{#1\HTMLUnicode{0302}}
1875 \renewcommand*{\~}[1]{#1\HTMLUnicode{0303}}
1876 \renewcommand*{\=}[1]{#1\HTMLUnicode{0304}}
1877 \renewcommand*{\u}[1]{#1\HTMLUnicode{0306}}
1878 \renewcommand*{\.}[1]{#1\HTMLUnicode{0307}}
1879 \renewcommand*{\"}[1]{#1\HTMLUnicode{0308}}
1880 \renewcommand*{\H}[1]{#1\HTMLUnicode{030B}}
1881 \renewcommand*{\v}[1]{#1\HTMLUnicode{030C}}
1882 \renewcommand*{\d}[1]{#1\HTMLUnicode{0323}}
1883 \renewcommand*{\c}[1]{#1\HTMLUnicode{0327}}
1884 \renewcommand*{\b}[1]{#1\HTMLUnicode{0331}}
1885 \fi

```

For all engines, a Unicode diacritical tie is used:

```

1886 \def\LWR@t#1#2{#1\HTMLUnicode{0361}#2}
1887 \renewcommand*{\t}[1]{\LWR@t#1}

```

`\LWR@restoreorigaccents` Called from `\restoreoriginalformatting` when a `lateximage` is begun.

```

1888 \ifPDFTeX% pdflatex or dvi latex
1889 \newcommand*{\LWR@restoreorigaccents}{%
1890 \LetLtxMacro\'\LWR@origgraveaccent%
1891 \LetLtxMacro\''\LWR@origacuteaccent%
1892 \LetLtxMacro\^\LWR@origcircumflexaccent%
1893 \LetLtxMacro\~\LWR@origtildeaccent%
1894 \LetLtxMacro\=\LWR@origmacronaccent%
1895 \LetLtxMacro\u\LWR@origbreve%
1896 \LetLtxMacro\.\LWR@origdotaccent%
1897 \LetLtxMacro"\LWR@origdiaeresisaccent%
1898 \LetLtxMacro\H\LWR@origdoubleacuteaccent%
1899 \LetLtxMacro\v\LWR@origcaronaccent%
1900 \LetLtxMacro\t\LWR@origtie%
1901 \LetLtxMacro\d\LWR@origdotbelowaccent%
1902 \LetLtxMacro\c\LWR@origcedillaaccent%
1903 \LetLtxMacro\b\LWR@origmacronbelowaccent%
1904 }%
1905 \else% XeLaTeX, LuaLaTeX:
1906 \newcommand*{\LWR@restoreorigaccents}{%
1907 \LetLtxMacro\t\LWR@origtie%
1908 }%

```

```

1909 \fi%
1910 }% AtBeginDocument

1911 \end{warpHTML}

```

## 40 Configuration files

### 40.1 Decide whether to generate configuration files

Configuration files are only written if processing the print version of the document, and not processing a `pstool` image. `pstool` uses an additional compile for each image using the original document's preamble, which includes `lwarp`, so the `lwarp` configuration files are turned off if `-pstool` is part of the `\jobname`.

Default to no configuration files:

```

1912 \LWR@excludacomment{LWRwriteconf}{writeconf}

```

Generate configuration files if print mode and not `-pstool`:

**for PRINT output:**

```

1913 \begin{warpprint}
1914 \fullexpandarg%
1915 \IfSubStr*{\jobname}{-pstool}
1916 {
1917 \PackageInfo{lwarp}{%
1918 Jobname with -pstool is found.\MessageBreak
1919 Not generating lwarp configuration files,%
1920 }
1921 }
1922 {
1923 \PackageInfo{lwarp}{Generating lwarp configuration files,}%
1924 \LWR@includecomment{LWRwriteconf}{writeconf}
1925 }
1926 \end{warpprint}

```

### 40.2 <project>\_html.tex

File `*_html.tex` Used to allow an HTML version of the document to exist alongside the print version.

**Config file:**

```

1927 \begin{LWRwriteconf}
1928 \immediate\openout\LWR@quickfile=\jobname_html.tex
1929 \immediate\write\LWR@quickfile{%
1930 \detokenize{\PassOptionsToPackage}%
1931 {warpHTML,BaseJobname=\jobname}{lwarp}%
1932 }
1933 \immediate\write\LWR@quickfile{%
1934 \detokenize{\input}\string{\jobname.tex\string }%
1935 }
1936 \immediate\closeout\LWR@quickfile
1937 \end{LWRwriteconf}

```

### 40.3 *lwarpmk* configuration files

**Config file:** 1938 \begin{LWRwriteconf}

`\LWR@lwarpcnfversion` The version number of the configuration file, allowing *lwarpmk* to detect an obsolete configuration file format. Incremented by one each time the configuration file format changes. (This is NOT the same as the *lwarp* version number.)

1939 \newcommand\*{\LWR@lwarpcnfversion}{2}% also in lwarpmk.lua

#### 40.3.1 Helper macros

`\LWR@shellescapecmd` The LaTeX compile option for shell escape, if used.

```
1940 \ifshellescape
1941 \def\LWR@shellescapecmd{--shell-escape }
1942 \else
1943 \def\LWR@shellescapecmd{}
1944 \fi
```

`\LWR@compilecmd`  $\{\langle engine \rangle\} \{\langle suffix \rangle\}$

Used to form the basic compilation command for a document, adding the optional shell escape.

Engine is *pdf~~l~~atex*, etc. Suffix is empty or `_html`

```
1945 \newcommand*{\LWR@compilecmd}[2]{%
1946 #1 \LWR@shellescapecmd \jobname#2%
1947 }
```

`\LWR@addcompilecmd`  $\{\langle cmd \rangle\} \{\langle suffix \rangle\}$

Adds to the compilation command.

Cmd is *dvipdfmx*, etc. Suffix is empty or `_html`

```
1948 \newcommand*{\LWR@addcompilecmd}[2]{%
1949 \LWRopseq
1950 #1 \jobname#2%
1951 }
```

`\LWR@unknownengine` Error message if not sure which  $\text{\LaTeX}$  engine is being used.

```
1952 \newcommand*{\LWR@unknownengine}{%
1953 \PackageError{lwarp}%
1954 {Unknown LaTeX engine}%
1955 {%
1956 Lwarp only knows about pdflatex, DVI latex,
1957 xelatex, lualatex, and uplatex.%
1958 }%
1959 }
```

`\LWR@latexmkvar`  $\{\langle varname \rangle\} \{\langle value \rangle\}$

Adds a *latexmk* variable assignment.

```
1960 \newcommand*\LWR@latexmkvar}[2]{%
1961 -e
1962 \LWRopquote%
1963 \LWRdollar #1=q/#2/%
1964 \LWRopquote
1965 }
```

`\LWR@latexmkcmd`  $\{\langle latexmk options \rangle\}$

Sets a call to *latexmk* with the given options, possibly adding `--shell-escape`, and also adding the indexing program.

```
1966 \newcommand*\LWR@latexmkcmd}[1]{%
1967 latexmk \space \LWR@shellescapecmd \space #1 \space
1968 -recorder \space
1969 \LWR@latexmkvar{makeindex}\LWR@LatexmkIndexCmd}%
1970 }
```

`\LWR@latexmkdvipdfm`  $\{\langle dvipdfm \text{ or } dvipdfmx \rangle\}$

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```
1971 \newcommand*\LWR@latexmkdvipdfm}[1]{%
1972 -pdfdvi \space
1973 \LWR@latexmkvar{dvipdf}%
1974 #1
1975 \@percentchar 0
1976 -o \@percentchar D
1977 \@percentchar S%
1978 }
1979 }
```

`\LWR@compileuplatex` Sets compile options for up<sup>La</sup>T<sub>E</sub>X with *uarticle* or related classes.

```
1980 \newcommand*\LWR@compileuplatex{%
1981 \def\LWR@tempprintlatexcmd{%
1982 \LWR@compilecmd{uplatex}{%
1983 \LWR@addcompilecmd{dvipdfmx}{%
1984 }
1985 \def\LWR@tempHTMLlatexcmd{%
1986 \LWR@compilecmd{uplatex}{_html}
1987 \LWR@addcompilecmd{dvipdfmx}{_html}
1988 }
1989 }
```

`\LWR@PrintLatexCmd` If not set by the user, the following sets the command to use to compile the source to PDF form.  
`\LWR@HTMLLatexCmd`

If using *latexmk*, a complicated string is created, eventually resulting in something such as:



For *xelatex* with `--shell-escape`:

---

```
[[latexmk -xelatex --shell-escape -recorder
 -e '$makeindex = q/makeindex -s lwarp.ist/' <jobname>_html]]
```

---

For *dvipdfmx*:

---

```
[[latexmk -pdfdvi -e '$dvi-pdf=q/dvipdfmx %0 -o %D %S/'
 -recorder
 -e '$makeindex=q/makeindex -s lwarp.ist/' <jobname>_html]]
```

---

For the following, temporary values are computed, but the permanent values are only set if the originals were not assigned by the user.

```
1990 \ifbool{LWR@latexmk}{
```

For *latexmk* with *pdflatex* or *lualatex*:

```
1991 \ifpdf
```

For *latexmk* with *pdflatex*:

```
1992 \ifPDFTeX
1993 \def\LWR@latexcmd{\LWR@latexmkcmd{-pdf -dvi- -ps-}}
1994 \else
```

For *latexmk* with *lualatex*:

```
1995 \ifLuaTeX
1996 \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
1997 \else
1998 \LWR@unknownengine
1999 \fi
2000 \fi
2001 \else% \ifpdf
```

For *latexmk* with *xelatex* or DVI *latex*:

```
2002 \ifXeTeX
```

For *latexmk* with *xelatex*:

```
2003 \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
2004 \else% \ifXeTeX
```

For *latexmk* with DVI *latex*:

```
2005 \ifbool{LWR@dvipdfm}{
2006 \def\LWR@latexcmd{%
```

```

2007 \LWR@latexmkcmd{%
2008 \LWR@latexmkdvipdfm{dvipdfm}%
2009 }
2010 }
2011 }{
2012 \ifbool{LWR@dvipdfmx}{
2013 \def\LWR@latexcmd{%
2014 \LWR@latexmkcmd{%
2015 \LWR@latexmkdvipdfm{dvipdfmx}%
2016 }
2017 }
2018 }{
2019 \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}
2020 }
2021 }
2022 \fi
2023 \fi% \ifpdf

```

The final assignment if *latexmk*:

```

2024 \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
2025 \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
2026 }% latexmk

```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```

2027 {% not latexmk
2028 \ifpdf

```

For *pdflatex* or *lualatex*:

```

2029 \ifPDFTeX

```

For *pdflatex*:

```

2030 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
2031 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
2032 \else
2033 \ifLuaTeX

```

For *lualatex*:

```

2034 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
2035 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
2036 \else
2037 \LWR@unknownengine
2038 \fi
2039 \fi
2040 \else% \ifpdf

```

For DVI *latex* or *xelatex*:

```

2041 \ifXeTeX

```

For *xelatex*:

```
2042 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
2043 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
2044 \else
```

For DVI *latex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```
2045 \ifbool{LWR@dvipdfm}{
```

For DVI *latex* with *dvipdfm*:

```
2046 \def\LWR@tempprintlatexcmd{%
2047 \LWR@compilecmd{latex}{}
2048 \LWR@addcompilecmd{dvipdfm}{}
2049 }
2050 \def\LWR@tempHTMLlatexcmd{%
2051 \LWR@compilecmd{latex}{_html}
2052 \LWR@addcompilecmd{dvipdfm}{_html}
2053 }
2054 }{
2055 \ifbool{LWR@dvipdfmx}{
```

For DVI *latex* with *dvipdfmx*:

```
2056 \def\LWR@tempprintlatexcmd{%
2057 \LWR@compilecmd{latex}{}
2058 \LWR@addcompilecmd{dvipdfmx}{}
2059 }
2060 \def\LWR@tempHTMLlatexcmd{%
2061 \LWR@compilecmd{latex}{_html}
2062 \LWR@addcompilecmd{dvipdfmx}{_html}
2063 }
2064 }{% dvips
```

For DVI *latex* with *dvips* and *ps2pdf*:

```
2065 \def\LWR@tempprintlatexcmd{%
2066 \LWR@compilecmd{latex}{}
2067 \LWR@addcompilecmd{dvips}{}
2068 \LWR@addcompilecmd{ps2pdf}{} .ps
2069 }
2070 \def\LWR@tempHTMLlatexcmd{%
2071 \LWR@compilecmd{latex}{_html}
2072 \LWR@addcompilecmd{dvips}{_html}
2073 \LWR@addcompilecmd{ps2pdf}{_html} .ps
2074 }
2075 }
2076 }
2077 \fi% \ifXeTeX
2078 \fi% \ifpdf
2079}% latexmk
```

For *ujarticle*, *utarticle*, and related, using up $\LaTeX$  and *dvipdfmx*:

```

2080 \@ifclassloaded{ujarticle}{\LWR@compileuplatex}{}
2081 \@ifclassloaded{ujbook}{\LWR@compileuplatex}{}
2082 \@ifclassloaded{ujreport}{\LWR@compileuplatex}{}
2083 \@ifclassloaded{utarticle}{\LWR@compileuplatex}{}
2084 \@ifclassloaded{utbook}{\LWR@compileuplatex}{}
2085 \@ifclassloaded{utreport}{\LWR@compileuplatex}{}

```

Only make the setting permanent if the original was empty:

```

2086 \ifdefempty{\LWR@PrintLatexCmd}{
2087 \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
2088 }{}
2089 \ifdefempty{\LWR@HTMLLatexCmd}{
2090 \def\LWR@HTMLLatexCmd{\LWR@tempHTMLlatexcmd}
2091 }{}

```

`\LWR@writeconf {<filename>}`

Common code for each of `lwarpmk.conf` and `<project>.lwarpmkconf`. Each entry is a variable name, the equal sign, and a quoted string inside `[[` and `]]`, which are *lua*'s long quote characters, allowing the use of single and double quotes inside.

```

2092 \newcommand{\LWR@writeconf}[1]{
2093 \ifcsdef\LWR@quickfile{}{\newwrite\LWR@quickfile}
2094 \immediate\openout\LWR@quickfile=#1
2095 \immediate\write\LWR@quickfile{confversion = [[\LWR@lwarpcnfversion]]}
2096 \ifbool{usingOSWindows}{
2097 \immediate\write\LWR@quickfile{opsystem = [[Windows]]}
2098 }{
2099 \immediate\write\LWR@quickfile{opsystem = [[Unix]]}
2100 }
2101 \immediate\write\LWR@quickfile{sourcename = [[\jobname]]}
2102 \immediate\write\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}
2103 \immediate\write\LWR@quickfile{htmlfilename = [[\HTMLFilename]]}
2104 \immediate\write\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}
2105 \immediate\write\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}
2106 \immediate\write\LWR@quickfile{latexmk = [[\ifbool{\LWR@latexmk}{true}{false}]]}
2107 \immediate\write\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}
2108 \immediate\write\LWR@quickfile{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}
2109 \immediate\write\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}
2110 \immediate\write\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}
2111 \immediate\write\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}
2112 \immediate\write\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}
2113 \immediate\write\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}
2114 \immediate\closeout\LWR@quickfile
2115 }
2116
2117 \end{\LWR@writeconf}

```

### 40.3.2 lwarpmk.conf

File `lwarpmk.conf` `lwarpmk.conf` is automatically (re-)created by the `lwarp` package when executing

pdf<sub>l</sub>atex <project.tex>,  
or similar for *xel<sub>a</sub>tex* or *lual<sub>a</sub>tex*, in print-document generation mode, which is the default unless the warpHTML option is given. lwarpmk.conf is then used by the utility *lwarpmk*.

**Config file:** 2118 \begin{LWRwriteconf}  
2119  
2120 \AtBeginDocument{\LWRwriteconf{lwarpmk.conf}}  
2121  
2122 \end{LWRwriteconf}

### 40.3.3 <project>.lwarpmkconf

File project.lwarpmkconf A project-specific configuration file for *lwarpmk*.

The makeindex and xindy options have already been handled for lwarp.conf.

**Config file:** 2123 \begin{LWRwriteconf}  
2124  
2125 \AtBeginDocument{\LWRwriteconf{\jobname.lwarpmkconf}}  
2126  
2127 \end{LWRwriteconf}

## 40.4 lwarp.css

File lwarp.css This is the base css layer used by lwarp.

This must be present both when compiling the project and also when distributing the HTML files.

**Config file:** 2128 \begin{LWRwriteconf}  
2129 \begin{filecontents\*}[overwrite]{lwarp.css}  
2130 /\*  
2131 CSS stylesheet for the LaTeX Lwarp package  
2132 Copyright 2016-2021 Brian Dunn – BD Tech Concepts LLC  
2133 \*/  
2134  
2135  
2136 /\* a fix for older browsers: \*/  
2137 header, section, footer, aside, nav, main,  
2138 article, figure { display: block; }  
2139  
2140  
2141 A:link {color:#000080 ; text-decoration: none ; }  
2142 A:visited {color:#800000 ; }  
2143 A:hover {color:#000080 ; text-decoration: underline ;}  
2144 A:active {color:#800000 ; }  
2145  
2146 a.tocbook {display: inline-block ; margin-left: 0em ;  
2147 font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }  
2148 a.tocpart {display: inline-block ; margin-left: 0em ;  
2149 font-weight: bold ;}  
2150 a.tocchapter {display: inline-block ; margin-left: 0em ;  
2151 font-weight: bold ;}

```

2152 a.tocsection {display: inline-block ; margin-left: 1em ;
2153 text-indent: -.5em ; font-weight: bold ; }
2154 a.tocsubsection {display: inline-block ; margin-left: 2em ;
2155 text-indent: -.5em ; }
2156 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
2157 text-indent: -.5em ; }
2158 a.tocparagraph {display: inline-block ; margin-left: 4em ;
2159 text-indent: -.5em ; }
2160 a.tocsubparagraph {display: inline-block ; margin-left: 5em ;
2161 text-indent: -.5em ; }
2162 a.tocfigure {margin-left: 0em}
2163 a.tocsubfigure {margin-left: 2em}
2164 a.toctable {margin-left: 0em}
2165 a.tocsubtable {margin-left: 2em}
2166 a.toctheorem {margin-left: 0em}
2167 a.toclstlisting {margin-left: 0em}
2168
2169 body {
2170 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2171 "Lucida Bright", Georgia, serif;
2172 background: #FAF7F4 ;
2173 color: black ;
2174 margin: 0em ;
2175 padding: 0em ;
2176 font-size: 100% ;
2177 line-height: 1.2 ;
2178 }
2179
2180 p {margin: 1.5ex 0em 1.5ex 0em ;}
2181 table p {margin: .5ex 0em .5ex 0em ;}
2182
2183 /* Holds a section number */
2184 span.sectionnumber { margin-right: 0em }
2185
2186 /* Inserted in front of index lines */
2187 span.indexitem {margin-left: 0em}
2188 span.indexsubitem {margin-left: 2em}
2189 span.indexsubsubitem {margin-left: 4em}
2190 div.indexheading {margin-top: 2ex ; font-weight: bold}
2191
2192 div.hidden, span.hidden { display: none ; }
2193
2194 kbd, span.texttt, p span.texttt {
2195 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2196 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2197 "Courier New", monospace;
2198 font-size: 100% ;
2199 }
2200
2201 pre { padding: 3pt ; }
2202
2203 span.strong, span.textbf, div.strong, div.textbf { font-weight: bold; }
2204
2205 span.textit, div.textit { font-style: italic; }
2206

```

```
2207 span.textmd, div.textmd { font-weight: normal; }
2208
2209 span.textup, div.textup {
2210 font-style: normal;
2211 font-variant: normal;
2212 font-variant-numeric: normal ;
2213 }
2214
2215 span.textsc, div.textsc {
2216 font-variant: small-caps;
2217 font-variant-numeric: oldstyle-nums ;
2218 }
2219
2220 span.textulc, div.textulc {
2221 font-variant: normal ;
2222 font-variant-numeric: normal ;
2223 }
2224
2225 span.textsl, div.textsl { font-style: oblique; }
2226
2227 span.textrm, div.textrm {
2228 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2229 "Lucida Bright", Georgia, serif;
2230 }
2231
2232 span.textsf, div.textsf {
2233 font-family: "DejaVu Sans", "Bitstream Vera Sans",
2234 Geneva, Verdana, sans-serif ;
2235 }
2236
2237 /* nfssect-cfr lining figures */
2238 span.textln, div.textln {
2239 font-variant-numeric: lining-nums ;
2240 }
2241
2242 /* nfssect-cfr proportional figures */
2243 span.textp, div.textp {
2244 font-variant-numeric: proportional-nums ;
2245 }
2246
2247 /* nfssect-cfr tabular figures */
2248 span.textt, div.textt {
2249 font-variant-numeric: tabular-nums ;
2250 }
2251
2252 /* nfssect-cfr font weights */
2253 span.textdb, div.textdb {
2254 font-weight: 500 ;
2255 }
2256
2257 span.textsb, div.textsb {
2258 font-weight: 600 ;
2259 }
2260
2261 span.texteb, div.texteb {
```

```
2262 font-weight: 800 ;
2263 }
2264
2265 span.textub, div.textub {
2266 font-weight: 900 ;
2267 }
2268
2269 span.textlg, div.textlg {
2270 font-weight: 300 ;
2271 }
2272
2273 span.textel, div.textel {
2274 font-weight: 200 ;
2275 }
2276
2277 span.textul, div.textul {
2278 font-weight: 100 ;
2279 }
2280
2281
2282
2283 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2284
2285 span.underline {
2286 text-decoration: underline ;
2287 text-decoration-skip: auto ;
2288 }
2289
2290 span.overline {
2291 text-decoration: overline ;
2292 text-decoration-skip: auto ;
2293 }
2294
2295 div.hrule { border-top: 1px solid silver }
2296
2297
2298 /* for vertical text: */
2299 div.verticalrl { writing-mode: vertical-rl }
2300 div.horizontalTB { writing-mode: horizontal-tb }
2301
2302
2303 /* for diagbox */
2304 div.diagboxtitleN { border-bottom: 1px solid gray }
2305 div.diagboxtitleS { border-top: 1px solid gray }
2306
2307 div.diagboxE {
2308 padding-left: 2em ;
2309 text-align: right ;
2310 }
2311
2312 div.diagboxW {
2313 padding-right: 2em ;
2314 text-align: left ;
2315 }
2316
```



```
2317
2318
2319 /* For realscripts */
2320 .supsubscript {
2321 display: inline-block;
2322 text-align: left ;
2323 }
2324
2325 .supsubscript sup,
2326 .supsubscript sub {
2327 position: relative;
2328 display: block;
2329 font-size: .7em;
2330 line-height: 1;
2331 }
2332
2333 .supsubscript sup {
2334 top: .3em;
2335 }
2336
2337 .supsubscript sub {
2338 top: .3em;
2339 }
2340
2341 div.attribution p {
2342 text-align: right ;
2343 font-size: 80%
2344 }
2345
2346 span.poemtitle {
2347 font-size: 120% ; font-weight: bold;
2348 }
2349
2350 pre.tabbing {
2351 font-family: "Linux Libertine Mono O", "Lucida Console",
2352 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2353 "Liberation Mono", "FreeMono", "Andale Mono",
2354 "Nimbus Mono L", "Courier New", monospace;
2355 }
2356
2357 blockquote {
2358 display: block ;
2359 margin-left: 2em ;
2360 margin-right: 2em ;
2361 }
2362
2363 /* quotchap is for the quotchap package */
2364 div.quotchap {
2365 display: block ;
2366 font-style: oblique ;
2367 overflow-x: auto ;
2368 margin-left: 2em ;
2369 margin-right: 2em ;
2370 }
2371
```

```
2372blockquote p, div.quotchap p {
2373 line-height: 1.5;
2374 text-align: left ;
2375 font-size: .85em ;
2376 }
2377
2378 /* qauthor is for the quotchap package */
2379 div.qauthor {
2380 display: block ;
2381 text-align: right ;
2382 margin-left: auto ;
2383 margin-right: 2em ;
2384 font-size: 80% ;
2385 font-variant: small-caps;
2386 }
2387
2388 div.qauthor p {
2389 text-align: right ;
2390 }
2391
2392 div.epigraph, div.dictum {
2393 line-height: 1.2;
2394 text-align: left ;
2395 padding: 3ex 1em 0ex 1em ;
2396 /* margin: 3ex auto 3ex auto ; */ /* Epigraph centered */
2397 margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
2398 /* margin: 3ex 1em 3ex 1em ; */ /* Epigraph to the left */
2399 font-size: .85em ;
2400 max-width: 27em ;
2401 }
2402
2403 div.epigraphsource, div.dictumauthor {
2404 text-align:right ;
2405 margin-left:auto ;
2406 /* max-width: 50% ; */
2407 border-top: 1px solid #A0A0A0 ;
2408 padding-bottom: 3ex ;
2409 line-height: 1.2;
2410 }
2411
2412 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2413 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2414 div.dictumauthor { font-style:italic }
2415
2416
2417 /* copyrightbox package: */
2418 div.copyrightbox { margin: .5ex .5em }
2419 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2420 div.copyrightboxnote {text-align: left ; font-size: 60%}
2421
2422
2423 /* lettrine package: */
2424 span.lettrine { font-size: 4ex ; float: left ; }
2425 span.lettrinetext { font-variant: small-caps ; }
2426
```

```
2427 /* ulem, soul, umoline packages: */
2428 span.uline {
2429 text-decoration: underline ;
2430 text-decoration-skip: auto ;
2431 }
2432
2433 span.uuline {
2434 text-decoration: underline ;
2435 text-decoration-skip: auto ;
2436 text-decoration-style: double ;
2437 }
2438
2439 span.uwave {
2440 text-decoration: underline ;
2441 text-decoration-skip: auto ;
2442 text-decoration-style: wavy ;
2443 }
2444
2445 span.sout {
2446 text-decoration: line-through ;
2447 }
2448
2449 span.oline {
2450 text-decoration: overline ;
2451 text-decoration-skip: auto ;
2452 }
2453
2454 span.xout {
2455 text-decoration: line-through ;
2456 }
2457
2458 span.dashuline {
2459 text-decoration: underline ;
2460 text-decoration-skip: auto ;
2461 text-decoration-style: dashed ;
2462 }
2463
2464 span.dotuline {
2465 text-decoration: underline ;
2466 text-decoration-skip: auto ;
2467 text-decoration-style: dotted ;
2468 }
2469
2470 span.letterspacing { letter-spacing: .2ex ; }
2471
2472 span.capsspacing {
2473 font-variant: small-caps ;
2474 letter-spacing: .1ex ;
2475 }
2476
2477 span.highlight { background: #F8E800 ; }
2478
2479
2480 /* keystroke package: */
2481 span.keystroke {
```

```
2482 border-style: outset ;
2483 padding: 0pt .5em 0pt .5em ;
2484 }
2485
2486
2487 html body {
2488 margin: 0 ;
2489 line-height: 1.2;
2490 }
2491
2492
2493 body div {
2494 margin: 0ex;
2495 }
2496
2497
2498 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2499 {
2500 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2501 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2502 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2503 "Times New Roman", serif;
2504 font-style: normal ;
2505 font-weight: bold ;
2506 text-align: left ;
2507 }
2508
2509 h1 { /* title of the entire website, used on each page */
2510 text-align: center ;
2511 font-size: 2.5em ;
2512 padding: .4ex 0em 0ex 0em ;
2513 }
2514
2515 div.book {
2516 text-align: center ;
2517 font-size: 2.325em ;
2518 padding: .4ex 0em 0ex 0em ;
2519 }
2520
2521 h2 { font-size: 2.25em }
2522 h3 { font-size: 2em }
2523 h4 { font-size: 1.75em }
2524 h5 { font-size: 1.5em }
2525 h6 { font-size: 1.25em }
2526 span.paragraph {font-size: 1em ; font-variant: normal ;
2527 margin-right: 1em ; }
2528 span.subparagraph {font-size: 1em ; font-variant: normal ;
2529 margin-right: 1em ; }
2530
2531 div.minisec {
2532 font-family: "DejaVu Sans", "Bitstream Vera Sans",
2533 Geneva, Verdana, sans-serif ;
2534 font-style: normal ;
2535 font-weight: bold ;
2536 text-align: left ;
```

```
2537 }
2538
2539 h1 {
2540 margin: 0ex 0em 0ex 0em ;
2541 line-height: 1.3;
2542 text-align: center ;
2543 }
2544
2545 h2 {
2546 margin: 1ex 0em 1ex 0em ;
2547 line-height: 1.3;
2548 text-align: center ;
2549 }
2550
2551 h3 {
2552 margin: 3ex 0em 1ex 0em ;
2553 line-height: 1.3;
2554 }
2555
2556 h4 {
2557 margin: 3ex 0em 1ex 0em ;
2558 line-height: 1.3;
2559 }
2560
2561 h5 {
2562 margin: 3ex 0em 1ex 0em ;
2563 line-height: 1.3;
2564 }
2565
2566 h6 {
2567 margin: 3ex 0em 1ex 0em ;
2568 line-height: 1.3;
2569 }
2570
2571
2572 div.titlepage {
2573 text-align: center ;
2574 }
2575
2576 .footnotes {
2577 text-align: left ;
2578 font-size: .85em ;
2579 margin: 3ex 2em 0ex 2em ;
2580 border-top: 1px solid silver ;
2581 }
2582
2583 .marginpar, .marginparblock {
2584 max-width: 50%;
2585 float: right ;
2586 clear: both ;
2587 text-align: left ;
2588 margin: 1ex 0.5em 1ex 1em ;
2589 padding: 1ex 0.5em 1ex 0.5em ;
2590 font-size: 85% ;
2591 border-top: 1px solid silver ;
```

```
2592 border-bottom: 1px solid silver ;
2593 overflow-x: auto ;
2594 }
2595
2596 .marginpar br { margin-bottom: 2ex ; }
2597
2598 div.marginblock, div.marginparblock {
2599 max-width:50%;
2600 min-width: 10em; /* room for caption */
2601 float:right;
2602 text-align:left;
2603 margin: 1ex 0.5em 1ex 1em ;
2604 padding: 1ex 0.5em 1ex 0.5em ;
2605 overflow-x: auto;
2606 }
2607
2608 div.marginblock div.minipage,
2609 div.marginparblock div.minipage {
2610 display: inline-block ;
2611 margin: 0pt auto 0pt auto ;
2612 }
2613
2614 div.marginblock div.minipage p ,
2615 div.marginparblock div.minipage p
2616 { font-size: 85%}
2617
2618 div.marginblock br ,
2619 div.marginparblock br
2620 { margin-bottom: 2ex ; }
2621
2622 div.bodycontainer {
2623 float: left ;
2624 width: 80% ;
2625 }
2626
2627 div.bodywithoutsidetoc div.bodycontainer {
2628 float: none ;
2629 width: 100% ;
2630 }
2631
2632 section.textbody div.footnotes{
2633 margin: 3ex 2em .5ex 2em ;
2634 border-bottom: 2px solid silver ;
2635 }
2636
2637 .footnoteheader {
2638 border-top: 2px solid silver ;
2639 margin-top: 3ex ;
2640 padding-top: 1ex ;
2641 font-weight: bold ;
2642 }
2643
2644 .mpfootnotes {
2645 text-align: left ;
2646 font-size: .85em ;
```

```
2647 margin-left: 1em ;
2648 border-top: 1px solid silver ;
2649 }
2650
2651 /* Remove footnote top border in the title page. */
2652 div.titlepage div.mpfootnotes {
2653 border-top: none ;
2654 }
2655
2656
2657
2658 ul, ol {
2659 margin: 1ex 1em 1ex 0em;
2660 line-height: 1.2;
2661 }
2662
2663 body dir, body menu {
2664 margin: 3ex 1em 3ex 0em;
2665 line-height: 1.2;
2666 }
2667
2668 li { margin: 0ex 0em 1ex 0em; }
2669
2670 html {
2671 margin: 0;
2672 padding: 0;
2673 }
2674
2675 .programlisting {
2676 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2677 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2678 "Courier New", monospace;
2679 margin: 1ex 0ex 1ex 0ex ;
2680 padding: .5ex 0pt .5ex 0pt ;
2681 overflow-x: auto;
2682 }
2683
2684 section.textbody>pre.programlisting {
2685 border-top: 1px solid silver ;
2686 border-bottom: 1px solid silver ;
2687 }
2688
2689
2690 div.displaymath {
2691 text-align: center ;
2692 }
2693
2694 div.displaymathnumbered {
2695 text-align: right ;
2696 margin-left: 5% ;
2697 margin-right: 5% ;
2698 min-width: 2.5in ;
2699 }
2700
2701 @media all and (min-width: 400px) {
```

```
2702 div.displaymathnumbered {
2703 margin-left: 10% ;
2704 margin-right: 10% ;
2705 }
2706 }
2707
2708 @media all and (min-width: 800px) {
2709 div.displaymathnumbered {
2710 margin-right: 20% ;
2711 }
2712 }
2713
2714 @media all and (min-width: 1200px) {
2715 div.displaymathnumbered {
2716 margin-right: 30% ;
2717 }
2718 }
2719
2720
2721 .inlineprogramlisting {
2722 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2723 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2724 "Courier New", monospace;
2725 overflow-x: auto;
2726 }
2727
2728 span.listinglabel {
2729 display: inline-block ;
2730 font-size: 70% ;
2731 width: 4em ;
2732 text-align: right ;
2733 margin-right: 2em ;
2734 }
2735
2736 div.abstract {
2737 margin: 2em 5% 2em 5% ;
2738 padding: 1ex 1em 1ex 1em ;
2739 /* font-weight: bold ; */
2740 font-size: 90% ;
2741 text-align: left ;
2742 }
2743
2744 div.abstract dl {line-height:1.5;}
2745 div.abstract dt {color:#304070;}
2746
2747 div.abstracttitle{
2748 font-family: "URW Classico", Optima, "Linux Biolinum O",
2749 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2750 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2751 font-weight:bold;
2752 font-size:1.25em;
2753 text-align: center ;
2754 }
2755
2756 span.abstracrunintitle{
```



```
2757 font-family: "URW Classico", Optima, "Linux Biolinum O",
2758 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2759 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2760 font-weight:bold;
2761 }
2762
2763
2764 .verbatim {
2765 overflow-x: auto ;
2766 }
2767
2768 .alltt {
2769 overflow-x: auto ;
2770 }
2771
2772
2773 .bverbatim {
2774 margin: 1ex 0pt 1ex 0pt ;
2775 padding: .5ex 0pt .5ex 0pt ;
2776 overflow-x: auto ;
2777 }
2778
2779 .lverbatim {
2780 margin: 1ex 0pt 1ex 0pt ;
2781 padding: .5ex 0pt .5ex 0pt ;
2782 overflow-x: auto ;
2783 }
2784
2785 .fancyvrb {
2786 font-size:.85em ;
2787 margin: 3ex 0pt 3ex 0pt
2788 }
2789
2790 .fancyvrblabel {
2791 font-size: .85em ;
2792 text-align: center ;
2793 font-weight: bold ;
2794 margin-top: 1ex ;
2795 margin-bottom: 1ex ;
2796 }
2797
2798
2799 .verse {
2800 font-family: "Linux Libertine Mono O", "Lucida Console",
2801 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2802 "Liberation Mono", "FreeMono", "Andale Mono",
2803 "Nimbus Mono L", "Courier New", monospace;
2804 margin-left: 1em ;
2805 }
2806
2807
2808 div.singlespace { line-height: 1.2 ; }
2809 div.onehalfspace { line-height: 1.5 ; }
2810 div.doublespace { line-height: 2 ; }
2811
```

```
2812
2813 /* Word processor format output: */
2814 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
2815 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
2816 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ;}
2817
2818
2819
2820
2821 /* Minipage environments, vertically aligned to top, center, bottom: */
2822 .minipage, .fminipage, .fcolorminipage {
2823 /* display: inline-block ; */
2824 /* Mini pages which follow each other will be tiled. */
2825 text-align:left;
2826 margin: .25em .25em .25em .25em;
2827 padding: .25em .25em .25em .25em;
2828 display: inline-flex;
2829 flex-direction: column ;
2830 overflow: auto;
2831 }
2832
2833 .inlineminipage {
2834 display: inline-block ;
2835 text-align: left
2836 }
2837
2838 /* Paragraphs in the flexbox did not collapse their margins. */
2839 /* Have not yet researched this. */
2840 .minipage p {margin: .75ex 0em .75ex 0em ;}
2841
2842 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
2843 .fcolorbox .minipage, .fcolorboxBlock .minipage
2844 {border: none ; background: none;}
2845
2846 .fbox, .fboxBlock { border: 1px solid black ; }
2847
2848 .fbox, .fboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
2849 .fminipage, .fcolorminipage
2850 {display: inline-block}
2851
2852 .shadowbox, .shabox {
2853 border: 1px solid black;
2854 box-shadow: 3px 3px 3px #808080 ;
2855 border-radius: 0px ;
2856 padding: .4ex .3em .4ex .3em ;
2857 margin: 0pt .3ex 0pt .3ex ;
2858 display: inline-block ;
2859 }
2860
2861 .doublebox {
2862 border: 3px double black;
2863 border-radius: 0px ;
2864 padding: .4ex .3em .4ex .3em ;
2865 margin: 0pt .3ex 0pt .3ex ;
2866 display: inline-block ;
```

```
2867 }
2868
2869 .ovalbox, .Ovalbox {
2870 border: 1px solid black;
2871 border-radius: 1ex ;
2872 padding: .4ex .3em .4ex .3em ;
2873 margin: 0pt .3ex 0pt .3ex ;
2874 display: inline-block ;
2875 }
2876
2877 .Ovalbox { border-width: 2px ; }
2878
2879 .framebox {
2880 border: 1px solid black;
2881 border-radius: 0px ;
2882 padding: .3ex .2em 0ex .2em ;
2883 margin: 0pt .1ex 0pt .1ex ;
2884 display: inline-block ;
2885 }
2886
2887
2888 /* mdframed, tcolorbox, shadebox packages */
2889 .mdframed, .tcolorbox, .shadebox {
2890 padding: 0ex ;
2891 margin: 2ex 0em 2ex 0em ;
2892 border: 1px solid black ;
2893 }
2894
2895 .tcolorbox {
2896 border-radius: 10pt ;
2897 margin: 2ex 1em 2ex 1em ;
2898 }
2899
2900 .mdframed p, .tcolorbox p { padding: 0ex .5em 0ex .5em ; }
2901
2902 .mdframed dl, .tcolorbox dl { padding: 1ex .5em 0ex .5em ; }
2903
2904 .mdframedtitle, .tcolorboxtitle {
2905 padding: .5ex 0pt 0pt 0pt ;
2906 border-radius: 10pt 10pt 0pt 0pt ;
2907 display: block ;
2908 margin-bottom: 1ex ;
2909 border-bottom: 1px solid silver ;
2910 }
2911
2912 .tcolorboxsubtitle .tcolorbox {
2913 margin: 2ex 0em 2ex 0em ;
2914 border-radius: 0pt ;
2915 }
2916
2917 .mdframedsubtitle {
2918 display: block ;
2919 }
2920
2921 .mdframedsubsubtitle {
```

```
2922 display: block ;
2923 }
2924
2925 .mdtheorem {
2926 padding: 0ex .5em 0ex .5em ;
2927 margin: 3ex 5% 3ex 5% ;
2928 }
2929
2930
2931 /* framed package */
2932 .framed, pre.boxedverbatim, fcolorbox {
2933 margin: 3ex 0em 3ex 0em ;
2934 border: 1px solid black;
2935 border-radius: 0px ;
2936 padding: .3ex 1em 0ex 1em ;
2937 display: block ;
2938 }
2939
2940 .shaded {
2941 margin: 3ex 0em 3ex 0em ;
2942 padding: .3ex 1em .3ex 1em ;
2943 display: block ;
2944 }
2945
2946 .snugframed {
2947 margin: 3ex 0em 3ex 0em ;
2948 border: 1px solid black;
2949 border-radius: 0px ;
2950 display: block ;
2951 }
2952
2953 .framedleftbar {
2954 margin: 3ex 0em 3ex 0em ;
2955 border-left: 3pt solid black;
2956 border-radius: 0px ;
2957 padding: .3ex .2em .3ex 1em ;
2958 display: block ;
2959 }
2960
2961 .framedtitle {
2962 margin: 0em ;
2963 padding: 0em ;
2964 font-size: 130%
2965 }
2966
2967 .framedtitle p { padding: .3em }
2968
2969
2970 /* For the niceframe package: */
2971
2972 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
2973 padding: 1ex ;
2974 margin: 2ex auto ;
2975 border-radius: 2ex ;
2976 }
```

```
2977
2978 div.niceframe {
2979 border: 6px groove black ;
2980 }
2981
2982 div.curlyframe {
2983 border-left: 3px dotted black ;
2984 border-right: 3px dotted black ;
2985 border-radius: 6ex ;
2986 }
2987
2988 div.artdecoframe {
2989 border-left: 10px double black ;
2990 border-right: 10px double black ;
2991 border-radius: 6ex ;
2992 }
2993
2994 div.generalframe {
2995 border: 6px groove black ;
2996 }
2997
2998
2999
3000 dl {
3001 margin: 1ex 2em 1ex 0em;
3002 line-height: 1.3;
3003 }
3004
3005 dl dt {
3006 display: block ;
3007 float:left ;
3008 font-weight: bold;
3009 padding-right: 1em ;
3010 }
3011
3012 dl dd { display: block ; }
3013
3014 dl dd:after { content: "" ; display: block ; clear: both }
3015
3016 dl dd p { margin-top: 0em; }
3017
3018 dd ul, dd ol, dd dl {
3019 clear: both ;
3020 /* padding-top: 1ex ; */
3021 }
3022
3023
3024 nav {
3025 font-family: "URW Classico", Optima, "Linux Biolinum O",
3026 "DejaVu Sans", "Bitstream Vera Sans",
3027 Geneva, Verdana, sans-serif ;
3028 margin-bottom: 4ex ;
3029 }
3030
3031 nav p {
```

```
3032 line-height: 1.2 ;
3033 margin-top:.5ex ;
3034 margin-bottom:.5ex;
3035 font-size: .9em ;
3036 }
3037
3038
3039
3040 img, img.hyperimage, img.borderimage {
3041 max-width: 600px;
3042 border: 1px solid silver;
3043 box-shadow: 3px 3px 3px #808080 ;
3044 padding: .5% ;
3045 margin: .5% ;
3046 background: none ;
3047 }
3048
3049 img.inlineimage{
3050 padding: 0px ;
3051 box-shadow: none ;
3052 border: none ;
3053 background: none ;
3054 margin: 0px ;
3055 display: inline-block ;
3056 border-radius: 0px ;
3057 }
3058
3059 img.logoimage{
3060 max-width: 300px ;
3061 box-shadow: 3px 3px 3px #808080 ;
3062 border: 1px solid black ;
3063 background:none ;
3064 padding:0 ;
3065 margin:.5ex ;
3066 border-radius: 10px ;
3067 }
3068
3069
3070 .section {
3071 /*
3072 To have each section float relative to each other:
3073 */
3074 /*
3075 display: block ;
3076 float: left ;
3077 position: relative ;
3078 background: white ;
3079 border: 1px solid silver ;
3080 padding: .5em ;
3081 */
3082 margin: 0ex .5em 0ex .5em ;
3083 padding: 0 ;
3084 }
3085
3086
```

```
3087 figure {
3088 margin: 5ex auto 5ex auto ;
3089 padding: 1ex 1em 1ex 1em ;
3090 overflow-x: auto ;
3091 }
3092
3093
3094 /* To automatically center images in figures: */
3095 /*
3096 figure img.inlineimage {
3097 margin: 0ex auto 0ex auto ;
3098 display: block ;
3099 }
3100 */
3101
3102 /* To automatically center minipages in figures: */
3103 /*
3104 figure div.minipage, figure div.minipage div.minipage {
3105 margin: 1ex auto 1ex auto ;
3106 display: block ;
3107 }
3108 */
3109
3110 figure figure { margin: 0pt }
3111
3112 figure div.minipage p { font-size: 85% ; }
3113
3114 figure.subfigure, figure.subtable {
3115 display: inline-block ; margin: 3ex 1em 3ex 1em ;
3116 }
3117
3118 div.figurecaption .minipage { margin:0 ; padding: 0 }
3119
3120 div.minipage figure { border: none ; box-shadow: none ; }
3121 div.minipage figure.table { margin: 0ex }
3122 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
3123
3124 div.floatrow { text-align: center; }
3125
3126 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
3127
3128 div.floatfoot { font-size: .85em ;
3129 border-top: 1px solid silver ; line-height: 1.2 ; }
3130
3131 div.figurecaption , .lstlistingtitle {
3132 font-size: .85em ;
3133 text-align: center ;
3134 font-weight: bold ;
3135 margin-top: 1ex ;
3136 margin-bottom: 1ex ;
3137 }
3138
3139 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
3140 border-bottom: none ; background: none ;
3141 }
```

```

3142
3143 div.nonfloatcaption {
3144 margin: 1ex auto 1ex auto ;
3145 font-size: .85em ;
3146 text-align: center ;
3147 font-weight: bold ;
3148 }
3149
3150 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
3151 figure div.floatrow div.minipage div.figurecaption {
3152 border: none ;
3153 background: none ;
3154 }
3155
3156
3157 /* For packages such as float, rotfloat, and algorithm2e: */
3158
3159 figure.boxed, figure.boxruled {
3160 border: 1px solid black ;
3161 }
3162
3163 figure.ruled {
3164 border-top: 1px solid black ;
3165 border-bottom: 1px solid black ;
3166 border-left: 0px ;
3167 border-right: 0px ;
3168 border-radius: 0px ;
3169 background: none ;
3170 box-shadow: none ;
3171 }
3172
3173 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
3174 border-top: 1px solid silver ;
3175 border-bottom: 1px solid silver ;
3176 }
3177
3178
3179 table {
3180 margin: 1ex auto 1ex auto ;
3181 border-collapse: separate ;
3182 border-spacing: 0px ;
3183 line-height: 1.3 ;
3184 }
3185
3186 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;
3187 margin-bottom: 0ex ; } /* for \hline */
3188
3189 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
3190 margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
3191
3192 td {padding: .5ex .5em .5ex .5em ;}
3193
3194 table td.tdl { text-align: left ; vertical-align: middle ; }
3195 table td.tdc { text-align: center ; vertical-align: middle ; }
3196 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }

```



```

3197 table td.tdbang { text-align: center ; vertical-align: middle ; }
3198 table td.tdr { text-align: right ; vertical-align: middle ; }
3199 table td.tdp { text-align: left ; vertical-align: bottom ; }
3200 table td.tdm { text-align: left ; vertical-align: middle ; }
3201 table td.tdb { text-align: left ; vertical-align: top ; }
3202 table td.tdP { text-align: center ; vertical-align: bottom ; }
3203 table td.tdM { text-align: center ; vertical-align: middle ; }
3204 table td.tdB { text-align: center ; vertical-align: top ; }
3205
3206 table td.tvertbarl { border-left: 1px solid black }
3207 table td.tvertbardouble { border-left: 4px double black }
3208 table td.tvertbarr { border-right: 1px solid black }
3209 table td.tvertbarrdouble { border-right: 4px double black }
3210
3211 table td.tvertbarldash { border-left: 1px dashed black }
3212 table td.tvertbardoubledash { border-left: 2px dashed black }
3213 table td.tvertbarrdash { border-right: 1px dashed black }
3214 table td.tvertbarrdoubledash { border-right: 2px dashed black }
3215
3216
3217 /* for cmidrules: */
3218 table td.tdrule {
3219 border-top: 1px solid #A0A0A0 ;
3220 }
3221
3222 table td.tdrulel {
3223 border-top-left-radius:.5em ;
3224 border-top: 1px solid #A0A0A0 ;
3225 }
3226
3227 table td.tdruler {
3228 border-top-right-radius:.5em ;
3229 border-top: 1px solid #A0A0A0 ;
3230 }
3231
3232 table td.tdrulelr {
3233 border-top-left-radius:.5em ;
3234 border-top-right-radius:.5em ;
3235 border-top: 1px solid #A0A0A0 ;
3236 }
3237
3238
3239 /* Margins of paragraphs inside table cells: */
3240 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p { padding-top: 1ex ;
3241 padding-bottom: 1ex ; margin: 0ex ; }
3242 td.tdm p , td.tdmrule p , td.tdM p , td.tdMrule p { padding-top: 1ex ;
3243 padding-bottom: 1ex ; margin: 0ex ; }
3244 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p { padding-top: 1ex ;
3245 padding-bottom: 1ex ; margin: 0ex ; }
3246
3247 td.tdp , td.tdprule , td.tdP , td.tdPrule
3248 { padding: 0ex .5em 0ex .5em ; }
3249 td.tdm , td.tdmrule , td.tdM , td.tdMrule
3250 { padding: 0ex .5em 0ex .5em ; }
3251 td.tdb , td.tdbrule , td.tdB , td.tdBrule

```

```

3252 { padding: 0ex .5em 0ex .5em ; }
3253
3254
3255 /* table notes: */
3256 .tnotes {
3257 margin: 0ex 5% 1ex 5% ;
3258 padding: 0.5ex 1em 0.5ex 1em;
3259 font-size:.80em;
3260 text-align: left ;
3261 }
3262
3263 .minipage .tnotes {
3264 margin: 0pt ;
3265 padding: 0pt ;
3266 }
3267
3268 .tnotes dl dt p {margin-bottom:0px;}
3269
3270 .tnoteitemheader {margin-right: 1em;}
3271
3272
3273 /* for colortbl and cell color */
3274 div.cellcolor {
3275 width: 100% ;
3276 padding: .5ex .5em .5ex .5em ;
3277 margin: -.5ex -.5em -.5ex -.5em ;
3278 }
3279
3280
3281 /* for lyluatex */
3282 span.lyluatex {
3283 display: inline-block ;
3284 }
3285
3286 div.lyluatex p span.lateximagesource img {
3287 display: block ;
3288 margin-top: 3ex ;
3289 margin-bottom: 3ex ;
3290 }
3291
3292
3293 /* for bigdelim */
3294 .ldelim, .rdelim { font-size: 200% }
3295
3296
3297 /* center, flushleft, flushright environments */
3298 div.center{text-align:center;}
3299 div.center table {margin-left:auto;margin-right:auto;}
3300 div.flushleft{text-align:left;}
3301 div.flushleft table {margin-left:0em ; margin-right:auto;}
3302 div.flushright{text-align:right;}
3303 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3304
3305
3306 /* Fancybox */

```

```
3307 div.Btrivlist table tr td {
3308 padding: .2ex 0em ;
3309 }
3310
3311
3312 /* program listing callouts: */
3313 span.callout {
3314 font-family: "DejaVu Sans", "Bitstream Vera Sans",
3315 Geneva, Verdana, sans-serif ;
3316 border-radius: .5em;
3317 background-color: black;
3318 color: white;
3319 padding: 0px .25em 0px .25em;
3320 margin: 0 ;
3321 font-weight: bold;
3322 font-size: .72em ;
3323 }
3324
3325 div.programlisting pre.verbatim span.callout{
3326 font-size: .85em ;
3327 }
3328
3329 span.verbatim {
3330 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3331 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3332 "Courier New", monospace;
3333 }
3334
3335
3336
3337 div.titlehead
3338 {
3339 text-align: left ;
3340 font-style: normal ;
3341 font-weight: normal ;
3342 font-style: normal ;
3343 font-size: .8em ;
3344 margin: 1ex 0em 1ex 0em ;
3345 }
3346
3347 div.subject
3348 {
3349 text-align: center ;
3350 font-style: normal ;
3351 font-weight: bold ;
3352 font-style: normal ;
3353 font-size: .8em ;
3354 margin: 1ex 0em 1ex 0em ;
3355 }
3356
3357 div.published
3358 {
3359 text-align: center ;
3360 font-variant: normal ;
3361 font-style: italic ;
```

```
3362 font-size: 1em ;
3363 margin: 1ex 0em 1ex 0em ;
3364 }
3365
3366 div.subtitle
3367 {
3368 text-align: center ;
3369 font-variant: normal ;
3370 font-style: italic ;
3371 font-size: 1.25em ;
3372 margin: 1ex 0em 1ex 0em ;
3373 }
3374
3375 div.subtitle p { margin: 1ex ; }
3376
3377 div.author
3378 {
3379 font-variant: normal ;
3380 font-style: normal ;
3381 font-size: 1em ;
3382 margin: 1ex 0em 1ex 0em ;
3383 }
3384
3385 div.oneauthor {
3386 display: inline-block ;
3387 margin: 0ex 1em 0ex 1em ;
3388 }
3389
3390 /*
3391 div.author table {
3392 margin: 1ex auto 0ex auto ;
3393 background: none ;
3394 }
3395
3396 div.author table tbody tr td { padding: .25ex ; }
3397 */
3398
3399 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3400
3401 div.titledate {
3402 text-align: center ;
3403 font-size: .85em ;
3404 font-style: italic;
3405 margin: 1ex 0em 1ex 0em ;
3406 }
3407
3408
3409 nav.topnavigation{
3410 text-align: left ;
3411 padding: 0.5ex 1em 0.5ex 1em ;
3412 /* margin: 2ex 0em 3ex 0em ; */
3413 margin: 0 ;
3414 border-bottom: 1px solid silver ;
3415 border-top: 1px solid silver ;
3416 clear:both ;
```

```
3417 }
3418
3419 nav.botnavigation{
3420 text-align: left ;
3421 padding: 0.5ex 1em 0.5ex 1em ;
3422 /* margin: 3ex 0em 2ex 0em ; */
3423 margin: 0 ;
3424 border-top: 1px solid silver ;
3425 border-bottom: 1px solid silver ;
3426 clear:both ;
3427 }
3428
3429
3430 header {
3431 line-height: 1.2 ;
3432 font-size: 1em ;
3433 border-bottom: 1px solid silver ;
3434 margin: 0px ;
3435 padding: 2ex 1em 2ex 1em ;
3436 text-align:left ;
3437 }
3438
3439
3440 footer {
3441 font-size: .85em ;
3442 line-height: 1.2 ;
3443 margin-top: 1ex ;
3444 border-top: 1px solid silver ;
3445 padding: 2ex 1em 2ex 1em ;
3446 clear:both ;
3447 text-align:left ;
3448 }
3449
3450
3451 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3452 a.linkhome { font-weight:bold ; font-size: 1em ;}
3453
3454
3455 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3456
3457 img.lateximage{
3458 padding: 0pt ;
3459 margin: 0pt ;
3460 box-shadow: none ;
3461 border: none ;
3462 background: none ;
3463 max-width: 100% ;
3464 border-radius: 0ex ;
3465 border: none ;
3466 }
3467
3468
3469 /* The -1px right margin compensates for the 1px right border. */
3470 /* Without this -1px margin, the body container appears below instead */
3471 /* of floating to the side. */
```

```
3472 div.sidetoccontainer {
3473 font-family: "DejaVu Serif", "Bitstream Vera Serif",
3474 "Lucida Bright", Georgia, serif;
3475 float: left ;
3476 width: 20%;
3477 margin: 0pt -1px 3ex 0pt ;
3478 border-right: 1px solid silver;
3479 border-bottom: 1px solid silver;
3480 background: #FAF7F4 ;
3481 font-size:.9em ;
3482 border-radius: 0px 0px 20px 0px ;
3483 }
3484
3485 div.sidetoccontents {
3486 overflow-y: auto ;
3487 width: 100% ;
3488 text-align: left ;
3489 }
3490
3491
3492 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
3493 text-indent: 0 ; }
3494
3495 nav.sidetoc p a {color:black ; font-size: .7em ;}
3496
3497 div.sidetocitle {font-size: 1.2em; font-weight:bold; text-align:center;
3498 border-bottom: 1px solid silver ; }
3499
3500 nav.sidetoc a:hover {text-decoration: underline ; }
3501
3502
3503
3504 section.textbody { margin: 0ex 1em 0ex 1em ;}
3505
3506
3507 div.multicolsheading { -webkit-column-span: all;
3508 -moz-column-span: all; column-span: all; }
3509 div.multicols { -webkit-columns: 3 380px ;
3510 -moz-columns: 3 380px ; columns: 3 380px ; }
3511 div.multicols p {margin-top: 0ex}
3512
3513
3514 /* Used for xfrac and nicefrac: */
3515 span.numerator {
3516 font-size: 60% ;
3517 vertical-align: .4em ;
3518 }
3519
3520 span.denominator {
3521 font-size: 60%
3522 }
3523
3524
3525 /* Used for algorithm2e: */
3526 div.alg2evline{
```

```
3527 margin-left: 1em ;
3528 padding-left: 1em ;
3529 border-left: 1px solid black ;
3530 border-radius: 0px 0px 0px 1ex ;
3531 }
3532
3533 div.alg2evsline{
3534 margin-left: 1em ;
3535 padding-left: 1em ;
3536 border-left: 1px solid black ;
3537 }
3538
3539 div.alg2enoline{
3540 margin-left: 1em ;
3541 padding-left: 1em ;
3542 }
3543
3544 span.alg2elinenumber{
3545 margin-right: .5em ;
3546 font-size: 50% ;
3547 color: red ;
3548 }
3549
3550
3551 /* Used for algorithmicx: */
3552 span.floatright { float: right ; }
3553
3554
3555 /* keyfloat and tocdata: */
3556 .floatnotes {
3557 margin: 0ex 5% 0ex 5% ;
3558 padding: 0ex 1em 0ex 1em ;
3559 font-size:.80em ;
3560 text-align: left ;
3561 }
3562
3563 .authorartist{
3564 display:block ;
3565 font-size:.70em ;
3566 font-style: italic;
3567 }
3568
3569 nav .authorartist{ display:inline; }
3570
3571
3572
3573 /* Native LaTeX theorems: */
3574
3575 .theoremcontents {
3576 font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3577 }
3578
3579 .theoremlabel {
3580 font-style: normal; font-weight: bold ; margin-right: .5em ;
3581 }
```

```
3582
3583
3584
3585 /* theorem, amsthm, and ntheorem packages */
3586
3587 span.theoremheader,
3588 span.theoremheaderplain,
3589 span.theoremheaderdefinition,
3590 span.theoremheaderbreak,
3591 span.theoremheadermarginbreak,
3592 span.theoremheaderchangebreak,
3593 span.theoremheaderchange,
3594 span.theoremheadermargin
3595 {
3596 font-style:normal ; font-weight: bold ; margin-right: 1em ;
3597 }
3598
3599 span.amsthmnameplain,
3600 span.amsthmnamedefinition,
3601 span.amsthmnumberplain,
3602 span.amsthmnumberdefinition
3603 {
3604 font-style:normal ; font-weight: bold ;
3605 }
3606
3607
3608 span.amsthmnameremark,
3609 span.amsthmnumberremark
3610 {font-style:italic ; font-weight: normal ; }
3611
3612
3613 span.amsthmnoteplain,
3614 span.amsthmnotedefinition
3615 {font-style:normal ;}
3616
3617
3618 span.theoremheaderremark,
3619 span.theoremheaderproof,
3620 span.amsthmproofname
3621 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3622
3623 span.theoremheadersc
3624 {
3625 font-style:normal ;
3626 font-variant: small-caps ;
3627 font-weight: normal ;
3628 margin-right: 1em ;
3629 }
3630
3631 .theoremendmark {float:right}
3632
3633 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
3634 div.theorembodybreak, div.theorembodynonumberbreak,
3635 div.theorembodymarginbreak,
3636 div.theorembodychangebreak,
```



```
3637 div.theorembodychange,
3638 div.theorembodymargin
3639 {
3640 font-style:italic;
3641 margin-top: 3ex ; margin-bottom: 3ex ;
3642 }
3643
3644 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3645 div.theorembodyplainupright, nonumberplainuprightsc,
3646 div.amsthmbodydefinition, div.amsthmbodyremark,
3647 div.amsthmproof
3648 {
3649 font-style: normal ;
3650 margin-top: 3ex ; margin-bottom: 3ex ;
3651 }
3652
3653 span.amsthmnoteremark {}
3654
3655
3656 /* thmbox */
3657
3658 .thmbox {
3659 font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3660 border: 1px solid gray ;
3661 padding: 1ex ;
3662 }
3663
3664 .thmboxtitle {
3665 font-style: normal; font-weight: bold ; margin-right: .5em ;
3666 border-bottom: 1px solid gray ;
3667 }
3668
3669 span.thmboxproofname, span.thmboxexemplename {
3670 font-weight: bold ;
3671 }
3672
3673 div.thmboxproof, div.thmboxexample {
3674 font-size: 0.85em ;
3675 margin: 2ex ;
3676 }
3677
3678 div.thmboxleftbar {
3679 border-left: 2px solid black ;
3680 padding-left: 1em ;
3681 }
3682
3683
3684
3685 /* For the backnaur package: */
3686 div.backnaur {
3687 display: block ;
3688 margin: 2ex 2em 2ex 2em ;
3689 }
3690
3691 div.backnaur p {
```

```
3692 margin: .25ex 0ex .25ex 0ex ;
3693 }
3694
3695 div.backnaurprod {
3696 display: inline-block ;
3697 min-width: 8em ;
3698 text-align:right ;
3699 }
3700
3701 div.backnaurdsc {
3702 display: inline-block ;
3703 }
3704
3705
3706 /* For the notes package: */
3707 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3708 clear: both ;
3709 margin: 2ex 2em 2ex 2em ;
3710 border: 1px solid silver ;
3711 }
3712
3713 div.notesicon {
3714 float:left ;
3715 display: inline-block ;
3716 background: gold ;
3717 padding: 0ex 1em 0ex 1em ;
3718 margin-right: 1em ;
3719 font-weight: bold ;
3720 }
3721
3722 div.notescontents { font-style: italic }
3723
3724
3725 /* nolbreaks package: */
3726 span.nolbreaks { white-space: nowrap ; }
3727
3728
3729 /*
3730 For CSS LaTeX and related logos:
3731 Based on spacing demonstrated by the metafont package.
3732
3733 The subscripts are shrunk instead of lowered below the baseline,
3734 to avoid browser rendering errors with the line height in lists, etc.
3735 */
3736
3737 .latexlogofont {
3738 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3739 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3740 font-variant: normal ;
3741 }
3742
3743 .latexlogo {
3744 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3745 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3746 }
```

```
3747
3748 .latexlogosup {
3749 text-transform: uppercase;
3750 letter-spacing: .03em ;
3751 font-size: 0.7em;
3752 vertical-align: 0.25em;
3753 margin-left: -0.4em;
3754 margin-right: -0.15em;
3755 }
3756
3757 .latexlogosub {
3758 text-transform: uppercase;
3759 /* vertical-align: -0.27ex; */
3760 margin-left: -0.08em;
3761 margin-right: -0.07em;
3762 /* font-size: 1em; */
3763 font-size: .7em ;
3764 }
3765
3766 .latexlogotwoe {
3767 text-transform: none ;
3768 font-variant-numeric: oldstyle-nums ;
3769 }
3770
3771 .latexlogotwoesub {
3772 font-style:italic ;
3773 /* vertical-align: -0.27ex; */
3774 margin-left: -0.11em;
3775 margin-right: -0.1em;
3776 /* font-size: 1em; */
3777 font-size: .7em ;
3778 }
3779
3780 .xelatexlogo {
3781 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3782 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3783 letter-spacing: .03em ;
3784 }
3785
3786 .xelatexlogosub {
3787 /* vertical-align: -0.27ex; */
3788 margin-left: -0.0667em;
3789 margin-right: -.05em;
3790 /* font-size: 1em; */
3791 font-size: .7em ;
3792 letter-spacing: .03em ;
3793 }
3794
3795 .amslogo {
3796 font-family: "TeXGyreChorus","URW Chancery L",
3797 "Apple Chancery","ITC Zapf Chancery","Monotype Corsiva",
3798 "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
3799 "Hoefler Text", Times, "Times New Roman", serif ;
3800 font-style: italic ;
3801 }
```

```
3802
3803 .lyxlogo {
3804 font-family: "URW Classico", Optima, "Linux Biolinum O",
3805 "DejaVu Sans", "Bitstream Vera Sans", Geneva,
3806 Verdana, sans-serif ;
3807 }
3808
3809
3810 /* Only display top and bottom navigation if a small screen: */
3811 /* Hide the sidetoc if a small screen: */
3812 nav.topnavigation { display:none; }
3813 nav.botnavigation { display:none; }
3814
3815 /* Only display the sidetoc's webpage title if a small screen */
3816 span.sidetocthetitle { display: none }
3817
3818 @media screen and (max-width: 50em) {
3819 div.sidetoccontainer {
3820 float: none ;
3821 width: 100% ;
3822 padding: 0 ;
3823 border-radius: 0 ;
3824 border-bottom: 1px solid black ;
3825 border-top: 1px solid black ;
3826 box-shadow: none ;
3827 }
3828 span.sidetocthetitle { display: inline }
3829 nav.topnavigation { display:block }
3830 nav.botnavigation { display:block }
3831 div.bodycontainer { width: 100% }
3832 .marginpar {
3833 max-width: 100%;
3834 float: none;
3835 display:block ;
3836 margin: 1ex 1em 1ex 1em ;
3837 }
3838 }
3839
3840 @media print {
3841 body {
3842 font-family: "Linux Libertine O",
3843 "DejaVu Serif", "Bitstream Vera Serif",
3844 "Liberation Serif", "Nimbus Roman No 9 L",
3845 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3846 }
3847 div.sidetoccontainer { display:none; }
3848 nav.topnavigation { display: none; }
3849 nav.botnavigation { display: none; }
3850 div.bodycontainer { width: 100% }
3851 }
3852
3853 @media handheld {
3854 div.sidetoccontainer { display:none; }
3855 nav.topnavigation { display:block }
3856 nav.botnavigation { display:block }
```

```

3857 div.bodycontainer { width: 100% }
3858 }
3859
3860 @media projection {
3861 div.sidetoccontainer { display:none; }
3862 nav.topnavigation { display:block }
3863 nav.botnavigation { display:block }
3864 div.bodycontainer { width: 100% }
3865 }
3866 \end{filecontents*}
3867 % \end{Verbatim}% for syntax highlighting
3868 \end{LWRwriteconf}

```

## 40.5 lwarp\_sagebrush.css

File lwarp\_sagebrush.css An optional css which may be used for a semi-modern appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

3869 \begin{LWRwriteconf}
3870 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
3871 @import url("lwarp.css") ;
3872
3873
3874 A:link {color:#105030 ; text-decoration: none ; }
3875 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
3876 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
3877 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
3878
3879
3880
3881 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
3882 {
3883 font-family: "URW Classico", Optima, "Linux Biolinum O",
3884 "Linux Libertine O", "Liberation Serif",
3885 "Nimbus Roman No 9 L", "FreeSerif",
3886 "Hoefler Text", Times, "Times New Roman", serif;
3887 font-variant: small-caps ;
3888 font-weight: normal ;
3889 color: #304070 ;
3890 text-shadow: 2px 2px 3px #808080;
3891 }
3892
3893 h1 { /* title of the entire website, used on each page */
3894 font-variant: small-caps ;
3895 color: #304070 ;
3896 text-shadow: 2px 2px 3px #808080;
3897 background-color: #F7F7F0 ;
3898 background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
3899 }
3900
3901 h1 {
3902 border-bottom: 1px solid #304070;

```

```
3903 /* border-top: 2px solid #304070; */
3904 }
3905
3906 h2 {
3907 border-bottom: 1px solid #304070;
3908 /* border-top: 2px solid #304070; */
3909 background-color: #F7F7F0 ;
3910 background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
3911 }
3912
3913
3914
3915 div.abstract {
3916 background: #f5f5eb ;
3917 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3918
3919 border: 1px solid silver;
3920 border-radius: 1em ;
3921 }
3922
3923 div.abstract dl {line-height:1.5;}
3924 div.abstract dt {color:#304070;}
3925
3926 div.abstracttitle{
3927 font-family: "URW Classico", Optima, "Linux Biolinum O",
3928 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3929 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3930 font-weight:bold;
3931 font-variant: small-caps ;
3932 font-size:1.5em;
3933 border-bottom: 1px solid silver ;
3934 color: #304070 ;
3935 text-align: center ;
3936 text-shadow: 1px 1px 2px #808080;
3937 }
3938
3939 span.abstracrunintitle{
3940 font-family: "URW Classico", Optima, "Linux Biolinum O",
3941 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3942 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3943 font-weight:bold;
3944 }
3945
3946
3947 div.epigraph, div.dictum {
3948 background: #f5f5eb ;
3949 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3950
3951 border: 1px solid silver ;
3952 border-radius: 1ex ;
3953 box-shadow: 3px 3px 3px #808080 ;
3954 }
3955
3956
3957 .example {
```

```
3958 background-color: #f5f5eb ;
3959 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3960
3961 }
3962
3963 div.exampletitle{
3964 font-family: "URW Classico", Optima, "Linux Biolinum O",
3965 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3966 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3967 font-weight:bold;
3968 font-variant: small-caps ;
3969 border-bottom: 1px solid silver ;
3970 color: #304070 ;
3971 text-align: center ;
3972 text-shadow: 1px 1px 2px #808080;
3973 }
3974
3975
3976 .sidebar {
3977 background-color: #f5f5eb ;
3978 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3979
3980 }
3981
3982 div.sidebartitle{
3983 font-family: "URW Classico", Optima, "Linux Biolinum O",
3984 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3985 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3986 font-weight:bold;
3987 font-variant: small-caps ;
3988 border-bottom: 1px solid silver ;
3989 color: #304070 ;
3990 text-align: center ;
3991 text-shadow: 1px 1px 2px #808080;
3992 }
3993
3994
3995 .fancyvrblabel {
3996 font-family: "URW Classico", Optima, "Linux Biolinum O",
3997 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3998 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3999 font-weight:bold;
4000 font-variant: small-caps ;
4001 font-size: 1.5em ;
4002 color: #304070 ;
4003 text-align: center ;
4004 text-shadow: 1px 1px 2px #808080;
4005 }
4006
4007 div.minipage {
4008 background-color: #eeeeee7 ;
4009 border: 1px solid silver ;
4010 border-radius: 1ex ;
4011 }
4012
```

```
4013 table div.minipage { background: none ; border: none ; }
4014
4015 div.framebox div.minipage {border:none ; background:none}
4016
4017 section.textbody > div.minipage {
4018 box-shadow: 3px 3px 3px #808080 ;
4019 }
4020
4021 div.fboxBlock div.minipage { box-shadow: none ; }
4022
4023 .framed .minipage , .framedleftbar .minipage {
4024 border: none ;
4025 background: none ;
4026 padding: 0ex ;
4027 margin: 0ex ;
4028 }
4029
4030 figure.figure .minipage, div.figurecaption .minipage { border: none; }
4031
4032 div.marginblock div.minipage ,
4033 div.marginparblock div.minipage
4034 { border: none; }
4035
4036 figure , div.marginblock {
4037 background-color: #eeeeee7 ;
4038 border: 1px solid silver ;
4039 border-radius: 1ex ;
4040 box-shadow: 3px 3px 3px #808080 ;
4041 }
4042
4043 figure figure {
4044 border: 1px solid silver ;
4045 margin: 0em ;
4046 box-shadow: none ;
4047 }
4048
4049 /*
4050 div.figurecaption {
4051 border-top: 1px solid silver ;
4052 border-bottom: 1px solid silver ;
4053 background-color: #e8e8e8 ;
4054 }
4055 */
4056
4057
4058 div.table {
4059 box-shadow: 3px 3px 3px #808080 ;
4060 }
4061
4062 /*
4063 .tnotes {
4064 background: #e8e8e8;
4065 border: 1px solid silver;
4066 }
4067 */
```



```

4068
4069
4070 nav.topnavigation{
4071 background-color: #b0b8b0 ;
4072 background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
4073 }
4074
4075 nav.botnavigation{
4076 background-color: #b0b8b0 ;
4077 background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
4078 }
4079
4080
4081
4082 header{
4083 background-color: #F7F7F0 ;
4084 background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);
4085 }
4086
4087 footer{
4088 background-color: #F7F7F0 ;
4089 background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);
4090 }
4091
4092
4093
4094 div.sidetoccontainer {
4095 background-color: #F7F7F0 ;
4096 background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);
4097 box-shadow: 3px 3px 3px #808080 ;
4098 }
4099
4100 div.sidetocitle {color: #304070 ; }
4101
4102 nav.sidetoc a:hover {
4103 color:#006000 ;
4104 text-decoration: none ;
4105 text-shadow:0px 0px 2px #a0a0a0;
4106 }
4107
4108
4109 @media screen and (max-width: 45em) {
4110 div.sidetoccontainer { border-radius: 0 ; }
4111 }
4112
4113
4114 \end{filecontents*}
4115 % \end{Verbatim}% for syntax highlighting
4116 \end{LWRwriteconf}

```

## 40.6 lwarp\_formal.css

File lwarp\_formal.css An optional css which may be used for a more formal appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

4117 \begin{LWRwriteconf}
4118 \begin{filecontents*}[overwrite]{lwarp_formal.css}
4119 @import url("lwarp.css") ;
4120
4121
4122
4123 A:link {color:#802020 ; text-decoration:none; }
4124 A:visited {color:#802020 ; text-shadow:none ;}
4125 A:hover {color:#400000 ; text-shadow:none ;}
4126 A:active {color:#C00000 ; text-shadow:none ;}
4127
4128
4129 body {
4130 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4131 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4132 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4133 "Times New Roman", serif;
4134 background: #fffcf5;
4135 }
4136
4137 span.textrm {
4138 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4139 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4140 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4141 "Times New Roman", serif;
4142 }
4143
4144 span.textsf {
4145 font-family: "DejaVu Sans", "Bitstream Vera Sans",
4146 Geneva, Verdana, sans-serif ;
4147 }
4148
4149
4150
4151 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4152 {
4153 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4154 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4155 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4156 "Times New Roman", serif;
4157 color: #800000 ;
4158 text-shadow: none ;
4159 }
4160
4161 h1, h2 {
4162 background-color: #fffcf5 ;
4163 background-image: none ;
4164 border-bottom: 1px solid #808080;
4165 /* border-top: 2px solid #808080; */
4166 }
4167
4168 div.abstracttitle {
4169 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",

```

```
4170 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4171 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4172 "Times New Roman", serif;
4173 color: black ;
4174 text-shadow: none ;
4175 }
4176
4177 span.abstractrunintitle {
4178 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4179 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4180 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4181 "Times New Roman", serif;
4182 color: black ;
4183 text-shadow: none ;
4184 }
4185
4186 div.abstract { font-size: 100% }
4187
4188 .sidebar {
4189 background: #fffcf5;
4190 background-image: none ;
4191 margin: 2em 5% 2em 5%;
4192 padding: 0.5em 1em;
4193 border: none ;
4194 border-top : 1px solid silver;
4195 border-bottom : 1px solid silver;
4196 font-size: 90% ;
4197 }
4198
4199 div.sidebartitle{
4200 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4201 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4202 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4203 "Times New Roman", serif;
4204 color: #800000 ;
4205 text-shadow: none ;
4206 border: none ;
4207 }
4208
4209 .example {
4210 background: #fffcf5;
4211 background-image: none ;
4212 margin: 2em 5% 2em 5%;
4213 padding: 0.5em 1em;
4214 border: none ;
4215 border-top : 1px solid silver;
4216 border-bottom : 1px solid silver;
4217 }
4218
4219 div.exampletitle{
4220 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4221 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4222 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4223 "Times New Roman", serif;
4224 color: #800000 ;
```

```
4225 text-shadow: none ;
4226 border: none ;
4227 }
4228
4229 div.fancyvrblabel{
4230 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4231 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4232 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4233 "Times New Roman", serif;
4234 color: #800000 ;
4235 text-shadow: none ;
4236 border: none ;
4237 }
4238
4239
4240
4241 figure {
4242 margin: 5ex 5% 5ex 5% ;
4243 padding: 1ex 1em 1ex 1em ;
4244 background-color: #ffffcf5 ;
4245 overflow-x: auto ;
4246 border: none ;
4247 /* border-top: 1px solid silver; */
4248 /* border-bottom: 1px solid silver; */
4249 }
4250
4251
4252 div.figurecaption , .lstlisting {
4253 border: none ;
4254 /* border-top: 1px solid silver ; */
4255 /* border-bottom: 1px solid silver ; */
4256 background-color: #ffffcf5 ;
4257 }
4258
4259 .tnotes {
4260 background: #ffffcf5 ;
4261 border-top: 1px solid silver ;
4262 border-bottom: 1px solid silver ;
4263 }
4264
4265 .theorem {
4266 background: none ;
4267 }
4268
4269 .minipage {
4270 background-color: #ffffcf5 ;
4271 border: none ;
4272 }
4273
4274 div.floatrow figure { border: none ; }
4275
4276 figure figure { border: none ; }
4277
4278
4279 nav.toc, nav.lof, nav.lot, nav.lol {
```

```

4280 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4281 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4282 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4283 "Times New Roman", serif;
4284 }
4285
4286 div.sidetoccontainer {
4287 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4288 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4289 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4290 "Times New Roman", serif;
4291 background-image: linear-gradient(to bottom, #fffcf5, #C0C0C0);
4292 }
4293
4294 div.sidetoctitle{
4295 color: #800000 ;
4296 }
4297
4298 header{
4299 background-color: #e0e0e0 ;
4300 background-image: linear-gradient(to top, #fffcf5, #b0b0b0);
4301 text-align:center ;
4302 }
4303
4304 footer{
4305 background-color: #e0e0e0 ;
4306 background-image: linear-gradient(to bottom, #fffcf5, #b0b0b0);
4307 padding: 2ex 1em 2ex 1em ;
4308 text-align:left ;
4309 }
4310
4311 nav.botnavigation {
4312 background: #dedcd5 ;
4313 border-top: 1px solid black ;
4314 }
4315 \end{filecontents*}
4316 % \end{Verbatim}% for syntax highlighting
4317 \end{LWRwriteconf}

```

## 40.7 sample\_project.css

File sample\_project.css The project-specific css file. Use with \CSSFilename.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

4318 \begin{LWRwriteconf}
4319 \begin{filecontents*}[overwrite]{sample_project.css}
4320 /* (--- Start of project.css ---) */
4321 /* (--- A sample project-specific CSS file for lwarp ---) */
4322
4323 /* Uncomment one of the following: */
4324 @import url("lwarp.css") ;
4325 /* @import url("lwarp_formal.css") ; */

```

```

4326 /* @import url("lwarp_sagebrush.css") ; */
4327
4328 /* Project-specific CSS setting follow here. */
4329 /* . . . */
4330
4331 /* (--- End of project.css ---) */
4332 \end{filecontents*}
4333 % \end{Verbatim}% for syntax highlighting
4334 \end{LWRwriteconf}

```

## 40.8 lwarp.ist

File `lwarp.ist` Used to modify the index for `lwarp`.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The page compositor line is for `memoir`'s `\specialindex`.

**Config file:**

```

4335 \begin{LWRwriteconf}
4336 \begin{filecontents*}[overwrite]{lwarp.ist}
4337 preamble
4338 "\\begin{theindex}
4339 \providecommand*\lettergroupDefault[1]{}
4340 \providecommand*\lettergroup[1]{%
4341 \par\textbf{#1}\par
4342 \nopagebreak
4343 }
4344 "
4345 headings_flag 1
4346 heading_prefix "
4347 \lettergroup{"
4348 heading_suffix "}
4349 delim_0 " , \hyperindexref{"
4350 delim_1 " , \hyperindexref{"
4351 delim_2 " , \hyperindexref{"
4352 delim_n " }, \hyperindexref{"
4353 delim_r "} -- \hyperindexref{"
4354 delim_t "}"
4355 page_compositor "."
4356 \end{filecontents*}
4357 % \end{Verbatim}% for syntax highlighting
4358 \end{LWRwriteconf}

```

## 40.9 lwarp.xdy

File `lwarp.xdy` Used to modify the index for `lwarp`.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

See:

<https://tex.stackexchange.com/questions/80300/how-can-i-convince-hyperref-and-xindy-to-play-together-nicely>

**Config file:**

```

4359 \begin{LWRwriteconf}
4360 \begin{filecontents*}[overwrite]{lwarp.xdy}
4361 (require "tex/inputenc/latin.xdy")
4362 (merge-rule "\\PS *" "Postscript")
4363 (require "texindy.xdy")
4364 (require "page-ranges.xdy")
4365 (require "book-order.xdy")
4366 (define-location-class "arabic-page-numbers"
4367 ("arabic-numbers") :min-range-length 1)
4368 (require "makeindex.xdy")
4369 (define-attributes (("hyperindexref")))
4370 (markup-locref :open "\hyperindexref{" :close "}")
4371 (markup-locref :open "\hyperindexref{" :close "}" :attr "hyperpage")
4372 (markup-locref :open "\textbf{\hyperindexref{" :close "}" :attr "textbf")
4373 (markup-locref :open "\textit{\hyperindexref{" :close "}" :attr "textit")
4374 (define-location-class-order ("roman-page-numbers"
4375 "arabic-page-numbers"
4376 "alpha-page-numbers"
4377 "Roman-page-numbers"
4378 "Alpha-page-numbers"
4379 "see"
4380 "seealso"))
4381 \end{filecontents*}
4382 % \end{Verbatim}% for syntax highlighting
4383 \end{LWRwriteconf}

```

## 40.10 lwarp\_one\_limage.cmd

File lwarp\_one\_limage.cmd Used by **lwarp** to help make lateximages when using WINDOWS.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The arguments are each of the three fields from <project>-images.txt, and also the base name of the source file.

*MiKTeX* does not allow file lwarp\_one\_limage.cmd to be created directly by *lwarpmk*, so lwarp\_one\_limage.txt is created instead, then copied to lwarp\_one\_limage.cmd by *lwarpmk*. This occurs each time *lwarpmk* used to create lateximages.

**Config file:**

```

4384 \begin{LWRwriteconf}
4385 \immediate\openout\LWR@quickfile=lwarp_one_limage.txt
4386 \immediate\write\LWR@quickfile{%
4387 pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4388 \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4389 }
4390 \immediate\write\LWR@quickfile{%
4391 pdfcrop --hires \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4392 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4393 }

```

```

4394 \immediate\write\LWR@quickfile{%
4395 pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4396 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%
4397 }
4398 \immediate\write\LWR@quickfile{%
4399 del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4400 }
4401 \immediate\write\LWR@quickfile{%
4402 del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4403 }
4404 \immediate\write\LWR@quickfile{exit}
4405 \immediate\closeout\LWR@quickfile
4406 \end{LWRwriteconf}

```

## 40.11 lwarp\_mathjax.txt

(Emulates or patches code by DAVIDE P. CERVONE.)

**File** `lwarp_mathjax.txt` The default MATHJAX script used by `lwarp` when using MATHJAX. A recent version of MATHJAX is used, as served by the recommended repository. Adjustments are made to allow  $\LaTeX$  to control the equation tags and provide for starred macros.

`\MathJaxFilename` determines which script file is copied into the HTML pages, and defaults to `lwarp_mathjax.txt`. The script files must be present when compiling the project, but do not need to be present when distributing the resulting HTML files.

**custom script** To generate a custom script, such as to use a local repository, copy `lwarp_mathjax.txt` to a new file, make changes while keeping `lwarp`'s adjustments for equation numbering and starred macros, and use `\MathJaxFilename` to select the new filename.

**Config file:**

```

4407 \begin{LWRwriteconf}
4408 \begin{filecontents*}[overwrite]{lwarp_mathjax.txt}
4409 <script>
4410 // Lwarp MathJax emulation code
4411 //
4412 // Based on code by Davide P. Cervone.
4413 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
4414 // Starred and ifnextchar macros: https://github.com/mathjax/MathJax/issues/2428
4415 // \left, \right delimiters: https://github.com/mathjax/MathJax/issues/2535
4416 //
4417 // Modified by Brian Dunn to adjust equation numbering and add subequations.
4418 //
4419 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.
4420 // subequations? is 0 usually, 1 if inside subequations.
4421 // section is a string printed as-is, or empty.
4422 // number is auto-incremented by MathJax between equations.
4423 //
4424 MathJax = {
4425 subequations: "0",
4426 section: "",
4427 loader: {
4428 load: ['[tex]/tagformat', '[tex]/textmacros'],
4429 },
4430 startup: {

```



```

4431 ready() {
4432 // These would be replaced by import commands if you wanted to make
4433 // a proper extension.
4434 const Configuration = MathJax._.input.tex.Configuration.Configuration;
4435 const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;
4436 const Macro = MathJax._.input.tex.Symbol.Macro;
4437 const TexError = MathJax._.input.tex.TexError.default;
4438 const ParseUtil = MathJax._.input.tex.ParseUtil.default;
4439 const expandable = MathJax._.util.Options.expandable;
4440
4441 // Insert the replacement string into the TeX string, and check
4442 // that there haven't been too many macro substitutions (prevents
4443 // infinite loops).
4444 const useArgument = (parser, text) => {
4445 parser.string = ParseUtil.addArgs(parser, text, parser.string.slice(parser.i));
4446 parser.i = 0;
4447 if (++parser.macroCount > parser.configuration.options.maxMacros) {
4448 throw new TexError('MaxMacroSub1',
4449 'MathJax maximum macro substitution count exceeded; ' +
4450 'is there a recursive macro call?');
4451 }
4452 }
4453
4454 // Create the command map for:
4455 // \ifstar, \ifnextchar, \ifblank, \ifstrequal, \seteqnumber
4456 new CommandMap('Lwarp-macros', {
4457 ifstar: 'IfstarFunction',
4458 ifnextchar: 'IfnextcharFunction',
4459 ifblank: 'IfblankFunction',
4460 ifstrequal: 'IfstrequalFunction',
4461 seteqnumber: 'SeteqnumberFunction'
4462 }, {
4463 // This function implements an ifstar macro.
4464 IfstarFunction(parser, name) {
4465 const resultstar = parser.GetArgument(name);
4466 const resultnostar = parser.GetArgument(name);
4467 const star = parser.GetStar(); // true if there is a *
4468 useArgument(parser, star ? resultstar : resultnostar);
4469 },
4470
4471 // This function implements an ifnextchar macro.
4472 IfnextcharFunction(parser, name) {
4473 let whichchar = parser.GetArgument(name);
4474 if (whichchar.match(/^(?:0x[0-9A-F]+|[0-9]+)$/i)) {
4475 // $ syntax highlighting
4476 whichchar = String.fromCharCode(parseInt(whichchar));
4477 }
4478 const resultnextchar = parser.GetArgument(name);
4479 const resultnotnextchar = parser.GetArgument(name);
4480 const gotchar = (parser.GetNext() === whichchar);
4481 useArgument(parser, gotchar ? resultnextchar : resultnotnextchar);
4482 },
4483
4484 // This function implements an ifblank macro.
4485 IfblankFunction(parser, name) {

```

```

4486 const blankarg = parser.GetArgument(name);
4487 const resultblank = parser.GetArgument(name);
4488 const resultnotblank = parser.GetArgument(name);
4489 const isblank = (blankarg.trim() == "");
4490 useArgument(parser, isblank ? resultblank : resultnotblank);
4491 },
4492
4493 // This function implements an ifstrequal macro.
4494 IfstrequalFunction(parser, name) {
4495 const strequalfirst = parser.GetArgument(name);
4496 const strequalsecond = parser.GetArgument(name);
4497 const resultequal = parser.GetArgument(name);
4498 const resultnotequal = parser.GetArgument(name);
4499 const isequal = (strequalfirst == strequalsecond);
4500 useArgument(parser, isequal ? resultequal : resultnotequal);
4501 },
4502
4503 // This function modifies the equation numbers.
4504 SeteqnumberFunction(parser, name) {
4505 // Get the macro parameters
4506 const star = parser.GetStar(); // true if there is a *
4507 const optBrackets = parser.GetBrackets(name); // contents of optional brackets
4508 const newsubequations = parser.GetArgument(name); // the subequations argument
4509 const neweqsection = parser.GetArgument(name); // the eq section argument
4510 const neweqnumber = parser.GetArgument(name); // the eq number argument
4511 MathJax.config.subequations=newsubequations ; // a string with boolean meaning
4512 MathJax.config.section=neweqsection ; // a string with numeric meaning
4513 parser.tags.counter = parser.tags.allCounter = neweqnumber ;
4514 }
4515
4516 });
4517
4518 // Create the Lwarp-macros package
4519 Configuration.create('Lwarp-macros', {
4520 handler: {macro: ['Lwarp-macros']}
4521 });
4522
4523 MathJax.startup.defaultReady();
4524
4525 // For forward references:
4526 MathJax.startup.input[0].preFilters.add(({math}) => {
4527 if (math.inputData.recompile){
4528 MathJax.config.subequations = math.inputData.recompile.subequations;
4529 MathJax.config.section = math.inputData.recompile.section;
4530 }
4531 });
4532 MathJax.startup.input[0].postFilters.add(({math}) => {
4533 if (math.inputData.recompile){
4534 math.inputData.recompile.subequations = MathJax.config.subequations;
4535 math.inputData.recompile.section = MathJax.config.section;
4536 }
4537 });
4538
4539 // For \left, \right with unicode-math:
4540 const {DelimiterMap} = MathJax._.input.tex.SymbolMap;

```

```

4541 const {Symbol} = MathJax._.input.tex.Symbol;
4542 const {MapHandler} = MathJax._.input.tex.MapHandler;
4543 const delimiter = MapHandler.getMap('delimiter');
4544 delimiter.add('\lBrack', new Symbol('\lBrack', '\u27E6'));
4545 delimiter.add('\rBrack', new Symbol('\rBrack', '\u27E7'));
4546 delimiter.add('\lAngle', new Symbol('\lAngle', '\u27EA'));
4547 delimiter.add('\rAngle', new Symbol('\rAngle', '\u27EB'));
4548 delimiter.add('\lbrbrak', new Symbol('\lbrbrak', '\u2772'));
4549 delimiter.add('\rbrbrak', new Symbol('\rbrbrak', '\u2773'));
4550 delimiter.add('\lbag', new Symbol('\lbag', '\u27C5'));
4551 delimiter.add('\rbag', new Symbol('\rbag', '\u27C6'));
4552 delimiter.add('\llparenthesis', new Symbol('\llparenthesis', '\u2987'));
4553 delimiter.add('\rrparenthesis', new Symbol('\rrparenthesis', '\u2988'));
4554 delimiter.add('\llangle', new Symbol('\llangle', '\u2989'));
4555 delimiter.add('\rrangle', new Symbol('\rrangle', '\u298A'));
4556 delimiter.add('\Lbrak', new Symbol('\Lbrak', '\u27EC'));
4557 delimiter.add('\Rbrak', new Symbol('\Rbrak', '\u27ED'));
4558 delimiter.add('\lBrace', new Symbol('\lBrace', '\u2983'));
4559 delimiter.add('\rBrace', new Symbol('\rBrace', '\u2984'));
4560 delimiter.add('\lParen', new Symbol('\lParen', '\u2985'));
4561 delimiter.add('\rParen', new Symbol('\rParen', '\u2986'));
4562 delimiter.add('\lbrackubar', new Symbol('\lbrackubar', '\u298B'));
4563 delimiter.add('\rbrackubar', new Symbol('\rbrackubar', '\u298C'));
4564 delimiter.add('\lbrackultick', new Symbol('\lbrackultick', '\u298D'));
4565 delimiter.add('\rbracklrtick', new Symbol('\rbracklrtick', '\u298E'));
4566 delimiter.add('\lbracklltick', new Symbol('\lbracklltick', '\u298F'));
4567 delimiter.add('\rbrackurtick', new Symbol('\rbrackurtick', '\u2990'));
4568 delimiter.add('\langedot', new Symbol('\langedot', '\u2991'));
4569 delimiter.add('\rangledot', new Symbol('\rangledot', '\u2992'));
4570 delimiter.add('\lparenless', new Symbol('\lparenless', '\u2993'));
4571 delimiter.add('\rpengtr', new Symbol('\rpengtr', '\u2994'));
4572 delimiter.add('\Lparenltr', new Symbol('\Lparenltr', '\u2995'));
4573 delimiter.add('\Rparenless', new Symbol('\Rparenless', '\u2996'));
4574 delimiter.add('\lblrbrak', new Symbol('\lblrbrak', '\u2997'));
4575 delimiter.add('\rblrbrak', new Symbol('\rblrbrak', '\u2998'));
4576 delimiter.add('\lvzigzag', new Symbol('\lvzigzag', '\u29D8'));
4577 delimiter.add('\rvzigzag', new Symbol('\rvzigzag', '\u29D9'));
4578 delimiter.add('\Lvzigzag', new Symbol('\Lvzigzag', '\u29DA'));
4579 delimiter.add('\Rvzigzag', new Symbol('\Rvzigzag', '\u29DB'));
4580 delimiter.add('\lcurvyangle', new Symbol('\lcurvyangle', '\u29FC'));
4581 delimiter.add('\rcurvyangle', new Symbol('\rcurvyangle', '\u29FD'));
4582 delimiter.add('\Vvert', new Symbol('\Vvert', '\u2980'));
4583 } // ready
4584 }, // startup
4585
4586 tex: {
4587 packages: {'[+]': ['tagformat', 'Lwarp-macros', 'textmacros']},
4588 tags: "ams",
4589 tagformat: {
4590 number: function (n) {
4591 if(MathJax.config.subequations==0)
4592 return(MathJax.config.section + n);
4593 else
4594 return(MathJax.config.section + String.fromCharCode(96+n));
4595 },

```

```

4596 },
4597 }
4598 }
4599 </script>
4600
4601 <script
4602 id="MathJax-script"
4603 src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-ctml.js"
4604 ></script>
4605 \end{filecontents*}
4606 % \end{Verbatim}% for syntax highlighting
4607 \end{LWRwriteconf}

```

## 40.12 lwarpmk.lua — lwarpmk option

Opt lwarpmk Creates a local copy of *lwarpmk*.

Prog lwarpmk Command-line utility to process *lwarp* files and images.

[parallel processing](#) lateximages and svg math images are generated using multiple processes in parallel. For UNIX and LINUX, every 32 images the wait command is issued to wait for the previous batch of images to finish processing before starting a new batch. For WINDOWS, every 32 images one task is dispatched with

```
START /B /WAIT /BELOWNORMAL
```

which causes the operating system to wait until this lesser-priority tasks finishes, hopefully also waiting for the normal priority tasks which were already in progress to also complete. Afterwards, the next batch of images is started.

The following is only generated if the *lwarpmk* option was given to *lwarp*.

```

4608 \begin{LWRcreate!lwarpmk}

4609 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4610 #!/usr/bin/env texlua
4611
4612 -- Copyright 2016-2021 Brian Dunn
4613
4614
4615 printversion = "v0.895"
4616 requiredconfversion = "2" -- also at *lwarpmk.conf
4617
4618 function printhelp ()
4619 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.") ;
4620 end
4621
4622
4623 function printusage ()
4624 --
4625 -- Print the usage of the lwarpmk command:
4626 --
4627 print ([[
4628

```

```

4629 lwarpmk print [-p project]: Compile the print version if necessary.
4630 lwarpmk printl [-p project]: Forced single compile of the print version.
4631 lwarpmk printindex [-p project]: Process print indexes.
4632 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4633 lwarpmk html [-p project]: Compile the HTML version if necessary.
4634 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
4635 lwarpmk htmlindex [-p project]: Process HTML indexes.
4636 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
4637 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4638 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
4639 lwarpmk pdftohtml [-p project]:
4640 For use with latexmk or a Makefile:
4641 Converts project_html.pdf to project_html.html and individual HTML files.
4642 Finishes the HTML conversion even if there was a compile error.
4643 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
4644 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4645 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4646 *.idx, *.ind, *.bbl, *.log, *_html_inc.*, .gl*,
4647 *_html.pdf, *_html.html, *_html.sidetoc
4648 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
4649 lwarpmk cleanlimages: Removes all images from the "lateximages" directory.
4650 lwarpmk -v: Print the version number.
4651 lwarpmk -h: Print this help message.
4652 lwarpmk --help: Print this help message.
4653
4654]])
4655 -- printconf ()
4656 end
4657
4658
4659 function splitfilename (pathandfilename)
4660 --
4661 -- Separates out the path and extension from a filename.
4662 -- Returns path, filename with extension, and extension.
4663 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
4664 --
4665 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code_snippets:
4666 -- split_filename_in_to_path_filename_and_extension
4667 --
4668 if lfs.attributes(pathandfilename,"mode") == "directory" then
4669 local strPath = pathandfilename:gsub("[\\/]$", "") -- $(syntax highlighting)
4670 return strPath.."\\", "", ""
4671 end
4672 pathandfilename = pathandfilename.."."
4673 return pathandfilename:match("^(.-)([^\\"/]-)%.(^[^\\"/%.]-)?.$")
4674 end
4675
4676
4677 function splitfile (destfile,sourcefile)
4678 --
4679 -- Split one large sourcefile into a number of files,
4680 -- starting with destfile.
4681 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4682 --
4683 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;

```

```

4684 local sfile = io.open(sourcefile)
4685 io.output(destfile)
4686 for line in sfile:lines() do
4687 i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|") ;
4688 if ((i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
4689 -- split the file
4690 io.output(newfilename) ;
4691 else
4692 -- not a splitpoint
4693 io.write (line .. "\n") ;
4694 end
4695 end -- do
4696 io.close(sfile)
4697 end -- function
4698
4699
4700 function cvalueerror (line, linenum , cvalue)
4701 --
4702 -- Incorrect value, so print an error and exit.
4703 --
4704 print ("lwarpmk: ===")
4705 print ("lwarpmk: " .. linenum .. " : " .. line) ;
4706 print (
4707 "lwarpmk: incorrect variable value \"" .. cvalue ..
4708 "\" in lwarpmk.conf.\n"
4709) ;
4710 print ("lwarpmk: ===")
4711 -- printconf () ;
4712 os.exit(1) ;
4713 end
4714
4715
4716 function printhowtorecompile ()
4717 -- Tells the user how to recompile to regenerate the configuration files.
4718 print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf")
4719 print ("lwarpmk: must be updated. To do so, recompile")
4720 print ("lwarpmk: " , sourcename.."tex")
4721 if (printlatexcmd == "") then
4722 print ("lwarpmk: using xe/luatex/pdflatex,")
4723 else
4724 print ("lwarpmk: using the command:")
4725 print ("lwarpmk: " , printlatexcmd)
4726 end
4727 print ("lwarpmk: then use lwarpmk again.")
4728 end -- printhowtorecompile
4729
4730
4731 function ignoreconf ()
4732 -- Global argument index
4733 argindex = 2
4734 end
4735
4736 function loadconf ()
4737 --
4738 -- Load settings from the project's "lwarpmk.conf" file:

```

```

4739 --
4740 -- Default configuration filename:
4741 local conffile = "lwarpmk.conf"
4742 local confroot = "lwarpmk"
4743 -- Global argument index
4744 argindex = 2
4745 -- Optional configuration filename:
4746 if (arg[argindex] == "-p") then
4747 argindex = argindex + 1
4748 confroot = arg[argindex]
4749 conffile = confroot.."lwarpmkconf"
4750 argindex = argindex + 1
4751 end
4752 -- Additional defaults:
4753 confversion = "0"
4754 opsystem = "Unix"
4755 imagesdirectory = "lateximages"
4756 imagesname = "image-"
4757 latexmk = "false"
4758 printlatexcmd = ""
4759 HTMLlatexcmd = ""
4760 printindexcmd = ""
4761 HTMLindexcmd = ""
4762 latexmkindexcmd = ""
4763 -- to be removed:
4764 -- indexprog = "makeindex"
4765 -- makeindexstyle = "lwarp.ist"
4766 -- xindylanguage = "english"
4767 -- xindycodepage = "utf8"
4768 -- xindystyle = "lwarp.xdy"
4769 -- pdftotextenc = "UTF-8"
4770 glossarycmd = "makeglossaries"
4771 -- Verify the file exists:
4772 if (lfs.attributes(conffile,"mode")==nil) then
4773 -- file not exists
4774 print ("lwarpmk: ===")
4775 print ("lwarpmk: File \"" .. conffile .. "\" does not exist.")
4776 print ("lwarpmk: Move to the project's source directory,")
4777 print ("lwarpmk: recompile using pdflatex, xelatex, or lualatex,")
4778 print ("lwarpmk: then try using lwarpmk again.")
4779 if (arg[argindex] ~= nil) then
4780 print (
4781 "lwarpmk: (\\"" .. confroot ..
4782 "\" does not appear to be a project name.)"
4783)
4784 end
4785 print ("lwarpmk: ===")
4786 printhelp () ;
4787 os.exit(1) -- exit the entire lwarpmk script
4788 else -- file exists
4789 -- Read the file:
4790 print ("lwarpmk: Reading " .. conffile .. ".")
4791 local cfile = io.open(conffile)
4792 -- Scan each line, parsing each line as: name = [[string]]
4793 local linenum = 0

```

```

4794 for line in cfile:lines() do -- scan lines
4795 linenum = linenum + 1
4796 i,j,cvarname,cvalue = string.find (line,"([%w-_]*)%s*=%s*%[[%^]]*)%]") ;
4797 -- Error if incorrect enclosing characters:
4798 if (i == nil) then
4799 print ("lwarpmk: ===")
4800 print ("lwarpmk: " .. linenum .. " : " .. line) ;
4801 print ("lwarpmk: Incorrect entry in " .. conffile .. ".\n") ;
4802 print ("lwarpmk: ===")
4803 -- printconf () ;
4804 os.exit(1) ;
4805 end -- nil
4806 if (cvarname == "confversion") then
4807 confversion = cvalue
4808 elseif (cvarname == "opssystem") then
4809 -- Verify choice of opssystem:
4810 if ((cvalue == "Unix") or (cvalue == "Windows")) then
4811 opssystem = cvalue
4812 else
4813 cvalueerror (line, linenum , cvalue)
4814 end
4815 elseif (cvarname == "sourcename") then sourcename = cvalue
4816 elseif (cvarname == "homehtmlfilename") then homehtmlfilename = cvalue
4817 elseif (cvarname == "htmlfilename") then htmlfilename = cvalue
4818 elseif (cvarname == "imagesdirectory") then imagesdirectory = cvalue
4819 elseif (cvarname == "imagesname") then imagesname = cvalue
4820 elseif (cvarname == "latexmk") then latexmk = cvalue
4821 elseif (cvarname == "printlatexcmd") then printlatexcmd = cvalue
4822 elseif (cvarname == "HTMLlatexcmd") then HTMLlatexcmd = cvalue
4823 elseif (cvarname == "printindexcmd") then printindexcmd = cvalue
4824 elseif (cvarname == "HTMLindexcmd") then HTMLindexcmd = cvalue
4825 elseif (cvarname == "latexmkindexcmd") then latexmkindexcmd = cvalue
4826 elseif (cvarname == "glossarycmd") then glossarycmd = cvalue
4827 elseif (cvarname == "pdftotextenc") then pdftotextenc = cvalue
4828 else
4829 print ("lwarpmk: ===")
4830 print ("lwarpmk: " .. linenum .. " : " .. line) ;
4831 print (
4832 "lwarpmk: Incorrect variable name \" .. cvarname .. "\" in " ..
4833 conffile .. ".\n"
4834) ;
4835 print ("lwarpmk: ===")
4836 -- printconf () ;
4837 os.exit(1) ;
4838 end -- cvarname
4839 end -- do scan lines
4840 io.close(cfile)
4841 end -- file exists
4842 -- Error if sourcename is "lwarp".
4843 -- This could happen if a local copy of lwarp has recently been recompiled.
4844 if sourcename=="lwarp" then
4845 print ("lwarpmk: ===")
4846 print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
4847 print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
4848 print ("lwarpmk: (Perhaps you are not in your project's directory?)")

```



```

4849 print ("lwarpmk: In your project directory, recompile your project")
4850 print ("lwarpmk: using pdf/luaxelatex <projectname>.")
4851 print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
4852 print ("lwarpmk: and you may again use lwarpmk.")
4853 print ("lwarpmk: ===")
4854 os.exit(1)
4855 end -- sourcename of "lwarp"
4856 -- Select some operating-system commands:
4857 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
4858 rmname = "rm"
4859 mvname = "mv"
4860 cpname = "cp"
4861 touchnamepre = "touch"
4862 touchnamepost = ""
4863 newtouchname = "touch"
4864 dirslash = "/"
4865 opquote= "\""
4866 cmdgroupopenname = " ("
4867 cmdgroupclosename = ") "
4868 seqname = " && "
4869 bname = " &"
4870 elseif opsystem=="Windows" then -- For Windows
4871 rmname = "DEL"
4872 mvname = "MOVE"
4873 cpname = "COPY"
4874 touchnamepre = "COPY /b"
4875 touchnamepost = "+,,"
4876 newtouchname = "echo empty >"
4877 dirslash = "\\"
4878 opquote= "\""
4879 cmdgroupopenname = ""
4880 cmdgroupclosename = ""
4881 seqname = " & "
4882 bname = ""
4883 else
4884 print ("lwarpmk: ===")
4885 print ("lwarpmk: Select Unix or Windows for opsystem.")
4886 print ("lwarpmk: ===")
4887 os.exit(1)
4888 end --- for Windows
4889 -- Warning if the operating system does not appear to be correct,
4890 -- in case files were transferred to another system.
4891 if ((package.config:sub(1,1)) ~= dirslash) then
4892 print ("lwarpmk: ===")
4893 print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system.")
4894 printhowtorecompile ()
4895 print ("lwarpmk: ===")
4896 os.exit(1)
4897 end
4898 -- Error if the configuration file's version is not current:
4899 if (confversion ~= requiredconfversion) then
4900 print ("lwarpmk: ===")
4901 printhowtorecompile ()
4902 print ("lwarpmk: ===")
4903 os.exit(1)

```

```
4904 end
4905 end -- loadconf
4906
4907
4908 function executecheckerror (executecommands , errormessage)
4909 --
4910 -- Execute an operating system call,
4911 -- and maybe exit with an error message.
4912 --
4913 local err
4914 err = os.execute (executecommands)
4915 if (err ~= 0) then
4916 print ("lwarpmk: ===")
4917 print ("lwarpmk: " .. errormessage)
4918 print ("lwarpmk: ===")
4919 os.exit(1)
4920 end
4921 end -- executecheckerror
4922
4923
4924 function refreshdate ()
4925 os.execute(touchnamepre .. " " .. sourcename .. ".tex " .. touchnamepost)
4926 end
4927
4928
4929
4930 function reruntoget (filesource)
4931 --
4932 -- Scan the LaTeX log file for the phrase "Rerun to get",
4933 -- indicating that the file should be compiled again.
4934 -- Return true if found.
4935 --
4936 local fsource = io.open(filesource)
4937 for line in fsource:lines() do
4938 if (string.find(line,"Rerun to get") ~= nil) then
4939 io.close(fsource)
4940 return true
4941 end -- if
4942 end -- do
4943 io.close(fsource)
4944 return false
4945 end
4946
4947
4948
4949 function onetime (latexcmd, fsuffix)
4950 --
4951 -- Compile one time, return true if should compile again.
4952 -- fsuffix is "" for print, "_html" for HTML output.
4953 --
4954 print("lwarpmk: Compiling with: " .. latexcmd)
4955 executecheckerror (
4956 latexcmd ,
4957 "Compile error."
4958)
```

```
4959 return (reruntoget(sourcename .. fsuffix .. ".log")) ;
4960 end
4961
4962
4963 function manytimes (latexcmd, fsuffix)
4964 --
4965 -- Compile up to five times.
4966 -- fsuffix is "" for print, "_html" for HTML output
4967 --
4968 if onetime(latexcmd, fsuffix) == true then
4969 if onetime(latexcmd, fsuffix) == true then
4970 if onetime(latexcmd, fsuffix) == true then
4971 if onetime(latexcmd, fsuffix) == true then
4972 if onetime(latexcmd, fsuffix) == true then
4973 end end end end end
4974 end
4975
4976
4977 function verifyfileexists (filename)
4978 --
4979 -- Exit if the given file does not exist.
4980 --
4981 if (lfs.attributes (filename , "modification") == nil) then
4982 print ("lwarpmk: ===")
4983 print ("lwarpmk: " .. filename .. " not found.") ;
4984 print ("lwarpmk: ===")
4985 os.exit (1) ;
4986 end
4987 end
4988
4989
4990
4991 function pdftohtml ()
4992 --
4993 -- Convert <project>_html.pdf into HTML files:
4994 --
4995 -- Convert to text:
4996 print ("lwarpmk: Converting " .. sourcename
4997 .. "_html.pdf to " .. sourcename .. "_html.html")
4998 os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
4999 .. sourcename .. "_html.pdf " .. sourcename .. "_html.html")
5000 -- Split the result into individual HTML files:
5001 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
5002 end
5003
5004
5005 function removeaux ()
5006 --
5007 -- Remove auxiliary files:
5008 -- All .aux files are removed since there may be many bbl*.aux files.
5009 -- Also removes sourcename_html.pdf, sourcename_html.html,
5010 -- and sourcename_html.sidetoc, plus comment_*.cut.
5011 --
5012 os.execute (rmname .. " *.aux " ..
5013 sourcename .. ".toc " .. sourcename .. "_html.toc " ..
```

```

5014 sourcename ..".lof " .. sourcename .. "_html.lof " ..
5015 sourcename ..".lot " .. sourcename .. "_html.lot " ..
5016 sourcename ..".bbl " .. sourcename .. "_html.bbl " ..
5017 " *.idx " ..
5018 " *.ind " ..
5019 sourcename ..".ps " .. sourcename .. "_html.ps " ..
5020 sourcename ..".log " .. sourcename .. "_html.log " ..
5021 sourcename ..".gl*" .. sourcename .. "_html.gl*" ..
5022 sourcename .. "_html.pdf " ..
5023 sourcename .. "_html.html " ..
5024 sourcename .. "_html.sidetoc " ..
5025 " *_html_inc.* " ..
5026 " comment_*.cut"
5027)
5028 end
5029
5030 function checkhtmlpdfexists ()
5031 --
5032 -- Error if the HTML document does not exist.
5033 -- The lateximages are drawn from the HTML PDF version of the document,
5034 -- so "lwarpmk html" must be done before "lwarpmk limages".
5035 --
5036 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
5037 if (htmlpdffile == nil) then
5038 print ("")
5039 print ("lwarpmk: ===")
5040 print ("lwarpmk: The HTML version of the document does not exist.")
5041 print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
5042 print ("lwarpmk: ===")
5043 os.exit(1)
5044 end
5045 io.close (htmlpdffile)
5046 end -- checkhtmlpdfexists
5047
5048
5049 function warnlimages ()
5050 --
5051 -- Warning of a missing <sourcename>-images.txt file:
5052 print ("lwarpmk: ===")
5053 print ("lwarpmk: \"\" .. sourcename .. "-images.txt\" does not exist.")
5054 print ("lwarpmk: Your project does not use SVG math or other lateximages,")
5055 print ("lwarpmk: or the file has been deleted somehow.")
5056 print ("lwarpmk: Use \"lwarpmk html1\" to recompile your project")
5057 print ("lwarpmk: and recreate \"\" .. sourcename .. "-images.txt\".")
5058 print ("lwarpmk: If your project does not use SVG math or other lateximages,")
5059 print ("lwarpmk: then \"\" .. sourcename .. "-images.txt\" will never exist, and")
5060 print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
5061 print ("lwarpmk: ===")
5062 end -- warnlimages
5063
5064
5065 function warnlimagesrecompile ()
5066 -- Warning if must recompile before creating limages:
5067 print ("")
5068 print ("lwarpmk: ===")

```

```

5069 print ("lwarpmk: Cross-references are not yet correct.")
5070 print ("lwarpmk: The document must be recompiled before creating the lateximages.")
5071 print ("lwarpmk: Enter \"lwarpmk html1\" again, then try \"lwarpmk limages\" again.")
5072 print ("lwarpmk: ===")
5073 end --warnlimagesrecompile
5074
5075
5076 function checklimages ()
5077 --
5078 -- Check <sourcename>.txt to see if need to recompile first.
5079 -- If any entry has a page number of zero, then there were incorrect images.
5080 --
5081 print ("lwarpmk: Checking for a valid " .. sourcename .. "-images.txt file.")
5082 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5083 if (limagesfile == nil) then
5084 warnlimages ()
5085 os.exit(1)
5086 end
5087 -- Track warning to recompile if find a page 0
5088 local pagezerowarning = false
5089 -- Scan <sourcename>.txt
5090 for line in limagesfile:lines() do
5091 -- lwimgpage is the page number in the PDF which has the image
5092 -- lwimghash is true if this filename is a hash
5093 -- lwimgname is the lateximage filename root to assign for the image
5094 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5095 -- For each entry:
5096 if ((i~=nil)) then
5097 -- If the page number is 0, image references are incorrect
5098 -- and must recompile the soure document:
5099 if (lwimgpage == "0") then
5100 pagezerowarning = true
5101 end
5102 end -- if i~=nil
5103 end -- do
5104 -- The last line should be |end|end|end|.
5105 -- If not, the compile must have aborted, and the images are incomplete.
5106 if (lwimgpage ~= "end") then
5107 warnlimagesrecompile()
5108 os.exit(1) ;
5109 end
5110 if (pagezerowarning) then
5111 warnlimagesrecompile()
5112 os.exit(1) ;
5113 end -- pagezerowarning
5114 end -- checklimages
5115
5116
5117 function createuniximage (lwimgfullname)
5118 --
5119 -- Create one lateximage for Unix / Linux / Mac OS.
5120 --
5121 executecheckerror (
5122 cmdgroupopenname ..
5123 "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " " ..

```

```

5124 sourcename .. "_html.pdf " ..
5125 imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
5126 seqname ..
5127 -- Crop the image:
5128 "pdftocrop -- hires " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
5129 lwimgpage .. ".pdf" " ..
5130 imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5131 seqname ..
5132 -- Convert the image to svg:
5133 "pdftocairo -svg -noshrink " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" " ..
5134 imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
5135 seqname ..
5136 -- Remove the temporary files:
5137 rmname .. " " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
5138 rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
5139 cmdgroupclosename .. " >/dev/null " .. bname
5140 ,
5141 "File error trying to convert " .. lwimgfullname
5142)
5143 -- Every 32 images, wait for completion at below normal priority,
5144 -- allowing other image tasks to catch up.
5145 numimageprocesses = numimageprocesses + 1
5146 if (numimageprocesses > 32) then
5147 numimageprocesses = 0
5148 print ("lwarpmk: waiting")
5149 executecheckerror ("wait" , "File error trying to wait.")
5150 end
5151 end -- createuniximage
5152
5153
5154 function createwindowsimage (lwimgfullname)
5155 --
5156 -- Create one lateximage for Windows.
5157 --
5158 -- Every 32 images, wait for completion at below normal priority,
5159 -- allowing other image tasks to catch up.
5160 numimageprocesses = numimageprocesses + 1
5161 if (numimageprocesses > 32) then
5162 numimageprocesses = 0
5163 thiswaitcommand = "/WAIT /BELOWNORMAL"
5164 print ("lwarpmk: waiting")
5165 else
5166 thiswaitcommand = ""
5167 end
5168 -- Execute the image generation command
5169 executecheckerror (
5170 "start /B " .. thiswaitcommand .. " \"\" lwarp_one_limage " ..
5171 lwimgpage .. " " ..
5172 lwimgname .. " " ..
5173 lwimgname .. " " ..
5174 sourcename .. " <nul >nul"
5175 ,
5176 "File error trying to create image."
5177)
5178 end -- createwindowsimage

```

```

5179
5180
5181 function createonelateximage (line)
5182 --
5183 -- Given the next line of <sourcename>.txt, convert a single image.
5184 --
5185 -- lwimgpage is the page number in the PDF which has the image
5186 -- lwimghash is true if this filename is a hash
5187 -- lwimgname is the lateximage filename root to assign for the image
5188 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5189 -- For each entry:
5190 if (i~=nil) then
5191 -- Skip if the page number is 0:
5192 if (lwimgpage == "0") then
5193 pagezerowarning = true
5194 -- Skip if the page number is "end":
5195 else if (lwimgpage == "end") then
5196 else
5197 -- Skip if this image is hashed and already exists:
5198 local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
5199 if (
5200 (lwimghash ~= "true") or
5201 (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
5202)
5203 then -- not hashed or not exists:
5204 -- Print the name of the file being generated:
5205 print ("lwarpmk: " .. lwimgname)
5206 -- Touch/create the dest so that only once instance tries to build it:
5207 executecheckerror (
5208 newtouchname .. " " .. lwimgfullname ,
5209 "File error trying to touch " .. lwimgfullname
5210)
5211 -- Separate out the image into its own single-page pdf:
5212 if opsystem=="Unix" then
5213 createuniximage (lwimgfullname)
5214 elseif opsystem=="Windows" then
5215 createwindowsimage (lwimgfullname)
5216 end
5217 end -- not hashed or not exists
5218 end -- not page "end"
5219 end -- not page 0
5220 end -- not nil
5221 end -- createonelateximage
5222
5223
5224 function createlateximages ()
5225 --
5226 -- Create lateximages based on <sourcename>-images.txt:
5227 --
5228 -- See if the document must be recompiled first:
5229 checklimages ()
5230 -- See if the HTML version exists:
5231 checkhtmlpdfexists ()
5232 -- Attempt to create the lateximages:
5233 print ("lwarpmk: Creating lateximages.")

```

```

5234 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5235 if (limagesfile == nil) then
5236 warnlimages ()
5237 os.exit(1)
5238 end
5239 -- Create the lateximages directory, ignore error if already exists
5240 err = os.execute("mkdir " .. imagesdirectory)
5241 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
5242 if opsystem=="Windows" then
5243 executecheckerror (
5244 cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
5245 "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5246)
5247 end -- create lwarp_one_limage.cmd
5248 -- Track the number of parallel processes
5249 numimageprocesses = 0
5250 -- Track warning to recompile if find a page 0
5251 pagezerowarning = false
5252 -- Scan <sourcename>.txt
5253 for line in limagesfile:lines() do
5254 createonelateximage (line)
5255 end -- do
5256 io.close(limagesfile)
5257 print ("lwarpmk limages: ===")
5258 print ("lwarpmk limages: Wait a moment for the images to complete")
5259 print ("lwarpmk limages: before reloading the page.")
5260 print ("lwarpmk limages: ===")
5261 print ("lwarpmk limages: Done.")
5262 if (pagezerowarning == true) then
5263 print ("lwarpmk limages: WARNING: Images will be incorrect.")
5264 print ("lwarpmk limages: Enter \"lwarpmk cleanlimages\", then")
5265 print ("lwarpmk limages: recompile the document one more time, then")
5266 print ("lwarpmk limages: repeat \"lwarpmk images\" again.")
5267 end -- pagezerowarning
5268 end -- function
5269
5270
5271 function convertepstopdf ()
5272 --
5273 -- Converts EPS files to PDF files.
5274 -- The filenames are arg[argindex] and up.
5275 -- arg[1] is the command "epstopdf".
5276 --
5277 ignoreconf ()
5278 for i = argindex , #arg do
5279 if (lfs.attributes(arg[i],"mode")==nil) then
5280 print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
5281 else
5282 print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
5283 thispath, thisfilename, thisextension = splitfilename(arg[i])
5284 if (thispath == nil) then
5285 os.execute ("epstopdf " .. arg[i])
5286 else
5287 os.execute (
5288 "epstopdf " ..

```



```

5289 thispath .. thisfilename .. "." .. thisextension .. " " ..
5290 thispath .. thisfilename .. ".pdf"
5291)
5292 end
5293 end -- if
5294 end -- do
5295 end --function
5296
5297
5298 function convertpdfptosvg ()
5299 --
5300 -- Converts PDF files to SVG files.
5301 -- The filenames are arg[argindex] and up.
5302 -- arg[1] is the command "pdftosvg".
5303 --
5304 ignoreconf ()
5305 for i = argindex , #arg do
5306 if (lfs.attributes(arg[i],"mode")==nil) then
5307 print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
5308 else
5309 print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
5310 thispath, thisfilename, thisextension = splitfilename(arg[i])
5311 if (thispath == nil) then
5312 os.execute ("pdftocairo -svg " .. arg[i])
5313 else
5314 os.execute (
5315 "pdftocairo -svg " ..
5316 thispath .. thisfilename .. "." .. thisextension .. " " ..
5317 thispath .. thisfilename .. ".svg"
5318)
5319 end
5320 end -- if
5321 end -- do
5322 end --function
5323
5324
5325 -- Force an update and conclude processing:
5326 function updateanddone ()
5327 print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex.")
5328 refreshdate ()
5329 print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")
5330 print ("lwarpmk: Done.")
5331 end -- function
5332
5333
5334 -- Start of the main code: --
5335
5336
5337 -- lwarpmk --version :
5338
5339 if (arg[1] == "--version") then
5340 print ("lwarpmk: " .. printversion)
5341
5342 else -- not --version
5343

```

```
5344
5345 -- print intro:
5346
5347 print ("lwarpmk: " .. printversion .. " Automated make for the LaTeX Lwarp package.")
5348
5349
5350 -- lwarpmk print:
5351
5352 if arg[1] == "print" then
5353 loadconf ()
5354 if (latexmk == "true") then
5355 print ("lwarpmk: Compiling with: " .. printlatexcmd)
5356 executecheckerror (
5357 printlatexcmd ,
5358 "Compile error."
5359)
5360 print ("lwarpmk: Done.")
5361 else -- not latexmk
5362 verifyfileexists (sourcename .. ".tex") ;
5363 -- See if up to date:
5364 if (
5365 (lfs.attributes (sourcename .. ".pdf" , "modification") == nil) or
5366 (
5367 lfs.attributes (sourcename .. ".tex" , "modification") >
5368 lfs.attributes (sourcename .. ".pdf" , "modification")
5369)
5370) then
5371 -- Recompile if not yet up to date:
5372 manytimes(printlatexcmd, "")
5373 print ("lwarpmk: Done.") ;
5374 else
5375 print ("lwarpmk: " .. sourcename .. ".pdf is up to date.") ;
5376 end
5377 end -- not latexmk
5378
5379
5380 -- lwarpmk print1:
5381
5382 elseif arg[1] == "print1" then
5383 loadconf ()
5384 verifyfileexists (sourcename .. ".tex") ;
5385 onetime(printlatexcmd, "")
5386 print ("lwarpmk: Done.") ;
5387
5388
5389 -- lwarpmk printindex:
5390 -- Compile the index then touch the source
5391 -- to trigger a recompile of the document:
5392
5393 elseif arg[1] == "printindex" then
5394 loadconf ()
5395 os.execute (printindexcmd)
5396 print ("lwarpmk: -----")
5397 updateanddone ()
5398
```

```
5399
5400 -- lwarpmk printglossary:
5401 -- Compile the glossary then touch the source
5402 -- to trigger a recompile of the document:
5403
5404 elseif arg[1] == "printglossary" then
5405 loadconf ()
5406 print ("lwarpmk: Processing the glossary.")
5407
5408 os.execute(glossarycmd .. " " .. sourcename)
5409 updateanddone ()
5410
5411
5412 -- lwarpmk html:
5413
5414 elseif arg[1] == "html" then
5415 loadconf ()
5416 if (latexmk == "true") then
5417 print ("lwarpmk: Compiling with: " .. HTMLlatexcmd)
5418 executecheckerror (
5419 HTMLlatexcmd ,
5420 "Compile error."
5421)
5422 pdftohtml ()
5423 print ("lwarpmk: Done.")
5424 else -- not latexmk
5425 verifyfileexists (sourcename .. ".tex") ;
5426 -- See if exists and is up to date:
5427 if (
5428 (lfs.attributes (homehtmlfilename .. ".html" , "modification") == nil) or
5429 (
5430 lfs.attributes (sourcename .. ".tex" , "modification") >
5431 lfs.attributes (homehtmlfilename .. ".html" , "modification")
5432)
5433) then
5434 -- Recompile if not yet up to date:
5435 manytimes(HTMLlatexcmd, "_html")
5436 pdftohtml ()
5437 print ("lwarpmk: Done.")
5438 else
5439 print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
5440 end
5441 end -- not latexmk
5442
5443
5444 -- lwarpmk html1:
5445
5446 elseif arg[1] == "html1" then
5447 loadconf ()
5448 verifyfileexists (sourcename .. ".tex") ;
5449 onetime(HTMLlatexcmd, "_html")
5450 pdftohtml ()
5451 print ("lwarpmk: Done.")
5452
5453
```

```
5454 -- lwarpmk pdftohtml:
5455 elseif arg[1] == "pdftohtml" then
5456 loadconf ()
5457 pdftohtml ()
5458
5459
5460 -- lwarpmk htmlindex:
5461 -- Compile the index then touch the source
5462 -- to trigger a recompile of the document:
5463
5464 elseif arg[1] == "htmlindex" then
5465 loadconf ()
5466 os.execute (HTMLindexcmd)
5467 print ("lwarpmk: -----")
5468 updateanddone ()
5469
5470
5471 -- lwarpmk htmlglossary:
5472 -- Compile the glossary then touch the source
5473 -- to trigger a recompile of the document.
5474 -- The <sourcename>.xdy file is created by the glossaries package.
5475
5476 elseif arg[1] == "htmlglossary" then
5477 loadconf ()
5478 print ("lwarpmk: Processing the glossary.")
5479 os.execute(glossarycmd .. " " .. sourcename .. "_html")
5480 updateanddone ()
5481
5482
5483 -- lwarpmk limages:
5484 -- Scan the <sourcename>.txt file to create lateximages.
5485
5486 elseif arg[1] == "limages" then
5487 loadconf ()
5488 print ("lwarpmk: Processing images.")
5489 createlateximages ()
5490 print ("lwarpmk: Done.")
5491
5492
5493 -- lwarpmk again:
5494 -- Touch the source to trigger a recompile.
5495
5496 elseif arg[1] == "again" then
5497 loadconf ()
5498 updateanddone ()
5499
5500
5501 -- lwarpmk clean:
5502 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5503
5504 elseif arg[1] == "clean" then
5505 loadconf ()
5506 removeaux ()
5507 print ("lwarpmk: Done.")
5508
```

```
5509
5510 -- lwarpmk cleanall
5511 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5512 -- and also project.pdf, project.dvi, *.html
5513
5514 elseif arg[1] == "cleanall" then
5515 loadconf ()
5516 removeaux ()
5517 os.execute (rmname .. " " ..
5518 sourcename .. ".pdf " .. sourcename .. "_html.pdf " ..
5519 sourcename .. ".dvi " .. sourcename .. "_html.dvi " ..
5520 "*.html"
5521)
5522 print ("lwarpmk: Done.")
5523
5524
5525 -- lwarpmk cleanimages
5526 -- Remove images from the imagesdirectory.
5527
5528 elseif arg[1] == "cleanimages" then
5529 loadconf ()
5530 os.execute (rmname .. " " .. imagesdirectory .. dirsslash .. "*")
5531 print ("lwarpmk: Done.")
5532
5533 -- lwarpmk epstopdf <list of file names>
5534 -- Convert EPS files to PDF using epstopdf
5535 elseif arg[1] == "epstopdf" then
5536 convertepstopdf ()
5537 print ("lwarpmk: Done.")
5538
5539
5540 -- lwarpmk pdftosvg <list of file names>
5541 -- Convert PDF files to SVG using pdftocairo
5542 elseif arg[1] == "pdftosvg" then
5543 convertpdftosvg ()
5544 print ("lwarpmk: Done.")
5545
5546
5547 -- lwarpmk with no argument :
5548
5549 elseif (arg[1] == nil) then
5550 printhelp ()
5551
5552
5553 -- lwarpmk -v:
5554
5555 elseif (arg[1] == "-v") then
5556 -- The version number has already been printed
5557 -- by the lwarpmk intro.
5558
5559 -- lwarpmk -h or lwarpmk --help :
5560
5561 elseif (arg[1] == "-h") or (arg[1] == "--help") then
5562 printusage ()
5563
```

```

5564
5565 -- Unknown command:
5566
5567 else
5568 printhelp ()
5569 print ("\nlwarpmk: ***** Unknown command \"\"..arg[1]..\"\". *****\n")
5570 end
5571
5572 end -- not --version
5573 \end{filecontents*}
5574 % \end{Verbatim}% for syntax highlighting

5575 \end{LWRcreatelwarpmk}

```

## 41 Stacks

for HTML output: 5576 \begin{warphTML}



Stacks are used to remember how to close sections and list items. Before a new section is started, previously nested sections and items must be closed out (un-nested) in proper order. Note that starting a new section may close several levels of previously nested items at the same time. For example, starting a new `\section` would close any currently open subsection, subsubsection, and paragraph. General environments are not nested on the stack since they have their own close mechanism. List environments are nested, and items inside those environments are nested one level deeper still. List environments may be nested inside other list environments, and list items are nested inside list environments as well. Thus, the stack may have items which are not necessarily in order, since a description may contain an enumerate, for example. Depths to be recorded in `\LWR@closedepthone`, etc.

### 41.1 Assigning depths

initial depths for empty stack entries:

```
5577 \newcommand*{\LWR@depthnone}{-5}
```

All sectioning depths are deeper than `\LWR@depthfinished`:

```

5578 \newcommand*{\LWR@depthfinished}{-4}
5579 \newcommand*{\LWR@depthbook}{-2}
5580 \newcommand*{\LWR@depthpart}{-1}
5581 \newcommand*{\LWR@depthchapter}{0}
5582 \newcommand*{\LWR@depthsection}{1}
5583 \newcommand*{\LWR@depthsubsection}{2}
5584 \newcommand*{\LWR@depthsubsubsection}{3}
5585 \newcommand*{\LWR@depthparagraph}{4}
5586 \newcommand*{\LWR@depthsubparagraph}{5}

```

Used by `\itemize`, `\enumerate`, `\description`:

```
5587 \newcommand*{\LWR@depthlist}{6}
```

Used by \item:

```
5588 \newcommand*{\LWR@depthlistitem}{7}
5589 \let\LWR@depthdescitem\LWR@depthlistitem
```

## 41.2 Closing actions

A stack to record the action to take to close each nesting level: Add more levels of stack if necessary for a very deeply nested document, adding to \pushclose and \popclose as well.

```
5590 \newcommand*{\LWR@closeone}{} % top of the stack
5591 \newcommand*{\LWR@closetwo}{}
5592 \newcommand*{\LWR@closethree}{}
5593 \newcommand*{\LWR@closefour}{}
5594 \newcommand*{\LWR@closefive}{}
5595 \newcommand*{\LWR@closeseix}{}
5596 \newcommand*{\LWR@closeseven}{}
5597 \newcommand*{\LWR@closeeight}{}
5598 \newcommand*{\LWR@closenine}{}
5599 \newcommand*{\LWR@closeten}{}
5600 \newcommand*{\LWR@closeeleven}{}
5601 \newcommand*{\LWR@closetwelve}{}

```

## 41.3 Closing depths

A stack to record the depth of each level:



Note that nested L<sup>A</sup>T<sub>E</sub>X structures may push depths which are non-sequential.

*Ex:*

---

```
\begin{itemize}
 \item{A}
 \begin{description}
 \item{B}
 \end{description}
\end{itemize}
```

---

```
5602 \newcommand*{\LWR@closedepthone}{\LWR@depthnone} % top of the stack
5603 \newcommand*{\LWR@closedepthtwo}{\LWR@depthnone}
5604 \newcommand*{\LWR@closedepththree}{\LWR@depthnone}
5605 \newcommand*{\LWR@closedepthfour}{\LWR@depthnone}
5606 \newcommand*{\LWR@closedepthfive}{\LWR@depthnone}
5607 \newcommand*{\LWR@closedepthsix}{\LWR@depthnone}
5608 \newcommand*{\LWR@closedepthseven}{\LWR@depthnone}
5609 \newcommand*{\LWR@closedeptheight}{\LWR@depthnone}

```

```

5610 \newcommand*{\LWR@closedepthnine}{\LWR@depthnone}
5611 \newcommand*{\LWR@closedephten}{\LWR@depthnone}
5612 \newcommand*{\LWR@closedeptheleven}{\LWR@depthnone}
5613 \newcommand*{\LWR@closedephtwelve}{\LWR@depthnone}

```

## 41.4 Pushing and popping the stack

`\LWR@pushclose`  $\{ \langle sectiontype \rangle \}$

Pushes one return action and its  $\LaTeX$  depth onto the stacks.

```

5614 \NewDocumentCommand{\LWR@pushclose}{m}
5615 {%
5616 \global\let\LWR@closetwelve\LWR@closeeleven%
5617 \global\let\LWR@closeeleven\LWR@closeten%
5618 \global\let\LWR@closeten\LWR@close-nine%
5619 \global\let\LWR@close-nine\LWR@close-eight%
5620 \global\let\LWR@close-eight\LWR@close-seven%
5621 \global\let\LWR@close-seven\LWR@close-six%
5622 \global\let\LWR@close-six\LWR@close-five%
5623 \global\let\LWR@close-five\LWR@close-four%
5624 \global\let\LWR@close-four\LWR@close-three%
5625 \global\let\LWR@close-three\LWR@close-two%
5626 \global\let\LWR@close-two\LWR@close-one%
5627 \global\csletcs{\LWR@close-one}{\LWR@printclose#1}%
5628 \global\let\LWR@closedepthtwelve\LWR@closedeptheleven%
5629 \global\let\LWR@closedeptheleven\LWR@closedephten%
5630 \global\let\LWR@closedephten\LWR@closedepthnine%
5631 \global\let\LWR@closedepthnine\LWR@closedeptheight%
5632 \global\let\LWR@closedeptheight\LWR@closedepthseven%
5633 \global\let\LWR@closedepthseven\LWR@closedepthsix%
5634 \global\let\LWR@closedepthsix\LWR@closedepthfive%
5635 \global\let\LWR@closedepthfive\LWR@closedepthfour%
5636 \global\let\LWR@closedepthfour\LWR@closedepththree%
5637 \global\let\LWR@closedepththree\LWR@closedepthtwo%
5638 \global\let\LWR@closedepthtwo\LWR@closedepthone%
5639 \global\csletcs{\LWR@closedepthone}{\LWR@depth#1}%
5640 }

```

`\LWR@popclose` Pops one action and its depth off the stacks.

```

5641 \newcommand*{\LWR@popclose}
5642 {%
5643 \global\let\LWR@closeone\LWR@closetwo%
5644 \global\let\LWR@closetwo\LWR@closethree%
5645 \global\let\LWR@closethree\LWR@closefour%
5646 \global\let\LWR@closefour\LWR@closefive%
5647 \global\let\LWR@closefive\LWR@closesix%
5648 \global\let\LWR@closesix\LWR@closeseven%
5649 \global\let\LWR@closeseven\LWR@closeeight%
5650 \global\let\LWR@closeeight\LWR@close-nine%
5651 \global\let\LWR@close-nine\LWR@closeten%
5652 \global\let\LWR@closeten\LWR@closeeleven%

```



```

5653 \global\let\LWR@closeeleven\LWR@closetwelve%
5654 \global\let\LWR@closedepthone\LWR@closedepthtwo%
5655 \global\let\LWR@closedepthtwo\LWR@closedepththree%
5656 \global\let\LWR@closedepththree\LWR@closedepthfour%
5657 \global\let\LWR@closedepthfour\LWR@closedepthfive%
5658 \global\let\LWR@closedepthfive\LWR@closedepthsix%
5659 \global\let\LWR@closedepthsix\LWR@closedepthseven%
5660 \global\let\LWR@closedepthseven\LWR@closedeptheight%
5661 \global\let\LWR@closedeptheight\LWR@closedepthnine%
5662 \global\let\LWR@closedepthnine\LWR@closedephten%
5663 \global\let\LWR@closedephten\LWR@closedeptheleven%
5664 \global\let\LWR@closedeptheleven\LWR@closedephtwelve%
5665 }

5666 \end{warpHTML}

```

## 42 Data arrays

These macros are similar to the `arrayjobx` package, except that `\LWR@setexpparray`'s argument is expanded only once when assigned.

`name` has no backslash, `index` can be a number or a text name, and an empty value must be `\relax` instead of empty.

To assign an empty value:

```
\LWR@setexpparray{name}{index}{}
```

**for HTML output:** 5667 \begin{warpHTML}

```
\LWR@setexpparray {<name>} {<index>} {<contents>}
```

```

5668 \NewDocumentCommand{\LWR@setexpparray}{m m m}{%
5669 \let\LWR@temp@par\par%
5670 \let\par\relax%
5671 \edef\LWR@thisexpparrayname{#1#2}%
5672 \ifstrempy{#3}%
5673 {\csdef{\LWR@thisexpparrayname}{}}%
5674 {\csdef{\LWR@thisexpparrayname}{#3}}%
5675 \let\par\LWR@temp@par%
5676 }

```

```
\LWR@getexpparray {<name>} {<index>}
```

```

5677 \newcommand*{\LWR@getexpparray}[2]{%
5678 \@nameuse{#1#2}%
5679 }

```

```
5680 \end{warpHTML}
```

## 43 Localizing catcodes

for HTML & PRINT: 5681 \begin{warpall}

 **Misplaced alignment tab character &** Place \StartDefiningTabulars and \StopDefiningTabulars before and after defining macros or environments which include the tabular & character in their definitions.

The catcode of & must be changed before the definitions begin, and must be restored afterwards. Doing so avoids the error

Misplaced alignment tab character &.

\StartDefiningTabulars Place before defining something with & in it.

```
5682 \newcommand{\StartDefiningTabulars}{%
5683 \LWR@traceinfo{StartDefiningTabulars}%
5684 \warpHTMLonly{\catcode'\&=\active}%
5685 }
```

\StopDefiningTabulars Place after defining something with & in it.

```
5686 \newcommand{\StopDefiningTabulars}{%
5687 \LWR@traceinfo{StopDefiningTabulars}%
5688 \warpHTMLonly{\catcode'\&=4}%
5689 }
```

Bool LWR@mathmacro True if currently defining math macros. Used to disable SVG math hashing and MATHJAX math contents while defining a macro using inline math. Begin a macro, it is not guaranteed that the contents are static, and so the image must be unique. The contents also almost certainly will not be parsed correctly by MATHJAX.

```
5690 \newbool{LWR@mathmacro}
5691 \boolfalse{LWR@mathmacro}
```

\StartDefiningMath Place before defining something with \$ in it.

```
5692 \newcommand{\StartDefiningMath}{%
5693 \LWR@traceinfo{StartDefiningMath}%
5694 \warpHTMLonly{\catcode'\$=\active}%
5695 }
```

\StopDefiningMath Place after defining something with \$ in it.

```
5696 \newcommand{\StopDefiningMath}{%
5697 \LWR@traceinfo{StopDefiningMath}%
5698 \warpHTMLonly{\catcode'\$=3}% math shift
5699 }
```

```
5700 \end{warpall}
```

## 44 Localizing dynamic math

Inline SVG math usually uses a hash of its contents to generate `lateximages` which are reusable for multiple instances with the same contents. If the contents may change for each use, such as depending on the current value of a counter, then `\inlinemathother` must be used before the inline math expression, and `\inlinemathnormal` must be used after.

For `MATHJAX`, the inline math expression is usually printed for `MATHJAX` to interpret. When marked as dynamic math, the following inline math expression will be displayed as an unhashed inline SVG image instead.

For existing code and packages, it may be possible to patch macros after they have been defined, using the `xpatch` package, which is pre-loaded by `lwarp`:

---

```
\xpatchcmd{\macroname}
 {$math expression$}
 {\inlinemathother$math expression$\inlinemathnormal}
 {}
 {\typeout{Error patching macroname.}}
```

---

**for HTML & PRINT:** 5701 `\begin{warpall}`

Bool `LWR@dynamicmath` True to mark inline math which is dynamic in nature, thus should not be hashed for reuse.  
 Default: `false`

```
5702 \newbool{LWR@dynamicmath}
5703 \boolfalse{LWR@dynamicmath}
```

`\inlinemathother` Place before using `$ ... $` or `\( ... \)` if the contents of the math are not static, depending on counters or dynamic macros.

```
5704 \newcommand{\inlinemathother}{%
5705 \LWR@traceinfo{inlinemathother}%
5706 \booltrue{LWR@dynamicmath}%
5707 }
```

`\inlinemathnormal` Place after using `$ ... $` or `\( ... \)` with dynamic contents.

```
5708 \newcommand{\inlinemathnormal}{%
5709 \LWR@traceinfo{inlinemathnormal}%
5710 \boolfalse{LWR@dynamicmath}%
5711 }
```

```
5712 \end{warpall}
```

## 45 HTML entities

**for HTML output:** 5713 `\begin{warpHTML}`

HTML Unicode entities:

```
5714 \let\LWR@origampersand\&
```

`\HTMLentity` {*<entitytag>*}

```
5715 \newcommand*{\HTMLentity}[1]{%
5716 % \LWR@traceinfo{HTMLentity \detokenize{#1}}%
5717 \begingroup%
5718 \LWR@hook@processingtags%
5719 \LWR@origampersand#1;%
5720 \endgroup%
5721 % \LWR@traceinfo{HTMLentity done}%
5722 }
```

`\HTMLUnicode` {*<hex\_unicode>*}

```
5723 \newcommand*{\HTMLUnicode}[1]{\HTMLentity{\LWR@origpound{ }x#1}}
```

`\&`

```
5724 \renewrobustcmd*{\&}{\HTMLentity{amp}}
```

`\textless`

```
5725 \let\LWR@origtextless\textless
5726 \renewrobustcmd*{\textless}{\HTMLentity{lt}}
```

`\textgreater`

```
5727 \let\LWR@origtextgreater\textgreater
5728 \renewrobustcmd*{\textgreater}{\HTMLentity{gt}}

5729 \end{warpHTML}
```

## 46 HTML filename generation

The filename of the homepage is set to `\HomeHTMLFilename.html`. The filenames of additional sections start with `\HTMLFilename`, to which is appended a section number or a simplified section name, depending on `FileSectionNames`.

**for HTML & PRINT:** 5730 `\begin{warpall}`

`\BaseJobname` The `\jobname` of the printed version, even if currently compiling the HTML version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

```
5731 \providecommand*{\BaseJobname}{\jobname}
```

`\HTMLFilename` The prefix for all generated HTML files other than the home page, defaulting to empty. See section 7.6.1.

```
5732 \providecommand*\HTMLFilename{}
```

`\HomeHTMLFilename` The filename of the home page, defaulting to the `\BaseJobname`. See section 7.6.1.

```
5733 \providecommand*\HomeHTMLFilename{\BaseJobname}
```

`\SetHTMLFileNumber`  $\langle number \rangle$

Sets the file number for the next file to be generated. 0 is the home page. Use just before the next sectioning command, and set it to one less than the desired number of the next section. May be used to generate numbered groups of nodes such as 100+ for one chapter, 200+ for another chapter, etc.

```
5734 \newcommand*\SetHTMLFileNumber[1]{%
5735 \setcounter{LWR@htmlfilenumber}{#1}%
5736 }
```

**Bool** `FileSectionNames` Selects how to create HTML file names.

Defaults to use section names in the filenames.

```
5737 \newbool{FileSectionNames}
5738 \booltrue{FileSectionNames}

5739 \end{warpall}
```

**for HTML output:** 5740 `\begin{warpHTML}`

Updated each time a new HTML file is begun. Used to provide HTML previous/next web page links.

```
5741 \newcounter{LWR@HTMLpagenum}
5742 \setcounter{LWR@HTMLpagenum}{0}
```

**Ctrl** `LWR@htmlseqfilenumber` A sequential count of the number of each HTML file as it is being created. Number 0 is the home page. Unlike `\LWR@htmlfilenumber`, this one is known to increment by one for each file. This is used to generate previous /next links for each web page, via labels called `\BaseJobname-autofile-*`, and the last page is also labelled `\BaseJobname-autofile-last`.

```
5743 \newcounter{LWR@htmlseqfilenumber}
5744 \setcounter{LWR@htmlseqfilenumber}{0}
```

**Bool** `LWR@setseqfilelabel` At each new HTML file, this is false until a sectional unit is used, at which point this is set true and a label is placed. In this way, the previous/next labels will point to a named section.

```
5745 \newbool{LWR@setseqfilelabel}
5746 \setbool{LWR@setseqfilelabel}{false}
```

Ctrl LWR@htmlfilenumber Records the number of each HTML file as it is being created. Number 0 is the home page. This might not be sequential, as the user may use \SetHTMLFileName to create groups of numbered nodes.

```
5747 \newcounter{LWR@htmlfilenumber}
5748 \setcounter{LWR@htmlfilenumber}{0}
```

\LWR@htmlsectionfilename {*<htmlfilenumber or name>*}

Prints the filename for a given section: \HTMLFileName{*filenumber*}/name.html

```
5749 \newcommand*{\LWR@htmlsectionfilename}[1]{%
5750 \LWR@traceinfo{LWR@htmlsectionfilename A !\detokenize{#1}!}%
5751 \begingroup%
```

Disable CJK xpinyin while generating file names.

```
5752 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```
5753 % \LWR@traceinfo{about to assign temp}%
5754 \LWR@sanitize{#1}%
5755 \LWR@traceinfo{about to compare with ??}%
5756 \ifdefstring{\LWR@sanitized}{??}
5757 {\LWR@traceinfo{found ??}}%
5758 {\LWR@traceinfo{not found ??}}%
5759 \LWR@traceinfo{about to compare with zero or empty}%
5760 \ifboolexpr{
5761 test {\ifdefstring{\LWR@sanitized}{0}} or
5762 test {\ifdefstring{\LWR@sanitized}{}} or
5763 test {\ifdefstring{\LWR@sanitized}{??}}
5764 }
5765 {%
5766 \LWR@traceinfo{LWR@htmlsectionfilename B \HomeHTMLFileName.html}%
5767 \HomeHTMLFileName.html%
5768 }%
```

For a  $\LaTeX$  section named “Index” or “index” without a prefix, create a filename with a trailing -0 to avoid colliding with the HTML filename index.html:

```
5769 {%
5770 \LWR@traceinfo{LWR@htmlsectionfilename C \LWR@sanitized}%
5771 \ifboolexpr{
5772 test{\ifdefvoid{\HTMLFileName}} and
5773 (
5774 test{\ifdefstring{\LWR@sanitized}{Index}} or
5775 test{\ifdefstring{\LWR@sanitized}{index}}
5776)
5777 }%
5778 {%
5779 \LWR@traceinfo{Adding a zero to the index filename.}%
5780 \LWR@sanitized-0.html%
5781 }%
```

Otherwise, create a filename with the chosen prefix:

```
5782 {%
5783 \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
5784 }%
5785 }%
5786 \LWR@traceinfo{\LWR@htmlsectionfilename Z}%
5787 \endgroup%
5788 }
```

`\LWR@htmlrefsectionfilename`  $\{\langle label \rangle\}$

Prints the filename for the given label

```
5789 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
5790 \LWR@traceinfo{\LWR@htmlrefsectionfilename: !\detokenize{#1}!}%
}
```

`\LWR@nullfonts` to allow math in a section name.

```
5791 \begingroup%
5792 \LWR@nullfonts%
5793 \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
5794 \endgroup%
5795 \LWR@traceinfo{\LWR@htmlrefsectionfilename: done}%
5796 }
```

```
5797 \end{warpHTML}
```

## 47 Homepage link

**for HTML & PRINT:** 5798 `\begin{warpall}`

`\linkhomename` Holds the default name for the home link.

```
5799 \newcommand{\linkhomename}{Home}
```

```
5800 \end{warpall}
```

**for HTML output:** 5801 `\begin{warpHTML}`

`\LinkHome` May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```
5802 \newcommand*{\LinkHome}{%
5803 \LWR@subhyperrefclass{\HomeHTMLFilename.html}{\linkhomename}{linkhome}%
5804 }
```

```
5805 \end{warpHTML}
```

**for PRINT output:** 5806 `\begin{warpprint}`

`\LinkHome` May be used wherever you wish to place a link back to the homepage. For print output, if `hyperref` is available a hyperlink to the first page is used, named by `\linkhomename`. If `hyperref` is not available, a `pageref` is used instead.

`\BaseJobname` is included in the link label in case multiple documents are cross-referenced.

```

5807 \AtBeginDocument{
5808 \ifundefined{hyperref}{
5809 \newcommand*\LinkHome{%
5810 \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
5811 }
5812 }{
5813 \newcommand*\LinkHome{%
5814 \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
5815 }
5816 }
5817 }
5818
5819 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}}

5820 \end{warpprint}

```

**for HTML output:** 5821 \begin{warppHTML}

`\LWR@topnavigation` Creates a link to the homepage at the top of the page for use when the window is too narrow for the sideroc.

```

5822 \newcommand*\LWR@topnavigation{%
5823 \LWR@html@elementclassline{nav}{topnavigation}{\LinkHome}
5824 }

```

`\LWR@botnavigation` Creates a link to the homepage at the bottom of the page for use when the window is too narrow for the sideroc.

```

5825 \newcommand*\LWR@botnavigation{%
5826 \LWR@html@elementclassline{nav}{botnavigation}{\LinkHome}
5827 }

```

```

5828 \end{warppHTML}

```

## 48 Previous/next navigation links

**for HTML & PRINT:** 5829 \begin{warppall}

`\linkpreviousname` What to call the link to the previous web page.

```

5830 \newcommand*\linkpreviousname{Previous}

```

`\linknextname` What to call the link to the next web page.

```

5831 \newcommand*\linknextname{Next}

```



```
5832 \end{warpall}
```

**for PRINT output:** 5833 \begin{warpprint}

`\LinkPrevious` Creates a link to the previous web page if there is one.

```
5834 \newcommand*{\LinkPrevious}{}%
```

`\LinkNext` Creates a link to the next web page if there is one.

```
5835 \newcommand*{\LinkNext}{}%
```

```
5836 \end{warpprint}
```

**for HTML output:** 5837 \begin{warphTML}

`\LinkPrevious` Creates a link to the previous web page if there is one.

The links refer to the  $\LaTeX$  labels `\Basejobname-autofile-*`

```
5838 \newcommand*{\LinkPrevious}{%
5839 \ifnumless{\value{LWR@htmlseqfilenumber}}{1}{}%
5840 \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}-1}%
5841 \LWR@subhyperrefclass{%
5842 \LWR@htmlrefsectionfilename{%
5843 \BaseJobname-autofile-\arabic{LWR@tempcountone}%
5844 }%
5845 }{\linkpreviousname}{linkhome}%
5846 }%
5847 }
```

`\LinkNext` Creates a link to the next web page if there is one.

The links refer to the  $\LaTeX$  labels `\Basejobname-autofile-*`  
and the last is the label `\Basejobname-autofile-last`

```
5848 \newcommand*{\LinkNext}{%
5849 \ifcsdef{r@\BaseJobname-autofile-last@lwarp}{%
5850 \edef\LWR@tempone{%
5851 \LWR@htmlfileref{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
5852 }%
5853 \edef\LWR@temptwo{%
5854 \LWR@htmlfileref{\BaseJobname-autofile-last}%
5855 }%
5856 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{}%
5857 \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}+1}%
5858 \LWR@subhyperrefclass{%
5859 \LWR@htmlrefsectionfilename{%
5860 \BaseJobname-autofile-\arabic{LWR@tempcountone}%
5861 }%
5862 }{\linknextname}{linkhome}%
5863 }%
```

```

5864 }{}%
5865 }

5866 \end{warpHTML}

```

## 49 \LWRPrintStack diagnostic tool



Diagnostics tool: Prints the  $\text{\LaTeX}$  nesting depth values for the stack levels. `\LWR@startpars` is used before printing the stack, so that `\LWRPrintStack` may be called from anywhere in the normal text flow.

**for HTML output:** 5867 `\begin{warpHTML}`

`\LWRPrintStack` Prints the closedepth stack.

```

5868 \newcommand*{\LWR@subprintstack}{
5869 \LWR@closedepthone\ \LWR@closedepthtwo\ \LWR@closedepththree\
5870 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\
5871 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedepthnine\
5872 \LWR@closedepthten\ \LWR@closedeptheleven\ \LWR@closedepthtwelve\
5873 }
5874
5875 \newcommand*{\LWRPrintStack}{
5876 \LWR@startpars
5877 \LWR@subprintstack
5878 }

5879 \end{warpHTML}

```

**for PRINT output:** 5880 `\begin{warpprint}`

```

5881 \newcommand*{\LWRPrintStack}{}

5882 \end{warpprint}

```

## 50 Closing stack levels

**for HTML output:** 5883 `\begin{warpHTML}`

Close one nested level:

```

5884 \newcommand*{\LWR@closeoneprevious}{%
5885
5886 \LWR@closeone
5887
5888 \LWR@popclose
5889 }

```

`\LWR@closeprevious`  $\langle sectintype \rangle$  Close everything up to the given depth:

```
5890 \newcommand*{\LWR@closeprevious}[1]{
5891 \LWR@traceinfo{%
5892 \LWR@closeprevious to depth \csuse{\LWR@depth#1}, %
5893 depths are \LWR@subprintstack%
5894 }%
```

Close any pending paragraph:

```
5895 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```
5896 \whilebool{test{\ifnumcomp{\LWR@closedepthone}{>}{\csuse{\LWR@depth#1}}}}%
5897 {%
5898 \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
5899 \LWR@closeoneprevious%
5900 }%
5901 \ifbool{test{\ifnumcomp{\LWR@closedepthone}{=}{\csuse{\LWR@depth#1}}}}%
5902 {%
5903 \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
5904 \LWR@closeoneprevious%
5905 }{}%
5906 \LWR@traceinfo{\LWR@closeprevious: done, depths are \LWR@subprintstack}%
5907 }

5908 \end{warpHTML}
```

## 51 PDF pages and styles

**for HTML output:** `5909 \begin{warpHTML}`

`\LWR@forcenewpage` New PDF page a before major environment.

This is used just before major environments, such as verse. Reduces the chance of an environment overflowing the HTML PDF output page.

```
5910 \newcommand{\LWR@forcenewpage}{%
5911 \LWR@traceinfo{\LWR@forcenewpage}%
5912 \ifinner\else%
5913 \LWR@traceinfo{\LWR@forcenewpage A}%
5914 \LWR@stoppars%
5915 \LWR@traceinfo{\LWR@forcenewpage B}%
5916 \LWR@maybe@orignewpage%
5917 \LWR@traceinfo{\LWR@forcenewpage C}%
5918 \LWR@startpars%
5919 \fi%
5920 \LWR@traceinfo{\LWR@forcenewpage done}%
5921 }
```

`\pagestyle`, etc. are nullified for HTML output.

`\pagestyle`     $\langle style \rangle$

5922 `\renewcommand*\pagestyle[1]{}`

`\thispagestyle`     $\langle style \rangle$

5923 `\renewcommand*\thispagestyle[1]{}`

`\markboth`     $\langle left \rangle$   $\langle right \rangle$

5924 `\renewcommand*\markboth[2]{}`

`\markright`     $\langle right \rangle$

5925 `\renewcommand*\markright[1]{}`

`\raggedbottom`

5926 `\renewcommand*\raggedbottom{}`

`\flushbottom`

5927 `\renewcommand*\flushbottom{}`

`\sloppy`

5928 `\renewcommand*\sloppy{}`

`\fussy`

5929 `\renewcommand*\fussy{}`

`\pagenumbering`     $\ast \langle commands \rangle$

5930 `\RenewDocumentCommand{\pagenumbering}{s m}{}`

5931 `\end{warpHTML}`

## 52 HTML tags, spans, divs, elements

for HTML output: 5932 `\begin{warpHTML}`

## 52.1 Mapping L<sup>A</sup>T<sub>E</sub>X sections to HTML sections

```

5933 \newcommand*\LWR@tagtitle}{h1}
5934 \newcommand*\LWR@tagtitleend}{/h1}
5935 \newcommand*\LWR@tagbook}{div class=\textquotedbl{}book\textquotedbl}
5936 \newcommand*\LWR@tagbookend}{/div}
5937 \newcommand*\LWR@tagpart}{h2}
5938 \newcommand*\LWR@tagpartend}{/h2}
5939 \newcommand*\LWR@tagchapter}{h3}
5940 \newcommand*\LWR@tagchapterend}{/h3}
5941 \newcommand*\LWR@tagsection}{h4}
5942 \newcommand*\LWR@tagsectionend}{/h4}
5943 \newcommand*\LWR@tagsubsection}{h5}
5944 \newcommand*\LWR@tagsubsectionend}{/h5}
5945 \newcommand*\LWR@tagsubsubsection}{h6}
5946 \newcommand*\LWR@tagsubsubsectionend}{/h6}
5947 \newcommand*\LWR@tagparagraph}{span class=\textquotedbl{}paragraph\textquotedbl}
5948 \newcommand*\LWR@tagparagraphend}{/span}
5949 \newcommand*\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
5950 \newcommand*\LWR@tagsubparagraphend}{/span}
5951
5952 \newcommand*\LWR@tagregularparagraph}{p}

```

## 52.2 Hook while processing tags

This is used to disable special text processing while processing HTML tags. Special processing includes that done by `babel-french`, `luavina`, `xevla`.

`\LWR@hook@processingtags` Disable special text processing while generating tags. Replaces `\LWR@FBcancel` in most places.

```

5953 \newcommand*\LWR@hook@processingtags{}

```

## 52.3 Babel-French tag modifications

Adjust `babel-french` for HTML spaces. So far, this only works for *pdf<sub>l</sub>atex* and *xelatex*.

*(Emulates or patches code by DANIEL FLIPO.)*

```

5954 \providecommand*\LWR@FBcancel{}
5955
5956 \AtBeginDocument{%

```

In some circumstances, `\NoAutoSpacing` may be defined when `\frenchbsetup` is not.

```

5957 \@ifundefined{NoAutoSpacing}%
5958 {}%
5959 {%
5960 \LetLtxMacro\LWR@FBcancel\NoAutoSpacing%
5961 \appto{\LWR@hook@processingtags}{\LWR@FBcancel}%
5962 }%

```

```

5963
5964 \@ifundefined{frenchbsetup}%
5965 {}%
5966 {%
5967 \frenchbsetup{FrenchFootnotes=false}%

5968 %
5969 \renewrobustcmd*{\FBcolonspace}{%
5970 \begingroup%
5971 \LWR@hook@processingtags%
5972 \LWR@origampersand{}~\,
5973 \endgroup%
5974 }%
5975 \renewrobustcmd*{\FBthinspace}{%
5976 \begingroup%
5977 \LWR@hook@processingtags%
5978 \LWR@origampersand\LWR@origpound{x202f}% \,
5979 \endgroup%
5980 }%
5981 \renewrobustcmd*{\FBguillspace}{%
5982 \begingroup%
5983 \LWR@hook@processingtags%
5984 \LWR@origampersand{}~\, for \log xyz \fg{}
5985 \endgroup%
5986 }%
5987 \DeclareDocumentCommand{\FBmedkern}{}{%
5988 \begingroup%
5989 \LWR@hook@processingtags%
5990 \LWR@origampersand\LWR@origpound{x202f}% \,
5991 \endgroup%
5992 }%
5993 \DeclareDocumentCommand{\FBthickkern}{}{%
5994 \begingroup%
5995 \LWR@hook@processingtags%
5996 \LWR@origampersand{}~\,
5997 \endgroup%
5998 }%
5999 \renewrobustcmd*{~}{\HTMLentity{nbsp}}% was overwritten by babel-french
6000 \ifFBunicode%
6001 \else%
6002 \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
6003 \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
6004 \fi%
6005 }%
6006 }

```

## 52.4 HTML output formatting

Helps format the output HTML code for human readability.

`\LWR@indentHTML` Newline and indent the output HTML code.

```

6007 \newcommand*{\LWR@indentHTML}{%

```

```
6008 \LWR@orignewline\LWR@origrule{2em}{0pt}%
6009 }
```

\LWR@indentHTMLtwo Newline and indent the output HTML code.

```
6010 \newcommand*\LWR@indentHTMLtwo{%
6011 \LWR@orignewline\LWR@origrule{4em}{0pt}%
6012 }
```

## 52.5 HTML tags

\LWR@htmltagc {<tag>} Break ligatures and use upright apostrophes in HTML tags.

\protect is in case the tag appears in TOC, LOF, LOT.

```
6013 \newcommand*\LWR@htmltagc[1]{%
6014 \LWR@traceinfo{LWR@htmltagc !\detokenize{#1}!}%
6015 \begingroup%
6016 \LWR@hook@processingtags%
6017 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6018 \protect\LWR@origtextless%
6019 \LWR@isolate{#1}%
6020 \protect\LWR@origtextgreater%
6021 \endgroup%
6022 }
```

\LWR@spanwarnformat {<object>}

Warns if the given object is used inside a span.

```
6023 \newcommand*\LWR@spanwarnformat[1]{%
6024 \ifnumcomp{\value{LWR@spandepth}}{>}{0}{%
6025 \PackageWarning{lwarp}{%
6026 A #1 is being used inside a span.\MessageBreak
6027 Formatting may be lost,%
6028 }%
6029 }{}%
6030 }
```

\LWR@spanwarninvalid {<object>}

Warns if the given object is used inside a span.

```
6031 \newcommand*\LWR@spanwarninvalid[1]{%
6032 \ifnumcomp{\value{LWR@spandepth}}{>}{0}{%
6033 \PackageWarning{lwarp}{%
6034 A #1 is being used inside a span.\MessageBreak
6035 This generates invalid HTML,%
6036 }%
6037 }{}%
6038 }
```

Env LWR@nestspan Disable minipage, \parbox, and HTML <div>s inside a <span>.



\begin{LWR@nestspan} must follow the opening <span> tag to allow a paragraph to start if the span is at the beginning of a new paragraph.



\end{LWR@nestspan} must follow the </span> or a <p> may appear inside the span.

```
6039 \newcommand*{\LWR@nestspanitem}{%
6040 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
6041 \LWR@origitem%
6042 }
6043
6044 \newenvironment*{LWR@nestspan}
6045 {%
6046 \LWR@traceinfo{LWR@nestspan starting}%
6047 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6048 {%
6049 \LWR@traceinfo{LWR@nestspan: inside a lateximage}%
6050 }%
6051 {% not in a lateximage
6052 \LWR@traceinfo{LWR@nestspan: NOT inside a lateximage}%
6053 \addtocounter{LWR@spandepth}{1}%

```

Nullify several objects inside the span:

```
6054 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}%
6055 {\LWR@spanwarnformat{minipage or \protect\parbox}}%
6056 {}%
6057 \RenewDocumentEnvironment{BlockClass}{o m}%
6058 {\LWR@spanwarnformat{multi-paragraph object}}%
6059 {}%
6060 \renewcommand{\BlockClassSingle}[2]{%
6061 {\LWR@spanwarnformat{multi-paragraph object}}%
6062 ##2%
6063 }%
6064 \renewcommand{\LWR@forcenewpage}{}%
6065 \renewcommand{\LWR@liststart}{%
6066 \let\item\LWR@nestspanitem%
6067 }%
6068 \renewcommand{\LWR@listend}{\LWR@htmltagc{br /}\LWR@htmltagc{br /}}%
6069 \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6070 \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6071 }% not in a lateximage
6072 \LWR@traceinfo{LWR@nestspan starting: done}%
6073 }% starting env
6074 }% ending env
6075 \LWR@traceinfo{LWR@nestspan ending}%
6076 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6077 {}%
6078 {\addtocounter{LWR@spandepth}{-1}}%
6079 \LWR@traceinfo{LWR@nestspan ending: done}%
6080 }
6081
6082 \AfterEndEnvironment{LWR@nestspan}{\global\let\par\LWR@closeparagraph}

```



`\LWR@htmlspan {<tag>}{<text>}`



`\LWR@spandepth` is used to ensure that paragraph tags are not generated inside a span. The exact sequence of when to add and subtract the counter is important to correctly handle the paragraph tags before and after the span.

```
6083 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
6084 \LWR@ensuredoingapar%
6085 \LWR@htmltagc{#1}%
6086 \begin{LWR@nestspan}%
6087 #2%
6088 \LWR@htmltagc{/#1}%
6089 \end{LWR@nestspan}%
6090 }
```

`\LWR@htmlspanclass [ <style> ] {<class>}{<text>}`

```
6091 \NewDocumentCommand{\LWR@htmlspanclass}{o m +m}{%
6092 \LWR@traceinfo{LWR@htmlspanclass |#1|#2|}%
6093 \LWR@ensuredoingapar%
6094 \LWR@subhtml@elementclass{span}[#1][#2]%
6095 \begin{LWR@nestspan}%
6096 #3%
6097 \LWR@htmltagc{/span}%
6098 \LWR@traceinfo{LWR@htmlspanclass done}%
6099 \end{LWR@nestspan}%
6100 }
```

`\LWR@htmltag {<tag>}`

Print an HTML tag: `<tag>`

```
6101 \newcommand*{\LWR@htmltag}[1]{%
6102 % \LWR@traceinfo{LWR@htmltagb !\detokenize{#1}!}%
6103 \LWR@htmltagc{#1}%
6104 % \LWR@traceinfo{LWR@htmltagb: done}%
6105 }
```

## 52.6 Block tags and comments

In the following, `\origttfamily` breaks ligatures, which may not be used for HTML codes:

`\LWR@html@opencomment`  
`\LWR@html@closecomment`

```
6106 \newcommand*{\LWR@html@opencomment}{%
6107 {%
6108 % \LWR@traceinfo{LWR@html@opencomment}%
6109 \begingroup%
6110 \LWR@hook@processingtags%
6111 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6112 \LWR@print@mbox{\LWR@origtextless{}!-/-}%
6113 \endgroup%
```

```

6114 }%
6115 }
6116
6117 \newcommand*{\LWR@htmlclosecomment}{%
6118 {%
6119 % \LWR@traceinfo{\LWR@htmlclosecomment}%
6120 \begingroup%
6121 \LWR@hook@processingtags%
6122 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6123 \LWR@print@mbox{-/-\LWR@origtextgreater}%
6124 \endgroup%
6125 }%
6126 }

```

`\LWR@htmlcomment` {*<comment>*}

```

6127 \newcommand{\LWR@htmlcomment}[1]{%
6128 \ifmmode%
6129 \else%
6130 \LWR@htmlopencomment{%
6131 {%
6132 \LWR@print@normalfont%
6133 \LWR@origttfamily% break ligatures
6134 #1%
6135 }%
6136 \LWR@htmlclosecomment}%
6137 \fi%
6138 }

```

`\LWR@htmlblockcomment` {*<comment>*}

```

6139 \newcommand{\LWR@htmlblockcomment}[1]
6140 {\LWR@stoppars\LWR@htmlcomment{#1}\LWR@startpars}

```

`\LWR@htmlblocktag` {*<tag>*} print a stand-alone HTML tag

```

6141 \newcommand*{\LWR@htmlblocktag}[1]{%
6142 \LWR@stoppars%
6143 \LWR@htmltag{#1}%
6144 \LWR@startpars%
6145 }

```

## 52.7 Div class and element class

`\LWR@subhtmlclass` {*<element>*} [*<style>*] {*<class>*}

Factored and reused in several places.

The trailing spaces allow more places for a line break.

The use of `\textquotedbl` instead of " provides improved compatibility with xeCJK.

```

6146 \NewDocumentCommand{\LWR@subhtmllementclass}{m O{} m}{%
6147 \LWR@traceinfo{\LWR@subhtmllementclass !#1!#2!#3!}%
6148 \ifblank{#2}%
6149 {% empty style
6150 \LWR@htmltag{%
6151 #1%
6152 \ifblank{#3}{\class=\textquotedbl#3\textquotedbl\ }% spaces
6153 }%
6154 }%
6155 {% non-empty style
6156 \LWR@htmltag{%
6157 #1\LWR@indentHTML%
6158 \ifblank{#3}{\class=\textquotedbl#3\textquotedbl\LWR@indentHTML}%
6159 style=\textquotedbl#2\textquotedbl\LWR@orignewline%
6160 }%
6161 }%
6162 \LWR@traceinfo{\LWR@subhtmllementclass done}%
6163 }

```

\LWR@htmllementclass {<element>} {<class>} [<style>]

```

6164 \NewDocumentCommand{\LWR@htmllementclass}{m o m}{%
6165 \LWR@stoppars%
6166 \LWR@forceemptyline%
6167 \LWR@subhtmllementclass{#1}[#2]{#3}%
6168 \LWR@startpars%
6169 }

```

\LWR@htmllementclassend {<element>} {<class>}

```

6170 \newcommand*{\LWR@htmllementclassend}[2]{%
6171 \LWR@stoppars%
6172 \LWR@htmltag{/#1}%
6173 \ifbool{HTMLDebugComments}{%
6174 \LWR@htmlcomment{End of #1 ‘#2’}%
6175 }{}%
6176 \LWR@startpars%
6177 }

```

\LWR@htmldivclass [<style>] {<class>}

```

6178 \NewDocumentCommand{\LWR@htmldivclass}{o m}{%
6179 \LWR@htmllementclass{div}[#1]{#2}%
6180 }

```

\LWR@htmldivclassend {<class>}

```

6181 \newcommand*{\LWR@htmldivclassend}[1]{%
6182 \LWR@htmllementclassend{div}{#1}%
6183 }

```

## 52.8 Single-line elements

A single-line element, without a paragraph tag for the line of text:

```
\LWR@htmlElementclassline {<element>} [<style>] {<class>} {<text>}

6184 \NewDocumentCommand{\LWR@htmlElementclassline}{m o m +m}{%
6185 \LWR@stoppars
6186 \LWR@forceemptyline%
6187 \LWR@subhtmlElementclass{#1}[#2]{#3}%
6188 #4%
6189 \LWR@htmltag{/#1}
6190 \LWR@startpars
6191 }
```

## 52.9 HTML5 semantic elements

```
\LWR@htmlElement {<element>}

6192 \newcommand*{\LWR@htmlElement}[1]{%
6193 \LWR@htmlblocktag{#1}
6194 }

\LWR@htmlElementend {<element>}

6195 \newcommand*{\LWR@htmlElementend}[1]{%
6196 \LWR@stoppars
6197 \LWR@htmltag{/#1}
6198 \LWR@startpars
6199 }
6200
6201 \end{warpHTML}
```

## 52.10 High-level block and inline classes

These are high-level commands which allow the creation of arbitrary block or inline sections which may be formatted with CSS.

Nullified versions are provided for print mode.

For other direct-formatting commands, see section [94](#).

Env BlockClass [<style>] {<class>} High-level interface for <div> classes.

Ex: `\begin{BlockClass}{class} text \end{BlockClass}`

**for PRINT output:** 6202 \begin{warpprint}  
6203 \NewDocumentEnvironment{BlockClass}{o m}{\}{\}%  
6204 \end{warpprint}

**for HTML output:**

```

6205 \begin{warpHTML}
6206
6207 \NewDocumentEnvironment{LWR@print@BlockClass}{o m}{}{}%
6208
6209 \NewDocumentEnvironment{LWR@HTML@BlockClass}{o m}%
6210 {\LWR@htmldivclass[#1]{#2}}
6211 {\LWR@htmldivclassend{#2}}
6212
6213 \LWR@formattedenv{BlockClass}
6214 \end{warpHTML}

```

`\BlockClassSingle` `{\langle class \rangle}{\langle text \rangle}` A single-line `<div>`, without a paragraph tag for the line of text.

**for HTML & PRINT:**

```

6215 \begin{warpall}
6216 \newcommand{\BlockClassSingle}[2]{#2}
6217 \end{warpall}

```

**for HTML output:**

```

6218 \begin{warpHTML}
6219 \newcommand{\LWR@HTML@BlockClassSingle}[2]{%
6220 \LWR@html@elementclassline{div}{#1}{#2}%
6221 }
6222
6223 \LWR@formatted{BlockClassSingle}
6224 \end{warpHTML}

```

`\InlineClass` `((\langle WP style \rangle))` `[\langle style \rangle]{\langle class \rangle}{\langle text \rangle}`

High-level interface for inline span classes.

`((\langle WP style \rangle))` is css styling to add when formatting for a word processor import.

`[\langle style \rangle]` is the css styling to add when not formatting for a word processor.

**for PRINT output:**

```

6225 \begin{warpprint}
6226 \NewDocumentCommand{\InlineClass}{D{({})}}{} o m +m}{#4}%
6227 \end{warpprint}

```

**for HTML output:**

```

6228 \begin{warpHTML}
6229 \NewDocumentCommand{\LWR@print@InlineClass}{D{({})}}{} o m +m}{#4}%
6230
6231 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{({})}}{} o m +m}{%
6232 \ifbool{FormatWP}{%
6233 \LWR@htmlspanclass[#1]{#3}{#4}%
6234 }{%
6235 \LWR@htmlspanclass[#2]{#3}{#4}%
6236 }%
6237 }
6238
6239 \LWR@formatted{InlineClass}
6240 \end{warpHTML}

```

Env `LWR@BlockClassWP` `{\langle WP style \rangle}{\langle HTML style \rangle}{\langle class \rangle}` Low-level interface for `<div>` classes with an automatic float ID. These are often used when `\ifbool{FormatWP}`.

The use of `\textquotedbl` instead of `"` provides improved compatibility with `xeCJK`.

**for PRINT output:**

```

6241 \begin{warpprint}
6242 \NewDocumentEnvironment{LWR@BlockClassWP}{m m m}{}{}%
6243 \end{warpprint}

```

**for HTML output:**

```

6244 \begin{warpHTML}
6245 \NewDocumentEnvironment{LWR@print@LWR@BlockClassWP}{m m m}{}{}%
6246 \NewDocumentEnvironment{LWR@HTML@LWR@BlockClassWP}{m m m}%
6247 {%
6248 \LWR@stoppars%
6249 \ifbool{FormatWP}%
6250 {%
6251 \addtocounter{LWR@thisautoidWP}{1}%

6252 \LWR@htmltag{%
6253 div class=\textquotedbl#3\textquotedbl\ % space
6254 id=\textquotedbl%
6255 \LWR@print@mbox{autoidWP-\arabic{LWR@thisautoidWP}}}%
6256 \textquotedbl%
6257 \ifblank{#1}{}{ style=\textquotedbl#1\textquotedbl}%
6258 }%
6259 }% FormatWP
6260 {% not FormatWP
6261 \LWR@htmltag{%
6262 div class=\textquotedbl#3\textquotedbl%
6263 \ifblank{#2}{}{ style=\textquotedbl#2\textquotedbl}%
6264 }%
6265 }% not FormatWP
6266 \LWR@startpars%
6267 }
6268 {\LWR@htmldivclassend{#3}}
6269
6270 \LWR@formattedenv{LWR@BlockClassWP}
6271 \end{warpHTML}

```

## 52.11 Closing HTML tags

**for HTML output:**

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

6273 \newcommand*{\LWR@printclosebook}
6274 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
6275 \newcommand*{\LWR@printclosepart}
6276 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
6277 \newcommand*{\LWR@printclosechapter}
6278 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
6279 \newcommand*{\LWR@printclosesection}
6280 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
6281 \newcommand*{\LWR@printclosesubsection}
6282 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6283 \newcommand*{\LWR@printclosesubsubsection}

```

```

6284 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6285 \newcommand*{\LWR@printcloseparagraph}
6286 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
6287 \newcommand*{\LWR@printclosesubparagraph}
6288 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

6289 \newcommand*{\LWR@printcloselistitem}
6290 {\LWR@htmltag{/li}}
6291 \newcommand*{\LWR@printclosedescitem}
6292 {\LWR@htmltag{/dd}}
6293 \newcommand*{\LWR@printcloseitemize}
6294 {\LWR@htmltag{/ul}}
6295 \newcommand*{\LWR@printcloseenumerate}
6296 {\LWR@htmltag{/ol}}
6297 \newcommand*{\LWR@printclosedescription}
6298 {\LWR@htmltag{/dl}}

6299 \end{warpHTML}

```

## 53 Paragraph handling

These commands generate the HTML paragraph tags when allowed and required.

Paragraph tags are or are not allowed depending on many conditions. Section 54 has high-level commands which allow paragraph-tag generation to start/stop. Even when allowed (`\LWR@doingstartpars`), tags are not generated until a  $\LaTeX$  paragraph is being used (`\LWR@doingapar`). `LWR@lateximagedepth` is used to prevent nesting tags inside a `lateximage`. `LWR@spandepth` is used to prevent nesting paragraph tags inside a paragraph, which became important inside `\fbox` commands and other spans.

**for HTML output:** 6300 `\begin{warpHTML}`

**Ctrl** `LWR@spandepth` Do not create paragraph tags inside of an HTML span.

```

6301 \newcounter{LWR@spandepth}
6302 \setcounter{LWR@spandepth}{0}

```

**Bool** `LWR@doingstartpars` Tells whether paragraphs may be generated.

```

6303 \newbool{LWR@doingstartpars}
6304 \boolfalse{LWR@doingstartpars}

```

**Bool** `LWR@doingapar` Tells whether have actually generated and are currently processing paragraph text.

```

6305 \newbool{LWR@doingapar}
6306 \global\boolfalse{LWR@doingapar}

```

`\LWR@ensuredoingapar` If are about to print something visible, and if allowed to start a new paragraph, ensure that are `LWR@doingapar`, so that paragraph tags are placed:

```

6307 \newcommand*{\LWR@ensuredoingapar}{%
6308 \ifbool{\LWR@doingstartpars}%
6309 {\global\booltrue{\LWR@doingapar}}%
6310 {}%
6311 }

```

`\PN@parnotes@auto` Redefined by `parnotes` to print paragraph notes at the end of each paragraph.

```

6312 \def\Pn@parnotes@auto{}%

```

`\LWR@openparagraph`

```

6313 \newcommand*{\LWR@openparagraph}
6314 {%

```

See if paragraph handling is enabled:

```

6315 \ifbool{\LWR@doingstartpars}%
6316 {% handling pars

```

See if have already started a `lateximage` or a `<span>`. If so, do not generate nested paragraph tags.

```

6317 \ifboolexpr{
6318 test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6319 test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}
6320 }% nested par tags?

```

If so: Do nothing if already started a `lateximage` page. Cannot nest a `lateximage`. Also do nothing if already inside a `<span>`. Do not nest paragraph tags inside a `<span>`.

```

6321 {}% no nested par tags

```

Else: No `lateximage` or `<span>` has been started yet, so it's OK to generate paragraph tags.

```

6322 {% yes nest par tags

```

If `parnotes` is used, paragraph notes are inserted before starting the next paragraph:

```

6323 \PN@parnotes@auto%

```

The opening paragraph tag:

```

6324 \LWR@htmltag{\LWR@tagregularparagraph}\LWR@orignewline%

```

Now have started a paragraph.

```

6325 \global\booltrue{\LWR@doingapar}%

```

At the end of each paragraph, generate closing tag and do regular `/par` stuff. (Attempting to use the `everyhook` or `hook` for `\LWR@closeparagraph` does not work well.)



```

6326 \let\par\LWR@closeparagraph%
6327 }% end of yes nest par tags
6328 }% end of handling pars
6329 {}% not handling pars
6330 }

```

`\LWR@closeparagraph@br` Add an HTML break if in a span, and not in a lateximage, and not in tabular metadata. Factored from `\LWR@closeparagraph`.

```

6331 \newcommand*{\LWR@closeparagraph@br}
6332 {%
6333 \ifboolexpr{
6334 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} and
6335 test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}} and
6336 not bool {LWR@intabularmetadata}
6337 }%
6338 {\unskip\LWR@htmltagc{br /}}%
6339 {}%
6340 }

```

`\LWR@closeparagraph`

```

6341 \newcommand*{\LWR@closeparagraph}
6342 {%
6343 \LWR@traceinfo{LWR@closeparagraph}%

```

See if paragraph handling is enabled:

```

6344 \ifbool{LWR@doingapar}%

```

If currently in paragraph mode:

```

6345 {% handling pars

```

See if already started a lateximage or a `<span>`:

```

6346 \ifboolexpr{
6347 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6348 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6349 }%

```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```

6350 {% no nested par tags
6351 \LWR@closeparagraph@br%
6352 }% no nested par tags

```

If have not already started a lateximage or a `<span>`:

```

6353 {% yes nest par tags

```

Print a closing tag and some extra vertical space.

(The fill seems to be required to force the `caption` package to create flush left caption text in the HTML.)

```
6354 \@hspacer{\fill}% \hspace*{\fill}
6355 \leavevmode\LWR@orignewline%
6356 \LWR@htmltagc{/LWR@tagregularparagraph}%
```

No longer doing a paragraph:

```
6357 \global\boolfalse{LWR@doingapar}%
```

Disable the special minipage & \hspace interaction until a new minipage is found:

```
6358 \global\boolfalse{LWR@minipagethispar}%
```

If `parnotes` is used, paragraph notes are inserted after ending the previous paragraph:

```
6359 \PN@parnotes@auto%
6360 }% end of yes nest par tags
6361 }% end of handling pars
```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```
6362 {% not handling pars
6363 \LWR@closeparagraph@br%
6364 }% not handling pars
```

In most cases, finish with a  $\LaTeX$  `\par`, but in the case of paragraphs between lines in a tabular fetch the next token instead:

```
6365 \ifboolexpr{%
6366 not bool {LWR@doingapar} and
6367 test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
6368 test {
6369 \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
6370 } and
6371 bool {LWR@intabularmetadata} and
6372 not bool {LWR@tableparcell} and
6373 test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
6374 }%
6375 {%
6376 \LWR@getmynexttoken%
6377 }{%
6378 \LWR@origpar%
6379 }%
6380 }
```

```
6381 \end{warpHTML}
```

## 54 Paragraph start/stop handling

These commands allow/disallow the generation of HTML paragraph tags.

Section 53 has the commands which actually generate the tags.

The everyhook package is used to generate the opening paragraph tags. The closing tags are generated by `\par`.

**for HTML output:** 6382 `\begin{warpHTML}`

`\LWR@startpars` Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```
6383 \newcommand*{\LWR@startpars}%
6384 {%
6385 % \LWR@traceinfo{\LWR@startpars}%
```

Ignore if inside a `lateximage` or `<span>`:

```
6386 \ifboolexpr{
6387 test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6388 test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}
6389 }%
6390 {}%
6391 {%
```

See if currently handling HTML paragraphs:

```
6392 \ifbool{\LWR@doingstartpars}%
```

If already in paragraph mode, do nothing.

```
6393 {}%
```

If not currently in paragraph mode:

```
6394 {%
```

At the start of each paragraph, generate an opening tag:

```
6395 \PushPreHook{par}{\LWR@openparagraph}%
```

At the end of each paragraph, generate closing tag then do regular `/par` actions:

```
6396 \let\par\LWR@closeparagraph
6397
6398 }% an intentionally blank line
```

Are now handling paragraphs, but have not yet actually started one:

```
6399 \global\setbool{\LWR@doingstartpars}{true}%
```

No `<par>` tag yet to undo:

```
6400 \global\boolfalse{\LWR@doingapar}%
6401 }% nestspan
6402 % \LWR@traceinfo{\LWR@startpars: done}%
6403 }
```

`\LWR@stoppars` Stop handling HTML paragraphs. Any currently open HTML paragraph is closed, and no more will be opened.

```
6404 \newcommand*\LWR@stoppars}%
6405 {%
```

Ignore if inside a `lateximage` or `<span>`:

```
6406 \ifboolexpr{
6407 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6408 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6409 }%
6410 {%}
6411 {%
```

See if currently handling HTML paragraphs:

```
6412 \ifbool{LWR@doingapar}%
```

if currently in an HTML paragraph:

```
6413 {%
```

Print a closing tag:

```
6414 \leavevmode\LWR@orignewline%
6415 \LWR@htmltagc{/LWR@tagregularparagraph}%
6416 \LWR@orignewline%
```

No longer have an open HTML paragraph:

```
6417 \global\boolfalse{LWR@doingapar}%
```

Disable the special minipage & `\hspace` interaction until a new minipage is found:

```
6418 \global\boolfalse{LWR@minipagethispar}
6419 }%
```

If was not in an HTML paragraph:

```
6420 {}%
```

See if currently allowing HTML paragraphs:

```
6421 \ifbool{LWR@doingstartpars}%
```

If so: clear the par hook to no longer catch paragraphs:

```
6422 {\ClearPreHook{par}}%
```

Else: Do nothing:

```
6423 {}%
```

No longer in paragraph mode:

```
6424 \global\setbool{LWR@doingstartpars}{false}%
```

No <p> tag to undo:

```
6425 \global\boolfalse{LWR@doingapar}%
6426 }% nestspan
6427 }

6428 \end{warpHTML}
```

## 55 Indentfirst

Pkg indentfirst indentfirst redefines \@afterindentfalse to be \@afterindenttrue. This is reversed \AtBeginDocument here.

for HTML output: 6429 \begin{warpHTML}

```
6430 \AtBeginDocument{
6431 \def\@afterindentfalse{\let\if@afterindent\iffalse}
6432 \@afterindentfalse
6433 }
6434 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting
6435 \end{warpHTML}
```

## 56 Page headers and footers

for HTML & PRINT: 6436 \begin{warppall}

In the following, catcode is manually changed back and forth without groups, since new macros are being defined which must not be contained within the groups.

```
6437 \newcommand{\LWR@firstpagetop}{} % for the home page alone
6438 \newcommand{\LWR@firstpagebottom}{} % for the home page alone
6439 \newcommand{\LWR@pagetop}{} % for all other pages
6440 \newcommand{\LWR@pagebottom}{}%
```

\HTMLFirstPageTop {<text and logos>}

```
6441 \newcommand{\HTMLFirstPageTop}[1]{%
6442 \renewcommand{\LWR@firstpagetop}{#1}%
6443 }
```

\HTMLFirstPageBottom {<text and logos>}

```
6444 \newcommand{\HTMLFirstPageBottom}[1]{%
6445 \renewcommand{\LWR@firstpagebottom}{#1}%
6446 }
```

`\HTMLPageTop` {*<text and logos>*}

```
6447 \newcommand{\HTMLPageTop}[1]{%
6448 \renewcommand{\LWR@pagetop}{#1}%
6449 }
```

`\HTMLPageBottom` {*<text and logos>*}

```
6450 \newcommand{\HTMLPageBottom}[1]{%
6451 \renewcommand{\LWR@pagebottom}{#1}%
6452 }
```

```
6453 \end{warpall}
```

## 57 CSS

**for HTML output:** 6454 `\begin{warpHTML}`

`\LWR@currentcss` The css filename to use. This may be changed mid-document using `\CSSFilename`, allowing different css files to be used for different sections of the document.

```
6455 \newcommand*{\LWR@currentcss}{lwarp.css}
```

`\CSSFilename` {*<new-css-filename.css>*} Assigns the css file to be used by the following HTML pages.

```
6456 \newcommand*{\CSSFilename}[1]{%
6457 \renewcommand*{\LWR@currentcss}{#1}%
6458 \@onelevel@sanitize\LWR@currentcss%
6459 }
6460
6461 \end{warpHTML}
```

**for PRINT output:** 6462 `\begin{warpprint}`  
 6463 `\newcommand*{\CSSFilename}[1]{}`  
 6464 `\end{warpprint}`

## 58 MATHJAX script

**for HTML output:** 6465 `\begin{warpHTML}`  
 Default: `lwarp_mathjax.txt`

`\LWR@mathjaxfilename` The MATHJAX script filename to use. This file is copied into the head of each HTML page. This may be changed mid-document using `\MathJaxFilename`, allowing the use of a custom MATHJAX script, such as for a local repository, or different MATHJAX script files to be used for different sections of the document.

```
6466 \newcommand*{\LWR@mathjaxfilename}{lwarp_mathjax.txt}
```

`\MathJaxFilename`  $\{\langle filename \rangle\}$  Assigns the MATHJAX script file to be used by the following HTML pages.

```
6467 \newcommand*\MathJaxFilename[1]{%
6468 \renewcommand*\LWR@mathjaxfilename{#1}%
6469 \@onelevel@sanitize\LWR@mathjaxfilename%
6470 }
6471
6472 \end{warpHTML}
```

**for PRINT output:** `\begin{warpprint}`  
`\newcommand*\MathJaxFilename[1]{}`  
`\end{warpprint}`

## 59 Title, HTML meta author, HTML meta description

**for HTML output:** `\begin{warpHTML}`

`\title`  $\{\langle title \rangle\}$  Modified to remember `\thetitle`, which is used to set the HTML page titles.

```
6477 \let\LWR@origtitle\title
6478
6479 \renewcommand*\title[1]{%
6480 \LWR@origtitle{#1}%
6481 \begingroup%
6482 \renewcommand{\thanks}[1]{}%
6483 \protected@xdef\thetitle{#1}%
6484 \endgroup%
6485 }
6486 \end{warpHTML}
```

**for HTML & PRINT:** `\begin{warppall}`

`\HTMLTitle`  $\{\langle Titlename \rangle\}$  The Title to place into an HTML meta tag. The default is to use the document `\title`'s setting.

```
6488 \providecommand{\thetitle}{\BaseJobname}
6489
6490 \newcommand{\theHTMLTitle}{\thetitle}
6491
6492 \newcommand{\HTMLTitle}[1]{\renewcommand{\theHTMLTitle}{#1}}
```

`\HTMLAuthor`  $\{\langle authorname \rangle\}$  The author to place into an HTML meta tag. If none given, the default is `\theauthor`, which is empty unless the `titling` package is used.

```
6493 \providecommand{\theauthor}{}
6494
6495 \newcommand{\theHTMLAuthor}{\theauthor}
6496
6497 \newcommand{\HTMLAuthor}[1]{\renewcommand{\theHTMLAuthor}{#1}}
```

This is placed inside an HTML meta tag at the start of each file. This may be changed mid-document using `\HTMLDescription`, allowing different HTML descriptions to be used for different sections of the document.

 **HTML author** Do not use double quotes, and do not exceed 150 characters.

`\HTMLDescription` `{\langle New HTML meta description.\rangle}` Assigns the HTML file's description meta tag.

```
6498 \newcommand{\LWR@currentHTMLDescription}{}
6499
6500 \newcommand{\HTMLDescription}[1]{%
6501 \renewcommand{\LWR@currentHTMLDescription}{#1}
6502 }
6503
6504 \end{warpall}
```

## 60 Footnotes

**lwarp** uses native  $\TeX$  footnote code, although with its own `\box` to avoid the  $\TeX$  output routine. The usual functions mostly work as-is.

**footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For **bigfoot**, **manyfoot**, or **perpage**:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

 **MathJax, \footnotemark** If using **MATHJAX**, after each math expression with a `\footnotemark`, adjust the footnote counter by the number of `\footnotemarks`:

```
\[(math expression with two instances of \footnotemark) \]
\warpHTMLonly{\addtocounter{footnote}{2}}
```

Similarly for **endnotes**, but *not* **sidenotes**.

Also for **MATHJAX**, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading **lwarp**:

```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for **sidenotes**. For **endnotes**:

```
\def\endnotename{something}% \def allows name to start with "end"
```

For the **pagenote** package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.



**footmisc** The `footmisc` stable option is emulated by `lwarp`.

 **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the `footmisc` package with the `stable` option, provide a short `toc` entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

**memoir with footmisc** If using `memoir` class, with which `lwarp` preloads `footmisc`, the `stable` option must be declared before `lwarp` is loaded:



**memoir**

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
...
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

Several kinds of footnotes are used: in a regular page, in a minipage, or as thanks in the titlepage. Each of these is handle differently.

## 60.1 Regular page footnotes

In HTML documents, footnotes are placed at the bottom of the web page or the section, depending on `FootnoteDepth`, using the  $\TeX$  box `\LWR@footnotebox`. Using this instead of the original `\footins` box avoids having footnotes be printed by the output routine, since footnotes should be printed per HTML page instead of per PDF page.

See section 60.4 for the implementation.

## 60.2 Minipage footnotes

See section 60.5 for how minipage footnotes are gathered. See section 93.4 for how minipage footnotes are placed into the document.

## 60.3 Titlepage thanks

See section 68.7 for titlepage footnotes.

## 60.4 Regular page footnote implementation

**for HTML & PRINT:** 6505 `\begin{warpall}`

**Ctrl** `FootnoteDepth` Determines how deeply to place footnotes in the HTML files, similar to `tocdepth`. The  
Default: 3

default of 3 places footnotes before each \subsubsection or higher. See table 11 for a table of L<sup>A</sup>T<sub>E</sub>X section headings.

```
6506 \newcounter{FootnoteDepth}
6507 \setcounter{FootnoteDepth}{3}
```

Ctrl footnoteReset If non-zero, the footnote counter is reset to this value each time the footnotes are printed, as controlled by FootnoteDepth. For the manyfoot and bigfoot packages, additional counters such as footnote<suffix>Reset will be defined as well. These counters may be set non-zero by the user, and are also set if the perpage’s \MakePerPage or \MakeSortedPerPage macros are used for the footnote or footnote<suffix> counters.

(The name is not capitalized because it is made from the counter’s name with “Reset” appended.)

```
6508 \newcounter{footnoteReset}
6509 \setcounter{footnoteReset}{0}
```

```
6510 \end{warpall}
```

for HTML output: 6511 \begin{warpHTML}

\LWR@footnotetext Patch L<sup>A</sup>T<sub>E</sub>X footnotes to use a new \box instead of an insert for lwarp footnotes. This avoids having the original \footins appear at the bottom of a lateximage, which is on its own new page.

```
6512 \newbox\LWR@footnotetext
```

Much of the following has unneeded print-mode formatting removed.

\@makefnmark {<text>}

```
6513 \long\def\@makefnmark#1{\@thefnmark~#1}
```

\@makefnmark

```
6514 \def\@makefnmark{%
6515 \@thefnmark%
6516 }
```

Footnotes may be in regular text, in which case paragraphs are tagged, or in a table data cell or lateximage, in which case paragraph tags must be added manually.

In a lateximage during HTML output, the lateximage is placed inside a print-mode minipage, but the footnotes are broken out by:

```
\def\@mpfn{footnote}
\def\@thempfn{\thefootnote}
\let\@footnotetext\LWR@footnotetext
```

\LWR@footnotetext {<text>} {<footnote box name>}

Factored to allow multiple footnote boxes for **manyfoot**.

```
6517 \long\def\LWR@@footnotetext#1#2{%
6518 \LWR@traceinfo{LWR@footnotetext}%
6519 \global\setbox\csname #2\endcsname=\vbox{%
```

Add to any current footnotes:

```
6520 \unvbox\csname #2\endcsname%
```

Remember the footnote number for \ref:

```
6521 \protected@edef\@currentlabel{%
6522 \csname p@footnote\endcsname\@thefnmark%
6523 }% @currentlabel
```

Open a group:

```
6524 \color@begingroup%
```

Disable CJK xpinyin while generating footnotes.

```
6525 \LWR@disablepinyin%
```

Use HTML superscripts in the footnote even when the main text is inside a `lateximage`, because the footnote will be in HTML:

```
6526 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
6527 \ifthenelse{%
6528 \boolean{LWR@doingstartpars} \AND%
6529 \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
6530 }%
6531 {}%
6532 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%

```

Append the footnote to the list:

```
6533 \@makefntext{#1}%
```

Closing paragraph tag:

```
6534 \ifthenelse{%
6535 \boolean{LWR@doingstartpars} \AND%
6536 \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
6537 }%
6538 {\par}%
6539 {}%
6540 \LWR@htmltagc{/LWR@tagregularparagraph}%
6541 \LWR@orignewline%
6542 }%
```

Close the group:

```
6543 \color@endgroup%
6544 }% vbox
```

Paragraph handling:

```
6545 \LWR@ensuredoingapar%
6546 }%
```

```
\LWR@footnotetext {<text>}
```

```
6547 \long\def\LWR@footnotetext#1{\LWR@footnotetext{#1}\LWR@footnotebox}}
```

```
\@footnotetext {<text>}
```

```
6548 \LetLtxMacro\@footnotetext\LWR@footnotetext
```

## 60.5 Minipage footnote implementation

Patch  $\LaTeX$  minipage footnotes to use a new `\box` instead of an insert for `lwarp` minipage footnotes. This avoids having the original `\@mpfootins` appear at the bottom of a `lateximage`, which is on its own new page.

```
6549 \newbox\LWR@mpfootnotes
```

```
\@mpfootnotetext {<text>}
```

```
6550 \long\def\@mpfootnotetext#1{%
6551 \LWR@traceinfo{\@mpfootnotetext}%
6552 \global\setbox\LWR@mpfootnotes\vbox{%
6553 \unvbox\LWR@mpfootnotes%
6554 \reset@font\footnotesize%
6555 \hsize\columnwidth%
6556 \@parboxrestore%
6557 \protected@edef\@currentlabel%
6558 {\csname p@mpfootnote\endcsname\@thefnmark}%
6559 \color@begingroup%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
6560 \ifthenelse{%
6561 \boolean{LWR@doingstartpars} \AND%
6562 \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
6563 }%
6564 {}%
6565 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%

6566 \@makefnstext{%
6567 \ignorespaces#1%
6568 }%
```

Don't add the closing paragraph tag if are inside a lateximage:

```

6569 \ifthenelse{\cnttest{\value{LWR@lateximagedepth}}{>}{0}}%
6570 {}%
6571 {%
6572 \leavevmode\LWR@orignewline%
6573 \LWR@htmltagc{/LWR@tagregularparagraph}%
6574 \LWR@origpar%
6575 }%
6576 \color@endgroup%
6577 }% vbox

```

Paragraph handling:

```

6578 \LWR@ensuredoingapar%
6579 \LWR@traceinfo{@mpfootnotetext: done}%
6580 }

```

`\thempfootnote` Redefined to remove the `\itshape`, which caused an obscure compiling error in some situations.

```

6581 \AtBeginDocument{
6582 \def\thempfootnote{\@alph{c@mpfootnote}}
6583 }

```

## 60.6 Printing pending footnotes

`\LWR@@printpendingfootnotes` {*{footnote counter name}*}

```

6584 \newcommand*{\LWR@@printpendingfootnotes}[1]{%
6585 \expandafter\ifvoid\csname LWR@#1box\endcsname\else
6586 \LWR@forcenewpage
6587 \begin{BlockClass}{footnotes}
6588 \null
6589 \unvbox\csuse{LWR@#1box}
6590 \setbox\csuse{LWR@#1box}=\vbox{}
6591 \end{BlockClass}
6592 \ifltxcounter{#1Reset}{%
6593 \ifnumgreater{\value{#1Reset}}{0}{%
6594 \setcounter{#1}{\value{#1Reset}}%
6595 \addtocounter{#1}{-1}%
6596 }{}%
6597 }{}%
6598 \fi
6599 }

```

`\LWR@printpendingfootnotes` Enclose the footnotes in a class, print, then clear. For `manynotes`, new footnotes may be added via `\appto`.

```

6600 \newcommand*{\LWR@printpendingfootnotes}{%
6601 \LWR@@printpendingfootnotes{footnote}%
6602 }

```

`\LWR@maybeprintpendingfootnotes` [*depth*] Used to print footnotes before sections only if formatting for an EPUB or word processor:

```

6603 \newcommand*{\LWR@maybeprintpendingfootnotes}[1]{%
6604 \ifbool{expr{
6605 not test{\ifnumcomp{#1}{>}{\value{FootnoteDepth}}}} or
6606 bool{FormatEPUB} or
6607 bool{FormatWP}
6608 }}%
6609 {\LWR@printpendingfootnotes}%
6610 }%
6611 }
```

`\LWR@printpendingmpfootnotes` Enclose the minipage footnotes in a class, print, then clear.

```

6612 \newcommand*{\LWR@printpendingmpfootnotes}{%
6613 \ifvoid\LWR@mpfootnotes\else
6614 \LWR@forcenewpage
6615 \begin{BlockClass}{footnotes}
6616 \null
6617 \unvbox\LWR@mpfootnotes
6618 \setbox\LWR@mpfootnotes=\vbox{}
6619 \end{BlockClass}
6620 \fi
6621 }

6622 \end{warpHTML}
```

## 61 Marginpars

`\marginpar` [*left*] [*right*] `\marginpar` may contain paragraphs, but in order to remain inline with the surrounding text **lwarp** nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `<br />` tags.

`\marginparBlock` [*left*] [*right*] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a `<span>`. A line break will occur in the text where the `\marginBlock` occurs.

**for HTML output:** 6623 `\begin{warpHTML}`

`\marginpar` [*left*] [*right*]

```

6624 \renewcommand{\marginpar}[2][]{%
6625 \ifbool{FormatWP}%
6626 {%
6627 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{\marginblock}
6628 #2
6629 \end{LWR@BlockClassWP}
6630 }%
6631 {%
6632 \LWR@htmlspanclass{marginpar}{#2}%
```

```
6633 }%
6634 }
```

`\marginparBlock` [*<left>*] [*<right>*]

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```
6635 \newcommand{\marginparBlock}[2][{}]{%
6636 \LWR@stoppars%
6637 \ifbool{FormatWP}%
6638 {%
6639 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}{marginblock}
6640 #2
6641 \end{LWR@BlockClassWP}
6642 }{%
6643 \begin{BlockClass}[width:2in; float:right; margin:10pt]{marginparblock}
6644 #2
6645 \end{BlockClass}
6646 }%
6647 \LWR@startpars%
6648 }
```

`\reversemarginpar`

```
6649 \renewcommand*{\reversemarginpar}{}%
```

`\normalmarginpar`

```
6650 \renewcommand*{\normalmarginpar}{}%
```

```
6651 \end{warpHTML}
```

**for PRINT output:** 6652 `\begin{warpprint}`

`\marginparBlock` [*<left>*] [*<right>*]

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

Print version.

```
6653 \LetLtxMacro\marginparBlock\marginpar
```

```
6654 \end{warpprint}
```

## 62 Splitting HTML files

- Files are split according to FileDepth and CombineHigherDepths.

- Filenames are sanitized by \LWR@filenamenoblanks.
- \LWR@newhtmlfile finishes an HTML page, adds a comment to tell where and how to split the file, then starts a new HTML page.

**for HTML & PRINT:** 6655 \begin{warpall}

**Ctrl** FileDepth {<section depth>} determines how deeply to break into new HTML files, similar to tocdepth. The default of -5 produces one large HTML file.

```
6656 \newcounter{FileDepth}
6657 \setcounter{FileDepth}{-5}
```

**Bool** CombineHigherDepths Combine higher-level sections together into one file?

```
6658 \newbool{CombineHigherDepths}
6659 \booltrue{CombineHigherDepths}
```

\FilenameLimit Maximum length of the generated filenames.

```
6660 \newcommand*{\FilenameLimit}{80}

6661 \end{warpall}
```

**for HTML output:** 6662 \begin{warpHTML}

\LWR@thisfilename The currently-active filename or number. At first, this is the homepage.

```
6663 \AtBeginDocument{
6664 \ifbool{FileSectionNames}%
6665 {\newcommand*{\LWR@thisfilename}{\HomeHTMLFilename}}
6666 {\newcommand*{\LWR@thisfilename}{0}}
6667 }
```

\LWR@thisnewfilename The filename being sanitized.

```
6668 \newcommand*{\LWR@thisnewfilename}{}
```

\LWR@simplifname \*{<expression>} Simplify \LWR@thisnewfilename.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```
6669 \NewDocumentCommand{\LWR@simplifname}{s m}{%
6670 \IfBooleanTF{#1}{%
6671 \StrSubstitute{\LWR@thisnewfilename}%
6672 {\detokenize{#2}}%
6673 {\detokenize{-}}[\LWR@thisnewfilename]%
6674 }{%
6675 \StrSubstitute{\LWR@thisnewfilename}%
6676 {#2}%
```



```

6677 {\detokenize{-}}[\LWR@thisnewfilename]%
6678 }
6679 }

```

`\LWR@simplifycustom` User-defined filename simplifications. Redefine with `\newcommand`.

```

6680 \newcommand*\LWR@simplifycustom{}

```

`\FilenameSimplify` \* `{⟨phrase⟩}` Assign a user-defined filename simplification. Appends to `\LWR@simplifycustom`.

```

6681 \NewDocumentCommand{\FilenameSimplify}{s m}{%
6682 \IfBooleanTF{#1}{%
6683 \appto{\LWR@simplifycustom}{%
6684 \LWR@simplifyname*{#2}%
6685 }%
6686 }{%
6687 \appto{\LWR@simplifycustom}{%
6688 \LWR@simplifyname{#2}%
6689 }%
6690 }%
6691 }

```

`\LWR@avoiddupfilenames` Instructions for how to avoid duplicate filenames. This is used in a warning in `\LWR@filenamenoblanks`, and in an error in `\LWR@newhtmlfile`.

```

6692 \newcommand*\LWR@avoiddupfilenames{%
6693 To avoid duplicate filenames, use the optional\MessageBreak
6694 short Table of Contents entry:\MessageBreak
6695 \space\space\protect\section[Unique name, no math]{Name with math}%
6696 \MessageBreak
6697 or use \protect\texorpdfstring, from the hyperref package:\MessageBreak
6698 \space\space%
6699 \protect\section{\MessageBreak
6700 \space\space\space\space\protect\texorpdfstring\MessageBreak
6701 \space\space\space\space\space\space%
6702 {Name with math}{Unique name, no math}\MessageBreak
6703 \space\space}
6704 }

```

`\LWR@filenamenoblanks` `{⟨filename⟩}`

Convert blanks into dashes, removes short words, store result in `\LWR@thisfilename`.

Also see `\LWR@nullfonts` for nullified macros.

```

6705 \newcommand*\LWR@filenamenoblanks}[1]{%
6706 \begingroup

```

Locally temporarily disable direct-formatting commands, not used in filenames:

```
6707 \LWR@nullfonts%
6708 \renewcommand*{\LWR@htmltagc}[1]{}%
```

```
6709 \edef\LWR@thisnewfilename{#1}%
```

Replaces common macros with hyphens. (& is done by \LWR@nullfonts.)

```
6710 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%
6711 \LWR@simplifiname{_}
6712 \LWR@simplifiname{\#}
6713 \LWR@simplifiname{\textbackslash}
6714 \LWR@simplifiname{\protect}
6715 \LWR@simplifiname{\ }
6716 \LWR@simplifiname{\textless}
6717 \LWR@simplifiname{\textgreater}
```

```
6718 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%
```

Warn if there is dollar math in the section name:

```
6719 \ifbool{FileSectionNames}{%
6720 \IfSubStr{\LWR@thisnewfilename}{\LWR@dollar}{%
6721 \PackageWarning{lwarp}
6722 {%
6723 This section name:\MessageBreak
6724 \space\space‘‘\detokenize\expandafter{#1}’’\MessageBreak
6725 at the line number listed below,\MessageBreak
6726 is using $dollar-delimited math$,
6727 which generates\MessageBreak
6728 complicated file names. It is better to use\MessageBreak
6729 \space\space%
6730 \protect\section{Name with \protect\(\parenthesis math\protect\)}%
6731 \MessageBreak
6732 The math then will be removed from the file name.\MessageBreak
6733 \MessageBreak
6734 \LWR@avoiddupfilenames%
6735 \MessageBreak
6736 This section is found before or%
6737 }
6738 }{}%
6739 }{}
```

```
6740 \LWR@traceinfo{\LWR@filenamenoblanks edef: !\LWR@thisnewfilename!}%
6741 \fullexpandarg%
```

Convert spaces into hyphens:

```
6742 \LWR@simplifiname*{ }
```

Convert punctutation into hyphens:

```
6743 \LWR@simplifiname*{*}
6744 \LWR@simplifiname*{(}
6745 \LWR@simplifiname*{)}
```

```

6746 \LWR@simplifyname*{.}
6747 \LWR@simplifyname*{!}
6748 \LWR@simplifyname*{,}
6749 \LWR@simplifyname*{' }
6750 \LWR@simplifyname*{+}
6751 \LWR@simplifyname*{/}
6752 \LWR@simplifyname*{:}
6753 \LWR@simplifyname*{;}
6754 \LWR@simplifyname*{=}
6755 \LWR@simplifyname*{?}
6756 \LWR@simplifyname*{@}
6757 \LWR@simplifyname*{^}
6758 \LWR@simplifyname*{&}
6759 \LWR@simplifyname*{"}
6760 \LWR@simplifyname*{<}
6761 \LWR@simplifyname*{>}

6762 \LWR@simplifyname{\LWRbackslash}

```

Braces are removed entirely to avoid extra dashes in the result.

```

6763 \StrSubstitute{\LWR@thisnewfilename}%
6764 {\LWRleftbrace}{ }[\LWR@thisnewfilename]%
6765 \StrSubstitute{\LWR@thisnewfilename}%
6766 {\LWRrightbrace}{ }[\LWR@thisnewfilename]%

6767 \LWR@simplifyname{\LWRpercent}
6768 \LWR@simplifyname{\LWRdollar}

6769 \LWR@simplifyname*{|}
6770 \LWR@simplifyname*{^}
6771 \LWR@simplifyname*{~}
6772 \LWR@simplifyname*{[}
6773 \LWR@simplifyname*{]}
6774 \LWR@simplifyname*{' }

```

Convert short words:

```

6775 \LWR@simplifyname*{-s-}
6776 \LWR@simplifyname*{-S-}
6777 \LWR@simplifyname*{-a-}
6778 \LWR@simplifyname*{-A-}
6779 \LWR@simplifyname*{-an-}
6780 \LWR@simplifyname*{-AN-}
6781 \LWR@simplifyname*{-to-}
6782 \LWR@simplifyname*{-TO-}
6783 \LWR@simplifyname*{-by-}
6784 \LWR@simplifyname*{-BY-}
6785 \LWR@simplifyname*{-of-}
6786 \LWR@simplifyname*{-OF-}
6787 \LWR@simplifyname*{-and-}
6788 \LWR@simplifyname*{-AND-}
6789 \LWR@simplifyname*{-for-}
6790 \LWR@simplifyname*{-FOR-}

```

```
6791 \LWR@simplifiname*{-the-}
6792 \LWR@simplifiname*{-THE-}
```

Convert custom words:

```
6793 \LWR@simplifycustom%
```

If pdf<sub>La</sub>TeX and not utf8 encoding, don't try to convert emdash, endash:

```
6794 \ifPDFTeX% pdflatex or dvi latex
6795 \ifdefstring{\inputencodingname}{utf8}{%
6796 \LWR@simplifiname*{-}
6797 % emdash
6798 \LWR@simplifiname*{-}
6799 % endash
6800 }{}%
6801 \else% not PDFTeX
6802 \LWR@simplifiname*{-}
6803 \LWR@simplifiname*{-}
6804 \fi%
```

Convert multiple hyphens:

```
6805 \LWR@simplifiname*{-----}
6806 \LWR@simplifiname*{----}
6807 \LWR@simplifiname*{---}
6808 \LWR@simplifiname*{--}
```

If starts with a dash, remove the leading dash:

```
6809 \IfBeginWith{\LWR@thisnewfilename}{\detokenize{-}}{%
6810 \StrGobbleLeft{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
6811 }{}%
```

If ends with a dash, remove the trailing dash:

```
6812 \IfEndWith{\LWR@thisnewfilename}{\detokenize{-}}{%
6813 \StrGobbleRight{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
6814 }{}%
```

Limits the length of the filename:

```
6815 \StrLeft{\LWR@thisnewfilename}{\FilenameLimit}[\LWR@thisnewfilename]%
```

Return the global result:

```
6816 \global\let\LWR@thisfilename\LWR@thisnewfilename%
6817 \endgroup%
6818 \LWR@traceinfo{\LWR@filenamenoblanks: result is \LWR@thisfilename}%
6819 }
```

Ctrl Remembers which autopage label was most recently generated. Used to avoid duplicates.  
LWR@previousautopagelabel

```
6820 \newcounter{\LWR@previousautopagelabel}
6821 \setcounter{\LWR@previousautopagelabel}{-1}
```

File \*\_html.aux A new entry in the \*\_html.aux file is used to help cross-references:

```
\newLabel{autopage-<nnn>}{<x>}{<y>}}
```

\LWR@newautopagelabel {<pagenumber counter>}

\BaseJobname is added to the label in case `xr` or `xr-hyper` are used.

```
6822 \newcommand*\LWR@newautopagelabel[1]{%
6823 \ifnumequal{\value{\LWR@previousautopagelabel}}{\value{page}}}%
6824 {}% no action if this autopage label has already been defined
6825 {%
6826 \label{\BaseJobname-autopage-\arabic{#1}}%
6827 \setcounter{\LWR@previousautopagelabel}{\value{page}}
6828 }%
6829 }
```

## 62.1 Sanitizing expressions for HTML

Math expressions are converted to `lateximages`, and some math environments may contain `&`, `<`, or `>`, which should not be allowed inside an HTML `<alt>` tag, so must convert them to HTML entities.

\LWR@replacestrings {<search>} {<replace>}

Replaces strings inside `\tmpb`.

Modified from the original, by PETR OLSAK, from the `opmac` package.

```
6830 \bgroup
6831 \catcode'\!=3 \catcode'\?=3
6832
6833 \long\gdef\LWR@replacestrings@addto#1#2{%
6834 \expandafter\def\expandafter#1\expandafter{#1#2}%
6835 }
6836
6837 \gdef\LWR@replacestrings#1#2{%
6838 \long\def\LWR@replacestringsA##1#1{\def\tmpb{##1}\LWR@replacestringsB}%
6839 \long\def\LWR@replacestringsB##1#1{%
6840 \ifx!##1\relax \else\LWR@replacestrings@addto\tmpb{#2##1}%
6841 \expandafter\LWR@replacestringsB\fi%
6842 }%
6843 \expandafter\LWR@replacestringsA\tmpb?#1!#1% from pysyntax.tex by Petr Krajník
6844 \long\def\LWR@replacestringsA##1#1?{%
6845 \def\tmpb{##1}%
6846 }\expandafter\LWR@replacestringsA\tmpb%
6847 }
6848 \egroup
```

Bool If true, double quotes (`\`" and `"`) are removed (used for `mathspec`). This unfortunately includes double quotes used inside `\text` with `MATHJAX`. If false, double quotes are escaped.

LWR@MathJax@silentquotes

```
6849 \newbool{LWR@MathJax@silentquotes}
6850 \boolfalse{LWR@MathJax@silentquotes}
```

`\LWR@subHTMLsanitize` `\LWR@strresult` must first be set by `\LWR@HTMLsanitize`, `\LWR@HTMLsanitizeexpand`, or `\CustomizeMathJax`.

```
6851 \catcode'\#=12
6852 \catcode'\&=12
6853 \newcommand{\LWR@subHTMLsanitize}{%
```

The `&`, `<`, and `>` may be interpreted by the browser:

```
6854 \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
6855 \LWR@replacestrings{&}{&};%
6856 \LWR@replacestrings{<}{<};%
6857 \LWR@replacestrings{>}{>};%
```

The quotes occasionally causes problems. For `mathspec`, also allow neutralization of `\` and the `"` character.

```
6858 \ifbool{LWR@MathJax@silentquotes}
6859 {%
6860 \expandafter\LWR@replacestrings\expandafter{\LWRbackslash"}{}%
6861 \LWR@replacestrings{"}{}%
6862 }%
6863 {\LWR@replacestrings{"}{"}}%
6864 \LWR@replacestrings{'}{'}%
6865 \LWR@replacestrings{'}{`};%
```

MATHJAX allows expressions to be defined with `\newcommand`. These expressions would appear with `##` for each argument, and each must be changed to a single `#`. This must be done after all the above changes. Attempting another conversion after this causes an error upon further expansion.

```
6866 \LWR@replacestrings{##}{#}%
6867 \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
6868 }
6869 \catcode'\#=6
6870 \catcode'\&=4
```

`\LWR@HTMLsanitize` `{\text{}}`

```
6871 \newrobustcmd{\LWR@HTMLsanitize}[1]{%
```

Cancel French `babel` character handling, and fully expand the strings:

```
6872 \begingroup%
6873 \LWR@hook@processingtags%
6874 \edef\LWR@strresult{\detokenize{#1}}%
6875 \LWR@subHTMLsanitize%
6876 \LWR@strresult%
6877 \endgroup%
6878 }
```

`\LWR@HTMLsanitizeexpand`  $\{\langle text \rangle\}$

This version expands the argument before sanitizing it. This is only used for adding math to MATHJAX expressions or `lateximage alt` tags.

```

6879 \edef\LWR@beginspaceleftbrace{begin \LWRleftbrace}
6880 \edef\LWR@beginspaceleftbrace{\detokenize\expandafter{\LWR@beginspaceleftbrace}}
6881 \edef\LWR@beginleftbrace{begin\LWRleftbrace}
6882 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
6883
6884 \edef\LWR@endspacerightbrace{end \LWRrightbrace}
6885 \edef\LWR@endspacerightbrace{\detokenize\expandafter{\LWR@endspacerightbrace}}
6886 \edef\LWR@endrightbrace{end\LWRrightbrace}
6887 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
6888
6889 \newrobustcmd{\LWR@HTMLsanitizeexpand}[1]{%
```

Cancel French **babel** character handling, and fully expand the strings:

```

6890 \begingroup%
6891 \LWR@hook@processingtags%
```

The difference between this and `\LWR@HTMLsanitize` (without “expand”) is the following `\expandafter`:

```

6892 \edef\LWR@strresult{\detokenize\expandafter{#1}}%
```

The math expression may includes spaces between tokens, but MATHJAX does not want a space between `\begin` or `\end` and the following brace. This space is removed here.

```

6893 \protect\StrSubstitute{\LWR@strresult}%
6894 {\LWR@beginspaceleftbrace}{\LWR@beginleftbrace}[\LWR@strresult]%
6895 \protect\StrSubstitute{\LWR@strresult}%
6896 {\LWR@endspacerightbrace}{\LWR@endrightbrace}[\LWR@strresult]%

6897 \LWR@subHTMLsanitize%
6898 \LWR@strresult%
6899 \endgroup%
6900 }
```

## 62.2 Customizing MATHJAX

`\LWR@customizedMathJax` Additional MATHJAX definitions to be added to the start of each HTML page.

```

6901 \newcommand*{\LWR@customizedMathJax}{}
```

`Bool` `LWR@warnedcustomizemathjax` Used to issue only one warning about using a `\CustomizeMathJax` per macro.

```

6902 \newbool{LWR@warnedcustomizemathjax}
6903 \boolfalse{LWR@warnedcustomizemathjax}
```

`\LWR@subcustomizedmathjax` {*macro definition*}

```

6904 \newcommand*{\LWR@subcustomizedmathjax}[1]{%
6905 \begingroup%
6906 \LWR@hook@processingtags%
6907 \edef\LWR@strresult{\detokenize{#1}}%
6908 \LWR@subHTMLsanitize%
6909 \xdef\LWR@customizedMathJax{%
6910 \LWR@customizedMathJax%
6911 \LWR@strresult%
6912 }%
6913 \endgroup%
6914 }
6915 \@onlypreamble\LWR@subcustomizedmathjax

```

`\CustomizeMathJax` {*macro definition*}

A warning is issued if a very long argument is given.

```

6916 \newcommand*{\CustomizeMathJax}[1]{%
6917 \ifbool{LWR@warnedcustomizemathjax}{}{%
6918 \StrLen{\detokenize{#1}}[\LWR@tempone]%
6919 \ifnumgreater{\LWR@tempone}{350}{%
6920 \AtEndDocument{%
6921 \PackageWarningNoLine{lwarp}{%
6922 To ensure faster MathJax compilation, place each\MessageBreak
6923 custom macro in its own \protect\CustomizeMathJax.\MessageBreak
6924 See the Lwarp documentation regarding customizing\MessageBreak
6925 MathJax%
6926 }%
6927 }%
6928 \booltrue{LWR@warnedcustomizemathjax}%
6929 }{}%
6930 }%
6931 \appto\LWR@customizedMathJax{\LWRbackslash}%
6932 \LWR@subcustomizedmathjax{#1}%
6933 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
6934 }
6935 \@onlypreamble\CustomizeMathJax

```

`\LWR@infoprocessingmathjax` {*package name*}

```

6936 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
6937 \typeout{---}
6938 \typeout{Package lwarp: Processing MathJax customizations for #1.}
6939 \typeout{\space\space This may take a moment.}
6940 \typeout{---}
6941 }

```

**defaults** Default customizations:

In the MATHJAX code, footnotes are only referenced. For equations, they are also generated in the HTML when the  $\LaTeX$  math is generated inside the HTML comment. For other math



### `\footnotemark`

environments, the `\footnotemark/\footnotetext` method must be used. See section 8.5.4 regarding `\footnotemark`.

For footnotes, `\footnotename` is used in most cases, however for equation the footnote is picked up from  $\LaTeX$  in `\LWR@doendequation`.

First, `\footnotename` for MATHJAX is copied from  $\LaTeX$ .

```
6942 \providecommand{\footnotename}{footnote}
6943
6944 % due to warpMathJax:
6945 \end{warpHTML}
6946
6947 \begin{warpMathJax}
6948 \xdef\LWR@customizedMathJax{\LWR@customizedMathJax%
6949 \LWRbackslash{ }newcommand%
6950 \{\LWRbackslash{\footnotename}\}%
6951 \{\footnotename\}%
6952 \LWRbackslash}\par%
6953 }
6954 }
6955 \end{warpMathJax}
```

`\LWRfootnote` is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to `\footnotename`.

```
6956 \begin{warpMathJax}
6957 \CustomizeMathJax{\def\LWRfootnote{1}}
6958 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{\mathrm{#1}}}
6959 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{\mathrm{#1}}}
```

`\hspace` is modified to accept and ignore a star:

```
6960 \CustomizeMathJax{\let\LWRorighspace\hspace}
6961 \CustomizeMathJax{\renewcommand{\hspace}{\ifstar\LWRorighspace\LWRorighspace}}
```

Various other customizations:

```
6962 \CustomizeMathJax{\newcommand{\mathnormal}[1]{\mathrm{#1}}}
6963 \CustomizeMathJax{\newcommand{\ensuremath}[1]{\mathrm{#1}}}
6964 \CustomizeMathJax{% absorb two optional arguments
6965 \newcommand{\LWRframebox}[2][\fbox{#2}]
6966 \newcommand{\framebox}[1][\LWRframebox]
6967 }
6968 \CustomizeMathJax{\newcommand{\setlength}[2]{}}
6969 \CustomizeMathJax{\newcommand{\addtolength}[2]{}}
6970 \CustomizeMathJax{\newcommand{\setcounter}[2]{}}
6971 \CustomizeMathJax{\newcommand{\addtocounter}[2]{}}
6972 \CustomizeMathJax{\newcommand{\arabic}[1]{}}
6973 \CustomizeMathJax{\newcommand{\number}[1]{}}
6974 \CustomizeMathJax{\newcommand{\noalign}[1]{\text{#1}\notag \\\}}
6975 \CustomizeMathJax{\newcommand{\ccline}[1]{}}
6976 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{(directlua)}}}
6977 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{(directlua)}}}
```

`\protect`, `\mathchar`, and `\delimiter` are silently discarded; and `\mathcode` and `\delcode` are ignored.

```

6978 \CustomizeMathJax{\newcommand{\protect}{}}
6979 \CustomizeMathJax{\def\LWRabsorbnumber#1 {}}
6980 \CustomizeMathJax{\def\LWRabsorbquotenumber"#1 {}}
6981 \CustomizeMathJax{\newcommand{\LWRabsorboption}[1][{}]}
6982 \CustomizeMathJax{\newcommand{\LWRabsorbtwooptions}[1][{}]{\LWRabsorboption}}
6983 \CustomizeMathJax{\def\mathchar{\ifnextchar"\LWRabsorbquotenumber\LWRabsorbnumber}}
6984 \CustomizeMathJax{\def\mathcode#1={\mathchar}}
6985 \CustomizeMathJax{\let\delcode\mathcode}
6986 \CustomizeMathJax{\let\delimiter\mathchar}
6987 \end{warpMathJax}
6988
6989 \begin{warpHTML}% due to warpMathJax

```

`\LWR@customizeMathJax` Prints MATHJAX commands to the HTML output.

```

6990 \newcommand{\LWR@customizeMathJax}{%
6991 \ifbool{mathjax}{

6992 \LWR@stoppars
6993 \LWR@htmlcomment{MathJax customizations:}
6994
6995 \begin{BlockClass}{hidden}
6996 \LWR@stoppars

```

Avoid ligatures while printing MATHJAX customizations:

```

6997 {
6998 \LWR@print@ttfamily
6999 \LWR@customizedMathJax
7000 }
7001 \LWR@startpars
7002 \end{BlockClass}
7003
7004 \LWR@startpars
7005 }{}
7006 }

7007 \end{warpHTML}

```

**for PRINT output:** 7008 `\begin{warpprint}`

`\CustomizeMathJax` The print-mode version:

```

7009 \newcommand*{\CustomizeMathJax}[1]{}

```

`\FilenameSimplify` \*  $\langle expression \rangle$

```

7010 \NewDocumentCommand{\FilenameSimplify}{s m}{}

7011 \end{warpprint}

```

for HTML output: 7012 \begin{warpHTML}

\LWR@createfooter If specified, create the first or later web page footer.

```

7013 \newcommand*{\LWR@createfooter}{%
7014 \ifnumless{\value{\LWR@htmlseqfilenumber}}{1}{%
7015 \ifdefempty{\LWR@firstpagebottom}{%
7016 \LWR@html element{footer}
7017
7018 \LWR@firstpagebottom
7019
7020 \LWR@html elementend{footer}
7021 }%
7022 }{%
7023 \ifdefempty{\LWR@pagebottom}{%
7024 \LWR@html element{footer}
7025
7026 \LWR@pagebottom
7027
7028 \LWR@html elementend{footer}
7029 }%
7030 }%
7031 }
```

\LWR@newhtmlfile {<section name>}

Finishes the current HTML page with footnotes, footer, navigation, then starts a new HTML page with an HTML comment telling where to split the page and what the new filename and css are, then adds navigation, side toc, header, and starts the text body.

```

7032 \newcommand*{\LWR@newhtmlfile}[1]{
7033 \LWR@traceinfo{\LWR@newhtmlfile}
```

At the bottom of the ending file:

```

7034 \LWR@html elementclassend{section}{textbody}
7035 \LWR@html elementclassend{div}{bodycontainer}
7036 \LWR@html elementclassend{div}{bodyandsidetoc}
7037
7038 \LWR@printpendingfootnotes
7039
```

No footer between files if EPUB:

```

7040 \ifbool{FormatEpub}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```

7041 \ifthenelse{\boolean{FormatEpub}\OR\boolean{FormatWP}}
7042 {}
7043 {\ifnumcomp{\value{\LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{}}
```

End of this HTML file:

```

7044 \LWR@stoppars
7045 \LWR@htmltag{/body}\LWR@orignewline
7046 \LWR@htmltag{/html}\LWR@orignewline
7047 \LWR@traceinfo{LWR@newhtmlfile: about to LWR@orignewpage}
7048 \LWR@maybe@orignewpage

7049 \addtocounter{LWR@htmlfilenumber}{1}%
7050 \addtocounter{LWR@htmlseqfilenumber}{1}%

```

If using a filename based on section name, create a version without blanks. The filename without blanks will be placed into \LWR@thisfilename. Duplicates will be detected using MD5 hashes.

If not using a filename, the file number will be used instead.

```

7051 \ifbool{FileSectionNames}%
7052 {%

```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in \LWR@thisfilename.

```

7053 \LWR@filenamenoblanks{#1}%

```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```

7054 \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%

```

If the macro name is not yet defined, this filename is unique.

```

7055 \ifcsundef{LWR@filename\LWR@hashedname}{%

```

If the filename is unique, create a macro using the hashed name, to be used to test for additional duplicates in the future.

```

7056 \csdef{LWR@filename\LWR@hashedname}{}%
7057 }{%

```

If the filename is not unique, create an error.

```

7058 \PackageError{lwarp}%
7059 {%
7060 The section name:\MessageBreak
7061 ‘‘#1’’,\MessageBreak
7062 at the line number listed below,\MessageBreak
7063 generates the filename\MessageBreak
7064 ‘‘\LWR@thisfilename’’,\MessageBreak
7065 which appears to be a duplicate. There is a\MessageBreak
7066 previous section with an identical or similar name.\MessageBreak
7067 While generating file names, Lwarp sanitizes math,\MessageBreak
7068 most symbols, and a few common short words,\MessageBreak
7069 and this may cause a conflict.\MessageBreak

```

```

7070 Enter 'H' for possible solutions%
7071 }%
7072 {%
7073 \LWR@avoiddupfilenames%
7074 }%
7075 }%
7076 }%

```

If using file numbers instead of names, the name is set to the next file number.

```

7077 {\renewcommand*{\LWR@thisfilename}{\arabic{\LWR@htmlfilenumber}}}

```

Include an HTML comment to instruct lwarpmk where to split the files apart. Uses pipe-separated fields for `split_html.gawk`. Uses monospaced font with ligatures disabled for everything except the title.

```

7078 \LWR@traceinfo{\LWR@newhtmlfile: about to print start file}%

```

\LWR@nullfonts to allow math in a section name.

```

7079 \begingroup%
7080 \LWR@nullfonts%
7081 \LWR@htmlblockcomment{%
7082 |Start file|}%
7083 \LWR@htmlsectionfilename{\LWR@thisfilename}|}%
7084 }
7085 \endgroup%

```

At the top of the starting file:

```

7086 \LWR@stoppars
7087

```

Start a new file with the given section name:

```

7088 \LWR@filestart[#1]
7089

```

Track the PDF page numbers of the HTML output:

```

7090 \setcounter{\LWR@latestautopage}{\value{page}}%
7091 \LWR@newautopagelabel{\LWR@latestautopage}%

```

No navigation between files if formatting for an EPUB or word processor:

```

7092 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7093 {}
7094 {\LWR@topnavigation}
7095

```

No header if between files if formatting for an EPUB or word processor:

```

7096 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7097 {}
7098 {

```

```

7099 \ifdefempty{\LWR@pagetop}{}{
7100 \LWR@htmllement{header}
7101
7102 \LWR@pagetop
7103
7104 \LWR@htmllementend{header}
7105 }
7106 }
7107

```

The container for the sidetoc and text body:

```

7108 \LWR@htmllementclass{div}{bodyandsidetoc}

```

No sidetoc if formatting for an EPUB or word processor:

```

7109 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7110 {}
7111 {\LWR@sidetoc}
7112

```

Start of the <textbody>:

```

7113 \LWR@htmllementclass{div}{bodycontainer}
7114 \LWR@htmllementclass{section}{textbody}

```

Not yet found a new section in this file. Once one is found, a label will be placed for previous/next links.

```

7115 \boolfalse{\LWR@setseqfilelabel}

```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```

7116 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}{
7117 }%
7118 {%
7119 \ifcvoid{thetitle}{}{
7120 \LWR@printthetitle%
7121 }%
7122 }%

```

Keep paragraph tags disabled for now:

```

7123 \LWR@stoppars
7124

```

If using MATHJAX, print the customizations here.

```

7125 \LWR@customizeMathJax

7126 \LWR@traceinfo{\LWR@newhtmlfile: done}
7127 }

7128 \end{warpHTML}

```

## 63 Sectioning

Sectioning and cross-references have been emulated from scratch, rather than try to patch several layers of existing  $\LaTeX$  code and packages. Formatting is handled by CSS, so the emulated code has much less work to do than the print versions.

Unicode



accents in filenames

Section names and the resulting filenames with accented characters are partially supported, depending on the ability of *pdf $\LaTeX$*  to generate characters and *pdf $\text{totext}$*  to read them. If extra symbols appear in the text, it may be that *pdf $\LaTeX$*  is actually producing a symbol over or under a character, resulting in *pdf $\text{totext}$*  picking up the accent symbol separately.

X $\LaTeX$  and Lua $\LaTeX$  directly support accented section and file names, but it may be necessary to use  $\LaTeX$  accents instead of native Unicode accents.  $\LaTeX$  accents will have the accents stripped when creating file names, whereas using Unicode accents will create filenames which include accents, which may cause issues with some operating systems.

for HTML output: 7129 \begin{warpHTML}

### 63.1 User-level starred section commands

$\backslash$ ForceHTMLPage For HTML output, forces the next section to be on its own HTML page, if FileDepth allows, even if starred. For use with  $\backslash$ printindex and others which generate a starred section which should be on its own HTML page. Also see  $\backslash$ ForceHTMLTOC.

For print output, no effect.

```
7130 \newbool{LWR@forcinghtmlpage}
7131 \boolfalse{LWR@forcinghtmlpage}
7132
7133 \newcommand*{\ForceHTMLPage}{%
7134 \global\booltrue{LWR@forcinghtmlpage}%
7135 }
```

$\backslash$ ForceHTMLTOC For HTML output, forces the next section to have a TOC entry, even if starred. For use with  $\backslash$ printindex and others which generate a starred section which should be in the TOC so that it may be accessed via HTML. Not necessary if used with *tocbibind*. Also see  $\backslash$ ForceHTMLPage.

For print output, no effect.

```
7136 \newbool{LWR@forcinghtmltoc}
7137 \boolfalse{LWR@forcinghtmltoc}
7138
7139 \newcommand*{\ForceHTMLTOC}{%
7140 \global\booltrue{LWR@forcinghtmltoc}%
7141 }
```

```
7142 \end{warpHTML}
```

for PRINT output: 7143 \begin{warpprint}  
7144 \newcommand\*{\ForceHTMLPage}{}

```

7145 \newcommand*{\ForceHTMLTOC}{}
7146 \end{warpprint}

```

for HTML output: 7147 \begin{warphTML}

## 63.2 Book class commands

`\mainmatter`  Declare the main matter section of the document. Does not reset the page number, which must be consecutive arabic numbers for the HTML conversion.

```

7148 \newbool{LWR@mainmatter}
7149 \DeclareDocumentCommand{\mainmatter}{}{}%
7150 \booltrue{LWR@mainmatter}%
7151 }

```

`\frontmatter` Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```

7152 \DeclareDocumentCommand{\frontmatter}{}{}%
7153 \boolfalse{LWR@mainmatter}%
7154 }

```

`\backmatter` Declare the back matter section of the document. Does not reset the page number.

```

7155 \DeclareDocumentCommand{\backmatter}{}{}%
7156 \boolfalse{LWR@mainmatter}
7157 }

```

## 63.3 Sectioning support macros

`\LWR@sectionnumber`  $\{\langle section type \rangle\}$

Typeset a section number and its trailing space with css formatting:

```

7158 \newcommand*{\LWR@sectionnumber}[1]{%
7159 \InlineClass{sectionnumber}{#1}%
7160 }

```

`autosec` A tag used by the toc and index.

`\LWR@createautosec`  $\{\langle section type \rangle\}$

Create an autosection tag.

The use of `\textquotedbl` instead of " provides improved compatibility with xeCJK.

```

7161 \newcommand*{\LWR@createautosec}[1]{%
7162 \LWR@htmltag{%
7163 #1 % space

```



```

7164 id=\textquotedbl\LRW@print@mbox{autosec-\arabic{page}}\textquotedbl%
7165 }%
7166 }

```

`\LRW@pushoneclose`  $\{\langle sectiontype \rangle\}$  Stacks the new sectioning level's closing tag, to be used when this section is closed some time later.

 `\LRW@stoppars` must be executed first.

```

7167 \NewDocumentCommand{\LRW@pushoneclose}{m}{%
7168 \LRW@traceinfo{\LRW@pushoneclose #1}%
7169 \LRW@pushclose{#1}%
7170 }

```

`\LRW@startnewdepth`  $\{\langle sectiontype \rangle\}$

Closes currently stacked tags of a lesser level, then opens the new nesting level by saving this new sectioning level's closing tag for later use.

 `\LRW@stoppars` must be executed first.

```

7171 \NewDocumentCommand{\LRW@startnewdepth}{m}{%

```

Close any stacked sections up to this new one.

```

7172 \LRW@closeprevious{#1}%

```

Push a new section depth:

```

7173 \LRW@pushoneclose{#1}%
7174 }

```

**Ctrl** `\LRW@prevFileDepth` Remembers the previous `\LRW@FileDepth`.

Initialized to a deep level so that any section will trigger a new HTML page after the home page.

```

7175 \newcounter{\LRW@prevFileDepth}
7176 \setcounter{\LRW@prevFileDepth}{\LRW@depthsubparagraph}

```

`\@secntformat`  $\{\langle sectiontype \rangle\}$

```

7177 \def\@secntformat#1{\csname the#1\endcsname\quad}

```

`\simplechapterdelim` Used by `\tocbibind` and `\anonchap`.

```

7178 \newcommand*\simplechapterdelim{}

```

`\@chapcntformat`  $\{\langle sectiontype \rangle\}$

`\let` to `\@secCNTformat` by default, but may be redefined by `\simplechapter` and `\restorechapter` from `tocbibind` or `anonchap`.

```
7179 \let\@chapcntformat\@secCNTformat
```

```
\@partcntformat {<sectiontype>}
```

`\let` to `\@secCNTformat` by default, but may be redefined by `ctex`.

```
7180 \let\@partcntformat\@secCNTformat
```

```
\@partnameformat Prints "Part" for part sections.
```

Nullified by `ctex`.

```
7181 \newcommand*{\@partnameformat}{\LWR@isolate{\partname}~}%
```

```
\LWR@printchaptername Print \chaptername in most cases, but this is nullified for ctexbook, komascript, ujt* classes.
```

```
7182 \newcommand*{\LWR@printchaptername}{%
```

```
7183 \ifdefvoid{\chaptername}{\chaptername~}%
```

```
7184 }
```

```
Ctr LWR@currentautosec Records the page number when the section was created. (If a math expression is included in the section name, and svg math is used, the corresponding lateximage will cause the page number to change by the time the following autosec label is created, thus the initial page number is recorded here.)
```

```
7185 \newcounter{LWR@currentautosec}
```

```
7186 \setcounter{LWR@currentautosec}{1}
```

```
\LWR@section * [<TOC name>] {<name>} {<sectiontype>}
```

The common actions for the high-level sectioning commands.

```
7187 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
```

```
7188 \IfValueTF{#2}{%
```

```
7189 {\LWR@traceinfo{LWR@section: starting #4 #2}}%
```

```
7190 {\LWR@traceinfo{LWR@section: starting #4 #3}}%
```

Warn if starting a section inside a `<span>`:

```
7191 \LWR@spanwarninvalid{section}%
```

```
7192 \LWR@maybeprintpendingfootnotes{\csuse{LWR@depth#4}}%
```

```
7193 \LWR@stoppars%
```

```
7194 \LWR@startnewdepth{#4}%
```

Cancel special minipage horizontal space interaction:

```
7195 \global\boolfalse{LWR@minipagethispar}%
```

Start a new HTML file unless starred, and if is a shallow sectioning depth.

Exception: Also start a new HTML file for `\part*`, for `appendix`.

Generate a new  $\LaTeX$  page so that toc and index page number points to the section:

```

7196 \LWR@traceinfo{LWR@section: testing whether to start a new HTML file}%
7197 \IfBooleanT{#1}{\LWR@traceinfo{LWR@section: starred}}%
7198 \ifbool{LWR@forcinghtmlpage}{\LWR@traceinfo{LWR@section: forcinghtmlpage}}{}%
7199 \ifthenelse{%
7200 \(%
7201 \(\NOT\equal{#1}{\BooleanTrue})\)\OR%
7202 \(\cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart})\)\OR%
7203 \(\boolean{LWR@forcinghtmlpage})\)%
7204 \)%
7205 \AND%
7206 \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{FileDepth}}%
7207 \AND%
7208 \(%
7209 \NOT\boolean{CombineHigherDepths}\OR%
7210 \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}%
7211 \)%
7212 \AND%

7213 \(% phantomsection
7214 \NOT\isempty{#3}%
7215 \OR%
7216 \(\NOT\equal{#1}{\BooleanTrue})\)%
7217 \)%
7218 }%
```

If so: start a new HTML file:

```

7219 {% new file
7220 \LWR@traceinfo{LWR@section: new HTML file}%
```

See if there was an optional toc name entry:

```

7221 \IfNoValueTF{#2}%
```

If no optional entry

```

7222 {\LWR@newhtmlfile{#3}}%
```

If yes an optional entry

```

7223 {\LWR@newhtmlfile{#2}}%
7224 }% new file
```

Else: No new HTML file:

```

7225 {% not new file
```

Generate a new  $\LaTeX$  page so that toc and index page number points to the section:

```

7226 \LWR@traceinfo{LWR@section: not a new HTML file, about to LWR@orignewpage}%
7227 \LWR@maybe@orignewpage%
7228 }% not new file
7229

```

Remember this section's name for \nameref:

```

7230 \IfValueT{#3}{%
7231 \LWR@traceinfo{LWR@section: about to LWR@setlatestname}%
7232 \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
7233 }%

```

Print an opening comment with the level and the name; ex: “section” “Introduction”  
Footnotes may be used in section names, which would also appear in the HTML section opening comments, so the short TOC entry is used if possible, and a limited opening comment is made if the sectional unit is starred.

```

7234 \ifbool{HTMLDebugComments}{%
7235 \begingroup%
7236 \LWR@nullfonts%
7237 \IfBooleanTF{#1}% starred
7238 {\LWR@htmlcomment{Opening #4*}}%
7239 {%
7240 \IfNoValueTF{#2}% short TOC
7241 {\LWR@htmlcomment{Opening #4 ‘‘#3’’}}%
7242 {\LWR@htmlcomment{Opening #4 ‘‘#2’’}}%
7243 }\LWR@orignewline%
7244 \endgroup%
7245 }{}

```

For inline sections paragraph and subparagraph, start a new paragraph now:

```

7246 \ifthenelse{%
7247 \cnttest{\@nameuse{LWR@depth#4}}{>=}{\LWR@depthparagraph}%
7248 }%
7249 {\LWR@startpars}%
7250 {}%

```

Create the opening tag with an autosec:

```

7251 \LWR@traceinfo{LWR@section: about to LWR@createautosec}%
7252 \LWR@createautosec{\@nameuse{LWR@tag#4}}%

```

```

7253 \setcounter{LWR@currentautosec}{\value{page}}%

```

Check if starred:

```

7254 \IfBooleanTF{#1}%
7255 {%
7256 \LWR@traceinfo{LWR@section: starred}%

```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```

7257 \ifbool{LWR@forcinghtmltoc}%

```

```

7258 {%
7259 \addcontentsline{toc}{#4}{%
7260 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7261 }%
7262 }%
7263 {%}%
7264 }% starred

```

Not starred, so step counter and add to toc:

```

7265 {% not starred

```

Only add a numbered toc entry if section number is not too deep:

```

7266 \ifthenelse{%
7267 \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7268 }%
7269 {% if secnumdepth

```

If in the main matter, step the counter and add the toc entry. For article class, **lwarp** assumes that all is mainmatter.

```

7270 \LWR@traceinfo{LWR@section: about to test main matter}%
7271 \ifbool{LWR@mainmatter}%
7272 {%
7273 \LWR@traceinfo{LWR@section: yes mainmatter}%
7274 \refstepcounter{#4}%

```

Add main matter numbered toc entry with the toc name or the regular name:

```

7275 \LWR@traceinfo{LWR@section: about to addcontentsline}%
7276 \addcontentsline{toc}{#4}%
7277 {%
7278 \protect\numberline{%
7279 \@nameuse{pre#4name}%
7280 \@nameuse{the#4}%
7281 \@nameuse{post#4name}%
7282 }%
7283 {%
7284 \ignorespaces%
7285 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
7286 }%
7287 }%
7288 \LWR@traceinfo{LWR@section: finished addcontentsline}%
7289 }% end of if main matter

```

If not main matter, add unnumbered toc name or regular name:

```

7290 {% not main matter
7291 \LWR@traceinfo{LWR@section: no main matter}%
7292 \addcontentsline{toc}{#4}{%
7293 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7294 }%
7295 }% end of not main matter
7296 }% end of secnumdepth

```

Deeper than secnumdepth, so add an unnumbered toc entry:

```

7297 {%
7298 \addcontentsline{toc}{#4}{%
7299 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7300 }%
7301 }%

```

For part, print “Part”:

```

7302 \ifbool{LWR@mainmatter}%
7303 {%
7304 \ifthenelse{%
7305 \(\cnttest{\@nameuse{LWR@depth#4}}{<=}%
7306 {\value{secnumdepth}}\)\ AND%
7307 \(\cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)%
7308 }%
7309 {\@partnameformat}%
7310 {}%

```

Print the section number:

```

7311 \LWR@traceinfo{LWR@section: about to print section number}%
7312 \ifthenelse{%
7313 \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7314 }%
7315 {%
7316 \ifstrequal{#4}{part}%
7317 {\protect\LWR@sectionnumber{\@partcntformat{#4}}}%
7318 {%
7319 \ifstrequal{#4}{chapter}%
7320 {%
7321 \LWR@printchaptername%
7322 \protect\LWR@sectionnumber{\@chapcntformat{#4}}%
7323 }%
7324 {\protect\LWR@sectionnumber{\@secntformat{#4}}}%
7325 }%
7326 }%
7327 {}%
7328 \LWR@traceinfo{LWR@section: finished print section number}%
7329 }{}%
7330 }% not starred

```

Print the section name:

```

7331 \LWR@traceinfo{LWR@section: about to print the section name}%
7332 \LWR@isolate{#3}%

```

Close the heading tag, such as /H2:

```

7333 \LWR@traceinfo{LWR@section: about to close the heading tag}%
7334 \LWR@htmltag{\@nameuse{LWR>tag#4end}}%
7335 \LWR@originewline%

```

Generate a  $\LaTeX$  label.

Track the PDF page numbers of the HTML output.

```
7336 \LWR@traceinfo{LWR@section: about to create the LaTeX label}%
7337 \setcounter{LWR@latestautopage}{\value{page}}%
7338 \LWR@newautopagelabel{LWR@currentautosec}\LWR@orignewline%
```

If this is the first section found in this file, create a label for previous/next links:

```
7339 \ifbool{LWR@setseqfilelabel}{}{%
7340 \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
7341 \booltrue{LWR@setseqfilelabel}%
7342 }%
```

Start paragraph handing unless is an inline paragraph or subparagraph:

```
7343 \ifthenelse{%
7344 \cnttest{\@nameuse{LWR@depth#4}}{<}{\LWR@depthparagraph}%
7345 }%
7346 {\LWR@startpars}%
7347 {}%
```

If not starred, remember the previous depth to possibly trigger a new HTML page.

HOWEVER, allow a `\part*` to start a new HTML page. This is used by `appendix`.

A starred section does not trigger a new HTML page at the beginning of this macro, so it should not affect it here at the end either. This became an issue when a `\listoftables` was tested in the middle of the document. The `\chapter*` for the list was not allowing a new HTML page for the section following it while `CombineHigherDepths` was true.

```
7348 \ifthenelse{%
7349 \NOT\equal{#1}{\BooleanTrue}\OR%
7350 \cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}%
7351 }%
7352 {% not starred
7353 \setcounter{LWR@prevFileDepth}{\@nameuse{LWR@depth#4}}%
7354 }% not starred
7355 {}%
```

Reset to defaults if not a phantomsection:

```
7356 \ifstrempy{#3}%
7357 {}%
7358 {%
7359 \global\boolfalse{LWR@forcinghtmlpage}%
7360 \global\boolfalse{LWR@forcinghtmltoc}%
7361 }%
7362 %
7363 \LWR@traceinfo{LWR@section: done}%
7364 }
```

### 63.4 Pre- and post- sectioning names

`\prebookname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postbookname`

```
7365 \providecommand*\prebookname{}\}
```

```
7366 \providecommand*\postbookname{}\}
```

`\prepartname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postpartname`

```
7367 \providecommand*\prepartname{}\}
```

```
7368 \providecommand*\postpartname{}\}
```

`\prechaptername` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postchaptername`

```
7369 \providecommand*\prechaptername{}\}
```

```
7370 \providecommand*\postchaptername{}\}
```

`\presectionname` Always null, but provided here for algorithmic simplicity in `\LWR@section`.

`\postsectionname`

```
7371 \providecommand*\presectionname{}\}
```

```
7372 \let\postsectionname\presectionname
```

```
7373
```

```
7374 \let\presubsectionname\presectionname
```

```
7375 \let\postsubsectionname\postsectionname
```

```
7376
```

```
7377 \let\presubsubsectionname\presectionname
```

```
7378 \let\postsubsubsectionname\postsectionname
```

```
7379
```

```
7380 \let\preparagraphname\presectionname
```

```
7381 \let\postparagraphname\postsectionname
```

```
7382
```

```
7383 \let\presubparagraphname\presectionname
```

```
7384 \let\postsubparagraphname\postsectionname
```

### 63.5 \section and friends

For `memoir`, a second optional argument is allowed.

For `hypbmsec`, a second optional argument or either parenthesis argument is allowed.

Each of these additional arguments are for headers or PDF bookmarks, and are ignored for HTML output.

```
\part * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
```

```
7385 \newcommand{\part@preamble}{}% for koma-script
```

```
7386
```

```
7387 \DeclareDocumentCommand{\part}{s d() o o d() m}{%
```

```
7388 \LWR@section{#1}{#3}{#6}{part}%
```

```
7389
```



```

7390 \part@preamble% for koma-script
7391 \renewcommand{\part@preamble}{}%
7392 }

```

`\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}`

```

7393 \let\@printcites\relax% for quotchap package
7394
7395 \newcommand{\chapter@preamble}{}% for koma-script
7396
7397 \ifundefined{chapter}
7398 {}
7399 {%
7400 \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%
7401 \LWR@section{#1}{#3}{#6}{chapter}%
7402
7403 \@printcites% for quotchap package
7404
7405 \chapter@preamble% for koma-script
7406 \renewcommand{\chapter@preamble}{}%
7407 }
7408 }

```

`\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}`

```

7409 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
7410 \LWR@section{#1}{#3}{#6}{section}%
7411 }

```

`\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}`

```

7412 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
7413 \LWR@section{#1}{#3}{#6}{subsection}%
7414 }

```

`\subsubsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}`

```

7415 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
7416 \LWR@section{#1}{#3}{#6}{subsubsection}%
7417 }

```

`\paragraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}`

```

7418 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
7419 \LWR@section{#1}{#3}{#6}{paragraph}%
7420 }

```

`\subparagraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}`

```

7421 \DeclareDocumentCommand{\subparagraph}{s d() o o d() m}{%
7422 \LWR@section{#1}{#3}{#6}{subparagraph}%
7423 }

```

```
7424 \end{warpHTML}
```

## 64 Starting a new file

**for HTML & PRINT:** 7425 \begin{warpall}

\HTMLLanguage Default language for the HTML lang tag.

```
7426 \newcommand*{\LWR@currentHTMLLanguage}{en-US}
7427
7428 \newcommand*{\HTMLLanguage}[1]{%
7429 \renewcommand*{\LWR@currentHTMLLanguage}{#1}%
7430 }
```

\theHTMLTitleSeparator May be used inside \theHTMLTitleSection to separate the website's overall HTML title and the particular page's section name.

```
7431 \ifPDFTeX% pdf\latex or dvi\latex
7432 \ifdefstring{\inputencodingname}{utf8}{%
7433 \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMDash
7434 }{%
7435 \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7436 }%
7437 \else%
7438 \ifpTeX
7439 \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7440 \else
7441 \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMDash
7442 \fi%
7443 \fi%
```

\HTMLTitleBeforeSection Sets the HTML page's meta title tag to show the website title before the section name.

```
7444 \newcommand*{\HTMLTitleBeforeSection}{%
7445 \def\theHTMLTitleSection{%
7446 \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
7447 }%
7448 }
```

\HTMLTitleAfterSection Sets the HTML page's meta title tag to show the section name before the website title.

```
7449 \newcommand*{\HTMLTitleAfterSection}{%
7450 \def\theHTMLTitleSection{%
7451 \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
7452 }%
7453 }
```

\theHTMLTitleSection Forms the HTML page's meta title tag. The default is to show the website title before the section name.

```
7454 \HTMLTitleBeforeSection
```

`\theHTMLSection` The section name is passed to `\LWR@filestart`, which then sets `\theHTMLSection` for use inside `\theHTMLTitleSection` to create an HTML meta title tag.

```
7455 \newcommand*{\theHTMLSection}{}

```

```
7456 \end{warpall}

```

**for HTML output:** `7457 \begin{warpHTML}`

`\LWR@filestart` [*<section name>*] Creates the opening HTML tags.

```
7458 \newcommand*{\LWR@filestart}[1][]{%
7459 \LWR@traceinfo{\LWR@filestart !#1!}%

```

Locally temporarily disable direct-formatting commands:

```
7460 \begingroup%
7461 \LWR@nullfonts%

```

Save the section name for use while creating the HTML meta title tag:

```
7462 \edef\theHTMLSection{#1}%

```

Remove extra material:

```
7463 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]
7464 \StrSubstitute{\theHTMLSection}{\detokenize{-----}}{\detokenize{-}}[\theHTMLSection]
7465 \StrSubstitute{\theHTMLSection}{\detokenize{----}}{\detokenize{-}}[\theHTMLSection]
7466 \StrSubstitute{\theHTMLSection}{\detokenize{---}}{\detokenize{-}}[\theHTMLSection]
7467 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]

```

If starts with a dash, remove the leading dash:

```
7468 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{%
7469 \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
7470 }{}%

```

Create the page's HTML header:

```
7471 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline

```

The language is user-adjustable:

NOTE: `\LWR@orig@textquotedbl` is used here because `\textquotedbl` is nullified by `\LWR@nullfonts` while starting the new file.

```
7472 \LWR@htmltag{%
7473 html lang=\LWR@orig@textquotedbl\LWR@currentHTMLLanguage\LWR@orig@textquotedbl%
7474 }\LWR@orignewline

```

Start of the meta data:

```
7475 \LWR@htmltag{head}\LWR@orignewline

```

Charset is fixed at UTF-8:

```
7476 \LWR<htmltag{%
7477 meta charset=\LWR<orig@textquotedbl{}UTF-8\LWR<orig@textquotedbl\ /\%
7478 }\LWR<orignewline
```

Author:

```
7479 \ifthenelse{\equal{\theHTMLAuthor}{}}{%
7480 {}%
7481 {%
7482 \LWR<htmltag{%
7483 meta name=\LWR<orig@textquotedbl{}author\LWR<orig@textquotedbl\ % space
7484 content=\LWR<orig@textquotedbl\theHTMLAuthor\LWR<orig@textquotedbl\ /\%
7485 }\LWR<orignewline%
7486 }%
```

lwarp is the generator:

```
7487 \LWR<htmltag{%
7488 meta % space
7489 name=\LWR<orig@textquotedbl{}generator\LWR<orig@textquotedbl\ % space
7490 content=\LWR<orig@textquotedbl{}LaTeX Lwarp package\LWR<orig@textquotedbl\ /\%
7491 }\LWR<orignewline%
```

If there is a description, add it now:

```
7492 \ifdefempty{\LWR<currentHTMLDescription}{%}%
7493 \LWR<htmltag{%
7494 meta name=\LWR<orig@textquotedbl{}description\LWR<orig@textquotedbl\ % space
7495 content=\LWR<orig@textquotedbl\LWR<currentHTMLDescription\LWR<orig@textquotedbl\ /\%
7496 }\LWR<orignewline
7497 }%
```

Mobile-friendly viewport:

```
7498 \LWR<htmltag{%
7499 meta % space
7500 name=\LWR<orig@textquotedbl{}viewport\LWR<orig@textquotedbl\ % space
7501 content=\LWR<orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR<orig@textquotedbl\ /\%
7502 }\LWR<orignewline
```

IE patch:

```
7503 \LWR<htmltag{!-/-[if lt IE 9]}\LWR<orignewline
7504 \LWR<htmltag{%
7505 script % space
7506 src=\LWR<orig@textquotedbl{}%
7507 http://html5shiv.googlecode.com/svn/trunk/html5.js%
7508 \LWR<orig@textquotedbl%
7509 }%
7510 \LWR<htmltag{/script}\LWR<orignewline
7511 \LWR<htmltag{![endif]-/-}\LWR<orignewline
```

The page's title, if there is one. A section name is also added if given.

```

7512 \ifthenelse{\equal{\theHTMLTitle}{}}%
7513 {}%
7514 {%
7515 \LWR@htmltag{title}%
7516 \ifdefempty{\theHTMLSection}%
7517 {\theHTMLTitle}%
7518 {\theHTMLTitleSection}%
7519 \LWR@htmltag{/title}\LWR@orignewline%
7520 }%

```

The page's stylesheet:

```

7521 \LWR@htmltag{%
7522 link % space
7523 rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
7524 type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
7525 href=\LWR@orig@textquotedbl\LWR@currentcss\LWR@orig@textquotedbl\ /%
7526 }%
7527 \LWR@orignewline

```

Optional MATHJAX support. The HTML tags must be turned off during the verbatim input, and the paragraph handling which was turned on at the end of verbatim input must be immediately turned off again.

```

7528 \ifbool{mathjax}%
7529 {%
7530 \begingroup%
7531 \LWR@restoreoriglists%
7532 \boolfalse{LWR@verbtags}%

7533 \IfFileExists{\LWR@mathjaxfilename}%
7534 {\verbatiminput{\LWR@mathjaxfilename}}%
7535 {%
7536 \PackageError{lwarp}%
7537 {%
7538 \protect\MathJaxFilename\space specified the file\MessageBreak
7539 \space\space\LWR@mathjaxfilename\MessageBreak
7540 which does not exist%
7541 }%
7542 {Specify an existing file, or remove \protect\MathJaxFilename.}%
7543 }%

7544 \booltrue{LWR@verbtags}%
7545 \endgroup%
7546 \LWR@stoppars%
7547 }% end of mathjax
7548 {}%

```

End of the header:

```

7549 \LWR@htmltag{/head}\LWR@orignewline

```

Start of the body:

```
7550 \LWR@htmltag{body}\LWR@orignewline
7551 \endgroup
7552 \LWR@traceinfo{LWR@filestart: done}
7553 }

7554 \end{warpHTML}
```

## 65 Starting HTML output

**for HTML output:** 7555 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
7556 \catcode'\$=\active
7557 \newcommand*\LWR@LwarpStart{
7558 {%
7559 \LWR@traceinfo{LWR@lwarpStart}
```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```
7560 \ifbool{FormatWP}{%
7561 \setcounter{FileDepth}{-5}%
7562 \boolfalse{HTMLDebugComments}%
7563 }{}
```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```
7564 \edef\LWR@strresult{\HomeHTMLFilename}
7565 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
7566 \edef\LWR@strresult{\HTMLFilename}
7567 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}
```

Force onecolumn and empty page style:

```
7568 \LWR@origonecolumn%
7569 \LWR@origpagestyle{empty}%
```

No black box for overfull lines:

```
7570 \overfullrule=0pt
```

Reduce chance of line overflow when HTML tags are added:

```
7571 \LWR@print@footnotesize%
```

In PDF output, don't allow line breaks to interfere with HTML tags:

```
7572 \LWR@print@raggedright%
7573 \LetLtxMacro{\}\{\LWR@endofline}%
```

Spread the lines for *pdftotext* to read them well:

```
7574 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
7575 \setlength{\parindent}{0pt}
7576 \setlength{\parskip}{2ex}
```

For the lateximage record file:

```
7577 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
7578 \setlength{\belowcaptionskip}{0ex}
7579 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
7580 \renewcommand{\ps@plain}{}%
```

Plug in some new actions. This is done just before the document start so that they won't be over-written by some other package.

Float captions:

```
7581 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
7582 \global\boolfalse\LWR@doingapar}
7583 \global\boolfalse\LWR@doingstartpars}
```

Document and page settings:

```
7584 \mainmatter
7585 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
7586 \LWR@traceinfo{\LWR@lwarpStart: Starting new file.}
7587 \LWR@filestart
7588 \LWR@traceinfo{\LWR@lwarpStart: Generating first header.}
```

```
7589 \ifdefempty{\LWR@firstpagetop}{}{%
7590 \LWR@htmltag{header}\LWR@orignewline
7591 \LWR@startpars
7592 \LWR@firstpagetop
```

```

7593 \LWR@stoppars
7594 \LWR@htmltag{/header}\LWR@orignewline
7595 }%

```

```

7596 \LWR@htmlclass{div}{bodywithoutsidetoc}
7597 \LWR@htmlclass{div}{bodycontainer}
7598 \LWR@traceinfo{LWR@lwarpStart: Generating textbody.}
7599 \LWR@htmlclass{section}{textbody}

```

Create a label for previous/next links, and remember it has been done:

```

7600 \booltrue{LWR@setseqfilelabel}%
7601 \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}

```

Patch the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native  $\TeX$  environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```

7602 \LWR@patchlists

```

Ensure that math mode is active to call `lwarp`'s patches:

```

7603 \catcode'\$=\active

```

Required for `\nameref` to work with `svg` math:

```

7604 \immediate\write\@mainaux{\catcode'\string\$\active}%
7605 \LetLtxMacro\LWR@syntaxhighlightone balance for editor syntax highlighting

```

Allow HTML paragraphs to begin:

```

7606 \LWR@startpars

```

If using `MATHJAX`, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```

7607 \ifbool{mathjax}{
7608 \typeout{---}
7609 \typeout{Package lwarp:}
7610 \typeout{Processing MathJax customizations for the first HTML page.}
7611 \typeout{Later HTML pages will take the same amount of time.}
7612 \typeout{If this takes too long, see the Lwarp manual regarding customizing MathJax.}
7613 }{}
7614
7615 \LWR@customizeMathJax
7616
7617 \ifbool{mathjax}{
7618 \typeout{Done.}
7619 \typeout{---}
7620 }{}

```

First autopage label in case a figure occurs early.



```

7621 \setcounter{LWR@latestautopage}{\value{page}}%
7622 \LWR@newautopagelabel{LWR@currentautosec}%

7623 \LWR@traceinfo{LWR@lwarpStart: done}
7624 }
7625 \catcode'\$=3% math shift until lwarp starts

7626 \end{warpHTML}

```

## 66 Ending HTML output

**for HTML output:** 7627 \begin{warpHTML}

\LWR@requesttoc {<boolean>} {<suffix>} Requests that a TOC, LOF, or LOT be generated.

```

7628 \newcommand*{\LWR@requesttoc}[2]{%
7629 \ifbool{#1}
7630 {
7631 \expandafter\newwrite\@nameuse{tf@#2}
7632 \immediate\openout \@nameuse{tf@#2} \jobname.#2\relax
7633 }{}
7634 }

```

\LWR@LwarpEnd Final stop of all HTML output:

```

7635 \newcommand*{\LWR@LwarpEnd}
7636 {
7637 \LWR@stoppars
7638 \LWR@closeprevious{finished}

```

At the bottom of the ending file:

Close the textbody:

```

7639 \label{\BaseJobname-autofile-last}
7640 \LWR@htmlElementclassend{section}{textbody}
7641 \LWR@htmlElementclassend{div}{bodycontainer}
7642 \LWR@htmlElementclassend{div}{bodyandsidetoc}

```

Print any pending footnotes:

```
7643 \LWR@printpendingfootnotes
```

Create the footer if not EPUB

```
7644 \ifbool{FormatEPUB}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page, or if formatting for an EPUB or word processor.

Presumably has a table-of-contents.

```

7645 \ifthenelse{\boolean{FormatEpub}}\OR\boolean{FormatWP}}
7646 {}
7647 {
7648 \ifnumcomp{\value{LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{}
7649 }

```

7650 \LWR@stoppars% final stop of all paragraphs

Finish the HTML file:

```

7651 \LWR@htmltag{/body}\LWR@orignewline
7652 \LWR@htmltag{/html}\LWR@orignewline

```

Seems to be required sometimes:

```

7653 \LWR@maybe@orignewpage
7654 }

```

\enddocument If labels have not changed, mark successful completion of the lateximages.txt file.  
Executed as everything is being shut down.

For the newer kernel hooks, see **texdoc lthooks-doc** and **texdoc ltshipout-doc**.

```

7655 \ifdef{\AddToHook}{% newer kernel
7656 \AddToHook{enddocument/info}{%
7657 \if@files
7658 \ifx \@multiplelabels \relax
7659 \if@temp

```

This is where warnings of duplicate labels would appear.

```

7660 \else

```

No duplicate labels, so safe to create images.

```

7661 \immediate\write\LWR@lateximagesfile{%
7662 |end|end|end|}%
7663 }%
7664 \fi
7665 \fi\fi
7666 }
7667 }% newer kernel
7668 {% older kernel
7669 \xpatchcmd{\enddocument}
7670 {%
7671 \if@temp
7672 \@latex@warning@no@line{Label(s) may have changed.
7673 Rerun to get cross-references right}%
7674 \fi
7675 }
7676 {%
7677 \if@temp

```

```

7678 \@latex@warning@no@line{Label(s) may have changed.
7679 Rerun to get cross-references right}%
7680 \else

No duplicate labels, so safe to create images.

7681 \immediate\write\LWR@lateximagesfile{%
7682 |end|end|end|}%
7683 }%
7684 \fi
7685 }
7686 {}
7687 {
7688 \AtEndDocument{
7689 \PackageWarningNoLine{lwarp}
7690 {%
7691 Could not patch \protect\enddocument.\MessageBreak
7692 If labels have changed, be sure to recompile before\MessageBreak
7693 creating lateximages with\MessageBreak
7694 \space\space lwarpmk limages,\MessageBreak
7695 or the images may be corrupt%
7696 }
7697 }
7698 }
7699}% older kernel

```

## 67 Nullifying foreground/background hooks

See `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

```

7700 \ifdef{\RemoveFromHook}{
7701 \AfterEndPreamble{
7702 \IfHookEmptyTF{shipout/background}{}{
7703 \PackageInfo{lwarp}{Removing background hook}
7704 \RemoveFromHook{shipout/background}[*]
7705 }
7706 \IfHookEmptyTF{shipout/foreground}{}{
7707 \PackageInfo{lwarp}{Removing foreground hook}
7708 \RemoveFromHook{shipout/foreground}[*]
7709 }
7710 }
7711 }{}

7712 \end{warpHTML}

```

## 68 Title page

package support



load order

`lwarp` supports the native  $\LaTeX$  titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.

|                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\published</code> and <code>\subtitle</code>                                                                             | If using the <code>titling</code> package, additional titlepage fields for <code>\published</code> and <code>\subtitle</code> may be added by using <code>\AddSubtitlePublished</code> in the preamble. See section 68.8.                                                                                                                                                                                                                                                                                                                                                                                     |
| <code>affiliation</code>                                                                                                       | <code>lwarp</code> provides for the <code>\author</code> macro an additional <code>\affiliation</code> macro to provide an affiliation and other additional information for each author in the title page. The affiliation information is removed when using <code>titlingpage</code> 's <code>\theauthor</code> in the main text.                                                                                                                                                                                                                                                                            |
| reusing titlepage information                                                                                                  | The <code>titling</code> package maintains the definitions of <code>\thetitle</code> , <code>\theauthor</code> , etc., after the title has been typeset. These commands are to be used to refer to the document's title and author, etc., in the main text. These definitions have the <code>\thanks</code> and <code>\affiliation</code> removed, and for <code>\author</code> the <code>\and</code> is replaced to generate a simple inline list of authors separated by commas. Note: <code>\theauthor</code> does not work well with <code>authblk</code> unless the traditional $\LaTeX$ syntax is used. |
|  <code>\theauthor</code> , <code>authblk</code> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| custom titlepages                                                                                                              | <code>\printtitle</code> , <code>\printauthor</code> , etc., are provided for use inside a custom titlepage or <code>titlingpage</code> environment, and these retain the <code>\thanks</code> and <code>\affiliation</code> .                                                                                                                                                                                                                                                                                                                                                                                |
| <code>\printthanks</code>                                                                                                      | <code>\printthanks</code> has been added to force the printing of thanks inside a <code>titlingpage</code> environment when <code>\maketitle</code> is not used.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|  <code>\thanks</code>                         | Inside a <code>\titlepage</code> or <code>\titlingpage</code> environment, use <code>\thanks</code> instead of <code>\footnote</code> for acknowledgements, etc.                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## 68.1 Setting the title, etc.

The following provide setting commands for both HTML and print outputs.

|                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\author</code><br><code>\and</code>                                                                  | <code>{\author}</code> While using <code>\maketitle</code> and print mode, the author is treated as a single-column tabular and the <code>\and</code> feature finishes the current tabular then starts a new one for the next author. Each author thus is placed into its own tabular, and an affiliation may be placed on its own line such as<br><br><code>\author{Name \\ Affiliation \and Second Name \\ Second Affiliation}</code><br><br>For HTML, the entire author block is placed inside a <code>&lt;div&gt;</code> of class <code>author</code> , and each individual author is inside a <code>&lt;div&gt;</code> of class <code>oneauthor</code> .                                                      |
| <code>\@title</code><br><code>\@author</code><br><code>\@date</code>                                       | <code>\@title</code> , <code>\@author</code> , and <code>\@date</code> store the values as originally assigned, including any <code>\thanks</code> , <code>\and</code> , or <code>\affiliation</code> . These are low-level macros intended to be used by other macros only inside a titlepage or <code>titlingpage</code> , and are used by <code>\maketitle</code> . The author is printed inside a single-column tabular, which becomes multiple single-column tabulars if multiples authors are included. For HTML, these tabulars become side-by-side <code>&lt;div&gt;</code> s of class <code>oneauthor</code> , all of which are combined into one <code>&lt;div&gt;</code> of class <code>author</code> . |
| <code>\printtitle</code><br><code>\printauthor</code><br><code>\printdate</code>                           | <code>\printtitle</code> , etc. are user-level macros intended to be used in custom titlepage or <code>titlingpage</code> environments in cases where <code>\maketitle</code> is not desired. These commands preserve the <code>\thanks</code> , etc., and should not be used in the main text.                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>\thetitle</code><br><code>\theauthor</code><br><code>\thedata</code><br><code>\HTMLPageBottom</code> | <code>\thetitle</code> , <code>\theauthor</code> , and <code>\thedata</code> are available if <code>titling</code> has been loaded, and are sanitized user-level versions from which have been removed the <code>\thanks</code> and <code>\affiliation</code> , and <code>\and</code> is changed for inline text usage. The author is printed inline without <code>\affiliation</code> or <code>\thanks</code> , with <code>\and</code> placing commas between multiple authors. Thus, these commands are to be used in the main text whenever the user wishes to refer                                                                                                                                            |

to the document's title and such. One practical use for this is to place the authors at the bottom of each HTML page, such as:

```
\HTMLPageBottom{
 \begin{center}\textcopyright~20xx \theauthor\end{center}
}
```

⚠ **\theauthor, authblk** `\theauthor` does not work well if `authblk` is used. If `\theauthor` is important, it is recommended to use the standard  $\TeX$  syntax for `\author`, optionally with `lwarp`'s `\affiliation` macro as well.

⚠ **affiliations** After `\maketitle` has completed, `\theauthor` retains the definition of the author, but `\and` is changed to become a comma and a space, intending to print the authors names separated by spaces. This fails when affiliations are included on their own table rows.

**\affiliation** A solution, provide here, is to define a macro `\affiliation` which, during `\maketitle`, starts a new row and adds the affiliation, but after `\maketitle` is finished `\affiliation` is re-defined to discard its argument, thus printing only the author names when `\author` is later used inline.

## 68.2 \if@titlepage

**for HTML & PRINT:** 7713 `\begin{warppall}`

`\if@titlepage` Some classes do not provide `\if@titlepage`. In this case, provide it and force it false.

```
7714 \ifcvoid{@titlepagefalse}{
7715 \newif\if@titlepage
7716 \@titlepagefalse
7717 }{}

7718 \end{warppall}
```

## 68.3 Changes for \affiliation

`\affiliation` `{\langle text \rangle}`

Adds the affiliation to the author for use in `\maketitle`.

Inside `titlepage`, this macro prints its argument. Outside, it is null.

**for HTML & PRINT:** 7719 `\begin{warppall}`  
7720 `\providerobustcmd{\affiliation}[1]{}{}`  
7721 `\end{warppall}`

**for PRINT output:** 7722 `\begin{warpprint}`

```
7723 \AtBeginEnvironment{titlepage}{
7724 \renewrobustcmd{\affiliation}[1]{\ \textsc{\small#1}}
```

```

7725 }
7726
7727 \AtBeginDocument{
7728 \ifpackageloaded{titling}{
7729 \AtBeginEnvironment{titlingpage}{
7730 \renewrobustcmd{\affiliation}[1]{\ \textsc{\small#1}}
7731 }
7732 }{}% titling loaded
7733 }% AtBeginDocument

7734 \end{warpprint}

```

**for HTML output:** 7735 \begin{warphTML}

Env titlepage Sets up a <div> of class titlepage. Provided even for memoir class, since it is used by \maketitle.

```

7736 \DeclareDocumentEnvironment{titlepage}{}
7737 {
7738 \renewrobustcmd{\affiliation}[1]{\ \InlineClass{affiliation}{##1}}
7739 \LWR@printpendingfootnotes
7740 \LWR@forcenewpage
7741 \BlockClass{titlepage}
7742 }
7743 {
7744 \endBlockClass
7745 \LWR@printpendingfootnotes
7746 }

7747 \end{warphTML}

```

## 68.4 Printing the thanks

\printthanks Forces the \thanks to be printed. This is necessary in a titlingpage environment when \maketitle was not used.

**for PRINT output:** 7748 \begin{warpprint}  
7749 \newcommand\*{\printthanks}{\@thanks}  
7750 \end{warpprint}

**for HTML output:** 7751 \begin{warphTML}  
7752 \newcommand\*{\printthanks}{\LWR@stoppars\@thanks\LWR@startpars}  
7753 \end{warphTML}

## 68.5 Printing the title, etc. in HTML

The following are for printing the title, etc. in a titlepage or a titlingpage in HTML:

**for HTML output:** 7754 \begin{warphTML}

`\printtitle`

```

7755 \newcommand*{\printtitle}
7756 {%
7757 \LWR@stoppars%
7758 \LWR@htmltag{\LWR@tagtitle}%
7759 \@title%
7760 \LWR@htmltag{\LWR@tagtitleend}%
7761 \LWR@startpars%
7762 }

```

`\LWR@printthetitle` A private version which prints the title without footnotes, used to title each HTML page.

```

7763 \newcommand*{\LWR@printthetitle}
7764 {%
7765 \LWR@stoppars%
7766 \LWR@htmltag{\LWR@tagtitle}%
7767 \thetitle%
7768 \LWR@htmltag{\LWR@tagtitleend}%
7769 \LWR@startpars%
7770 }

```

`\printauthor` HTML version.

```

7771 \newcommand*{\printauthor}{

```

The entire author block is contained in a <div> named author:

```

7772 \begin{BlockClass}{author}

```

\and finishes one author and starts the next:

```

7773 \renewcommand{\and}{%
7774 \end{BlockClass}
7775 \begin{BlockClass}{oneauthor}
7776 }

```

Individual authors are contained in a <div> named oneauthor:

```

7777 \begin{BlockClass}{oneauthor}
7778 \@author
7779 \end{BlockClass}
7780 \end{BlockClass}
7781 }

```

`\printdate`

```

7782 \newcommand*{\printdate}{%
7783 \begin{BlockClass}{titledate}
7784 \@date
7785 \end{BlockClass}
7786 }

```

```

7787 \end{warpHTML}

```

## 68.6 Printing the title, etc. in print form

The following are for printing the title, etc. in a titlepage or a titlingpage in print form:

**for PRINT output:** 7788 \begin{warpprint}

\printtitle

7789 \newcommand\*{\printtitle}{{\Huge\@title}}

\printauthor    Print mode.

7790 \newcommand\*{\printauthor}

7791     {{\large\begin{tabular}[t]{c}\@author\end{tabular}}}

\printdate

7792 \newcommand\*{\printdate}{{\small\textit{\@date}}}

7793 \end{warpprint}

## 68.7 \maketitle for HTML output

An HTML <div> of class titlepage is used.

\thanks are a form of footnotes used in the title page. See section 60 for other kinds of footnotes.

See \thanksmarkseries{series}, below, to set the style of the footnote marks.

**for HTML output:** 7794 \begin{warppHTML}

7795 \@ifclassloaded{memoir}

7796 {

7797 \newcommand{\LWR@setfootnoteseries}{%

7798     \renewcommand\thefootnote{\@arabic\c@footnote}%

7799 }

7800 }{% not memoir

7801 \if@titlepage

7802 \newcommand{\LWR@setfootnoteseries}{%

7803     \renewcommand\thefootnote{\@arabic\c@footnote}%

7804 }

7805 \else

7806 \newcommand{\LWR@setfootnoteseries}{%

7807     \renewcommand\thefootnote{\@fnsymbol\c@footnote}%

7808 }

7809 \fi

7810 }{% not memoir



`\LWR@maketitlesetup` Patches `\thanks` macros.

```
7811 \newcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
7812 \LWR@setfootnoteseries%
7813 \def\@makefnmark{\thefootnote}
```

```
\thefootnote ⇒ \nameuse{arabic}{footnote}, or
\thefootnote ⇒ \nameuse{fnsymbol}{footnote}
```

Redefine the footnote text:

```
7814 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
7815 \@thefnmark~%
```

```
\makethanksmark ⇒ \thanksfootmark ⇒ \tamark ⇒
\@thefnmark ⇒ \itshape a (or similar)
```

Print the text:

```
7816 ##1%
7817 }%
7818 }
```

`\@fnsymbol` `{\langle counter \rangle}`

Re-defined to use an HTML entity for the double vertical bar symbol. The original definition used `\|` which was not being seen by *pdftotext*.

```
7819 \def\LWR@HTML@fnsymbol#1{%
7820 \ifcase#1\or *\or
7821 \HTMLentity{dagger}\or
7822 \HTMLentity{Dagger}\or
7823 \HTMLentity{sect}\or
7824 \HTMLentity{para}\or
7825 \HTMLUnicode{2016}\or
7826 **\or
7827 \HTMLentity{dagger}\HTMLentity{dagger} \or
7828 \HTMLentity{Dagger}\HTMLentity{Dagger} \else
7829 \@ctrerr\fi%
7830 }
7831 \LWR@formatted{@fnsymbol}
```

`\maketitle` HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the `titling` package is adapted, simplified, and modified for HTML output.

```
7832 \renewcommand*{\maketitle}{%
```

An HTML titlepage <div> is used for all classes.

```
7833 \begin{titlepage}
```

Set up special patches:

```
7834 \LWR@maketitlesetup
```

Typeset the title, etc:

```
7835 \@maketitle
```

Immediately generate any \thanks footnotes:

```
7836 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div and cleanup:

```
7837 \end{titlepage}
7838 \setcounter{footnote}{0}%
7839 \global\let\thanks\relax
7840 \global\let\maketitle\relax
7841 \global\let\@maketitle\relax
7842 \global\let\@thanks\empty
7843 \global\let\@author\empty
7844 \global\let\@date\empty
7845 \global\let\@title\empty
7846 \global\let\title\relax
7847 \global\let\author\relax
7848 \global\let\date\relax
7849 \global\let\and\relax
7850 }
```

`\@maketitle` HTML mode. Typesets the title, etc.:

```
7851 \DeclareDocumentCommand{\@maketitle}{}{%
7852 \LWR@stoppars%
7853 \LWR@htmltag{\LWR@tagtitle}%
7854 \@title%
7855 \LWR@htmltag{\LWR@tagtitleend}%
7856 \LWR@startpars%
7857 \begin{BlockClass}{author}%
```

For IEEEtran class:

```
7858 \renewcommand*{\cr}{}%
7859 \renewcommand*{\crrcr}{}%
7860 \renewcommand*{\noalign}{}%

7861 \renewcommand{\and}{%
7862 \end{BlockClass}%
7863 \begin{BlockClass}{oneauthor}%
7864 }%
7865 \begin{BlockClass}{oneauthor}%
```

```

7866 \@author%
7867 \end{BlockClass}%
7868 \end{BlockClass}%
7869 \begin{BlockClass}{titledate}%
7870 \@date%
7871 \end{BlockClass}%
7872 }

```

`\LWR@titlingmaketitle` `\maketitle` for use inside an HTML titlingpage environment.

```
7873 \newcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
7874 \LWR@stoppars\@thanks\LWR@startpars
```

Set up special patches:

```
7875 \LWR@maketitlesetup
```

Typeset the title, etc:

```
7876 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```

7877 \LWR@stoppars\@thanks\LWR@startpars
7878 }

```

```
7879 \end{warpHTML}
```

## 68.8 `\published` and `\subtitle`

`\subtitle` and `\published` To add `\subtitle` and `\published` to the titlepage, load the `titling` package and use `\AddSubtitlePublished` in the preamble.

The default `lwarp.css` has definitions for the `published` and `subtitle` classes.

If `titling` is loaded, `\AddSubtitlePublished` creates a number of additional macros, and also assigns some of the `titling` hooks. If `titling` is not loaded, `\AddSubtitlePublished` creates null macros.

 **titling hooks** Do not use `\AddSubtitlePublished` if the user has patched the `titling` hooks for some other reason. Portions are marked `\warpprintonly` to reduce extra tags in HTML. Similarly, `BlockClass` has no effect in print mode. Thus, the following may be marked `warpall`.

**for HTML & PRINT:** `7880 \begin{warpall}`

`\AddSubtitlePublished` Adds `\published` and `\subtitle`, and related.

```

7881 \newcommand*{\AddSubtitlePublished}{%
7882 \ifpackageloaded{titling}{% yes titling package

```

```

7883 \newcommand{\@published}{}%
7884 \newcommand{\published}[1]{\gdef\@published{##1}}%
7885 \renewcommand*\maketitlehooka{\printpublished}%
7886 \newcommand*\printpublished{%
7887 \warpprintonly{\begin{center}\unskip}%
7888 \begin{BlockClass}{published}%
7889 \warpprintonly{\large\itshape}%
7890 \@published%
7891 \end{BlockClass}%
7892 \warpprintonly{\end{center}}}%
7893 }%
7894 \newcommand{\@subtitle}{}%
7895 \newcommand{\subtitle}[1]{\gdef\@subtitle{##1}}%
7896 \renewcommand*\maketitlehookb{\printsubtitle}%
7897 \newcommand*\printsubtitle{%
7898 \warpprintonly{\begin{center}\unskip}%
7899 \begin{BlockClass}{subtitle}%
7900 \warpprintonly{\Large\itshape}%
7901 \@subtitle%
7902 \end{BlockClass}%
7903 \warpprintonly{\end{center}}}%
7904 }%
7905 }% yes titling package
7906 {% no titling package

7907 \def\@published{%
7908 \DeclareDocumentCommand{\published}{m}{\gdef\@published{##1}}%
7909 \DeclareDocumentCommand{\printpublished}{\}\}%
7910 \def\@subtitle{%
7911 \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{##1}}%
7912 \DeclareDocumentCommand{\printsubtitle}{\}\}%
7913 }% no titling package
7914 }% \AddSubtitlePublished

7915 \end{warpall}

```

## 69 Abstract

The following code replaces the  $\LaTeX$  default, and will itself be replaced later if the **abstract** package is loaded.

for HTML output: 7916 \begin{warpHTML}

\abstractname User-redefinable title for the abstract.

Also over-written by the **babel** package.

```
7917 \providecommand*\abstractname{Abstract}
```

Some classes allow an optional name, so it is allowed here.

Env abstract

```

7918 \DeclareDocumentEnvironment{abstract}{0}{\abstractname}}
7919 {
7920 \LWR@forcenewpage
7921 \BlockClass{abstract}
7922 \BlockClassSingle{abstracttitle}{#1}
7923 }
7924 {
7925 \endBlockClass
7926 }

7927 \end{warpHTML}

```

## 70 Quote and verse

### 70.1 Attributions

`\attribution`  $\{\langle name \rangle\}$

For use with quote, quotation, verse:

Ex: "A quotation." `\attribution{\textsc{Author Name}}\textsl{Book Title}`

**for HTML & PRINT:**

```

7928 \begin{warpall}
7929 \newcommand{\attribution}[1]{
7930 \begin{flushright}
7931 \unskip
7932 #1
7933 \end{flushright}%
7934 }
7935 \end{warpall}

```

**for HTML output:**

```

7936 \begin{warpHTML}
7937 \newcommand{\LWR@HTML@attribution}[1]{%
7938 \LWR@stoppars%
7939 \begin{BlockClass}{attribution}
7940 #1
7941 \end{BlockClass}
7942 \LWR@startpars%
7943 }
7944 \LWR@formatted{attribution}
7945 \end{warpHTML}

```

### 70.2 Quotes, quotations

**for HTML output:** 7946 `\begin{warpHTML}`

Env quote

```

7947 \newenvironment*{LWR@HTML@quote}
7948 {
7949 \LWR@forcenewpage
7950 \LWR@htmlblocktag{blockquote}
7951 }
7952 {\LWR@htmlblocktag{/blockquote}}
7953
7954 \LWR@formattedenv{quote}

```

Env quotation

```

7955 \newenvironment*{LWR@HTML@quotation}
7956 {
7957 \LWR@forcenewpage
7958 \LWR@htmlblocktag{blockquote}
7959 }
7960 {\LWR@htmlblocktag{/blockquote}}
7961
7962 \LWR@formattedenv{quotation}

7963 \end{warpHTML}

```

### 70.3 Verse

When using `verse` or `memoir`, always place a `\\` after each line.

`\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

Len `\vleftskip` These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTML\vleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any verse environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

⚠ spacing Horizontal spacing relies on *pdfTeX*’s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdfTeX* to shift everything over.

⚠ verse margin

### 70.3.1 L<sup>A</sup>T<sub>E</sub>X core verse environment

**for HTML output:** 7964 \begin{warpHTML}

Env verse

```

7965 \newenvironment{LWR@HTML@verse}
7966 {\let\\newline% lwarp
7967 \list{}\itemsep \z@
7968 \itemindent -1.5em%
7969 \listparindent\itemindent
7970 \rightmargin \leftmargin
7971 \advance\leftmargin 1.5em}%
7972 \item\relax}
7973 {\endlist}
7974
7975 \LWR@formattedenv{verse}

7976 \end{warpHTML}

```

**for HTML & PRINT:** 7977 \begin{warpall}

### 70.3.2 verse and memoir

The following lengths are used by `verse` and `memoir`. They may be set in either print or HTML output, but are only used in HTML. This allows the user to set `\vleftskip` and `\leftmargini` for print output, and optionally select different values for HTML.

Len `\HTMLvleftskip` Sets `\vleftskip` inside a verse environment in HTML.

```

7978 \newlength{\HTMLvleftskip}
7979 \setlength{\HTMLvleftskip}{1em}

```

Len `\HTMLleftmargini` Sets `\leftmargini` inside a verse environment in HTML.

```

7980 \newlength{\HTMLleftmargini}
7981 \setlength{\HTMLleftmargini}{4.5em}

7982 \end{warpall}

```

## 71 Verbatim and tabbing

**for HTML & PRINT:** 7983 \begin{warpall}

Len `\VerbatimHTMLWidth` Width to use in HTML Verbatim environment.

This width is used when placing line numbers to the right. Ignored during print output.

```

7984 \newlength{\VerbatimHTMLWidth}
7985 \setlength{\VerbatimHTMLWidth}{4in}
7986 \end{warpall}

```

**for HTML output:** 7987 \begin{warpHTML}

Bool LWR@verbtags Used to temporarily turn off verbatim tags while doing \verbatiminput in the HTML head.

```
7988 \newbool{LWR@verbtags}
7989 \booltrue{LWR@verbtags}
```

\verb Patched to encapsulate the verbatim text inside span with a class of texttt.

```
7990 \let\txMacro\LWR@orig@verb@egroup\verb@egroup
7991
7992 \def\LWR@verb@egroup@endspan{%
7993 \LWR@orig@verb@egroup%
7994 \LWR@htmltag{/span}%
7995 \endgroup%
7996 }

7997 \xpretocmd{\verb}
7998 {%
7999 \begingroup%
8000 \LWR@htmltag{span class=\textquotedbl{}texttt\textquotedbl}%
8001 \let\verb@egroup\LWR@verb@egroup@endspan%
8002 }
8003 {}
8004 {\LWR@patcherror{LaTeX}{verb}}
```

\LWR@atbeginverbatim [*1: style*] [*2: class*]

Encloses a verbatim environment with the given css class.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
8005 \newcommand*{\LWR@atbeginverbatim}[2][]
8006 {%
```

Stop generating HTML paragraph tags:

```
8007 \LWR@stoppars%
```

Avoid excessive space between lines:

```
8008 \setlength{\parskip}{0ex}%
8009 \setlength{\topsep}{0pt}%
8010 \setlength{\partopsep}{0pt}%
```

Create a new pre of the given class. The tags may temporarily be turned off for internal use, such as loading the MATHJAX script.

```
8011 \ifbool{LWR@verbtags}{%
8012 \LWR@htmltag{pre class=\textquotedbl#2\textquotedbl%
8013 \ifthenelse{\equal{#1}{}}{}{ style=\textquotedbl#1\textquotedbl}%
8014 }%
8015 \par%
8016 }{}%
```



Use a mono-spaced font to preserve horizontal positioning. If horizontal alignment is important for the user, use a mono-spaced font in the css for the verse class.

```
8017 \begingroup%
```

```
8018 \LWR@print@normalfont%
```

```
8019 \LWR@origttfamily%
```

```
8020 \LWR@print@scriptsize%
```

Since inside a <pre>, restore the original list processing:

```
8021 \LWR@restoreoriglists%
```

Turn off **babel-french** extra space before punctuation:

```
8022 \LWR@hook@processingtags%
```

Do not produce HTML tags for \hspace inside a verse par. Restore plain  $\LaTeX$  \hspace functionality:

```
8023 \LWR@select@print@hspace%
```

```
8024 }
```

`\LWR@afterendverbatim` Finishes enclosing a verbatim environment.

```
8025 \newcommand*{\LWR@afterendverbatim}{%
```

```
8026 \endgroup%
```

```
8027 \par%
```

At the end of the environment, close the pre:

```
8028 \ifbool{LWR@verbtags}{%
```

```
8029 \noindent\LWR@htmltag{/pre}\par% pre
```

```
8030 }{)%
```

Resume regular paragraph handling:

```
8031 \LWR@startpars%
```

```
8032 }
```

`\verbatiminput` `{\filename}`

Patch `\verbatiminput` to add HTML tags:

```
8033 \newcommand{\LWR@HTML@verbatim@input}[2]{%
```

```
8034 \ifbool{LWR@verbtags}{\LWR@forcenewpage}{}%
```

```
8035 \LWR@atbeginverbatim{Verbatim}%
```

```
8036 \LWR@print@verbatim@input{#1}{#2}%
```

```
8037 \LWR@afterendverbatim%
```

```
8038 }
```

```
8039
```

```
8040 \LWR@formatted{verbatim@input}
```

Env `verbatim`

```

8041 \AfterEndPreamble{
8042 \LWR@traceinfo{Patching verbatim.}
8043 \AtBeginEnvironment{verbatim}{%
8044 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8045 {}%
8046 {%
8047 \LWR@forcenewpage%
8048 \LWR@atbeginverbatim{verbatim}%
8049 }%
8050 }
8051 \AfterEndEnvironment{verbatim}{%
8052 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8053 {}%
8054 {%
8055 \LWR@afterendverbatim%
8056 }%
8057 }
8058 }

```

Env `tabbing` The `tabbing` environment works, except that `svg math` and `lateximages` do not yet work inside the environment.

 **math in tabbing** If `math` is used inside `tabbing`, place `tabbing` inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

```

8059 \newcommand*{\LWR@HTML@tabbing}{%
8060 \LWR@forcenewpage%
8061 \LWR@atbeginverbatim{tabbing}%
8062 \let\enskip\LWR@origenskip%
8063 \let\quad\LWR@origquad%
8064 \let\qqquad\LWR@origqqquad%
8065 \let~\LWR@origtilde%
8066 \let\,\LWR@origcomma%
8067 \let\thinspace\LWR@origthinspace%
8068 \let\negthinspace\LWR@orignegthinspace%
8069 \LWR@print@tabbing%
8070 }
8071
8072 \newcommand*{\LWR@HTML@endtabbing}{%
8073 \LWR@print@endtabbing%
8074 \LWR@afterendverbatim%
8075 }
8076
8077 \LWR@formatted{tabbing}
8078 \LWR@formatted{endtabbing}
8079 \end{warpHTML}

```

## 72 Theorems

`\newtheorem {<text>} [<counter>] — or — [<oldname>] {<text>}`

A few minor changes are made to supply HTML tags.

- The entire theorem is placed into a <div> of class theoremcontents.
- The label for each theorem is placed inside a <span> of class theoremlabel.
- The contents are placed inside a <div> of class theoremcontents.

for HTML output: 8080 \begin{warpHTML}

\@begintheorem {<name>} {<number>}

```
8081 \renewcommand{\@begintheorem}[2]{%
8082 \LWR@forcenewpage
8083 \BlockClass{theoremcontents}
8084 \trivlist
8085 \item[\InlineClass{theoremlabel}{#1\ #2\ }]\itshape
8086 }
```

\@opargbegintheorem {<name>} {<number>} {<oparg>}

$\text{\LaTeX}$  defines this, but `amsthm` \relaxes it, so it will not be defined if `amsthm` is loaded before `lwarp`.

```
8087 \ifundef{\@opargbegintheorem}{%{
8088 \renewcommand{\@opargbegintheorem}[3]{%
8089 \LWR@forcenewpage
8090 \BlockClass{theoremcontents}
8091 \trivlist
8092 \item[\InlineClass{theoremlabel}{#1\ #2\ (#3)\ }]\itshape
8093 }
8094 }
```

\@endtheorem

```
8095 \renewcommand*{\@endtheorem}{%
8096 \endtrivlist
8097 \endBlockClass% theoremcontents
8098 }
```

```
8099 \end{warpHTML}
```

## 73 Lists

The environments `itemize`, `enumerate`, and `description` are patched when `lwarp` is started. These patches support the standard  $\text{\LaTeX}$  environments, as well as those of `enumerate`, `enumitem`, and `paralist`, and at least the French version of `babel`. Additional patches are done on a package-specific basis.

The  $\text{\LaTeX}$  source for `itemize` and `enumerate` are found in `source2e`, but the source for `description` is found in `article.cls`, etc.

**empty item** To have an empty item, use `\mbox{}` or a trailing backslash. This forces a new line in print output, matching the new line which will appear in HTML output. Ex:

---

```
begin{itemize}
item \mbox{}
 \begin{itemize}
...
 \end{itemize}
item \
 \begin{itemize}
...
 \end{itemize}
```

---

`\makelabel` While inside a list environment, `lwarp` nullifies a number of  $\text{\TeX}$  horizontal skip and fill commands, allowing the user to define `\makelabel` for print mode while HTML mode ignores those commands.

 **label font** When defining `\makelabel` in a list environment, use `\textbf` etc. instead of `\bfseries`.

## 73.1 List environment

**for HTML output:** 8100 `\begin{warphTML}`

`\LWR@printcloselist` May be locally redefined by `enumerate` or `description`.

```
8101 \newcommand*\LWR@printcloselist{\LWR@printcloseitemize}
```

`\LWR@printopenlist` May be locally redefined by `enumerate` or `description`.

```
8102 \newcommand*\LWR@printopenlist{%
8103 ul style=\textquotedbl\LWR@print@mbox{list-style-type:none}\textquotedbl}%
8104 }
```

`\@mklab` Removes PDF spacing.

```
8105 \AtBeginDocument{
8106 \def\@mklab#1{%
8107 \hfil %
8108 #1}
8109 \let\makelabel\@mklab
8110 }
```

`\@donoparitem` Modified for HTML output by replacing  $\text{\TeX}$  boxes with plain text. Also removes PDF spacing.

```

8111 \def\@donoparitem{%
8112 \@noparitemfalse
8113 % \global\setbox\@labels\hbox{\hskip -\leftmargin
8114 % \unhbox\@labels
8115 % \hskip \leftmargin}%
8116 % \if@minipage\else
8117 % \@tempskipa\lastskip
8118 % \vskip -\lastskip
8119 % \advance\@tempskipa\@outerparskip
8120 % \advance\@tempskipa -\parskip
8121 % \vskip\@tempskipa
8122 % \fi
8123 }

```

`\@item` Modified for HTML output by replacing  $\TeX$  boxes with plain text. Also removes PDF spacing.

```

8124 \def\LWR@HTML@item[#1]{%
8125 \LWR@traceinfo{\@item}
8126 \if@noparitem
8127 \@donoparitem
8128 \else
8129 % \if@inlabel
8130 % \indent
8131 % \par
8132 % \fi
8133 % \ifhmode
8134 % \unskip\unskip
8135 % \par
8136 % \fi
8137 % \if@newlist
8138 % \if@nobreak
8139 % \@nbitem
8140 % \else
8141 % \addpenalty\@beginparpenalty
8142 % \addvspace\@topsep
8143 % \addvspace{-\parskip}%
8144 % \fi
8145 % \else
8146 % \addpenalty\@itempenalty
8147 % \addvspace\itemsep
8148 % \fi
8149 % \global\@inlabeltrue
8150 % \fi
8151 % \everypar{%
8152 % \@minipagefalse
8153 % \global\@newlistfalse

8154 % \if@inlabel
8155 % \global\@inlabelfalse

8156 % {\setbox\z@\lastbox
8157 % \ifvoid\z@
8158 % \kern-\itemindent
8159 % \fi}%

```

```

8160 % \box\@labels
8161 % \penalty\z@
8162 % \fi

8163 % \if@nobreak
8164 % \@nobreakfalse
8165 % \clubpenalty \@M
8166 % \else
8167 % \clubpenalty \@clubpenalty
8168 % \everypar{}\%
8169 % \fi}%

8170 \if@noitemarg
8171 \@noitemargfalse
8172 \if@nmbolist

8173 \refstepcounter\@listctr
8174 \fi
8175 \fi

8176 \makeLabel{#1} % extra space
8177 % \sbox\@tempboxa{\makeLabel{#1}}%
8178 % \global\setbox\@labels\hbox{%
8179 % \unhbox\@labels
8180 % \hskip \itemindent
8181 % \hskip -\labelwidth
8182 % \hskip -\labelsep
8183 % \ifdim \wd\@tempboxa >\labelwidth
8184 % \box\@tempboxa

8185 % \else
8186 % \hbox to\labelwidth {\unhbox\@tempboxa}%
8187 % \fi
8188 % \hskip \labelsep}%
8189 \ignorespaces%
8190 }

```

\@nbitem

```

8191 \def\@nbitem{%
8192 % \@tempskipa\@outerparskip
8193 % \advance\@tempskipa -\parskip
8194 % \addvspace\@tempskipa
8195 }

```

\LWR@listitem [*label*]

Handles \item inside a list, itemize, or enumerate.

See \LWR@openparagraph where extra \hspace is used to leave room for the label while inside a list during paragraph construction.

```

8196 \newcommand*\LWR@listitem{%

```

```

8197 \LWR@stoppars%
8198 \LWR@startnewdepth{listitem}%
8199 \LWR@htmltag{li}%
8200 \LWR@startpars%
8201 \LWR@origitem%
8202 }

```

`\LWR@nulllistfills` Nullifies various TeX fill commands, in case they are used inside `\makeLabel`. Problems are caused when these are nullified all the time.

```

8203 \newcommand*\LWR@nulllistfills{%
8204 \renewcommand*\hss{}%
8205 \renewcommand*\llap[1]{##1}%
8206 \renewcommand*\rlap[1]{##1}%
8207 \renewcommand*\hfil{}%
8208 \renewcommand*\hfilneg{}%
8209 \renewcommand*\hfill{}%
8210 }

```

Env `list` `{\label}{\commands}`

```

8211 \newcommand*\LWR@liststart{%
8212 \LWR@traceinfo{LWR@liststart}%
8213 \LWR@stoppars%
8214 \LWR@pushoneclose{list}%
8215 \LWR@htmltag{\LWR@printopenlist}\LWR@orignewline%
8216 \LWR@startpars%
8217 \setlength{\topsep}{0pt}%
8218 \setlength{\partopsep}{0pt}%
8219 \setlength{\itemsep}{0pt}%
8220 \setlength{\parsep}{0pt}%
8221 \setlength{\leftmargin}{0pt}%
8222 \setlength{\rightmargin}{0pt}%
8223 \setlength{\listparindent}{0pt}%
8224 \setlength{\itemindent}{0pt}%
8225 \setlength{\labelsep}{1em}%
8226 \LWR@nulllistfills%
8227 }

8228 \newcommand*\LWR@listend{%
8229 \LWR@traceinfo{LWR@listend}%
8230 \LWR@stoppars%
8231 \LWR@closeprevious{list}%
8232 \LWR@startpars%
8233 }

```

## 73.2 Itemize

`\LWR@itemizeitem` `[\label]`

Handles `\item` inside an itemize or enumerate.

See `\LWR@openparagraph` where extra `\hspace` is used to leave room for the label while inside a list during paragraph construction.

```
8234 \newcommand*{\LWR@itemizeitem}{%
8235 \LWR@stoppars%
8236 \LWR@startnewdepth{listitem}%
8237 \LWR@htmltag{li}%
8238 \LWR@startpars%
8239 \LWR@origitem%
8240 }
```

Env `itemize` [*<options>*]

```
8241 \newcommand*{\LWR@itemizestart}{%
8242 \renewcommand*{\LWR@printcloseitemize}{\LWR@printcloseitemize}
8243 \renewcommand*{\LWR@printopenlist}{%
8244 ul style=\textquotedbl\LWR@print@mbbox{list-style-type:none}\textquotedbl}%
8245 }
8246 \let\item\LWR@itemizeitem%
8247 \LWR@nulllistfills%
8248 }
```

### 73.3 Enumerate

An HTML unordered list is used with customized  $\LaTeX$ -generated labels.

Env `enumerate` [*<options>*]

```
8249 \newcommand*{\LWR@enumeratestart}{%
8250 \renewcommand*{\LWR@printcloseitemize}{\LWR@printcloseitemize}
8251 \renewcommand*{\LWR@printopenlist}{%
8252 ul style=\textquotedbl\LWR@print@mbbox{list-style-type:none}\textquotedbl}%
8253 }
8254 \let\item\LWR@itemizeitem%
8255 \LWR@nulllistfills%
8256 }
```

### 73.4 Description

`\LWR@descitem` [*<label>*] Handles an `\item` inside a description.

```
8257 \newcommand*{\LWR@descitem}[1][{}]{%
8258 {%
8259 \LWR@stoppars%
8260 \LWR@setlatestname{#1}%
8261 \LWR@startnewdepth{descitem}%

```

While creating the label, encase it inside tags and disable `\hspace`, which is used by the standard classes to add space to the labels.



```

8262 \begingroup%
8263 \let\LWR@orig@desc@makelabel\makelabel
8264 \renewcommand*{\makelabel}[1]{%
8265 \LWR@htmltag{dt}%
8266 \LWR@orig@desc@makelabel{#1}%
8267 \LWR@htmltag{/dt}%
8268 }
8269 \LWR@select@html@nohspace%
8270 \LWR@origitem[#1]%
8271 \endgroup%
8272 \LWR@orignewline%
8273 \LWR@htmltag{dd}%
8274 \LWR@startpars%
8275 }

```

Env description [*(options)*]

```

8276 \newcommand*{\LWR@descriptionstart}{%
8277 \renewcommand*{\LWR@printcloselist}{\LWR@printclosedescription}
8278 \renewcommand*{\LWR@printopenlist}{dl}
8279 \let\item\LWR@descitem%
8280 \LWR@nulllistfills%
8281 }

```

## 73.5 Patching the lists

`\LWR@patchlists` Patches list environments.

`\LWR@patchlists` remembers `\item` as defined by whatever packages have been loaded, then patches the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native  $\TeX$  environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```

8282 \newcommand*{\LWR@patchlists}{%
8283 \LetLtxMacro\item\LWR@listitem%
8284 \LetLtxMacro\@item\LWR@HTML@item%
8285 \renewcommand*{\@trivlist}{%
8286 \LWR@traceinfo{@trivlist start}%
8287 \LWR@liststart%
8288 \LWR@orig@trivlist%
8289 \LWR@traceinfo{@trivlist done}%
8290 }%
8291 \renewcommand*{\@trivlist}{%
8292 \LWR@traceinfo{trivlist}%
8293 \LWR@origtrivlist%
8294 }%
8295 \renewcommand*{\endtrivlist}{%
8296 \LWR@traceinfo{endtrivlist start}%
8297 \LWR@origendtrivlist\LWR@listend%
8298 \LWR@traceinfo{endtrivlist done}%
8299 }%
8300 \renewcommand*{\itemize}{%
8301 \LWR@itemizestart\LWR@origitemize%

```

```

8302 }%
8303 \renewcommand*{\enumerate}{%
8304 \LWR@enumeratestart\LWR@origenumerate%
8305 }%
8306 \renewcommand*{\description}{%
8307 \LWR@descriptionstart\LWR@origdescription%
8308 }%
8309 }

```

`\LWR@restoreoriglists` Restores the original `trivlist` environment.

```

8310 \newcommand*{\LWR@restoreoriglists}{%
8311 \LWR@traceinfo{\LWR@restoreoriglists}%
8312 \LetLtxMacro\item\LWR@origitem%
8313 \LetLtxMacro\@item\LWR@orig@item%
8314 \let\@trivlist\LWR@orig@trivlist%
8315 \let\trivlist\LWR@origtrivlist%
8316 \let\endtrivlist\LWR@origendtrivlist%
8317 \LetLtxMacro\itemize\LWR@origitemize%
8318 \LetLtxMacro\enditemize\LWR@endorigitemize%
8319 \LetLtxMacro\enumerate\LWR@origenumerate%
8320 \LetLtxMacro\endenumerate\LWR@endorigenumerate%
8321 \LetLtxMacro\description\LWR@origdescription%
8322 \LetLtxMacro\enddescription\LWR@endorigdescription%
8323 \let\@mklab\LWR@orig@mklab%
8324 \let\makelabel\LWR@origmakelabel%
8325 \let\@donoparitem\LWR@orig@donoparitem%
8326 \let\@nbitem\LWR@orig@nbitem%
8327 }

8328 \end{warpHTML}

```

## 74 Tabular

This is arguably the most complicated part of the entire package. Numerous tricks are employed to handle the syntax of the  $\text{\LaTeX}$  core and the various tabular-related packages.

### 74.1 Limitations

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, `siunitx` S columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.

#### Defining macros and environments:

⚠ Misplaced alignment tab character &

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are ignored in print mode.

⚠ floatrow

⚠ tabular inside another environment

```
\StartDefiningTabulars
```

<define macros or environments using tabular and & here>

```
\StopDefiningTabulars
```

This includes before and after defining any macro which used \ttabbox from floatrow.

- When creating a new environment which contains a tabular environment, lwarp's emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use \ResumeTabular as follows. This is ignored in print mode.

```
\StartDefiningTabulars % (& is used in a definition)
```

```
\newenvironment{outerenvironment}
```

```
{
```

```
 \tabular{cc}
```

```
 left & right \\\
```

```
}
```

```
{
```

```
 \TabularMacro\ResumeTabular
```

```
 left & right \\\
```

```
 \endtabular
```

```
}
```

```
\StopDefiningTabulars
```

For developers:

- To automate the use of \StartDefiningTabulars and \EndDefiningTabulars, these macros may be embedded inside an HTML environment definition to automatically change the catcode of & before absorbing the arguments. Another environment may be embedded as well.

```
% Does the work after the catcode has been changed:
```

```
\newcommand*{\LWR@HTML@subsomenam}[2]{%
```

```
 ...
```

```
 \otherenvironmentname [<args>] {<args>} % for example
```

```
}
```

```
% Change catcode before absorbing arguments:
```

```
\newcommand*{\LWR@HTML@somenam}{%
```

```
 \StartDefiningTabulars
```

```
 \LWR@HTML@subsomenam
```

```
}
```

```
% Change catcode again at the end:
```

```
\newcommand*{\LWR@HTML@endsomenam}{%
```

```
 ...
```

```
 \endotherenvironmentname % for example
```

```
 \StopDefiningTabulars
```

```
}
```

```
% Combine with the existing print definition:
```

```
\LWR@formattedenv{somenam}
```

Cell contents:

⚠ macro in a table

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use \TabularMacro just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \\\
```

Column specifiers:

@ and !

- Only one each of @ and ! is used at each column, and they are used in that order.

\multirow

- In \multirow cells, the print version may have extra instances of <, >, @, and ! cells on the second and later rows in the \multirow which do not appear in the HTML version.

⚠ \newcolumnntype

- \newcolumnntype is ignored; unknown column types are set to l.

#### Rules:

vertical rules

- Doubled \hlines, \midrules, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

width and trim

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

combined rules

- If you wish to use \cmidrule followed by \bottomrule, it may be necessary to use:

```
\cmidrule{2-3} \[-2ex]
```

```
\bottomrule
```

The optional -2ex is ignored in HTML, but improves the visual formatting in the print output.

- For \toprule and \bottomrule, when combined with a warpprint or warpHTML environment, if a “Misplaced \noalign” error occurs, change

```
This & That \endhead
```

to

```
\warpprintonly{This & That \endhead}
```

and likewise with the other \end headings. Keep the \endfirsthead row unchanged, as it is still relevant to HTML output.

#### Other:

longtable headings

- tabularx ignores the width, but X columns do produce paragraph columns or multicolumns.
- For longtable, place headings and footings which do not apply to HTML inside \warpprintonly{ }.

⚠ S columns

- For S columns (from the siunitx package), while producing print output, anything non-numeric must be placed inside { } braces, including commands such as \multirow. While producing HTML output, though, anything placed inside braces is not seen by lwarp’s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
```

```
\warpHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

⚠ tabular inside a <span>

- In  $\text{\LaTeX}$ , a tabular may be placed inside a minipage, but in HTML a <table> may not be inside a <span>. If this situation is detected, a warning is printed instructing the user to isolate the <span> using \warpprintonly or the warpprint environment.

for HTML output: 8329 \begin{warphTML}

## 74.2 Temporary package-related macros

These macros are temporary placeholders for macros defined by various packages. If the relevant package is not loaded, these placeholders are used instead.

### 74.2.1 arydshln

Emulated by the original  $\TeX$  non-dashed versions.

```
8330 \LetLtxMacro\hdashline\hline
8331 \LetLtxMacro\cdashline\cline
8332 \LetLtxMacro\firsthdashline\hline
8333 \LetLtxMacro\lasthdashline\hline
```

## 74.3 Token lookahead

Used by \LWR@futurenonSPACElet to look at the next token.

\LWR@mynexttoken

```
8334 \newcommand\LWR@mynexttoken\relax
```

\futurelet copies the next token then executes a function to analyze it.

\LWR@futurenonSPACElet does the same, but ignores intervening white space

Based on the **booktabs** style:

\LWR@futurenonSPACElet

```
8335 \def\LWR@futurenonSPACElet#1{\def\LWR@cs{#1}%
8336 \afterassignment\LWR@fnsLone\let\nexttoken= }
8337
8338 \def\LWR@fnsLone{\expandafter\futurelet\LWR@cs\LWR@fnsLtwo}
8339
8340 \def\LWR@fnsLtwo{%
8341 \expandafter\ifx\LWR@cs\@sptoken\let\next=\LWR@fnsLthree%
8342 \else\let\next=\nexttoken\fi\next}
8343
8344 \def\LWR@fnsLthree{\afterassignment\LWR@fnsLone\let\next= }
```

\LWR@getmynexttoken Looks ahead and copies the next token into \LWR@mynexttoken.

```
8345 \newcommand*\LWR@getmynexttoken{%
8346 \LWR@traceinfo{LWR@getmynexttoken}%
8347 % nothing must follow this next line
8348 \LWR@futurenonSPACElet\LWR@mynexttoken\LWR@tabledatacolumnntag
8349 }
```

## 74.4 Tabular variables

In order to support nested tabulars, each of these is used locally. For local counters, **etoolbox**'s `\defcounter` and **lwarp**'s new `\defaddtocounter` are used.

**Bool** `LWR@startedrow` True if should print a row tag before this column.

```
8350 \newbool{LWR@startedrow}
8351 \boolfalse{LWR@startedrow}
```

**Bool** `LWR@tabularcelladded` True if have added a data cell for this position.

```
8352 \newbool{LWR@tabularcelladded}
8353 \boolfalse{LWR@tabularcelladded}
```

**Ctr** `LWR@hlines` Number of `\hlines` or `\midrules` above the next row.

```
8354 \newcounter{LWR@hlines}
```

**Ctr** `LWR@hdashedlines` Number of `\arydshln` dashed lines above the next row.

```
8355 \newcounter{LWR@hdashedlines}
```

**Bool** `LWR@doingtbrule` True if the next row will have a top/bottom rule above it.

```
8356 \newbool{LWR@doingtbrule}
8357 \boolfalse{LWR@doingtbrule}
```

**Bool** `LWR@doingcmidrule` True if the next row will have a `\cmidrule` above it.

This is used by `\LWR@tabularfinishrow` to force a final empty row to create the border for the `\cmidrule`.

```
8358 \newbool{LWR@doingcmidrule}
8359 \boolfalse{LWR@doingcmidrule}
```

**Bool** `LWR@tableparcell` True if are handling a paragraph inside a table cell, so must close the paragraph tag before moving on.

```
8360 \newbool{LWR@tableparcell}
```

**Bool** `LWR@skippingmrowcell` True if are doing an empty `\multirow` cell, and thus there is no data tag to close.

```
8361 \newbool{LWR@skippingmrowcell}
```

**Bool** `LWR@skippingmcolrowcell` True if are doing an empty `\multicolumnrow` cell, and thus there is no data tag to close, and do not print `@` and `!` columns.

```
8362 \newbool{LWR@skippingmcolrowcell}
```

**Bool** `LWR@usedmultirow` Used to error if used `\multirow` or `\multicolumnrow` without using `\mrowcell` or `\mcolrowcell`.

```
8363 \newbool{LWR@usedmultirow}
```

|      |                       |                                                                                                                                                                                                     |
|------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bool | LWR@foundmrowcell     | Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.                                                                                                         |
|      |                       | 8364 \newbool{LWR@foundmrowcell}                                                                                                                                                                    |
| Bool | LWR@skipatbang        | True if just finished a \multicolumn so should not create the trailing @ or ! columns table data cells.                                                                                             |
|      |                       | 8365 \newbool{LWR@skipatbang}                                                                                                                                                                       |
| Bool | LWR@emptyatbang       | True if finishing a row and should print empty @ or ! column table data cells.                                                                                                                      |
|      |                       | 8366 \newbool{LWR@emptyatbang}                                                                                                                                                                      |
| Bool | LWR@intabularmetadata | True if are in a tabular but not in a data cell. Used to prevent extra HTML breaks if not inside table data.                                                                                        |
|      |                       | 8367 \newbool{LWR@intabularmetadata}                                                                                                                                                                |
|      |                       | 8368 \boolfalse{LWR@intabularmetadata}                                                                                                                                                              |
| Bool | LWR@exitingtabular    | When \end is found, turns off the next opening data tag.                                                                                                                                            |
|      |                       | 8369 \newbool{LWR@exitingtabular}                                                                                                                                                                   |
| Bool | LWR@tabularmutemods   | Mutes HTML output for @, !, < and >.                                                                                                                                                                |
|      |                       | This is used while printing the final row to generate \bottomrules.                                                                                                                                 |
|      |                       | 8370 \newbool{LWR@tabularmutemods}                                                                                                                                                                  |
| Bool | LWR@validtablecol     | True if found a valid table column type.                                                                                                                                                            |
|      |                       | 8371 \newbool{LWR@validtablecol}                                                                                                                                                                    |
| Bool | LWR@opttablecol       | True if found a table column optional argument.                                                                                                                                                     |
|      |                       | 8372 \newbool{LWR@opttablecol}                                                                                                                                                                      |
|      |                       | Used to add a style to a table data cell:                                                                                                                                                           |
|      |                       | 8373 \newbool{LWR@tdhavecellstyle}                                                                                                                                                                  |
| Ctr  | LWR@tabularDepth      | Tracks whether & is being used inside a tabular.                                                                                                                                                    |
|      |                       | 8374 \newcounter{LWR@tabulardepth}                                                                                                                                                                  |
|      |                       | 8375 \setcounter{LWR@tabulardepth}{0}                                                                                                                                                               |
| Ctr  | LWR@tabularpardepth   | Tracks whether should look ahead at the next token when encountering a \par while processing tabular contents.                                                                                      |
|      |                       | When LWR@tabularpardepth is deeper than LWR@tabulardepth then lwarp has started looking at the contents of the tabular, and thus any \pars encountered must be followed by another token lookahead. |

```

8376 \newcounter{LWR@tabularpardepth}
8377 \setcounter{LWR@tabularpardepth}{0}

8378 \newcommand*{\LWR@colsresult}{}%temp storage for column format results
8379 \newcommand*{\LWR@pposition}{}
8380 \newcommand*{\LWR@pleft}{}
8381 \newcommand*{\LWR@pright}{}

```

**LWR@tablecolspec** Holds the parsed column specification, of total width `LWR@tabletotalLaTeXcols`, not counting @ and ! columns.

Will contain a string such as `llrrccpc`, exactly one letter per  $\LaTeX$  table column, without @, !, >, <, or the vertical bar.

**\LWR@strresult** Holds the result of `Str` functions.

```

8382 \providecommand*{\LWR@strresult}{}
8383 \providecommand*{\LWR@strresulttwo}{}

```

**\LWR@origcolspec** Holds the original column specs given to `tabular`.

```

8384 \newcommand*{\LWR@origcolspec}{}

```

**Ctr LWR@tablecolspecwidth** Holds the number of tokens in the table columns specification.

This includes one for each @, !, <, > column, and also one for each of the parameters of p, @, !, <, > columns, and three for each D column.

(This is not the total # of  $\LaTeX$  columns in the table.)

```

8385 \newcounter{LWR@tablecolspecwidth}

```

**Ctr LWR@tablecolspecindex** While parsing the  $\LaTeX$  table column specification, starts at 1 and is incremented per token of the specification.

```

8386 \newcounter{LWR@tablecolspecindex}

```

**Ctr LWR@tableLaTeXcolindex** While producing the table, resets to 1 at the start of the table and also at each end of line, and is incremented by 1 by each ampersand.

```

8387 \newcounter{LWR@tableLaTeXcolindex}

```

**Ctr LWR@tabletotalLaTeXcols** While parsing a table column specification, begins at 0 and increments by 1 per  $\LaTeX$  table column. Eventually holds the final number of  $\LaTeX$  table columns in each row, not counting @ and ! columns. (In `HTML`, @ and ! cells become their own columns, but are not included in `LWR@tabletotalLaTeXcols`.)

```

8388 \newcounter{LWR@tabletotalLaTeXcols}

```

**Ctr LWR@tabletotalLaTeXcolsnext** Holds the next  $\LaTeX$  table column index while parsing, equal to one more than `LWR@tabletotalLaTeXcols`.

```

8389 \newcounter{LWR@tabletotalLaTeXcolsnext}

```



|                        |                                                                                                                                  |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| LWR@colatspec          | A data array of specifications for @ columns. The leftmost's index is left tedge, the others are counter values. See section 42. |
| LWR@colbangspec        | A data array of specifications for ! columns. The leftmost's index is left tedge, the others are counter values. See section 42. |
| LWR@colbeforespec      | A data array of specifications for > columns.                                                                                    |
| LWR@colafterspec       | A data array of specifications for < columns.                                                                                    |
| LWR@colbarspec         | A data array of specifications for vertical rules.                                                                               |
| Ctr LWR@cellcolordepth | Counts how many cell color <div>s were added to the current tabular data cell.                                                   |

```
8390 \newcounter{LWR@cellcolordepth}
```

#### 74.4.1 Multicolumn variables

```
8391 \newcounter{LWR@tablemulticolwidth}
```

Indexes into the multicolumn specification:

```
8392 \newcounter{LWR@tablemulticolspos}
```

Remembers multicolumn vertical rules if found in the column spec.

```
8393 \newcounter{LWR@mcolvertbarsl}
8394 \newcounter{LWR@mcolvertbarsr}
8395 \newcounter{LWR@mcolvertbarsldash}
8396 \newcounter{LWR@mcolvertbarsrdash}
8397 \newbool{LWR@mcolvertbaronleft}
```

#### 74.4.2 Longtable variables

Bool LWR@starredlongtable Per the caption package, step the counter if longtable\*.

```
8398 \newbool{LWR@starredlongtable}
8399 \boolfalse{LWR@starredlongtable}
```

#### 74.4.3 Midrule variables

Ctr LWR@midrulecounter Indexes across the LWR@midrules and LWR@trim<l/r>rules data arrays.

```
8400 \newcounter{LWR@midrulecounter}
```

### 74.5 Handling &, @, !, and bar

For technical discussion regarding problems redefining \&, See:

<http://tex.stackexchange.com/questions/11638/>

[where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860](http://tex.stackexchange.com/questions/11638/where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860)

`\LWR@instertatbangcols`

```

8401 \newcommand*{\LWR@insertatbangcols}{%
8402 \ifbool{\LWR@skipatbang}%
8403 {}%
8404 {%
8405 \LWR@printatbang{at}{\arabic{\LWR@tableLaTeXcolindex}}%
8406 \LWR@printatbang{bang}{\arabic{\LWR@tableLaTeXcolindex}}%
8407 }%
8408 }
```

`\LWR@closetabledatacell` If `LWR@skippingmrowcell` or `LWR@skippingmcolrowcell` then there is no data tag to close. Otherwise, close any paragraphs, then close the data tag.

```

8409 \newcommand*{\LWR@closetabledatacell}{%
8410 \booltrue{\LWR@intabularmetadata}%
8411 \ifbool{\LWR@exitingtabular}%
8412 {%

8413 \LWR@stoppars%
8414 }%
8415 {% not exiting tabular
8416 \ifbool{\bool{\LWR@skippingmrowcell} or \bool{\LWR@skippingmcolrowcell}}%
8417 {%

8418 \LWR@stoppars%
```

If not skipping a `\multicolumnrow` cell, insert the @ and ! columns after this non-existent column.

```

8419 \ifbool{\LWR@skippingmcolrowcell}%
8420 {}%
8421 {\LWR@insertatbangcols}%
8422 }%
8423 {% not skippingmrowcell
```

Insert any < then any @ and ! column contents, unless muted for the `\bottomrule` or a `\multicolumn`:

```

8424 \unskip%
8425 \ifbool{\%
8426 \bool{\LWR@tabularmutemods} or
8427 \bool{\LWR@skipatbang} or
8428 \bool{\LWR@emptyatbang}
8429 }%
8430 {}%
8431 {%
8432 \LWR@getexpparray{\LWR@colafterspec}%
8433 {\arabic{\LWR@tableLaTeXcolindex}}%
8434 }%
```

Close paragraphs:

```

8435 \LWR@stoppars%
8436 \boolfalse{LWR@tableparcell}%

```

Close the table data cell.

Close any color <div>s.

```

8437 \whileboolexpr{test {\ifnumcomp{\value{LWR@cellcolordepth}}{>}{0}}}{%
8438 \LWR@htmltag{/div}\LWR@orignewline%
8439 \defaddtocounter{LWR@cellcolordepth}{-1}%
8440 }%

```

Skip the @ and ! cells if are closing a multicolumn cell.

```

8441 \leavevmode\unskip\LWR@htmltag{/td}\LWR@orignewline%
8442 \global\booltrue{LWR@tabularcelladded}%
8443 \LWR@insertatbangcols%
8444 }% not skipping mrowcell
8445 }% not exiting tabular
8446 \boolfalse{LWR@skippingmrowcell}%
8447 \boolfalse{LWR@skippingmcolrowcell}%
8448 \boolfalse{LWR@skipatbang}%

```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```

8449 \def\LWR@cellHTMLcolor{}%
8450 \def\LWR@columnHTMLcolor{}%
8451 \defcounter{LWR@cellcolordepth}{0}%
8452 }

```

When not used inside a tabular, & performs its original function as recorded here ( with catcode 4 ).

```

8453 \let\LWR@origampmacro&

8454 \end{warpHTML}

```

### 74.5.1 Handling &

**for HTML output:** 8455 \begin{warpHTML}

& Will behave depending on whether it is being used inside tabular.

& is redefined to test whether it is inside a tabular environment, in which case it performs special processing for HTML conversion. If not, it behaves normally.

```

8456 \newcommand*{\LWR@tabularampersand}{%
8457 \LWR@traceinfo{LWR@tabularampersand}%
8458 \ifnumcomp{\value{LWR@tabulardepth}}{>}{0}%
8459 {%

```

If not skipping a multirow cell, close the current data cell.

```
8460 \unskip%
8461 \LWR@closetabledatacell%
```

Move to the next column.

```
8462 \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8463 \global\boolfalse{LWR@tabularcelladded}%
```

Look at the next token to decide multi or single column data tag.

```
8464 \LWR@getmynexttoken%
8465 }%
```

If not inside a tabular, performs the original action:

```
8466 {%
8467 \LWR@origampmacro%
8468 }%
8469 }
```

& is left with its original catcode for now.

`tikz` package seems to require & be left alone until after `tikz` has been loaded. Also, `cleveref` uses the ampersand in one of its options.

& is made active inside a `tabular`.

& is left alone when in math alignments.

### 74.5.2 Filling an unfinished row

`\LWR@tabularfinishrow` Adds empty table cells if necessary to finish the row.

At the end of the table, if any bottom rules are requested then an empty row must be generated to form the borders which show the rules.

```
8470 \newcommand*{\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
8471 \ifboolexpr{%
8472 not bool {LWR@exitingtabular} or%
8473 bool{LWR@doingtbrule} or%
8474 bool{LWR@doingcmidrule} or%
8475 test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
8476 test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
8477 bool{LWR@startedrow}%
8478 }{%
```

To temporarily turn off LWR@exitingtabular so that table data tags will still be generated:

If generating a final row for the \bottomrule borders, turn off the @, !, <, and > column output:

```
8479 \ifbool{LWR@exitingtabular}{%
8480 \booltrue{LWR@tabularmutemods}%
8481 }{%
8482 \boolfalse{LWR@tabularmutemods}%
8483 }%
```

Locally reenable the table data tags until finished with the final row:

```
8484 \boolfalse{LWR@exitingtabular}%
```

Generate table data tags and ampersands until the right edge:

```
8485 \whileboolexpr{%
8486 test {
8487 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8488 {\value{LWR@tabletotalLaTeXcols}}
8489 } or %
8490 (%
8491 bool{LWR@intabularmetadata} and%
8492 not bool{LWR@tabularcellladded} and%
8493 test {
8494 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}
8495 {\value{LWR@tabletotalLaTeXcols}}
8496 }%
8497)%
8498 }%
8499 {%
8500 \LWR@tabledatasinglecolumnntag%
```

The following is essentially \LWR@tabularampersand with LWR@emptyatbang added to empty the following cells:

```
8501 \LWR@closetabledatacell%
8502 \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
8503 \global\boolfalse{LWR@tabularcellladded}%
8504 \booltrue{LWR@emptyatbang}%
```

Starts the next cell:

```
8505 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8506 {\value{LWR@tabletotalLaTeXcols}}%
8507 {\LWR@getmynexttoken}%
8508 {%
8509 }%
```

Reenable the original LWR@exitingtabular to close the entire table:

```
8510 \ifbool{LWR@tabularmutemods}{%
8511 \booltrue{LWR@exitingtabular}%
8512 }{%
```

```

8513 \boolfalse{LWR@exitingtabular}%
8514 }%
8515 \boolfalse{LWR@tabularmutemods}%

8516 \boolfalse{LWR@emptyatbang}%
8517 }{}% ifboolexpr
8518 }

```

## 74.6 Handling \

Inside tabular, \ is redefined to \LWR@tabularendofline

Throws away options \[dim] or \\*

\LWR@tabularendofline

```

8519 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%

```

Finish the row:

```

8520 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8521 {\value{LWR@tabletotalLaTeXcols}}%
8522 {\LWR@tabularfinishrow}%
8523 {\LWR@closetabledatacell}%
8524 \LWR@htmltag{/tr}\LWR@orignewline%

```

**xcolor** row color support:

```

8525 \@rowc@lors%

```

No longer inside a data cell:

```

8526 \booltrue{LWR@intabularmetadata}%

```

Not yet started a table row:

```

8527 \boolfalse{LWR@startedrow}%

```

Additional setup:

```

8528 \defcounter{LWR@hlines}{0}%
8529 \defcounter{LWR@hdashedlines}{0}%
8530 \boolfalse{LWR@doingtbrule}%
8531 \boolfalse{LWR@doingcmidrule}%
8532 \LWR@clearmidrules%

8533 \def\LWR@rowHTMLcolor{}%

```

Start at first column:

```

8534 \defcounter{LWR@tableLaTeXcolindex}{1}%

```

Have not yet added data in this column:

```
8535 \global\boolfalse{LWR@tabularcelladded}%
```

Allow  $\TeX$  to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```
8536 \LWR@stoppars%
8537 \LWR@origpar%
```

Look at the next token to decide between single column data tag or a special case:

```
8538 \LWR@getmynexttoken%
8539 }
```

## 74.7 Looking ahead in the column specifications

`\LWR@columnspeclookahead`  $\{\langle offset \rangle\}$

Looks offset tokens ahead in the column specification, setting `\LWR@strresulttwo`.

The `w` column alignment will be seen as a single unit such as `{c}`.

```
8540 \newcommand*{\LWR@columnspeclookahead}[1]{%
8541 \setcounter{LWR@tempcountone}{\value{LWR@tablecolspecindex}}%
8542 \addtocounter{LWR@tempcountone}{#1}%
8543 \fullexpandarg%
8544 \StrChar{\LWR@origcolspec}{\arabic{LWR@tempcountone}}[\LWR@strresulttwo]%
```

Get the contents of the first group in `\LWR@strresulttwo`:

```
8545 \exploregroups%
8546 \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
8547 \noexploregroups%
8548 }
```

## 74.8 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```
8549 \newcommand*{\LWR@colparameter}{}
```

`\LWR@parseatcolumn` Handles `@{text}` columns.

```
8550 \newcommand*{\LWR@parseatcolumn}{%
```

Move to the next token after the '@':

```
8551 \LWR@traceinfo{at column}%
8552 \defaddtocounter{LWR@tablecolspecindex}{1}%
```

Read the next token into \LWR@colparameter, expanding once:

```
8553 \LWR@traceinfo{about to read the next token:}%
8554 \expandarg%
8555 \StrChar{\LWR@origcolspec}%
8556 {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
8557 \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
8558 \LWR@traceinfo{have now read the next token}%
8559 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8560 {% left edge of the table:
8561 \LWR@traceinfo{at the left edge}%
8562 \LWR@setexparray{\LWR@colatspec}%
8563 {\leftedge}%
8564 {\expandafter\@firstofone\LWR@colparameter}%
8565 \LWR@traceinfo{at the left edge: %
8566 \LWR@getexparray{\LWR@colatspec}{\leftedge}}%
8567 }%
8568 {% not at the left edge:
8569 \LWR@traceinfo{not at the left edge}%
8570 \LWR@setexparray{\LWR@colatspec}%
8571 {\arabic{\LWR@tabletotalLaTeXcols}}%
8572 {\expandafter\@firstofone\LWR@colparameter}%
8573 \LWR@traceinfo{at \arabic{\LWR@tabletotalLaTeXcols}: %
8574 \LWR@getexparray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcols}}}%
8575 }%
8576 \let\LWR@colparameter\relax%
8577 \booltrue{\LWR@validtablecol}%
8578 }
```

\LWR@parsebangcolumn Handles !{text} columns.

```
8579 \newcommand*{\LWR@parsebangcolumn}{%
```

Move to the next token after the '!':

```
8580 \LWR@traceinfo{bang column}%
8581 \defaddtocounter{\LWR@tablecolspecindex}{1}%
```

Read the next token into \LWR@colparameter, expanding once:

```
8582 \LWR@traceinfo{about to read the next token:}%
8583 \expandarg%
8584 \StrChar{\LWR@origcolspec}%
8585 {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
8586 \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
8587 \LWR@traceinfo{have now read the next token}%
8588 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8589 {% left edge of the table:
```



```

8590 \LWR@traceinfo{at the left edge}%
8591 \LWR@setexparray{LWR@colbangspec}%
8592 {leftedge}%
8593 {\expandafter\@firstofone\LWR@colparameter}%
8594 }%
8595 {% not at the left edge:
8596 \LWR@traceinfo{not at the left edge}%
8597 \LWR@setexparray{LWR@colbangspec}%
8598 {\arabic{LWR@tabletotalLaTeXcols}}%
8599 {\expandafter\@firstofone\LWR@colparameter}%
8600 \LWR@traceinfo{bang \arabic{LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
8601 }%
8602 \let\LWR@colparameter\relax%
8603 \booltrue{LWR@validtablecol}%
8604 }

```

`\LWR@parsebeforecolumn` Handles `>{text}` columns.

```
8605 \newcommand*{\LWR@parsebeforecolumn}{%
```

Move to the next token after the `'>'`:

```
8606 \defaddtocounter{LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into `\LWR@colparameter`:

```

8607 \expandarg%
8608 \StrChar{\LWR@origcolspec}%
8609 {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
8610 \fullexpandarg%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

8611 \LWR@setexparray{LWR@colbeforespec}%
8612 {\arabic{LWR@tabletotalLaTeXcolsnext}}%
8613 {\expandafter\@firstofone\LWR@colparameter}%
8614 \let\LWR@colparameter\relax%
8615 \booltrue{LWR@validtablecol}%
8616 }

```

`\LWR@parseaftercolumn` Handles `<{text}` columns.

```
8617 \newcommand*{\LWR@parseaftercolumn}{%
```

Move to the next token after the `'<'`:

```
8618 \defaddtocounter{LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into `\LWR@colparameter`:

```

8619 \expandarg%
8620 \StrChar{\LWR@origcolspec}%
8621 {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
8622 \fullexpandarg%

```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
8623 \LWR@setexparray{LWR@colafterspec}%
8624 {\arabic{LWR@tabletotalLaTeXcols}}%
8625 {\expandafter\@firstofone\LWR@colparameter}%
8626 \let\LWR@colparameter\relax%
8627 \booltrue{LWR@validtablecol}%
8628 }
```

\LWR@parsebarcolumn Handles vertical rules.

```
8629 \newcommand*{\LWR@parsebarcolumn}{%
8630 \LWR@traceinfo{LWR@parsebarcolumn}%
```

Remember the bar at this position:

```
8631 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8632 {% left edge of the table:
8633 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
8634 \ifdefstring{\LWR@tempone}{tvertbarl}%
8635 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldouble}}%
8636 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarl}}%
8637 }%
8638 {% not at the left edge:
8639 \edef\LWR@tempone{%
8640 \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
8641 }%
8642 \ifdefstring{\LWR@tempone}{tvertbarr}%
8643 {%
8644 \LWR@setexparray{LWR@colbarspec}%
8645 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdouble}%
8646 }%
8647 {%
8648 \LWR@setexparray{LWR@colbarspec}%
8649 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarr}%
8650 }%
8651 }%
8652 \booltrue{LWR@validtablecol}%
8653 }
```

\LWR@parsecoloncolumn Handles vertical rules.

```
8654 \newcommand*{\LWR@parsecoloncolumn}{%
8655 \LWR@traceinfo{LWR@parsecoloncolumn}%
```

Remember the bar at this position:

```
8656 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8657 {% left edge of the table:
8658 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
8659 \ifdefstring{\LWR@tempone}{tvertbarldash}%
8660 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
8661 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldash}}%
```

```

8662 }%
8663 {% not at the left edge:
8664 \edef\LWR@tempone{%
8665 \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
8666 }%
8667 \ifdefstring{\LWR@tempone}{tvertbarrdash}%
8668 {\LWR@setexparray{LWR@colbarspec}%
8669 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
8670 {\LWR@setexparray{LWR@colbarspec}%
8671 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
8672 }%
8673 \booltrue{LWR@validtablecol}%
8674 }

```

`\LWR@parsesemicoloncolumn`      Handles vertical rules.

```

8675 \newcommand*{\LWR@parsesemicoloncolumn}{%

```

Treat ; as a : column:

```

8676 \LWR@parsecoloncolumn%

```

Skip the following width token:

```

8677 \defaddtocounter{LWR@tablecolspecindex}{1}%
8678 }

```

## 74.9 Parsing ‘l’, ‘c’, or ‘r’ columns

`\LWR@parsenormalcolumn`    `{\langle thiscolumn \rangle}`

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

```

8679 \newcommand*{\LWR@parsenormalcolumn}[1]{%
8680 \defaddtocounter{LWR@tabletotalLaTeXcols}{1}%
8681 \defaddtocounter{LWR@tabletotalLaTeXcolsnext}{1}%

8682 \LWR@setexparray{LWR@tablecolspec}{\arabic{LWR@tabletotalLaTeXcols}}{#1}%

8683 \LWR@traceinfo{normal column \arabic{LWR@tabletotalLaTeXcols}: #1}%
8684 \LWR@setexparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}}%
8685 \LWR@setexparray{LWR@colbangspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}}%
8686 \LWR@setexparray{LWR@colbeforespec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}}%
8687 \LWR@setexparray{LWR@colafterspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}}%
8688 \LWR@setexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}}%
8689 \booltrue{LWR@validtablecol}%
8690 }

```

## 74.10 Parsing ‘p’, ‘m’, or ‘b’ columns

`\LWR@parsepcolumn` {*thiscolumn*} The width will be ignored.

```
8691 \newcommand*{\LWR@parsepcolumn}[1]{%
```

Converts to the given column type:

```
8692 \LWR@parsenormalcolumn{#1}%
```

Skips the following width token:

```
8693 \defaddtocounter{\LWR@tablecolspecindex}{1}%
8694 }
```

## 74.11 Parsing ‘w’ columns

`\LWR@parsewcolumn` The width will be ignored.

```
8695 \newcommand*{\LWR@parsewcolumn}{%
```

```
8696 \LWR@columnspeclookahead{1}%
```

```
8697 \expandafter\LWR@parsenormalcolumn\expandafter{\LWR@strresulttwo}%
```

Skips the following width and alignment tokens:

```
8698 \defaddtocounter{\LWR@tablecolspecindex}{2}%
8699 }
```

## 74.12 Parsing ‘\*’ columns

`\LWR@parsestarcolumn` Star columns should already have been expanded, so this should never be used.

```
8700 \newcommand*{\LWR@parsestarcolumn}{%
```

```
8701 \defaddtocounter{\LWR@tablecolspecindex}{2}%
```

```
8702 }
```

## 74.13 Parsing ‘D’ columns

From the `dcolumn` package.

`\LWR@parseDcolumn` {*thiscolumn*} The three parameters will be ignored.

```
8703 \newcommand*{\LWR@parseDcolumn}[1]{%
```

Converts to the given column type.

```
8704 \LWR@parsenormalcolumn{#1}%
```

Skips the following three parameters.

```
8705 \defaddtocounter{LWR@tablecolspecindex}{3}%
8706 }
```

## 74.14 Expanding the star column specifications

Ctrl LWR@starcount Internal count for duplicating star columns.

```
8707 \newcount\LWR@starcount
```

\LWR@expcolspec Temporary storage used to build the expanded column specifier.

```
8708 \newcommand*{\LWR@expcolspec}{}
```

Ctrl LWR@splitstarindex Indexes into the column specifiers.

```
8709 \newcounter{LWR@splitstarindex}
```

Ctrl LWR@splitstarcopies Number of copies.

```
8710 \newcounter{LWR@splitstarcopies}
```

\LWR@splitstarcontents Contents to duplicate.

```
8711 \newcommand*{\LWR@splitstarcontents}{}
```

\expandcolspec Expands \LWR@origcolspec for star columns.

```
8712 \newcommand*{\expandcolspec}{%
```

Find the position of any star token.

```
8713 \StrPosition{\LWR@origcolspec}{*}[\LWR@tempone]%
```

Expand until no stars are found:

```
8714 \whileboolexpr{ test {\ifnumgreater{\LWR@tempone}{0}}}%
8715 {%
```

Begin with any characters to the left of the star.

```
8716 \setcounter{LWR@splitstarindex}{\LWR@tempone}%
8717 \addtocounter{LWR@splitstarindex}{-1}%
8718 \StrLeft{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\LWR@expcolspec]%
```

Move past the star to remember its number of copies.

```
8719 \addtocounter{LWR@splitstarindex}{2}%
8720 \StrChar{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\LWR@tempone]%
8721 \setcounter{LWR@splitstarcopies}{\expandafter\@firstofone\LWR@tempone}%
```

Move past the number of copies and remember the contents.

```
8722 \addtocounter{LWR@splitstarindex}{1}%
8723 \StrChar{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\LWR@splitstarcontents]%
```

For each copy, append the contents.

```
8724 \ifnumgreater{\value{LWR@splitstarcopies}}{0}%
8725 {%
8726 \LWR@starcount=\value{LWR@splitstarcopies}%
8727 \loop
8728 \appto\LWR@expcolspec{%
```

(Remove the enclosing braces.)

```
8729 \expandafter\@firstofone\LWR@splitstarcontents%
8730 }%
8731 \advance \LWR@starcount -1
8732 \ifnum \LWR@starcount>0 \repeat
8733 }{%}
```

Remove any token to the left, and append the rightmost remaining tokens.

```
8734 \StrGobbleLeft{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\colspecremainder]%
8735 \appto{\LWR@expcolspec}{\colspecremainder}%
```

Remember the final result.

```
8736 \edef\LWR@origcolspec{\LWR@expcolspec}%
```

See if more stars exist.

```
8737 \StrPosition{\LWR@origcolspec}{*}{\LWR@tempone}%
8738 }%
8739 }
```

## 74.15 Parsing the column specifications

 **tabular baselines** HTML CSS cannot exactly match the  $\LaTeX$  concept of a baseline for a table row. Table 12 shows the  $\LaTeX$  results for various vertical-alignment choices, with the baseline of the first column drawn across all the columns for comparison. See the p column specification in table 13 for details.

Table 13 describes how each kind of column is converted to HTML.

```
\LWR@parsetablecols {\colspecs}
```

Scans the column specification left to right.

Builds `\LWR@tablecolspec` with the final specification, one  $\LaTeX$  column per entry. The final number of  $\LaTeX$  columns in each row is stored in `LWR@tabletotalLaTeXcols`, which

Table 12: Tabular baseline

|   |     |     |     |   |
|---|-----|-----|-----|---|
| l | p   | m   | b   | r |
|   |     |     | bot |   |
|   |     | mid | bot |   |
| l | par | mid | bot | r |
|   | par | mid |     |   |
|   | par |     |     |   |

Table 13: Tabular HTML column conversions

- l, r, c:** Converted to table cells without paragraph tags.  
Uses `css vertical-align:middle` so that top or bottom-aligned cells may go above or below this cell.
- p:** Converted to table cells with paragraph tags. Ref: Table 12,  $\text{\LaTeX}$  places the top line of a parbox aligned with the rest of the text line, so `css vertical-align:bottom` is used to have the HTML result appear with the paragraph extending below the L, R, C cells at the middle, if possible. This may be confusing as a P cell may not top-align with an L,R,C cell in the HTML conversion, especially in the presence of a B cell, and two P cells side-by-side will be aligned at the bottom instead of the top. Some adjustment of the css may be desired, changing `td.tdp`, `td.tdP`, `td.tdprule`, and `td.tdPrule` to `vertical-align: middle`. Another possibility is to change L,R,C, and P to `vertical-align: top` and not worry about the alignment of B and M cells or trying to approximate  $\text{\LaTeX}$  baselines.
- m:** With paragraph tags, `css vertical-align:middle`.
- b:** With paragraph tags, `css vertical-align: top` so that the bottom of the text is closest to the middle of the text line.
- P, M, B:** Horizontally-centered versions.
- S:** Converted to 'r'. Ignores optional argument. From the `siunitx` package.
- D:** Converted to 'c'. From the `dcolumn` package.
- @, !, >, <:** One each, in that order.
- |:** Vertical rule.
- Unknown:** Converted to 'l'.
- \newcolumn:** Currently treated as unknown.

is the number of & and \\ in each line, but which does not include @, !, <, > specifications in the count.

```
8740 \newcommand*\LWR@parsetablecols}[1]{%
8741 \LWR@traceinfo{\LWR@parsetablecols}%
```

Remember the original supplied column spec:

```
8742 \renewcommand*\LWR@origcolspec}{#1}%
```

Remove spaces:

```
8743 \expandarg%
8744 \StrSubstitute{\LWR@origcolspec}{ }{ }[\LWR@origcolspec]%
```

Expand any star columns:

```
8745 \expandcolspec%
```

The parsed column spec data array, LWR@tablecolspec, will be overwritten with new values.

Total number of columns found so far. Also pre-initialize the first several columns of specs:

```
8746 \defcounter{\LWR@tabletotalLaTeXcols}{0}%
8747 \defcounter{\LWR@tabletotalLaTeXcolsnext}{1}%
8748 \LWR@setexparray{\LWR@colatspec}{leftedge}{}%
8749 \LWR@setexparray{\LWR@colatspec}{1}{}%
8750 \LWR@setexparray{\LWR@colatspec}{2}{}%
8751 \LWR@setexparray{\LWR@colatspec}{3}{}%
8752 \LWR@setexparray{\LWR@colbangspec}{leftedge}{}%
8753 \LWR@setexparray{\LWR@colbangspec}{1}{}%
8754 \LWR@setexparray{\LWR@colbangspec}{2}{}%
8755 \LWR@setexparray{\LWR@colbangspec}{3}{}%
8756 \LWR@setexparray{\LWR@colbeforespec}{1}{}%
8757 \LWR@setexparray{\LWR@colbeforespec}{2}{}%
8758 \LWR@setexparray{\LWR@colbeforespec}{3}{}%
8759 \LWR@setexparray{\LWR@colafterspec}{1}{}%
8760 \LWR@setexparray{\LWR@colafterspec}{2}{}%
8761 \LWR@setexparray{\LWR@colafterspec}{3}{}%
8762 \LWR@setexparray{\LWR@colbarspec}{leftedge}{}%
8763 \LWR@setexparray{\LWR@colbarspec}{1}{}%
8764 \LWR@setexparray{\LWR@colbarspec}{2}{}%
8765 \LWR@setexparray{\LWR@colbarspec}{3}{}%
```

Starting at the first column specification:

```
8766 \defcounter{\LWR@tablecolspecindex}{1}%
```

Place the colspecs string length into \LWR@strresult, and remember the number of characters in the column specification:

```
8767 \expandarg%
8768 \StrLen{\LWR@origcolspec}[\LWR@strresult]%
```



```

8769 \fullexpandarg%
8770 \LWR@traceinfo{original column spec length: \LWR@strresult}%
8771 \defcounter{LWR@tablecolspecwidth}{\LWR@strresult}%

```

Haven't seen any optional arguments so far

```

8772 \boolfalse{LWR@opttablecol}%

```

Scan through the column specifications:

```

8773 \whileboolexpr{%
8774 not test{%
8775 \ifnumcomp{\value{LWR@tablecolspecindex}}{>}%
8776 {\value{LWR@tablecolspecwidth}}%
8777 }%
8778 }%
8779 {%

```

Place the next single-character column type into \LWR@strresult:

```

8780 \expandarg%
8781 \StrChar{\LWR@origcolspec}{\arabic{LWR@tablecolspecindex}}[\LWR@strresult]%
8782 \LWR@traceinfo{position \arabic{LWR@tablecolspecindex}: \LWR@strresult}%
8783 \fullexpandarg%

```

Not yet found a valid column type:

```

8784 \boolfalse{LWR@validtablecol}%

```

Skip over any optional arguments, such as siunitx S column:

```

8785 \IfStrEq{\LWR@strresult}{\LWR@booltrue{LWR@opttablecol}}{%

```

Throw away anything found inside the optional argument:

```

8786 \ifbool{LWR@opttablecol}%
8787 {}% inside an optional argument
8788 {}% not an optional tabular argument

```

Not inside an optional argument, so consider the column type:

```

8789 \IfStrEq{\LWR@strresult}{l}{\LWR@parsenormalcolumn{l}}{%
8790 \IfStrEq{\LWR@strresult}{c}{\LWR@parsenormalcolumn{c}}{%
8791 \IfStrEq{\LWR@strresult}{r}{\LWR@parsenormalcolumn{r}}{%
8792 \IfStrEq{\LWR@strresult}{L}{\LWR@parsenormalcolumn{L}}{%
8793 \IfStrEq{\LWR@strresult}{C}{\LWR@parsenormalcolumn{C}}{%
8794 \IfStrEq{\LWR@strresult}{R}{\LWR@parsenormalcolumn{R}}{%
8795 \IfStrEq{\LWR@strresult}{J}{\LWR@parsenormalcolumn{J}}{%

8796 \IfStrEq{\LWR@strresult}{S}{\LWR@parsenormalcolumn{S}}{%
8797 \IfStrEq{\LWR@strresult}{s}{\LWR@parsenormalcolumn{s}}{%

8798 \IfStrEq{\LWR@strresult}{\detokenize{@}}{\LWR@parseatcolumn}{}%
8799 \IfStrEq{\LWR@strresult}{!}{\LWR@parsebangcolumn}{}%

```

```

8800 \IfStrEq{\LWR@strresult}{>}{\LWR@parsebeforecolumn}{}%
8801 \IfStrEq{\LWR@strresult}{<}{\LWR@parseaftercolumn}{}%
8802 \IfStrEq{\LWR@strresult}{|}{\LWR@parsebarcolumn}{}%
8803 \IfStrEq{\LWR@strresult}{:}{\LWR@parsecoloncolumn}{}%
8804 \IfStrEq{\LWR@strresult}{;}{\LWR@parsesemicoloncolumn}{}%

8805 \IfStrEq{\LWR@strresult}{p}{\LWR@parsepcolumn{p}}{%
8806 \IfStrEq{\LWR@strresult}{m}{\LWR@parsepcolumn{m}}{%
8807 \IfStrEq{\LWR@strresult}{b}{\LWR@parsepcolumn{b}}{%

8808 \IfStrEq{\LWR@strresult}{w}{\LWR@parsewcolumn}{}%
8809 \IfStrEq{\LWR@strresult}{W}{\LWR@parsewcolumn}{}%

```

A star column:

```

8810 \IfStrEq{\LWR@strresult}{*}{\LWR@parsestarcolumn}{}%

```

From the `dcolumn` package:

```

8811 \IfStrEq{\LWR@strresult}{D}{\LWR@parseDcolumn{c}}{%

```

From the `tabularx` package. X column has no parameter, but will be given paragraph tags.

```

8812 \IfStrEq{\LWR@strresult}{X}{\LWR@parsenormalcolumn{X}}{%

```

---

Many people define centered versions “P”, “M”, and “B”:

```

\newcolumnntype{P}[1]{>{\centering\arraybackslash}p{#1}}

```

---

```

8813 \IfStrEq{\LWR@strresult}{P}{\LWR@parsepcolumn{P}}{%
8814 \IfStrEq{\LWR@strresult}{M}{\LWR@parsepcolumn{M}}{%
8815 \IfStrEq{\LWR@strresult}{B}{\LWR@parsepcolumn{B}}{%

```

If this column was an invalid column type, convert it to an l column:

```

8816 \ifbool{\LWR@validtablecol}{%
8817 \LWR@traceinfo{invalid column type: \LWR@strresult}%
8818 \LWR@parsenormalcolumn{l}%
8819 }%
8820 }% not an optional column argument

```

If read the closing bracket, no longer inside the optional argument:

```

8821 \IfStrEq{\LWR@strresult}{] }{\boolfalse{\LWR@opttablecol}}{%

```

Move to the next character:

```

8822 \defaddtocounter{\LWR@tablecolspecindex}{1}%
8823 }% while do
8824 }%

```

## 74.16 colortbl and xcolor tabular color support

These macros provide a minimal emulation of some `colortbl` macros which might appear between table cells. If `colortbl` is loaded, these macros will be replaced with functional versions.

For each of the HTML colors below, the text for the HTML color is set if requested, but the macro is empty if none has been set.

`\rownum` Reserve a counter register.

```
8825 \ifundefined{rownum}{\newcount\rownum}{}
```

`\@rowcolors` Emulated in case `xcolor` is not used.

```
8826 \newcommand*{\@rowcolors}{}{}
```

`\@rowc@lors` Emulated in case `xcolor` is not used.

```
8827 \newcommand*{\@rowc@lors}{}{}
```

`\LWR@xcolorrowHTMLcolor` Emulated `xcolor` row color.

```
8828 \newcommand*{\LWR@xcolorrowHTMLcolor}{}{}
```

`\LWR@columnHTMLcolor` HTMLstyle code for the column color.

```
8829 \def\LWR@columnHTMLcolor{}
```

`\LWR@rowHTMLcolor` HTMLstyle code for the row color.

```
8830 \def\LWR@rowHTMLcolor{}
```

`\LWR@cellHTMLcolor` HTMLstyle code for the cell color.

```
8831 \def\LWR@cellHTMLcolor{}
```

`\LWR@ruleHTMLcolor` HTMLstyle code for the rule color.

```
8832 \newcommand*{\LWR@ruleHTMLcolor}{}{}
```

`\rowcolor` [*model*] {*color*} [*left overhang*] [*right overhang*] Print version. The HTML version is in `lwarp-colortbl`. Used before starting a tabular data cell, thus `\LWR@getmynexttoken`.

```
8833 \newcommand*{\rowcolor}{\LWR@getmynexttoken}%
```

`\arrayrulecolor` [*model*] {*color*}

`\arrayrulecolornexttoken` [*<model>*] {<color>}

Print versions for use outside and inside a tabular:

```
8834 \newcommand{\arrayrulecolor}[2][named]{}
8835 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}
```

`\doublerulesepcolor` [*<model>*] {<color>}

`\doublerulesepcolornexttoken` [*<model>*] {<color>}

Print versions for use inside and outside a tabular:

```
8836 \newcommand{\doublerulesepcolor}[2][named]{}
8837 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
```

## 74.17 Starting a new row

`\LWR@maybenewtablerow` If have not yet started a new table row, begin one now. Creates a new row tag, adding a class for hline or tbrule if necessary.

```
8838 \newcommand*{\LWR@maybenewtablerow}
8839 {%
8840 \ifbool{\LWR@startedrow}%
8841 {}% started the row
8842 {}% not started the row
```

Remember that now have started the row:

```
8843 \booltrue{\LWR@startedrow}%
```

Create the row tag, with a class if necessary.

```
8844 \booltrue{\LWR@intabularmetadata}%
8845 \ifboolexpr{%
8846 test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
8847 test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}}%
8848 }%
8849 {%
8850 \LWR@htmltag{tr class=\textquotedbl{}hline\textquotedbl }%
8851 \LWR@orignewline%
8852 }%
8853 {% not doing hline
8854 \ifbool{\LWR@doingtbrule}%
8855 {%
8856 \ifdefined{\LWR@ruleHTMLcolor}{%
8857 \LWR@htmltag{tr class=\textquotedbl{}tbrule\textquotedbl}%
8858 }{%
8859 \LWR@htmltag{%
8860 tr class=\textquotedbl{}tbrule\textquotedbl\ % space
8861 style=\textquotedbl{}border-top: 1px solid % space
8862 \LWR@origpound\LWR@ruleHTMLcolor \textquotedbl}%
8863 }
```

```

8863 }%
8864 }%
8865 \LWR@orignewline%
8866 }%
8867 {\LWR@htmltag{tr}\LWR@orignewline}%
8868 }% end of not doing hline
8869 }% end of not started the row
8870 }

```

## 74.18 Printing vertical bar tags

`\LWR@printbartag` {<*index*>}

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```

8871 \newcommand*{\LWR@printbartag}[1]{%
8872 \LWR@traceinfo{\LWR@printbartag !#1!}%
8873 \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}{%
8874 }% muting or empty
8875 {% not muting
8876 \edef\LWR@tempone{\LWR@getexparray{\LWR@colbarspec}{#1}}%
8877 \ifdefempty{\LWR@tempone}{\LWR@tempone}%
8878 }% not muting
8879 \LWR@traceinfo{\LWR@printbartag done}%
8880 }

```

## 74.19 Printing @ or ! tags

`\LWR@printatbang` {<*at — or — bang*>} {<*index*>}

```

8881 \newcommand*{\LWR@printatbang}[2]{%

```

Fetch the column at or bang spec:

```

8882 \xdef\LWR@atbangspec{\LWR@getexparray{\LWR@col#1spec}{#2}}%
8883 \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%

```

Only generate if is not empty;

```

8884 \ifdefempty{\LWR@atbangspec}%
8885 {%
8886 {% not empty
8887 \LWR@htmltag{%
8888 td class=\textquotedbl{}td#1%
8889 \LWR@subaddcmidruletrim{}%
8890 \LWR@printbartag{#2}%
8891 \textquotedbl{}%
8892 \LWR@tdstartstyles%
8893 \LWR@addcmidrulewidth%
8894 \LWR@addcdashline%
8895 \LWR@addtabularrulecolors%

```

```

8896 \LWR@tdendstyles%
8897 }%

```

Create an empty cell if muting for the \bottomrule:

```

8898 \ifbool{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
8899 {}%
8900 {\LWR@atbangspec}%
8901 %
8902 \LWR@htmltag{/td}\LWR@orignewline%
8903 \global\booltrue{LWR@tabularcelladded}%
8904 }% not empty
8905 }%

```

\LWR@addleftmostbartag

```

8906 \newcommand*{\LWR@addleftmostbartag}{%
8907 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{1}{%
8908 \LWR@printbartag{leftedge}%
8909 }{}%
8910 }

```

\LWR@tabularleftedge

```

8911 \newcommand*{\LWR@tabularleftedge}{%
8912 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{1}%
8913 {%
8914 \LWR@printatbang{at}{leftedge}%
8915 \LWR@printatbang{bang}{leftedge}%
8916 }% left edge
8917 {}% not left edge
8918 }

```

## 74.20 Data opening tag

\LWR@thiscolspec Temporary storage.

```

8919 \newcommand*{\LWR@thiscolspec}{}

```

\LWR@tabledatasinglecolumn tag Print a table data opening tag with style for alignment and color.

```

8920 \newcommand*{\LWR@tabledatasinglecolumn tag}{%
8921 {%
8922 \LWR@traceinfo{LWR@tabledatasinglecolumn tag}%
8923 \LWR@maybenewtablerow%

```

Don't start a new paragraph tag if have already started one:

```

8924 \ifbool{LWR@intabularmetadata}%
8925 {%

```

If have found the end of tabular command, do not create the next data cell:

```
8926 \ifbool{LWR@exitingtabular}{}%
8927 {% not exiting tabular
```

Print the @ and ! contents before first column:

```
8928 \LWR@tabularleftedge%
```

Fetch the current column's alignment character into \LWR@strresult:

```
8929 \xdef\LWR@strresult{%
8930 \LWR@getexparray{LWR@tablecolspec}{\arabic{LWR@tableLaTeXcolindex}}%
8931 }%
```

Print the start of a new table data cell:

```
8932 \LWR@traceinfo{LWR@tabledatasinglecolumntag: about to print td tag}%
8933 \LWR@htmltag{%
8934 td class=\textquotedbl{}td%
```

Append this column's spec:

```
8935 \LWR@strresult%
```

If this column has a cmidrule, add “rule” to the end of the HTML class tag. Also add vertical bar tags.

```
8936 \LWR@addcmidruletrim%
8937 \LWR@addleftmostbartag%
8938 \LWR@printbartag{\arabic{LWR@tableLaTeXcolindex}}%
8939 \textquotedbl{}%
```

Add styles for rules, alignment:

```
8940 \LWR@tdstartstyles%
8941 \LWR@addcmidrulewidth%
8942 \LWR@addcdashline%

8943 \xdef\LWR@thiscolspec{%
8944 \LWR@getexparray{LWR@tablecolspec}%
8945 {\arabic{LWR@tableLaTeXcolindex}}%
8946 }%
8947 \LWR@addformatwpalignment{\LWR@thiscolspec}%
```

Add styles for cell and rule colors:

```
8948 \LWR@addtabulararrowcolor%
8949 \LWR@addtabularrulecolors%

8950 \LWR@tdendstyles%
8951 }% HTML td
8952 \LWR@traceinfo{LWR@tabledatasinglecolumntag: done printing td tag}%
```

If this is a p, m, b, or X column, allow paragraphs:

```

8953 \ifboolexpr{%
8954 test{ \ifdefstring{\LWR@strresult}{p} } or
8955 test{ \ifdefstring{\LWR@strresult}{m} } or
8956 test{ \ifdefstring{\LWR@strresult}{b} } or
8957 test{ \ifdefstring{\LWR@strresult}{P} } or
8958 test{ \ifdefstring{\LWR@strresult}{M} } or
8959 test{ \ifdefstring{\LWR@strresult}{B} } or
8960 test{ \ifdefstring{\LWR@strresult}{X} }
8961 }%
8962 {% allow pars
8963 \LWR@traceinfo{\LWR@tabledatasinglecolumn tag: about to LWR@startpars}%
8964 \booltrue{\LWR@tableparcell}%
8965 \LWR@startpars%
8966 \LWR@traceinfo{\LWR@tabledatasinglecolumn tag: done with LWR@startpars}%
8967 }% allow pars
8968 }% no pars

```

Print the > contents unless muted for the \bottomrule:

```

8969 \ifboolexpr{\bool{\LWR@tabularmutemods} or \bool{\LWR@emptyatbang}}%
8970 {%
8971 {%
8972 \LWR@gettexpparray{\LWR@colbefore spec}{\arabic{\LWR@tableLaTeXcolindex}}%
8973 }%
8974 \boolfalse{\LWR@intabularmetadata}%
8975 }% not exiting tabular
8976 }{}% in tabular metadata
8977 \LWR@traceinfo{\LWR@tabledatasinglecolumn tag: done}%
8978 }%

```

## 74.21 Midrules

**LWR@midrules** LWR@midrules is a data array (section 42) of columns each containing a non-zero width if a midrule should be created for this column.

**LWR@trimlrules** LWR@trimlrules is a data array (section 42) of columns containing l if a midrule should be left trimmed for each column.

**LWR@trimrrules** LWR@trimrrules is a data array (section 42) of columns containing r if a midrule should be right trimmed for each column.

**LWR@cdashlines** LWR@cdashlines is a data array (section 42) of columns each containing a Y if an `arydshln` package "cdashed line" should be created for this column.

**Len \LWR@heavyrulewidth** The default width of the rule.

```

8979 \newlength{\LWR@heavyrulewidth}
8980 \setlength{\LWR@heavyrulewidth}{.08em}

```

**Len \LWR@lightrulewidth** The default width of the rule.

```

8981 \newlength{\LWR@lightrulewidth}

```



```
8982 \setlength{\LWR@lightrulewidth}{.05em}
```

Len \LWR@cmidrulewidth The default width of the rule.

```
8983 \newlength{\LWR@cmidrulewidth}
8984 \setlength{\LWR@cmidrulewidth}{.03em}
```

Len \LWR@thiscmidrulewidth The width of the next rule, defaulting to \LWR@cmidrulewidth.

If not \LWR@cmidrulewidth, a style will be used to generate the custom width.

Assigned from the LWR@midrules array.

```
8985 \newlength{\LWR@thiscmidrulewidth}
8986 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}
```

\LWR@clearmidrules Start new midrules. Called at beginning of tabular and also at \.

Clears all LWR@midrules and LWR@trimrules markers for this line.

```
8987 \newcommand*{\LWR@clearmidrules}
8988 {%
8989 \defcounter{LWR@midrulecounter}{1}%
8990 \whileboolexpr{%
8991 not test{%
8992 \ifnumcomp{\value{LWR@midrulecounter}}{>}%
8993 {\value{LWR@tablettotalLaTeXcols}}%
8994 }%
8995 }%
8996 {%
8997 \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{0pt}%
8998 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
8999 \LWR@setexparray{LWR@trimlrules}{\arabic{LWR@midrulecounter}}{}%
9000 \LWR@setexparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{}%
9001 \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
9002 \defaddtocounter{LWR@midrulecounter}{1}%
9003 }%
9004 }
```

\LWR@subcmidrule {\langle width \rangle} {\langle trim \rangle} {\langle leftcolumn \rangle} {\langle rightcolumn \rangle}

Marks LWR@midrules data array elements to be non-zero widths from left to right columns. Also marks trimming for the L and/or R columns.

LWR@doingcmidrule is set to force an empty row at the end of the tabular to create the rule.

```
9005 \newcommand*{\LWR@subcmidrule}[4]{%
9006 \defcounter{LWR@midrulecounter}{#3}%
9007 \whileboolexpr{%
9008 not test {%
9009 \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}%
9010 }%
9011 }%
```

```

9012 {%
9013 \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
9014 \defaddtocounter{LWR@midrulecounter}{1}%
9015 }% whiledo
9016 \IfSubStr{#2}{l}{\LWR@setexparray{LWR@trimlrules}{#3}{l}}{}%
9017 \IfSubStr{#2}{r}{\LWR@setexparray{LWR@trimrrules}{#4}{r}}{}%
9018 \booltrue{LWR@doingcmidrule}%
9019 }

```

`\LWR@docmidrule` [*<width>*] (*<trim>*) {*<leftcolumn-rightcolumn>*}

Marks LWR@midrules array elements to be a non-zero width from left to right columns. Also marks trimming for the L and/or R columns.

```

9020 \NewDocumentCommand{\LWR@docmidrule}
9021 {O{\LWR@cmidrulewidth} D{}} >\SplitArgument{1}{-}m}
9022 {\LWR@subcmidrule{#1}{#2}#3}

```

`\LWR@subcdashline` {*<leftcolumn>*} {*<rightcolumn>*}

Marks LWR@cdashlines data array elements to be Y from left to right columns.

LWR@doingcmidrule is set to force an empty row at the end of the tabular to create the rule.

```

9023 \newcommand*{\LWR@subcdashline}[2]{%
9024 \defcounter{LWR@midrulecounter}{#1}%
9025 \whileboolexpr{%
9026 not test {%
9027 \ifnumcomp{\value{LWR@midrulecounter}}{>}{#2}%
9028 }%
9029 }%
9030 {%
9031 \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{Y}%
9032 \defaddtocounter{LWR@midrulecounter}{1}%
9033 }% whiledo
9034 \booltrue{LWR@doingcmidrule}%
9035 }

```

`\LWR@docdashline` {*<leftcolumn-rightcolumn>*}

Marks LWR@cdashlines data array elements to be Y from left to right columns.

```

9036 \NewDocumentCommand{\LWR@docdashline}
9037 {>\SplitArgument{1}{-}m}%
9038 {%
9039 \LWR@subcdashline#1%
9040 }

```

`\LWR@tdstartstyles` Begins possibly adding a table data cell style.

```

9041 \newcommand*{\LWR@tdstartstyles}{\boolfalse{LWR@tdhavecellstyle}}

```

`\LWR@tdaddstyle` Starts adding a table data cell style.

```

9042 \newcommand*{\LWR@tdaddstyle}{%
9043 \ifbool{\LWR@tdhavecellstyle}%
9044 {; }%
9045 { style=\textquotedbl}%
9046 \booltrue{\LWR@tdhavecellstyle}%
9047 }
```

`\LWR@tdendstyles` Finishes possibly adding a table data cell style. Prints the closing quote.

```

9048 \newcommand*{\LWR@tdendstyles}{%
9049 \ifbool{\LWR@tdhavecellstyle}%
9050 {%
9051 \textquotedbl%
9052 \boolfalse{\LWR@tdhavecellstyle}%
9053 }{}%
9054 }
```

`\LWR@subaddcmidruletrim` `{\lefttrim}` `{\righttrim}` Adds a `\cmidrule` with optional trim.

```

9055 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
9056 \setlength{\LWR@templengthone}{%
9057 \LWR@getexparray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9058 }%
9059 \ifdimcomp{\LWR@templengthone}{>}{0pt}%
9060 {%
```

Print the class with left and right trim letters appended:

```

9061 \LWR@origtilde tdrule#1#2%
```

Remember the width of the rule:

```

9062 \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
9063 }%
9064 {%
9065 \setlength{\LWR@thiscmidrulewidth}{0pt}%
9066 }%
9067 }
```

`\LWR@addcmidruletrim` Adds left or right trim to a `\cmidrule`.

```

9068 \newcommand*{\LWR@addcmidruletrim}{%
9069 \LWR@subaddcmidruletrim%
9070 {\LWR@getexparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9071 {\LWR@getexparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9072 }
```

`\LWR@addrulewidth` `{\thiswidth}` `{\defaultwidth}`

If not default width, add a custom style with width and color depending on `thiswidth`.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```
9073 \newcommand{\LWR@addrulewidth}[2]{%
```

Only add a custom width if thiswidth is different than the defaultwidth, or if a color is being used:

```
9074 \ifboolexpr{%
9075 test{\ifdimcomp{#1}{=}{0pt}} or
9076 (
9077 (test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP})
9078 and (test {\ifdefvoid{\LWR@ruleHTMLcolor}})
9079)
9080 }%
9081 {}% default width and color
9082 {% custom width and/or color
```

Ensure that the width is wide enough to display in the browser:

```
9083 \LWR@forceminwidth{#1}%
```

Begin adding another style:

```
9084 \LWR@tdaddstyle%
```

The style itself:

```
9085 border-top:\LWR@printlength{\LWR@atleastonept} solid % space
```

If default gray, the darkness of the color depends on the thickness of the rule:

```
9086 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9087 \ifdimcomp{#1}{<}{\LWR@lightrulewidth}%
9088 {\LWR@origpound{A0A0A0}}%
9089 {% lightrule or heavier
9090 \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}%
9091 {\LWR@origpound{808080}}%
9092 {black}%
9093 }% lightrule or heavier
9094 }{%
9095 \LWR@origpound\LWR@ruleHTMLcolor%
9096 }%
9097 }% custom width and/or color
9098 }
```

\LWR@addcmidrulewidth Adds a style for the rule width.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```
9099 \newcommand{\LWR@addcmidrulewidth}{%
9100 \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9101 }
```

`\LWR@addcdashline` Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9102 \newcommand{\LWR@addcdashline}{%
9103 \edef\LWR@tempone{%
9104 \LWR@getexparray{\LWR@cdashlines}{\arabic{\LWR@tableLaTeXcolindex}}%
9105 }%
9106 \ifdefstring{\LWR@tempone}{Y}{%
9107 \LWR@tdaddstyle%
9108 border-top: 1pt dashed %
9109 \ifdefvoid{\LWR@ruleHTMLcolor}%
9110 {black}%
9111 {\LWR@origpound\LWR@ruleHTMLcolor}%
9112 }{}%
9113 }
```

`\LWR@WPcell` `{\langle text-align\rangle}{\langle vertical-align\rangle}`

```

9114 \newcommand*\LWR@WPcell}[2]{%
9115 \LWR@tdaddstyle%
9116 \LWR@print@mbbox{text-align:#1}; \LWR@print@mbbox{vertical-align:#2}%
9117 }
```

`\LWR@addformatwpalignment` If `FormatWP`, adds a style for the alignment.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9118 \newcommand*\LWR@addformatwpalignment}[1]{%
9119 \ifbool{FormatWP}{%
9120 \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{}%
9121 \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{}%
9122 \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{}%
9123 \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{}%
9124 \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{}%
9125 \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{}%
9126 \IfSubStr{#1}{P}{\LWR@WPcell{center}{bottom}}{}%
9127 \IfSubStr{#1}{M}{\LWR@WPcell{center}{middle}}{}%
9128 \IfSubStr{#1}{B}{\LWR@WPcell{center}{top}}{}%
9129 }{}%
9130 }
```

## 74.22 Cell colors

`\LWR@addtabulararrowcolor` Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

9131 \newcommand*\LWR@addtabulararrowcolor{%
9132 \ifbool{\LWR@tabularmutemods}{}%
9133 \ifdefvoid{\LWR@rowHTMLcolor}%
9134 \ifdefvoid{\LWR@xcolorrowHTMLcolor}{%
9135 {% xcolor row color
9136 \LWR@tdaddstyle%
```

```

9137 background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
9138 }%
9139 }%
9140 {% explicit row color
9141 \LWR@tdaddstyle%
9142 background:\LWR@origpound\LWR@rowHTMLcolor%
9143 }%
9144 }%
9145 }

```

`\LWR@addtabularhrulecolor` Adds a cell's horizontal rule color style, if needed.

```

9146 \newcommand*{\LWR@addtabularhrulecolor}{%

```

If either form of horizontal rule is requested:

```

9147 \ifboolexpr{%
9148 test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
9149 test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}} or%
9150 bool{\LWR@doingtbrule}%
9151 }{%

```

If there is a no custom color:

```

9152 \ifdefvoid{\LWR@ruleHTMLcolor}%
9153 {%
9154 \ifnumcomp{\value{\LWR@hlines}}{>}{1}%
9155 {%
9156 \LWR@tdaddstyle%
9157 border-top: 4px double%
9158 }{% else
9159 \ifnumcomp{\value{\LWR@hdashedlines}}{>}{1}%
9160 {%
9161 \LWR@tdaddstyle%
9162 border-top: 2px dashed%
9163 }{% else
9164 \ifnumcomp{\value{\LWR@hdashedlines}}{=}{1}%
9165 {%
9166 \LWR@tdaddstyle%
9167 border-top: 1px dashed%
9168 }{}}}%

```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```

9169 }%

```

If there is a custom color:

```

9170 {%
9171 \ifnumcomp{\value{\LWR@hlines}}{>}{1}%
9172 {%
9173 \LWR@tdaddstyle%
9174 border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
9175 }{% else

```

```

9176 \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9177 {%
9178 \LWR@tdaddstyle%
9179 border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9180 }{% else
9181 \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9182 {%
9183 \LWR@tdaddstyle%
9184 border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9185 }{% else
9186 \LWR@tdaddstyle%
9187 border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
9188 }}}}
9189 }%
9190 }{}%
9191 }

```

`\LWR@addtabularrulecolors` Adds a cell's rule color styles, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

9192 \newcommand*{\LWR@addtabularrulecolors}{%

```

Custom horizontal rule color:

```

9193 \LWR@addtabularhrulecolor%

```

No vertical rules if finishing the tabular with a row of empty cells:

```

9194 \ifbool{LWR@tabularmutemods}{}{%

```

If at the leftmost cell, possibly add a leftmost vertical rule:

```

9195 \ifnumequal{\value{LWR@tableLaTeXcolindex}}{1}{%

```

Fetch the left edge's vertical bar specification:

```

9196 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%

```

Add a custom style if a vertical bar was requested:

```

9197 \ifdefstring{\LWR@tempone}{tvertbarl}{%
9198 \LWR@tdaddstyle%
9199 border-left: 1px solid % space
9200 \LWR@vertruleHTMLcolor%
9201 }{}%
9202 \ifdefstring{\LWR@tempone}{tvertbardouble}{%
9203 \LWR@tdaddstyle%
9204 border-left: 4px double % space
9205 \LWR@vertruleHTMLcolor%
9206 }{}%
9207 \ifdefstring{\LWR@tempone}{tvertbardash}{%
9208 \LWR@tdaddstyle%
9209 border-left: 1px dashed % space

```

```

9210 \LWR@vertruleHTMLcolor%
9211 }{}%
9212 \ifdefstring{\LWR@tempone}{tvertbarldoubledash}{%
9213 \LWR@tdaddstyle%
9214 border-left: 2px dashed % space
9215 \LWR@vertruleHTMLcolor%
9216 }{}%
9217 }{}%
```

Possibly add a right vertical rule for this cell:

```

9218 \edef\LWR@tempone{%
9219 \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tableLaTeXcolindex}}%
9220 }%
9221 \ifdefstring{\LWR@tempone}{tvertbarr}{%
```

Add a custom style if a vertical bar was requested:

```

9222 \LWR@tdaddstyle%
9223 border-right: 1px solid \LWR@vertruleHTMLcolor%
9224 }{}%
9225 \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
9226 \LWR@tdaddstyle%
9227 border-right: 4px double \LWR@vertruleHTMLcolor%
9228 }{}%
9229 \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
9230 \LWR@tdaddstyle%
9231 border-right: 1px dashed \LWR@vertruleHTMLcolor%
9232 }{}%
9233 \ifdefstring{\LWR@tempone}{tvertbarrdoubledash}{%
9234 \LWR@tdaddstyle%
9235 border-right: 2px dashed \LWR@vertruleHTMLcolor%
9236 }{}%
9237 }%
9238 }
```

`\LWR@subaddtabularcellcolor` {*HTML color*}

```

9239 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
9240 \LWR@htmltag{div class=\textquotedbl{}cellcolor\textquotedbl\ % space
9241 style=\textquotedbl{}%
9242 background:\LWR@origpound{}}{#1 %
9243 \textquotedbl\ %
9244 }% space
9245 \defaddtocounter{LWR@cellcolordepth}{1}%
9246 }
```

`\LWR@addtabularcellcolor` Adds a cell color style, if needed.

```

9247 \newcommand*{\LWR@addtabularcellcolor}{%
9248 \ifdefvoid{\LWR@cellHTMLcolor}%
9249 {%
9250 \ifdefvoid{\LWR@rowHTMLcolor}%
9251 {%
```



```

9252 \ifdefvoid{\LWR@xcolorrowHTMLcolor}%
9253 {%
9254 \ifdefvoid{\LWR@columnHTMLcolor}%
9255 {}%
9256 {\LWR@subadddtabularcellcolor{\LWR@columnHTMLcolor}}%
9257 }%
9258 {\LWR@subadddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}%
9259 }%
9260 {\LWR@subadddtabularcellcolor{\LWR@rowHTMLcolor}}%
9261 }%
9262 {\LWR@subadddtabularcellcolor{\LWR@cellHTMLcolor}}%
9263 }

```

## 74.23 Multicolumns

### 74.23.1 Parsing multicolumns

`\LWR@printmccoltype` `{<colspec>}` Print any valid column type found. Does not print @, !, >, or < columns or their associated tokens.

This is printed as part of the table data tag's class.

```

9264 \newcommand*{\LWR@printmccoltype}[1]{%
9265 \LWR@traceinfo{lwr@printmccoltype -#1-}%

```

Get one token of the column spec:

```

9266 \StrChar{#1}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%

```

Add to the HTML tag depending on which column type is found:

```

9267 \IfStrEq{\LWR@strresult}{l}{l}{}%
9268 \IfStrEq{\LWR@strresult}{c}{c}{}%
9269 \IfStrEq{\LWR@strresult}{r}{r}{}%
9270 \IfStrEq{\LWR@strresult}{p}{p}{}%
9271 \IfStrEq{\LWR@strresult}{m}{m}{}%
9272 \IfStrEq{\LWR@strresult}{b}{b}{}%
9273 \IfStrEq{\LWR@strresult}{P}{P}{}%
9274 \IfStrEq{\LWR@strresult}{M}{M}{}%
9275 \IfStrEq{\LWR@strresult}{B}{B}{}%

9276 \IfStrEq{\LWR@strresult}{w}{w}{}%
9277 \IfStrEq{\LWR@strresult}{W}{W}{}%

9278 \IfStrEq{\LWR@strresult}{S}{c}{}%
9279 \IfStrEq{\LWR@strresult}{s}{c}{}%

9280 \IfStrEq{\LWR@strresult}{X}{p}{}%

9281 \IfStrEq{\LWR@strresult}{|}{|}%
9282 {%
9283 \ifbool{\LWR@mcolvertbodybaronleft}%

```

```

9284 {\defaddtocounter{LWR@mcolvertbarsl}{1}}% left edge
9285 {\defaddtocounter{LWR@mcolvertbarsr}{1}}% not left edge
9286 }%
9287 {%
9288 \IfStrEq{\LWR@strresult}{:}%
9289 {%
9290 \ifbool{LWR@mcolvertbaronleft}%
9291 {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
9292 {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
9293 }%
9294 {%
9295 \IfStrEq{\LWR@strresult}{;}%
9296 {%
9297 \ifbool{LWR@mcolvertbaronleft}%
9298 {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
9299 {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
9300 }%
9301 {\boolfalse{LWR@mcolvertbaronleft}}%
9302 }%
9303 }%
9304 \LWR@traceinfo{lw@printmccoltype done}%
9305 }

```

`\LWR@multicolpartext`  $\langle num\ parameters \rangle$  Print the data with paragraph tags, advance to bypass the given number of parameters.

```

9306 \newcommand*{\LWR@multicolpartext}[1]{%
9307 \LWR@startpars%
9308 \LWR@multicoltext%
9309 \defaddtocounter{LWR@tablemulticolspos}{#1}%
9310 \LWR@stoppars%
9311 }

```

`\LWR@multicolother`  $\langle colspec \rangle$  For @, !, >, <, print the next token without paragraph tags:

```

9312 \newcommand*{\LWR@multicolother}[1]{%
9313 \defaddtocounter{LWR@tablemulticolspos}{1}%
9314 \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9315 \LWR@strresult%

```

A valid column data type was found:

```

9316 \booltrue{LWR@validtablecol}%
9317 }

```

`\LWR@multicolskip` Nothing to print for this column type.

```

9318 \newcommand*{\LWR@multicolskip}{%

```

A valid column data type was found:

```

9319 \booltrue{LWR@validtablecol}%
9320 }

```

\LWR@printmccoldata {<colspec>} Print the data for any valid column type found.

```
9321 \newcommand*{\LWR@printmccoldata}[1]{%
9322 \LWR@traceinfo{lwarp@printmccoldata -#1}%
```

Not yet found a valid column type:

```
9323 \boolfalse\LWR@validtablecol%
```

Get one token of the column spec, into a local copy in case nested.

```
9324 \StrChar{#1}{\arabic\LWR@tablemulticolspos}}[\LWR@strresult]%
9325 \edef\LWR@printmccoldataatoken{\LWR@strresult}%
```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```
9326 \IfStrEq{\LWR@printmccoldataatoken}{l}{\LWR@multicoltext}{}%
9327 \IfStrEq{\LWR@printmccoldataatoken}{c}{\LWR@multicoltext}{}%
9328 \IfStrEq{\LWR@printmccoldataatoken}{r}{\LWR@multicoltext}{}%
9329 \IfStrEq{\LWR@printmccoldataatoken}{D}{%
9330 \defaddtocounter\LWR@tablemulticolspos}{3}% skip parameters
9331 \LWR@multicoltext%
9332 }{%}%

9333 \IfStrEq{\LWR@printmccoldataatoken}{p}{\LWR@multicolparttext{2}}{%
9334 \IfStrEq{\LWR@printmccoldataatoken}{m}{\LWR@multicolparttext{2}}{%
9335 \IfStrEq{\LWR@printmccoldataatoken}{b}{\LWR@multicolparttext{2}}{%
9336 \IfStrEq{\LWR@printmccoldataatoken}{P}{\LWR@multicolparttext{2}}{%
9337 \IfStrEq{\LWR@printmccoldataatoken}{M}{\LWR@multicolparttext{2}}{%
9338 \IfStrEq{\LWR@printmccoldataatoken}{B}{\LWR@multicolparttext{2}}{%

9339 \IfStrEq{\LWR@printmccoldataatoken}{w}{\LWR@multicolparttext{3}}{%
9340 \IfStrEq{\LWR@printmccoldataatoken}{W}{\LWR@multicolparttext{3}}{%

9341 \IfStrEq{\LWR@printmccoldataatoken}{S}{\LWR@multicoltext}{}%
9342 \IfStrEq{\LWR@printmccoldataatoken}{s}{\LWR@multicoltext}{}%

9343 \IfStrEq{\LWR@printmccoldataatoken}{X}{\LWR@multicolparttext{1}}{%
9344 \IfStrEq{\LWR@printmccoldataatoken}{|}{\LWR@multicolskip}{}%
9345 \IfStrEq{\LWR@printmccoldataatoken}{:}{\LWR@multicolskip}{}%
9346 \IfStrEq{\LWR@printmccoldataatoken}{;}{%
9347 \LWR@multicolskip%
9348 \defaddtocounter\LWR@tablemulticolspos}{1}% skip parameter
9349 }{%}%
9350 \IfStrEq{\LWR@printmccoldataatoken}{\detokenize@}{\LWR@multicolother{#1}}{%
9351 \IfStrEq{\LWR@printmccoldataatoken}{\detokenize!}{\LWR@multicolother{#1}}{%
9352 \IfStrEq{\LWR@printmccoldataatoken}{\detokenize>}{\LWR@multicolother{#1}}{%
9353 \IfStrEq{\LWR@printmccoldataatoken}{\detokenize<}{\LWR@multicolother{#1}}{%
```

If an invalid column type:

```
9354 \ifbool\LWR@validtablecol}{\LWR@multicoltext}{}%
```

Tracing:

```
9355 \LWR@traceinfo{lwr@printmccoldata done}%
9356 }
```

```
\parsemulticolumnalignment {\langle 1: colspec \rangle} {\langle 2: printresults \rangle}
```

Scan the multicolumn specification and execute the printfunction for each entry.

Note that the spec for a `p{spec}` column, or `@, >, <`, is a token list which will NOT match `l, c, r`, or `p`.

```
9357 \newcommand*{\LWR@parsemulticolumnalignment}[2]{%
9358 \defcounter{LWR@tablemulticolspos}{1}%
9359 \StrLen{#1}[\LWR@strresult]%
9360 \defcounter{LWR@tablemulticolswidth}{\LWR@strresult}%
```

Scan across the tokens in the column spec:

```
9361 \whileboolexpr{%
9362 not test {%
9363 \ifnumcomp{\value{LWR@tablemulticolspos}}{>}%
9364 {\value{LWR@tablemulticolswidth}}%
9365 }%
9366 }%
9367 {%
```

Execute the assigned print function for each token in the column spec:

```
9368 #2{#1}%
```

Move to the next token in the column spec:

```
9369 \defaddtcounter{LWR@tablemulticolspos}{1}%
9370 }%
9371 }
```

### 74.23.2 Multicolumn factored code

```
\LWR@addmulticolvertrulecolor
```

```
9372 \newcommand*{\LWR@addmulticolvertrulecolor}{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9373 \ifbool{LWR@tabularmutemods}{}{%
```

Left side:

```
9374 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{%
9375 \LWR@tdaddstyle%
9376 border-left: 1px solid \LWR@vertruleHTMLcolor%
9377 }{}%
```

```

9378 \ifnumcomp{\value{LWR@mcolvertbodybarsl}}{>}{1}{%
9379 \LWR@tdaddstyle%
9380 border-left: 4px double \LWR@vertruleHTMLcolor%
9381 }{}%
9382 \ifnumcomp{\value{LWR@mcolvertbodybarsldash}}{=}{1}{%
9383 \LWR@tdaddstyle%
9384 border-left: 1px dashed \LWR@vertruleHTMLcolor%
9385 }{}%
9386 \ifnumcomp{\value{LWR@mcolvertbodybarsldash}}{>}{1}{%
9387 \LWR@tdaddstyle%
9388 border-left: 2px dashed \LWR@vertruleHTMLcolor%
9389 }{}%

```

Right side:

```

9390 \ifnumcomp{\value{LWR@mcolvertbodybarsr}}{=}{1}{%
9391 \LWR@tdaddstyle%
9392 border-right: 1px solid \LWR@vertruleHTMLcolor%
9393 }{}%
9394 \ifnumcomp{\value{LWR@mcolvertbodybarsr}}{>}{1}{%
9395 \LWR@tdaddstyle%
9396 border-right: 4px double \LWR@vertruleHTMLcolor%
9397 }{}%
9398 \ifnumcomp{\value{LWR@mcolvertbodybarsrdash}}{=}{1}{%
9399 \LWR@tdaddstyle%
9400 border-right: 1px dashed \LWR@vertruleHTMLcolor%
9401 }{}%
9402 \ifnumcomp{\value{LWR@mcolvertbodybarsrdash}}{>}{1}{%
9403 \LWR@tdaddstyle%
9404 border-right: 2px dashed \LWR@vertruleHTMLcolor%
9405 }{}%
9406 }%
9407 }

```

```
9408 \newcommand{\LWR@multicoltext}{}

```

To find multicolumn right trim:

```
9409 \newcounter{LWR@lastmulticolumn}

```

```

\LWR@domulticolumn [\langle 1: vpos \rangle] [\langle 2: #rows \rangle] {\langle 3: numLaTeXcols \rangle} {\langle 4: numHTMLcols \rangle} {\langle 5: colspec \rangle} {\langle 6:
text \rangle}

```

```

9410 \NewDocumentCommand{\LWR@domulticolumn}{o o m m m}{%
9411 \LWR@traceinfo{\LWR@domulticolumn -#1- -#2- -#4- -#5-}%

```

Remember the text to be inserted, and remember that a valid column type was found:

```

9412 \renewcommand{\LWR@multicoltext}{%
9413 #6%
9414 \booltrue{LWR@validtablecol}%
9415 }%

```

Compute the rightmost column to be included. This is used to create the right trim.

```
9416 \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
9417 \defaddtocounter{LWR@lastmulticolumn}{#3}%
9418 \defaddtocounter{LWR@lastmulticolumn}{-1}%
```

Row processing:

```
9419 \LWR@maybenewtablerow%
```

Begin the opening table data tag:

```
9420 \LWR@htmltag{%
9421 td colspan=\textquotedbl#4\textquotedbl\ %

9422 \IfValueT{#2}{ % rows?
9423 rowspan=\textquotedbl#2\textquotedbl\ %
9424 }%

9425 class=\textquotedbl{}td%
```

Print the column type and vertical bars:

```
9426 \defcounter{LWR@mcolvertbarsl}{0}%
9427 \defcounter{LWR@mcolvertbarsr}{0}%
9428 \defcounter{LWR@mcolvertbarsldash}{0}%
9429 \defcounter{LWR@mcolvertbarsrdash}{0}%
9430 \booltrue{LWR@mcolvertbaronleft}%
9431 \LWR@parsemulticolumnalignment{#5}{\LWR@printmcoltype}%
```

If this column has a cmidrule, add “rule” to the end of the HTML class tag.

If this position had a “Y” then add “rule” for a horizontal rule:

```
9432 \LWR@subaddcmidruletrim%
9433 {%
9434 \LWR@getexparray{LWR@trimlrules}%
9435 {\arabic{LWR@tableLaTeXcolindex}}%
9436 }%
9437 {%
9438 \LWR@getexparray{LWR@trimrrules}%
9439 {\arabic{LWR@lastmulticolumn}}%
9440 }%
```

Also add vertical bar class.

```
9441 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{}%
9442 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{}%
9443 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{}%
9444 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{}%
9445 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{}%
9446 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{
9447 { tvertbarldoubledash}{}%
9448 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{ tvertbarrdash}{}%
```

```

9449 \ifnumcomp{\value{LWR@mclovertbarsrdash}}{>}{1}%
9450 { tvertbarrdoubledash}{}%

```

Close the class tag's opening quote:

```

9451 \textquotedbl{}%

9452 \LWR@tdstartstyle%

```

Style for vertical position:

```

9453 \IfValueT{#1}{% vpos?
9454 \ifstrequal{#1}{b}%
9455 {%
9456 \LWR@tdaddstyle%
9457 \LWR@print@mbbox{vertical-align:bottom}%
9458 }{}%
9459 \ifstrequal{#1}{t}%
9460 {%
9461 \LWR@tdaddstyle%
9462 \LWR@print@mbbox{vertical-align:top}%
9463 }{}%
9464 }% vpos?

```

Style for row colors:

```

9465 \LWR@addtabulararrowcolor%

```

Other styles:

```

9466 \LWR@addcmidrulewidth%
9467 \LWR@addcdashline%
9468 \LWR@addtabularhrulecolor%
9469 \LWR@addmulticolvertrulecolor%
9470 \LWR@addformatwpalignment{#5}%
9471 \LWR@tdendstyle%
9472]% end of the opening table data tag
9473 \boolfalse{LWR@intabularmetadata}%
9474 \LWR@parsemulticolumnalignment{#5}{\LWR@printmccoldata}%
9475 }

```

### 74.23.3 Multicolumn

`\LWR@htmlmulticolumn {<numcols>} {<alignment>} {<text>}`

```

9476 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}%
9477 {%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```

9478 \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}%

```

Create the multicolumn tag:

```
9479 \LWR@domulticolumn{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#3}%
```

Move to the next  $\LaTeX$  column:

```
9480 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
9481 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
9482 \booltrue{LWR@skipatbang}%
9483 }
```

#### 74.23.4 Longtable captions

`longtable` captions use `\multicolumn`.

Per the `caption` package. User-redefinable float type.

```
9484 \providecommand*{\LTcaptiontype}{table}
```

```
\LWR@longtabledatacaptiontag * [<toc entry>] {<caption>}
```

```
9485 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}
9486 {%
```

Remember the latest name for `\nameref`:

```
9487 \IfValueTF{#2}{% optional given?
9488 \ifblank{#2}{% optional empty?
9489 {\LWR@setlatestname{#3}}}% empty
9490 {\LWR@setlatestname{#2}}}% given and non-empty
9491 }% optional given
9492 {\LWR@setlatestname{#3}}}% no optional
```

Create a multicolumn across all the columns:

Figure out how many extra HTML columns to add for @ and ! columns found between the first and the last column:

```
9493 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag:

```
9494 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
9495 {\arabic{LWR@tabhtmlcoltotal}}%
9496 {P}%
9497 {% \LWR@domulticolumn
9498 \IfBooleanTF{#1}{% star?
```



Star version, show a caption but do not make a LOT entry:

```

9499 {% yes star
9500 \LWR@figcaption%
9501 \LWR@isolate{#3}%
9502 \endLWR@figcaption%
9503 }%
9504 {% No star:

```

Not the star version:

Don't step the counter if \caption[] {A caption.}

```

9505 \ifbool{LWR@starredlongtable}%
9506 {%
9507 \ifblank{#2}% TOC entry
9508 {}%
9509 {%
9510 \refstepcounter{LTcaption}%
9511 \protected@edef\@currentlabel{%
9512 \@nameuse{p@LTcaption}\@nameuse{theLTcaption}%
9513 }%
9514 }%
9515 }{}%

```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```

9516 \LWR@figcaption%
9517 \LWR@isolate{\@nameuse{fnum@LTcaption}}%
9518 \CaptionSeparator%
9519 \LWR@isolate{#3}%
9520 \endLWR@figcaption%

```

See if an optional caption was given:

```

9521 \ifblank{#2}% TOC entry empty

```

if the optional caption was given, but empty, do not form a TOC entry

```

9522 {}%

```

If the optional caption was given, but might only be []:

```

9523 {% TOC entry not empty
9524 \IfNoValueTF{#2}% No TOC entry?

```

The optional caption is []:

```

9525 {% No TOC entry
9526 \addcontentsline%
9527 {\@nameuse{ext@LTcaption}}%
9528 {LTcaption}%
9529 {%
9530 \protect\numberline%
9531 {\LWR@isolate{\@nameuse{p@LTcaption}}\@nameuse{theLTcaption}}%

```

```

9532 {\ignorespaces \LWR@isolate{#3}\protect\relax}%
9533 }%
9534 }% end of No TOC entry

```

The optional caption has text enclosed:

```

9535 {% yes TOC entry
9536 \addcontentsline%
9537 {\@nameuse{ext@LTcapttype}}%
9538 {\LTcapttype}%
9539 {%
9540 \protect\numberline%
9541 {\LWR@isolate{\@nameuse{p@LTcapttype}}\@nameuse{theLTcapttype}}%
9542 {\ignorespaces \LWR@isolate{#2}\protect\relax}%
9543 }%
9544 }% end of yes TOC entry
9545 }% end of TOC entry not empty
9546 }% end of no star

```

Skip any trailing @ or ! columns for this cell:

```

9547 \booltrue{LWR@skipatbang}%
9548 }% end of \LWR@domulticolumn
9549 \defaddtocounter{LWR@tableLaTeXcolindex}{\value{LWR@tabletotalLaTeXcols}}%
9550 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}
9551
9552 }

```

#### 74.23.5 Counting HTML tabular columns

The  $\text{\LaTeX}$  specification for a table includes a number of columns separated by the & character. These columns differ in content from line to line. Additional virtual columns may be specified by the special @ and ! columns. These columns are identical from line to line, but may be skipped during a multicolumn cell.

For HTML output, @ and ! columns are placed into their own tabular columns. Thus, a  $\text{\LaTeX}$  `\multicolumn` command may span several additional @ and ! columns in HTML output. These additional columns must be added to the total number of columns spanned by an HTML multi-column data cell.

```

9553 \newcounter{LWR@tabhtmlcolindex}
9554 \newcounter{LWR@tabhtmlcolend}
9555 \newcounter{LWR@tabhtmlcoltotal}

```

```
\LWR@subtabularhtmlcolumns {<index>}
```

Factored from `\LWR@tabularhtmlcolumns`, which follows.

```
9556 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%
```

Temporarily define a macro equal to the @ specification for this column:

```
9557 \edef\LWR@atbangspec{\LWR@getexpparray{LWR@colatspec}{#1}}%
```

If the @ specification is not empty, add to the count:

```
9558 \ifdefempty{\LWR@atbangspec}%
9559 {}%
9560 {\defaddtocounter{\LWR@tabhtmlcoltotal}{1}}%
```

Likewise for the ! columns:

```
9561 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colbangspec}{#1}}%
9562 \ifdefempty{\LWR@atbangspec}%
9563 {}%
9564 {\defaddtocounter{\LWR@tabhtmlcoltotal}{1}}%
9565 }
```

`\LWR@tabularhtmlcolumns` {<starting  $\LaTeX$  column>} {<number  $\LaTeX$  columns>}

Compute the total number of HTML columns being spanned, considering the starting  $\LaTeX$  table column and the number of  $\LaTeX$  tabular columns being spanned. Any @ and ! columns within this span are included in the total count. The resulting number of HTML columns is returned in the counter `LWR@tabhtmlcoltotal`.

```
9566 \newcommand*{\LWR@tabularhtmlcolumns}[2]{%
```

Count the starting index, compute ending index, and begin with the count being the  $\LaTeX$  span, to which additional @ and ! columns may be added:

```
9567 \defcounter{\LWR@tabhtmlcolindex}{#1}%
9568 \defcounter{\LWR@tabhtmlcoltotal}{#2}%
9569 \defcounter{\LWR@tabhtmlcolend}{#1}%
9570 \defaddtocounter{\LWR@tabhtmlcolend}{#2}%
```

If at the left edge, add the at/bang columns for the left edge:

```
9571 \ifnumcomp{\value{\LWR@tabhtmlcolindex}}{=}{1}{%
9572 \LWR@subtabularhtmlcolumns{leftedge}%
9573 }{ }%
```

Walk across the  $\LaTeX$  columns looking for @ and ! columns:

```
9574 \whilebool{expr}%
9575 test {%
9576 \ifnumcomp{\value{\LWR@tabhtmlcolindex}}{<}{\value{\LWR@tabhtmlcolend}}%
9577 }%
9578 }%
9579 {%
9580 \LWR@subtabularhtmlcolumns{\arabic{\LWR@tabhtmlcolindex}}%
9581 \defaddtocounter{\LWR@tabhtmlcolindex}{1}%
9582 }% whiledo
9583 }
```

```
9584 \end{warpHTML}
```

## 74.24 Multirow if not loaded

A default definition in case `multirow` is not loaded. This is used during table parsing.

```
9585 \begin{warpHTML}
9586 \newcommand{\multirow}[2][c]{}
9587 \end{warpHTML}
```

## 74.25 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a `lateximage`.

See section 416 for the HTML versions.

for HTML & PRINT: 9588 \begin{warpall}

```
\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>]
{<8:text>}
```

For discussion of the use of `\DeclareExpandableDocumentCommand`, see:

<https://tex.stackexchange.com/questions/168434/problem-with-abbreviation-of-multirow-and-multicolumn-latex>

`\AtBeginDocument` to adjust after the user may have loaded `multirow`, which requires several tests to determine which version is loaded and thus which options are available.

```
9589 \AtBeginDocument{
```

`\@ifundefined{@xmultirow}` determines if `multirow` was never loaded.

Null action if not loaded:

```
9590 \@ifundefined{@xmultirow}
9591 {
9592 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9593 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9594 {}%
9595 }% no version of multirow was loaded
9596 {% \@xmultirow defined, so some version of multirow was loaded
```

`\@ifpackageloaded{multirow}` determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The print version:

```
9597 \@ifpackageloaded{multirow}{% v2.0 or newer
9598 \@ifpackagelater{multirow}{2016/09/01}% 2016/09/27 for v2.0
9599 {% v2.0+:
9600 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9601 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9602 {\multicolumn{#1}{#2}{\@xmultirow[#3][#4][#5][#6][#7][#8]}}%
9603 }
```

```

9604 {% loaded but older, probably not executed:
9605 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9606 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9607 {\multicolumn{#1}{#2}{\@xmultirow{#4}[#5][#6][#7][#8]}}%
9608 }
9609}% \package{loaded}{multirow}

```

If not `\ifpackage{loaded}{multirow}` but `\@xmultirow` is defined, then this must be v1.6 or earlier, which did not `\ProvidesPackage{multirow}`, and did not have the `vposn` option.

```

9610 {% v1.6 or older did not \ProvidePackage
9611 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9612 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9613 {\multicolumn{#1}{#2}{\@xmultirow{#4}[#5][#6][#7][#8]}}%
9614 }
9615
9616}% \@ifundefined{@xmultirow}
9617
9618\providecommand*\multicolumnrow{\LWR@print@multicolumnrow}
9619
9620}% \AtBeginDocument

9621 \end{warpall}

```

## 74.26 Utility macros inside a table

for HTML output: 9622 \begin{warpHTML}

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
9623 \newcommand*\LWR@donothing{}
```

In case `array` is not loaded:

```

9624 \let\firstline\relax
9625 \let\lastline\relax
9626 \newcommand*\firstline{}
9627 \newcommand*\lastline{}

```

In case `bigdelim` is not loaded:

```

9628 \newcommand*\ldelim{}
9629 \newcommand*\rdelim{}

```

```
9630 \end{warpHTML}
```

## 74.27 Special-case tabular markers

for HTML & PRINT: 9631 \begin{warpall}

`\TabularMacro` Place this just before inserting a custom macro in a table data cell. Doing so tells **lwarp** not to automatically start a new HTML table data cell yet. See section 8.10.1.

```
9632 \newcommand*{\TabularMacro}{}

```

```
9633 \end{warpall}

```

`\ResumeTabular` Used to resume tabular entries after resuming an environment.



#### tabular inside another environment

When creating a new environment which contains a tabular environment, **lwarp**'s emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```

\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
 \tabular{cc}
 left & right \\\
}
{
 \TabularMacro\ResumeTabular
 left & right \\\
 \endtabular
}
\StopDefiningTabulars

```

**for HTML output:** 9634 \begin{warpHTML}

```

9635 \newcommand*{\ResumeTabular}{%
9636 \boolfalse{LWR@exitingtabular}%
9637 \boolfalse{LWR@tabularmutemods}%
9638 \LWR@getmynexttoken%
9639 }

```

```
9640 \end{warpHTML}

```

**for PRINT output:** 9641 \begin{warpprint}

```
9642 \newcommand*{\ResumeTabular}{}

```

```
9643 \end{warpprint}

```

## 74.28 Checking for a new table cell

**for HTML output:** 9644 \begin{warpHTML}

`\LWR@tabledatacolumnntag` Open a new HTML table cell unless the next token is for a macro which does not create data, such as `\hline`, `\toprule`, etc:

```

9645 \newcommand*{\LWR@tabledatacolumntag}%
9646 {%
9647 \LWR@traceinfo{\LWR@tabledatacolumntag}%

```

\show\LWR@mynexttoken to see what tokens to look for

If not any of the below, start a new table cell:

```

9648 \global\let\LWR@mynextaction\LWR@tabledatasinglecolumntag%

```

If exiting the tabular:

```

9649 \ifdefequal{\LWR@mynexttoken}{\end}%
9650 {\booltrue{\LWR@exitingtabular}}}%

```

longtable can have a caption in a cell

```

9651 \ifdefequal{\LWR@mynexttoken}{\caption}%
9652 {\global\let\LWR@mynextaction\LWR@donothing}}}%

```

Look for other things which would not start a table cell:

```

9653 \ifdefequal{\LWR@mynexttoken}{\multicolumn}%
9654 {\global\let\LWR@mynextaction\LWR@donothing}}}%
9655 \ifdefequal{\LWR@mynexttoken}{\multirow}%
9656 {\global\let\LWR@mynextaction\LWR@donothing}}}%
9657 \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}%
9658 {\global\let\LWR@mynextaction\LWR@donothing}}}%
9659 \ifdefequal{\LWR@mynexttoken}{\noalign}%
9660 {\global\let\LWR@mynextaction\LWR@donothing}}}%

```

If an \mrowcell, this is a cell to be skipped over:

```

9661 \ifdefequal{\LWR@mynexttoken}{\mrowcell}%
9662 {\global\let\LWR@mynextaction\LWR@donothing}}}%

```

If an \mcolrowcell, this is a cell to be skipped over:

```

9663 \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}%
9664 {\global\let\LWR@mynextaction\LWR@donothing}}}%

```

```

9665 \ifdefequal{\LWR@mynexttoken}{\TabularMacro}%
9666 {\global\let\LWR@mynextaction\LWR@donothing}}}%

```

```

9667 \ifdefequal{\LWR@mynexttoken}{\hline}%
9668 {\global\let\LWR@mynextaction\LWR@donothing}}}%

```

```

9669 \ifdefequal{\LWR@mynexttoken}{\firsthline}%
9670 {\global\let\LWR@mynextaction\LWR@donothing}}}%

```

```

9671 \ifdefequal{\LWR@mynexttoken}{\lasthline}%
9672 {\global\let\LWR@mynextaction\LWR@donothing}}}%

```

```

9673 \ifdefequal{\LWR@mynexttoken}{\toprule}%
9674 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9675 \ifdefequal{\LWR@mynexttoken}{\midrule}%
9676 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9677 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
9678 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9679 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
9680 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9681 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
9682 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9683 \ifdefequal{\LWR@mynexttoken}{\cline}%
9684 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9685 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
9686 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9687 \ifdefequal{\LWR@mynexttoken}{\hhline}%
9688 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9689 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
9690 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9691 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
9692 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9693 \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
9694 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9695 \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
9696 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9697 \ifdefequal{\LWR@mynexttoken}{\warppHTMLonly}%
9698 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9699 \ifdefequal{\LWR@mynexttoken}{\ldelim}%
9700 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9701 \ifdefequal{\LWR@mynexttoken}{\rdelim}%
9702 {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

For arydshln:

```

9703 \ifdefequal{\LWR@mynexttoken}{\hdashline}%
9704 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9705 \ifdefequal{\LWR@mynexttoken}{\cdashline}%
9706 {\global\let\LWR@mynextaction\LWR@donothing}{}%

```



```

9707 \ifdefequal{\LWR@mynexttoken}{\firsthdashline}%
9708 {\global\let\LWR@mynextaction\LWR@donothing}{}%

9709 \ifdefequal{\LWR@mynexttoken}{\lasthdashline}%
9710 {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

Ignore an empty line between rows:

```

9711 \ifdefequal{\LWR@mynexttoken}{\par}%
9712 {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

No action for an \end token.

Add similar to the above for any other non-data tokens which might appear in the table.

Start the new table cell if was not any of the above:

```

9713 \LWR@traceinfo{\LWR@tabledatacolumn tag: about to do mynext}%
9714 \LWR@mynextaction%
9715 \LWR@traceinfo{\LWR@tabledatacolumn tag: done}%
9716 }

9717 \end{warpHTML}

```

## 74.29 \mrowcell

**for HTML & PRINT:** 9718 \begin{warpall}

 **\mrowcell** The user must insert \mrowcell into any \multirow cells which must be skipped. This command has no action during print output.

```

9719 \newcommand*{\mrowcell}{}

9720 \end{warpall}

```

## 74.30 \mcolrowcell

**for HTML & PRINT:** 9721 \begin{warpall}

 **\mcolrowcell** The user must insert \mcolrowcell into any \multicolumnrow cells which must be skipped. This command has no action during print output.

```

9722 \newcommand*{\mcolrowcell}{}

9723 \end{warpall}

```

### 74.31 HTML tabular environment

for HTML output: 9724 \begin{warpHTML}

These are default definitions in case **booktabs** is not loaded, and are not expected to be used, but must exist as placeholders. **memoir** may have already loaded **booktabs**.

```
9725 \providecommand*\toprule[1][1]{\hline}
9726 \providecommand*\midrule[1][1]{\hline}
9727 \providecommand*\cmidrule{\cline}
9728 \providecommand*\bottomrule[1][1]{\hline}
9729 \providecommand*\addlinespace[1][1]{}
9730 \providecommand*\morecmidrules{}
9731 \providecommand*\specialrule[3]{\hline}
```

\noalign {<text>} Redefined for use inside tabular.

```
9732 \LetLtxMacro\LWR@orignoalign\noalign
9733
9734 \newcommand{\LWR@tabularnoalign}[1]{%
9735 \advance\rownum\m@ne%
9736 \LetLtxMacro\LWR@save@xcolorrowHTMLcolor\LWR@xcolorrowHTMLcolor%
9737 \renewcommand*\LWR@xcolorrowHTMLcolor{}%
9738 \multicolumn{\value{\LWR@tabletotalLaTeXcols}}{l}{#1} \\\
9739 \LetLtxMacro\LWR@xcolorrowHTMLcolor\LWR@save@xcolorrowHTMLcolor%
9740 % \@rowc@lors%
9741 \LWR@getmynexttoken%
9742 }
```

\LWR@HTMLhline The definition of \hline depends on whether **tbls** has been loaded. If so, optional space below the line may be specified, but will be ignored.

```
9743 \AtBeginDocument{
9744
9745 \ifpackageloaded{lwarp-tbls}
9746 {
9747 \newcommand*\LWR@HTMLhline[1][1]{%
9748 \ifbool{FormatWP}%
9749 {\LWR@docmidrule{1-\arabic{\LWR@tabletotalLaTeXcols}}}%
9750 {\defaddtocounter{\LWR@hlines}{1}}%
9751 \LWR@getmynexttoken}%
9752 }
9753 {
9754 \newcommand*\LWR@HTMLhline{%
9755 \ifbool{FormatWP}%
9756 {\LWR@docmidrule{1-\arabic{\LWR@tabletotalLaTeXcols}}}%
9757 {\defaddtocounter{\LWR@hlines}{1}}%
9758 \LWR@getmynexttoken}%
9759 }
9760
9761 }% AtBeginDocument
```

`\LWR@HTMLcline` `{\columns}`

```
9762 \NewDocumentCommand{\LWR@HTMLcline}{m}%
9763 {\LWR@docmidrule{#1}\LWR@getmynexttoken}%
```

`\LWR@tabular@warpprintonly` `{\contents}`

Only process the contents if producing printed output. Modified inside a tabular to grab the next token.

```
9764 \newcommand{\LWR@tabular@warpprintonly}[1]{%
9765 \ifbool{warpingprint}{#1}{}%
9766 \LWR@getmynexttoken%
9767 }
```

`\LWR@nullifyNoAutoSpacing` For **babel-french**, turn off auto spacing at the start of the tabular, then nullify the autospacing commands inside the tabular, since they were not compatible with the tabular parsing code for each cell, which uses **xstring**.

```
9768 \AtBeginDocument{
9769 \ifundefined{NoAutoSpacing}%
9770 {% no babel-french
9771 \newcommand*\LWR@nullifyNoAutoSpacing}{%
9772 }% no babel-french
9773 {% yes babel-french
9774 \newcommand*\LWR@nullifyNoAutoSpacing{%
9775 \NoAutoSpacing%
9776 \renewcommand*\NoAutoSpacing{}%
9777 \renewcommand*\LWR@FBcancel{}%
9778 }
9779 }% yes babel-french
9780 }% AtBeginDocument
```

Env `tabular` `<direction> [\langle vertposition \rangle] {\langle colspecs \rangle}`

The `<direction>` is from **plext** for Japanese documents, and is ignored.

```
9781 \StartDefiningTabulars
9782
9783 \NewDocumentCommand{\LWR@HTML@tabular}{d<> o m}
9784 {%
9785 \LWR@traceinfo{\LWR@HTML@tabular started}%
```

△ **<table> inside <span>** In **TeX**, a tabular may be placed inside a minipage, but in HTML a `<table>` may not be inside a `<span>`. Since there may be several nested `<span>`s, with an unknown number of other objects between, it is hard to undo all these `<span>`s before the `<table>` then redo them after. The browser probably compensates for this situation, but formatting may be lost inside the `<table>` because several things are neutralized inside a `<span>`. Furthermore, in the HTML output, the entire `<table>` is placed on a single line of HTML code, since the line breaking commands are neutralized inside a `<span>`. Since this is such a sloppy situation, a warning is issued here instructing the user to please isolate the `<span>` to print-only.

```

9786 \LWR@spanwarnformat{tabular}%
9787 \addtocounter{LWR@tabulardepth}{1}%

```

Not yet started a table row:

```

9788 \boolfalse{LWR@startedrow}%

```

Not yet doing any rules:

```

9789 \defcounter{LWR@hlines}{0}%
9790 \defcounter{LWR@hdashedlines}{0}%
9791 \boolfalse{LWR@doingtbrule}%
9792 \boolfalse{LWR@doingcmidrule}%

```

For **babel-french**, turn off auto spacing one time, then nullify the autospacing commands since were not compatible with the tabular parsing code.

```

9793 \LWR@nullifyNoAutoSpacing%

```

Have not yet found the end of tabular command. Unmute the @ and ! columns.

```

9794 \boolfalse{LWR@exitingtabular}%
9795 \boolfalse{LWR@tabularmutemods}%

```

Error if failed to use `\mrowcell` or `\mcolrowcell` when needed.

```

9796 \boolfalse{LWR@usedmultirow}%
9797 \boolfalse{LWR@foundmrowcell}%

9798 \renewcommand*{\LWR@multicoltext}{}%

```

Create the table tag:

```

9799 \booltrue{LWR@intabularmetadata}%
9800 \LWR@traceinfo{LWR@tabular: About to LWR@forecenewpage.}%
9801 \LWR@forcenewpage
9802 \LWR@htmlblocktag{table}%

```

Parse the table columns:

```

9803 \LWR@parsetablecols{#3}%

```

Table col spec is: `\LWR@tablecolspec` which is a string of `llccrr`, etc.

Do not place the table inside a paragraph:

```

9804 \LWR@stoppars%

```

Track column #:

```

9805 \defcounter{LWR@tableLaTeXcolindex}{1}%

```

Have not yet added data in this column:

```

9806 \global\boolfalse{LWR@tabularcelladded}%

```

Start looking for midrules:

```
9807 \LWR@clearmidrules%
```

\\ becomes a macro to end the table row:

```
9808 \LetLtxMacro{\\}{\LWR@tabularendofline}%
```

\warpprintonly inside a tabular must grab the next token.

```
9809 \LetLtxMacro\warpprintonly\LWR@tabular@warpprintonly%
```

The following adjust for colortbl.

```
9810 \LetLtxMacro\arrayrulecolor\arrayrulecolornexttoken%
9811 \LetLtxMacro\doublerulesepcolor\doublerulesepcolornexttoken%
9812 \def\LWR@columnHTMLcolor{}%
9813 \def\LWR@rowHTMLcolor{}%
9814 \def\LWR@cellHTMLcolor{}%
9815 \@rowcolors%
```

The vertical rules are set to the color active at the start of the tabular. \arrayrulecolor will then affect horizontal rules inside the tabular, but not the vertical rules.

```
9816 \ifdefined\LWR@ruleHTMLcolor%
9817 {\edef\LWR@vertruleHTMLcolor{black}}%
9818 {\edef\LWR@vertruleHTMLcolor{\LWR@origpound\LWR@ruleHTMLcolor}}%
```

Tracking the depth of cell color <div>s:

```
9819 \defcounter{LWR@cellcolordepth}{0}%
```

The following may appear before a data cell is created, so after doing their actions, we look ahead with \LWR@getmynexttoken to see if the next token might create a new data cell:

The optional parameter for \hline supports the **tabls** package.

```
9820 \LWR@traceinfo{LWR@@HTML@tabular: redefining macros}%
9821 \LetLtxMacro\noalign\LWR@tabularnoalign%
9822 \LetLtxMacro\hline\LWR@HTMLhline%
9823 \LetLtxMacro\cline\LWR@HTMLcline%

9824 \DeclareDocumentCommand{\hdashline}{o}{%
9825 \ifbool{FormatWP}%
9826 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
9827 {\defaddtocounter{LWR@hdashedlines}{1}}%
9828 \LWR@getmynexttoken%
9829 }%

9830 \DeclareDocumentCommand{\cdashline}{m}{%
9831 \LWR@docdashline{##1}\LWR@getmynexttoken%
9832 }%

9833 \DeclareDocumentCommand{\firsthdashline}{o}{%
```

```

9834 \ifbool{FormatWP}%
9835 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
9836 {\defaddtocounter{LWR@hdashedlines}{1}}%
9837 \LWR@getmynexttoken%
9838 }%

9839 \DeclareDocumentCommand{\lasthdashline}{o}{%
9840 \ifbool{FormatWP}%
9841 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
9842 {\defaddtocounter{LWR@hdashedlines}{1}}%
9843 \LWR@getmynexttoken%
9844 }%

```

The following create data cells and will have no more data in this cell, so we do not want to look ahead for a possible data cell, so do not want to use `\LWR@getmynexttoken`.

```

9845 \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
9846 \renewcommand*{\mrowcell}{%
9847 \LWR@maybenewtablerow%
9848 \LWR@tabularleftedge%
9849 \booltrue{LWR@skippingmrowcell}%
9850 \booltrue{LWR@foundmrowcell}%
9851 }%
9852 \renewcommand*{\mcolrowcell}{%
9853 \LWR@maybenewtablerow%
9854 \booltrue{LWR@skippingmcolrowcell}%
9855 \booltrue{LWR@foundmrowcell}%
9856 }%
9857 \LetLtxMacro\caption\LWR@longtabledatacaptiontag%

```

Reset for new processing:

```

9858 \boolfalse{LWR@tableparcell}%
9859 \boolfalse{LWR@skippingmrowcell}%
9860 \boolfalse{LWR@skippingmcolrowcell}%
9861 \boolfalse{LWR@skipatbang}%
9862 \boolfalse{LWR@emptyatbang}%

```

Set & for its special meaning inside the tabular:

```

9863 \StartDefiningTabulars%
9864 \protected\gdef&{\LWR@tabularampersand}%

```

Locally force any minipages to be fullwidth, until the end of the tabular:

```

9865 \booltrue{LWR@forceminipagefullwidth}%

```

Nest one level deeper of tabular paragraph handling:

```

9866 \addtocounter{LWR@tabularpardepth}{1}%

```

Look ahead for a possible table data cell:

```

9867 \LWR@traceinfo{LWR@@HTML@tabular: about to \LWR@getmynexttoken}%

```

```

9868 \LWR@getmynexttoken%
9869 }%

```

Ending the environment:

```

9870 \newcommand*{\LWR@HTML@endtabular}
9871 {%
9872 \LWR@traceinfo{\LWR@HTML@endtabular}%

```

Unnest one level of tabular paragraph handling:

```

9873 \addtocounter{\LWR@tabularpardepth}{-1}%
9874 \ifboolexpr{%
9875 test {%
9876 \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{<}%
9877 {\value{\LWR@tabletotalLaTeXcols}}
9878 } or %
9879 (%
9880 bool{\LWR@intabularmetadata} and%
9881 not bool{\LWR@tabularcelladded} and%
9882 test {%
9883 \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}%
9884 {\value{\LWR@tabletotalLaTeXcols}}%
9885 }%
9886)%
9887 }%
9888 {%
9889 \LWR@tabularfinishrow%
9890 }%
9891 {%
9892 \LWR@closetabledatacell%
9893 }%
9894 \LWR@htmlblocktag{/tr}%

```

xcolor row color support:

```

9895 \@rowc@lors%

9896 \LWR@htmlblocktag{/table}%
9897 \boolfalse{\LWR@intabularmetadata}%

```

Unnest one level of tabular:

```

9898 \addtocounter{\LWR@tabulardepth}{-1}%

```

Restore & to its usual meaning:

```

9899 \ifnumequal{\value{\LWR@tabulardepth}}{0}{%
9900 \protected\gdef&{\LWR@origampmacro}%
9901 \StopDefiningTabulars%
9902 }{%

```

Error if used `\multirow` or `\multicolumnrow` without using `\mrowcell` or `\mcolrowcell`.

```

9903 \ifbool{LWR@usedmultirow}{%
9904 \ifbool{LWR@foundmrowcell}%
9905 {\relax}%
9906 {%
9907 \PackageError{lwarp}%
9908 {%
9909 When using \protect\multirow, \protect\multicolumnrow, \MessageBreak
9910 or the bigdelim package, \MessageBreak
9911 place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
9912 in empty cells which are to be skipped.\MessageBreak
9913 See the Lwarp package documentation:\MessageBreak
9914 "Special cases and limitations" -> "Tabular"
9915 }%
9916 }%
9917 See the Lwarp package documentation:\MessageBreak
9918 "Special cases and limitations" -> "Tabular".
9919 }%
9920 }%
9921 }{}%

9922 \LWR@traceinfo{LWR@HTML@endtabular finished}%
9923 }
9924
9925 \csletcs{LWR@HTML@endtabular*}{LWR@HTML@endtabular}
9926
9927 \StopDefiningTabulars

```

siunitx may redefine tabular, so set the following later:

```

9928 \AtBeginDocument{
9929 \LetLtxMacro\LWR@origendtabular\endtabular
9930 \csletcs{LWR@origendtabular*}{\endtabular*}
9931 \LWR@formatted{@tabular}
9932 \LWR@formatted{endtabular}
9933 \LWR@formatted{endtabular*}
9934 }

9935 \end{warpHTML}

```

## 75 Cross-references

Sectioning commands have been emulated from scratch, so the cross-referencing commands are custom-written for them. Emulating both avoids several layers of patches.

File `*_html.aux` A new entry in `*_html.aux` is used to remember section name, file, and lateximage depth and number for each label:

```

\newlabel{<labelname>@lwarp}{{<section name>}{<filename>}
 {<imagedepth>}{<limagenumber>}}

```

Table 14 shows the data structures related to cross-referencing.

for HTML output: 9936 \begin{warpHTML}



Table 14: Cross-referencing data structures

|                                                                                                                                                                                    |                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Original <math>\LaTeX</math>:</b>                                                                                                                                               | (print and HTML) |
| <b>\refstepcounter:</b> Steps the counter and sets \currentlabel.                                                                                                                  |                  |
| <b>\currentlabel:</b> \p@<ctr>\the<ctr> Updated by \refstepcounter.                                                                                                                |                  |
| <b>\label:</b> Writes to the .aux file:<br>\newlabel{<label>}{\currentlabel}{\thepage}}                                                                                            |                  |
| <b>\newlabel:</b> When the .aux file is read, sets \r@<label>.                                                                                                                     |                  |
| <b>\r@&lt;label&gt;:</b> Set to: {\currentlabel}{\thepage}}                                                                                                                        |                  |
| <b>\ref:</b> Returns the first part of \r@<label>.                                                                                                                                 |                  |
| <b>\pageref:</b> Returns the second part of \r@<label>.                                                                                                                            |                  |
| <b>Added by lwarp:</b>                                                                                                                                                             | (HTML only)      |
| <b>\label:</b> Adds HTML tags (section 75.3), and another .aux entry (section 75.2). If memoir is used, its \mem@old@label points to lwarp's version, and cleveref patches.        |                  |
| <b>\newlabel:</b> Unchanged. When the .aux file is read, sets \r@<label>@lwarp.                                                                                                    |                  |
| <b>\r@&lt;label&gt;@lwarp:</b> Set to: {{section_name}{file_name}{depth}{number}}:                                                                                                 |                  |
| <b>\LWR@nameref:</b> The section name for this label.                                                                                                                              |                  |
| <b>\LWR@htmlfileref:</b> The filename or name for this label.                                                                                                                      |                  |
| <b>\LWR@lateximagedepthref:</b> The lateximagedepth for this label.                                                                                                                |                  |
| <b>\LWR@lateximagenumberref:</b> The lateximagenumber for this label.                                                                                                              |                  |
| <b>\nameref:</b> Emulated from hyperref for lwarp. See section 75.4.                                                                                                               |                  |
| <b>\ref and \nameref:</b> Adds HTML tags. See section 75.4.                                                                                                                        |                  |
| <b>Added by amsmath:</b>                                                                                                                                                           | (print and HTML) |
| <b>\label:</b> Execution is delayed until the math environment is completed.                                                                                                       |                  |
| <b>\ltx@label:</b> $\LaTeX$ \label, (HTML: patched by lwarp,) later patched by cleveref.                                                                                           |                  |
| <b>Added by cleveref:</b>                                                                                                                                                          | (print and HTML) |
| <b>\refstepcounter:</b> Added: sets \cref@currentlabel.                                                                                                                            |                  |
| <b>\cref@currentlabel:</b> (<type>=<ctr> unless an alias is used):<br>[<type>][\varabic{<ctr>}][<parent ctrs>]{\p@<ctr>\the<ctr>} Also see<br>section 60.4 for use with footnotes. |                  |
| <b>\label:</b> Writes to the .aux file:<br>\newlabel{<label>@cref}{\cref@currentlabel}{\thepage}}                                                                                  |                  |
| <b>\newlabel:</b> Unchanged. When the .aux file is read, sets \r@<label>@cref.                                                                                                     |                  |
| <b>\r@&lt;label&gt;@cref:</b> Set to: {\cref@currentlabel}{\thepage}}                                                                                                              |                  |
| <b>Utility functions:</b> See \cref@getlabel, \cref@gettype, \cref@getcounter,<br>\cref@getprefix.                                                                                 |                  |
| <b>Cross-referencing names:</b> \crefname and \Crefname assign human-readable names for<br>references to this counter type.                                                        |                  |
| <b>Additionally patched by lwarp:</b>                                                                                                                                              | (HTML only)      |
| <b>\cref, etc.:</b> Modified for lwarp. See section 196.                                                                                                                           |                  |
| <b>\label inside math:</b> See section 82.7.1.                                                                                                                                     |                  |
| <b>Footnotes:</b> See \noteentry in section 60.4.                                                                                                                                  |                  |

## 75.1 Setup

`\@currentlabelname` To remember the most recently defined section name, description, or caption, for `\nameref`.

```
9937 \def\@currentlabelname{\linkhomename}%
```

`\LWR@stripperperiod` `{\text{}} [⟨.⟩]`

Removes a trailing period.

```
9938 \def\LWR@stripperperiod#1.\ltx@empty#2\@nil{#1}%
```

`\LWR@setlatestname` `{\langle object name \rangle}`

Removes `\label`, strips any final period, and remembers the result.

```
9939 \newcommand*{\LWR@setlatestname}[1]{%
```

Remove `\label` and other commands from the name, the strip any final period. See `getttitlestring`.

```
9940 \GetTitleStringExpand{#1}%
9941 \edef\@currentlabelname{\detokenize\expandafter{\GetTitleStringResult}}%
9942 \edef\@currentlabelname{%
9943 \expandafter\LWR@stripperperiod\@currentlabelname%
9944 \ltx@empty.\ltx@empty\@nil%
9945 }%
9946 }
```

## 75.2 New lwarp labels.

File `*_html.aux` A new entry in `*_html.aux` is used to remember section name, file, and lateximage depth and number for each label:

```
\newlabel{<labelname>@lwarp}{{<section name>}{<filename>}
 {<imagedepth>}{<imagenumber>}}
```

See:

<http://tex.stackexchange.com/questions/57194/extract-section-number-from-equation-reference>

`\LWR@setref` `{\langle args list \rangle} {\langle selector \rangle} {\langle label \rangle}`

`\@setref` without the `\null` (`\hbox`), and without the warning messages. Each caused problems with `lwarp` references. The regular reference will cause the warning.

```
9947 \def\LWR@setref#1#2#3{%
9948 \ifx#1\relax%
9949 ??%
9950 \else%
9951 \expandafter#2#1%
9952 \fi}
```

`\LWR@nameref`  $\{\langle label \rangle\}$  Returns the section name for this label:

```
9953 \newcommand*{\LWR@nameref}[1]{%
9954 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@firstoffour{#1}%
9955 }
```

`\LWR@htmlfileref`  $\{\langle label \rangle\}$  Returns the file number or name for this label:

```
9956 \newcommand*{\LWR@htmlfileref}[1]{%
9957 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@secondoffour{#1}%
9958 }
```

`\LWR@lateximagedepthref`  $\{\langle label \rangle\}$  Returns the lateximagedepth for this label:

```
9959 \newcommand*{\LWR@lateximagedepthref}[1]{%
9960 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@thirdoffour{#1}%
9961 }
```

`\LWR@lateximagenumberref`  $\{\langle label \rangle\}$  Returns the lateximagenumber for this label:

```
9962 \newcommand*{\LWR@lateximagenumberref}[1]{%
9963 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@fourthoffour{#1}%
9964 }
```

`\LWR@write@lwarplabel`  $\{\langle label \rangle\}$  Sanitize the name and then creates the label:

```
9965 \newcommand*{\LWR@write@lwarplabel}[1]{%
9966 \LWR@traceinfo{\LWR@write@lwarplabel !#1!}%
9967 \LWR@setlatestname{\@currentlabelname}%
9968 \@bsphack%
9969 \protected@write\@auxout{%
9970 {%
9971 \string\newlabel{#1@lwarp}{%
9972 {\@currentlabelname}%
9973 {%
9974 \ifbool{FileSectionNames}%
9975 {\LWR@thisfilename}%
9976 {\arabic{\LWR@htmlfilenumber}}%
9977 }%
9978 {\arabic{\LWR@lateximagedepth}}%
9979 {\arabic{\LWR@lateximagenumber}}%
9980 }%
9981 }%
9982 \@esphack%
9983 }
```

## 75.3 Labels

`\LWR@label@subcreatetag` Creates the tag from `\LWR@sanitized`.

```
9984 \newcommand*{\LWR@label@subcreatetag}{%
```

```

9985 \LWR@htmltag{a \LWR@print@mbox{id=\textquotedbl\LWR@sanitized\textquotedbl}}}%
9986 \LWR@htmltag{/a}%
9987 }

```

`\LWR@label@inmathcomment`

```

9988 \newcommand*{\LWR@label@inmathcomment}{%
9989 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
9990 {%

```

The combined  $\LaTeX$  & HTML label is printed in a `\mbox` field:

```

9991 \mbox{%

```

Shift the label over to the right side of the environment to avoid over-printing the math:

```

9992 \ifdef{\totwidth@}{\ifbool{LWR@amsmultline}{\hspace*{\totwidth@}}{}}}%

```

Temporarily end the HTML comment, insert the  $\LaTeX$  & HTML label, then resume the HTML comment. `\@firstofone` is required to remove extra braces introduced by the `amsmath` package.)

```

9993 \LWR@htmlclosecomment%
9994 \LWR@label@subcreatetag%
9995 \LWR@htmlopencomment%
9996 }% mbox
9997 }% mathjax
9998 {%
9999 \LWR@label@subcreatetag%
10000 }%
10001 }

```

`\LWR@label@createtag` `{\label}` Creates an HTML id tag.

Used by `\LWR@new@label` and `\hyperdef`.

`\detokenize` is used to allow underscores in the labels.

```

10002 \newcommand*{\LWR@label@createtag}[1]{%
10003 \LWR@traceinfo{LWR@label@createtag !#1!}%

```

Create an HTML id tag unless are inside a `lateximage`, since it would appear in the image:

```

10004 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10005 }%
10006 {% not lateximage

```

If not doing a `lateximage`, create an HTML ID tag.

```

10007 \LWR@sanitize{#1}%
10008 \ifbool{LWR@insidemathcomment}%
10009 {% inside HTML math comment
10010 \LWR@label@inmathcomment%

```

```

10011 }% inside HTML math comment
10012 {% not inside HTML math comment
10013 \ifbool{LWR@doingstartpars}%
10014 {% pars allowed
10015 \ifbool{LWR@doingapar}%
10016 {% par started
10017 \LWR@label@subcreatetag%
10018 }% par started
10019 {% par not started
10020 \LWR@stoppars%
10021 \LWR@label@subcreatetag%
10022 \LWR@startpars%
10023 }% par not started
10024 }% pars allowed
10025 {% pars not allowed
10026 \LWR@label@subcreatetag%
10027 }% pars not allowed
10028 }% not inside HTML math comment
10029 }% not lateximage
10030 }

```

`\LWR@new@label`  $\{ \langle label \rangle \}$

`\label` during HTML output when not in SVG math mode, removing extra spaces around the label, as done by a regular  $\LaTeX$  `\label`.

The is also used during a `lateximage`, including SVG math, since the special label handling is required, but `\LWR@label@createtag` does not generate HTML tags inside a `lateximage`.

If `memoir` is used, it's `\@mem@old@label` is pointed here.

`cleveref` later encases this to add its own cross-referencing, and also patches `memoir`.

```

10031 \NewDocumentCommand{\LWR@new@label}{m}{%
10032 \LWR@traceinfo{LWR@new@label: starting}%
10033 \LWR@traceinfo{LWR@new@label: !#1!}%
10034 % \@bsphack%

```

Create a traditional  $\LaTeX$  label, as modified by `cleveref`:

```

10035 \LWR@orig@label{#1}%

```

Create a special label which holds the section number, `LWR@htmlfilenumber`, `LWR@lateximagedepth`, and `LWR@lateximagenumber`:

```

10036 \LWR@traceinfo{%
10037 LWR@new@label: filesectionnames is %
10038 \ifbool{FileSectionNames}{true}{false}%
10039 }%
10040 \LWR@traceinfo{%
10041 LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
10042 }%
10043 \LWR@traceinfo{%
10044 LWR@new@label: LWR@htmlfilenumber is \arabic{LWR@htmlfilenumber}%
10045 }%

```

```

10046 \LWR@write@lwarplabel{#1}%
10047 \LWR@label@createtag{#1}%
10048 % \@esphack%
10049 \LWR@traceinfo{LWR@new@label: done}%
10050 }

```

## 75.4 References

\LWR@addlinktitle

```

10051 \newcommand*\LWR@addlinktitle{%
10052 \ifdefvoid{\LWR@ThisAltText}{ }{ % space
10053 title=\textquotedbl\LWR@ThisAltText\textquotedbl % space
10054 \gdef\LWR@ThisAltText{}}%
10055 }%
10056 }

```

\LWR@startref {<label>} (Common code for \ref and \nameref.)

Open an HTML tag reference to a filename, # character, and a label.

```

10057 \newcommand*\LWR@startref[1]
10058 {%
10059 \LWR@sanitize{#1}%
10060 \LWR@traceinfo{LWR@startref A: !#1!}%

```

Create the filename part of the link:

```

10061 \LWR@htmltag{a href=\textquotedbl%
10062 \LWR@traceinfo{LWR@startref B}%
10063 \LWR@print@mbbox{\LWR@htmlrefsectionfilename{#1}}%
10064 \LWR@traceinfo{LWR@startref C}%
10065 \LWR@origpound%

```

Create the destination id:

See if LWR@lateximagedepth is unknown:

```

10066 \LWR@traceinfo{LWR@startref D: !#1!}%
10067 \ifcsundef{r@#1@lwarp}%

```

“??” if LWR@lateximagedepth is unknown, so create a link with an unknown destination:

```

10068 {%
10069 \LWR@traceinfo{LWR@startref D0: ??}%
10070 ??%
10071 }%

```

If LWR@lateximagedepth is known. Use a lateximage if the depth is greater than zero, or a regular link otherwise:

```

10072 {%

```

```

10073 \ifthenelse{\cnttest{\LWR@lateximagedepthref{#1}}{>}{0}}%
10074 {%

10075 lateximage-\BaseJobname-\LWR@lateximagenumberref{#1}%
10076 }%
10077 {%
10078 \LWR@traceinfo{\LWR@startref D3}%

```

`\detokenize` is used to allow underscores in the labels:

```

10079 \LWR@print@mbox{\LWR@sanitized}%
10080 }%
10081 }%
10082 \LWR@traceinfo{\LWR@startref E}%

```

Closing quote:

```

10083 \textquotedbl%

```

Maybe add a title:

```

10084 \LWR@addlinktitle%
10085 }%
10086 \LWR@traceinfo{\LWR@startref F}%
10087 }

```

`\LWR@subnewref`  $\{\langle label \rangle\} \{\langle label \text{ or } sub@label \rangle\}$

Factored for the **subfig** package. Uses the original label for the hyper-reference, but prints its own text, such as “1(b)”.

```

10088 \NewDocumentCommand{\LWR@subnewref}{m m}{%
10089 \LWR@traceinfo{\LWR@subnewref #1 #2}%
10090 \LWR@startref{#1}%
10091 \LWR@print@ref{#2}%
10092 \LWR@htmltag{/a}%
10093 }

```

`\ref` \*  $\{\langle label \rangle\}$  `\ref` is redefined to `\LWR@HTML@ref`, except inside the text part of a `\hyperref`, where it is redefined to `\LWR@ref@ignorestar`.

`\LWR@HTML@ref` \*  $\{\langle label \rangle\}$  Create an internal document reference link, or without a link if starred per **hyperref**.

**hyperref** defines a starred version. Since **hyperref** is only emulated, the starred version is defined here for print mode, in case `\ref` is used inside `svg math`:

```

10094 \LWR@absorbstar{ref}%

```

The **HTML** version:

```

10095 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%

```

```

10096 \LWR@traceinfo{LWR@HTML@ref !#2!}%
10097 \IfBooleanTF{#1}%
10098 {\LWR@print@ref{#2}}%
10099 {\LWR@subnewref{#2}{#2}}%
10100 }
10101
10102 \LWR@formatted{ref}

```

For MATHJAX:

```

10103 \CustomizeMathJax{\let\LWRref\ref}
10104 \CustomizeMathJax{\renewcommand{\ref}{\ifstar\LWRref\LWRref}}

```

`\pagerefPageFor` Text for page references.

```

10105 \newcommand*{\pagerefPageFor}{see }

```

`\pageref *{<label>}` Create an internal document reference, or just the unlinked number if starred, per `hyperref`.

```

10106 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
10107 \IfBooleanTF{#1}%
10108 {(\pagerefPageFor\LWR@print@ref{#2})}%
10109 {(\cpageref{#2})}%
10110 }

```

`\nameref {<label>}`

```

10111 \newrobustcmd*{\nameref}[1]{%
10112 \LWR@traceinfo{nameref}%
10113 \LWR@startref{#1}%
10114 \LWR@traceinfo{nameref B}%
10115 \LWR@nameref{#1}%
10116 \LWR@traceinfo{nameref C}%
10117 \LWR@htmltag{/a}%
10118 \LWR@traceinfo{nameref: done}%
10119 }

```

`\Nameref {<label>}` In print, adds the page number. In HTML, does not.

```

10120 \LetLtxMacro\Nameref\nameref

```

## 75.5 Hyper-references



Note that the code currently only sanitizes the underscore character. Additional characters should be rendered inert as well. See the `hyperref.sty` definition of `\gdef\hyper@normalise` for an example.





Do not tell other packages that **hyperref** is emulated. Some packages patch various commands if **hyperref** is present, which will probably break something, and the emulation already handles whatever may be emulated anyhow.

```
10121 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
10122 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates **hyperref**:

**\@currentHref** Added to support **backref**.

```
10123 \AtBeginDocument{
10124 \def\@currentHref{\BaseJobname-autopage-\theLWR@currentautosec}
10125 }
```

**\LWR@linkcatcodes** Sets catcodes before processing macros which have hyperlinks as arguments.

```
10126 \newcommand*{\LWR@linkcatcodes}{%
10127 \catcode'\#=12%
10128 \catcode'\%=12%
10129 \catcode'\&=12%
10130 \catcode'\~=12%
10131 \catcode'_ =12%
}
```

For **babel-french**:

```
10132 \LWR@hook@processingtags%
10133 }
```

**\LWR@linkmediacatcodes** Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```
10134 \newcommand*{\LWR@linkmediacatcodes}{%
10135 \catcode'\#=12%
10136 \catcode'\%=12%
10137 % \catcode'\&=12% left alone for splitting flash variables
10138 \catcode'\~=12%
10139 \catcode'_ =12%
}
```

For **babel-french**:

```
10140 \LWR@hook@processingtags%
10141 }
```

**\LWR@subhyperref**  $\{\langle URL \rangle\}$

Starts a link for **\LWR@hrefb**. A group must have been opened first, with nullified catcodes. The text name is printed afterwards, after the group is closed and catcodes restored.

```
10142 \NewDocumentCommand{\LWR@subhyperref}{m}{%
10143 \LWR@traceinfo{\LWR@subhyperref !#1}%
10144 \LWR@sanitize{#1}%
}
```

```

10145 \LWR@htmltag{%
10146 a href=\textquotedbl\LWR@sanitized\textquotedbl\ % space
10147 \LWR@addlinktitle % space
10148 target=\textquotedbl_{ }blank\textquotedbl\ % space
10149 }%
10150 }

```

`\LWR@subhyperref text {<text>}`

Finishes the hyperref for `\LWR@hrefb`. Catcodes must have been restored already. To be used after `\LWR@subhyperref`, and after its group has been closed.

```

10151 \newcommand{\LWR@subhyperref text}[1]{%
10152 #1%
10153 \LWR@htmltag{/a}%
10154 \LWR@ensuredoingapar%
10155 }

```

`\LWR@subhyperref class {<URL>} {<text>} {<htmlclass>}`

```

10156 \NewDocumentCommand{\LWR@subhyperref class}{m +m m}{%
10157 \LWR@htmltag{%
10158 a % space
10159 href=\textquotedbl\begin group \@sanitize#1\end group\textquotedbl\ % space
10160 class=\textquotedbl#3\textquotedbl\ % space
10161 \LWR@addlinktitle % space
10162 }\LWR@orig newline%
10163 #2%
10164 \LWR@htmltag{/a}%
10165 \LWR@ensuredoingapar%
10166 }

```

`\LWR@href [ <options> ] {<URL>}`

Create a link with accompanying text:

```

10167 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
10168 \LWR@ensuredoingapar%
10169 \LWR@subhyperref{#2}%
10170 \end group% restore catcodes
10171 \LWR@subhyperref text%
10172 }
10173
10174 \newrobustcmd*{\LWR@href}{%
10175 \begin group%
10176 \LWR@linkcatcodes%
10177 \LWR@hrefb%
10178 }

```

`\LWR@nolinkurl {<URL>}`

Print the name of the link without creating the link:

```

10179 \newcommand*{\LWR@nolinkurlb}[1]{%
10180 \LWR@ensuredoingapar%
10181 \def\LWR@templink{#1}%
10182 \@onelevel@sanitize\LWR@templink%
10183 \LWR@templink%
10184 \endgroup%
10185 }
10186
10187 \newrobustcmd*{\LWR@nolinkurl}{%
10188 \begingroup%
10189 \LWR@linkcatcodes%
10190 \LWR@nolinkurlb%
10191 }

```

`\LWR@url` {<URL>}

Create a link whose text name is the address of the link.

The url package may redefine \url, so it is \let to \LWR@urlahere and also redefined by lwarp-url.

```

10192 \DeclareDocumentCommand{\LWR@urlb}{m}{%
10193 \LWR@ensuredoingapar%
10194 \def\LWR@templink{#1}%
10195 \@onelevel@sanitize\LWR@templink%
10196 \LWR@href{\LWR@templink}{\LWR@templink}%
10197 \endgroup%
10198 }
10199
10200 \newrobustcmd*{\LWR@url}{%
10201 \begingroup%
10202 \LWR@linkcatcodes%
10203 \LWR@urlb%
10204 }

```

`\LWR@subinlineimage` {<alt> tag} {<class>} {<filename>} {<extension>} {<CSS style>}

Factored from lateximage.

```

10205 \newcommand*{\LWR@subinlineimage}[5]{%
10206 \ifblank{#1}%
10207 {%
10208 \LWR@htmltag{img \LWR@indentHTML
10209 src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
10210 alt=\textquotedbl#3\textquotedbl \LWR@indentHTML
10211 style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10212 class=\textquotedbl#2\textquotedbl \LWR@orignewline
10213 }%
10214 }%
10215 {%
10216 \LWR@htmltag{img \LWR@indentHTML
10217 src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
10218 alt=\textquotedbl#1\textquotedbl \LWR@indentHTML
10219 style=\textquotedbl#5\textquotedbl \LWR@indentHTML

```

```
10220 class=\textquotedbl#2\textquotedbl \LWR@originewline
10221 }%
10222 }%
10223 }

10224 \end{warpHTML}
```

Table 15: Float data structures

---

For each <type> of float (figure, table, etc.) there exists the following:

---

**counter <type>:** A counter called <type>, such as figure, table.

**\<type>name:** Name. \figurename prints “Figure”, etc.

**\ext@<type>:** File extension. \ext@figure prints “lof”, etc.

**\fps@<type>:** Placement.

**\the<type>:** Number. \thetable prints the number of the table, etc.

**\p@<type>:** Parent’s number. Prints the number of the [within] figure, etc.

**\fnum@<type>:** Prints the figure number for the caption.  
           \<type>name \the<type>, “Figure 123”.

**\<type>:** Starts the float environment. \figure or \begin{figure}

**\end<type>:** Ends the float environment. \endfigure or \end{figure}

**\tf@<ext>:** The L<sup>A</sup>T<sub>E</sub>X file identifier for the output file.

**LWR@have<type>:** A boolean remembering whether a \listof was requested for a float of this type.

**File with extension lo<f, t, a-z>:** An output file containing the commands to build the \listof<type> “table-of-contents” structure.

**Cross-referencing names:** For cleveref’s \cref and related, \crefname and \Crefname assign human-readable names for references to this float type.

---

## 76 Floats

Floats are supported, although partially through emulation.

Table 15 shows the data structure associated with each <type> of float.

### 76.1 Float environment

**for HTML output:** 10225 \begin{warphTML}

\LWR@floatbegin {<type>} [<placement>]      Begins a \newfloat environment.

10226 \NewDocumentCommand{\LWR@floatbegin}{m o}{%

Warn if starting a float inside a <span>:

10227      \LWR@spanwarninvalid{float}%

```

10228 \ifbool{FormatWP}{\newline}{}%
10229 \LWR@stoppars%

```

There is a new float, so increment the unique float counter:

```

10230 \addtocounter{LWR@thisautoid}{1}%
10231 \booltrue{LWR@freezethisautoid}%

10232 \begingroup%

```

Settings while inside the environment:

```

10233 \LWR@print@raggedright%

```

Open an HTML figure tag. The figure is assigned a class equal to its type, and another class according to the `float` package style, if used. Note that `\csuse` returns an empty string if `\LWR@floatstyle@<type>` is not defined.

```

10234 \LWR@htmltag{%
10235 figure id=\textquotedbl%
10236 \LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}}%
10237 \textquotedbl\ % space
10238 class=\textquotedbl#1 \@nameuse{LWR@floatstyle@#1}\textquotedbl%
10239 }%
10240 \ifbool{FormatWP}{%
10241 \LWR@orignewline%
10242 \LWR@BlockClassWP}{\wp#1}%
10243 }{}%

```

Update the caption type:

```

10244 \renewcommand*{\@capttype}{#1}%

```

Mark the float for a word processor conversion:

```

10245 \LWR@startpars%
10246 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10247
10248 === begin #1 ===
10249
10250 }{}%

```

After each `\LWR@floatbegin`, look for `\centering`, etc next, using `\LWR@floatalignment`.

```

10251 }

```

For `koma-script`. The following does not work for tables.

```

10252 \AtBeginDocument{
10253
10254 \@ifpackageloaded{tocbasic}{
10255
10256 \appto\figure@atbegin{%

```

```

10257 \LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment%
10258 }
10259
10260 }{}% tocbasic
10261
10262 }% AtBeginDocument

```

\@xfloat Support packages which create floats directly.  
 \@xdblfloat Look for \centering, etc using \LWR@floatalignment.

```

10263 \AtBeginDocument{
10264 \def\@xfloat #1[#2]{%
10265 \LWR@floatbegin{#1}[#2]
10266 \LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment%
10267 }
10268 \def\@xdblfloat #1[#2]{%
10269 \LWR@floatbegin{#1}[#2]
10270 \LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment%
10271 }
10272 }

```

\LWR@floatend Ends a \newfloat environment.

```

10273 \newcommand*{\LWR@floatend}{%

```

If saw a \centering, finish the center environment:

```

10274 \LWR@endfloatalignment%

```

Mark the float end for a word processor conversion:

```

10275 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10276
10277 === end ===
10278
10279 }{}%
10280 \LWR@stoppars%

```

Close an HTML figure tag:

```

10281 \ifbool{FormatWP}{\endLWR@BlockClassWP}{}%
10282 \LWR@htmllementend{figure}%
10283 \endgroup%
10284 \boolfalse{LWR@freezethisautoid}%
10285 \LWR@startpars%
10286 \ifbool{FormatWP}{\newline}{}%
10287 }

```

\end@float Support packages which create floats directly.  
 \end@dblfloat

```

10288 \AtBeginDocument{
10289 \let\end@float\LWR@floatend

```

```
10290 \let\end@dblfloat\LWR@floatend
10291 }
```

## 76.2 Float tracking

**Ctrl LWR@thisautoid** A sequential counter for all floats and theorems. This is used to identify the float or theorem then reference it from the List of Figures and List of Tables.

```
10292 \newcounter{LWR@thisautoid}
```

**Ctrl LWR@thisautoidWP** A sequential counter for all word processor conversion <div>s. This is used to convince LIBREOFFICE to form a frame around this element.

```
10293 \newcounter{LWR@thisautoidWP}
```

**Bool LWR@freezethisautoid** Prevents multiple increments of \LWR@thisautoid inside a float.

```
10294 \newbool{LWR@freezethisautoid}
10295 \boolfalse{LWR@freezethisautoid}
```

**\LWR@forcenewautoidanchor** Adds a new <autoid> anchor.

```
10296 \newcommand*{\LWR@forcenewautoidanchor}{%
10297 \addtocounter{LWR@thisautoid}{1}%
10298 \ifbool{LWR@doingapar}%
10299 {%
10300 \LWR@htmltag{a id=\textquotedbl%
10301 \LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}}%
10302 \textquotedbl\ }% space
10303 \LWR@htmltag{/a }%
10304 }%
10305 {%
10306 \LWR@stoppars%
10307 \LWR@htmltag{a id=\textquotedbl%
10308 \LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}}%
10309 \textquotedbl\ }% space
10310 \LWR@htmltag{/a }%
10311 \LWR@startpars%
10312 }%
10313 }
```

**\LWR@newautoidanchor** Sometimes adds a new <autoid> anchor.

```
10314 \newcommand*{\LWR@newautoidanchor}{%
10315 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10316 {%
10317 {\ifbool{LWR@freezethisautoid}}{\LWR@forcenewautoidanchor}}%
10318 }
```

**\@capttype** Remembers which float type is in use.

```
10319 \newcommand*{\@capttype}{}
```



`\LWR@floatalignmentname` Set to center, flushleft, or flushright if saw `\centering`, `\raggedright`, or `\raggedleft`.

```
10320 \newcommand*{\LWR@floatalignmentname}{}%
```

`\LWR@floatalignment` If sees a `\centering`, `\raggedleft`, or `\raggedright`, creates a center, flushright, or flushleft environment.

```
10321 \newcommand*{\LWR@floatalignment}{%
10322 \ifdefstrequal{\LWR@mynexttoken}{\centering}{%
10323 \center%
10324 \renewcommand*{\LWR@floatalignmentname}{center}%
10325 }{}%
10326 \ifdefstrequal{\LWR@mynexttoken}{\raggedright}{%
10327 \flushleft%
10328 \renewcommand*{\LWR@floatalignmentname}{flushleft}%
10329 }{}%
10330 \ifdefstrequal{\LWR@mynexttoken}{\raggedleft}{%
10331 \flushright%
10332 \renewcommand*{\LWR@floatalignmentname}{flushright}%
10333 }{}%
10334 }
```

`\LWR@endfloatalignment` Closes an environment from `\LWR@floatalignment`.

```
10335 \newcommand*{\LWR@endfloatalignment}{%
10336 \ifdefvoid{\LWR@floatalignmentname}%
10337 {}%
10338 {\@nameuse{end\LWR@floatalignmentname}}%
10339 \renewcommand*{\LWR@floatalignmentname}{}%
10340 }
```

## 76.3 Caption inside a float environment

`\CaptionSeparator` How to separate the float number and the caption text, if not defined by the user. In most cases, `caption`'s settings are used instead.

```
10341 \AtBeginDocument{\providecommand*{\CaptionSeparator}{:~}}
```

`\@caption` `{<posn>}` [`<name>`] [`<long name>`]

`\@makecaption` `{<name and num>}` [`<text>`]

Prints the float type and number, the caption separator, and the caption text.

`\@caption` is provided here in case `caption` is not loaded, and is based on the `nameref` package.

```
10342 \AtBeginDocument{
10343 \@ifpackageloaded{caption}{}{
10344 \let\LWR@orig@caption\LWR@caption%
10345 \long\def\LWR@caption#1[#2]{%

```

Warn if using a caption inside a <span>:

```

10346 \LWR@spanwarnformat{caption}%

10347 \LWR@setlatestname{#2}%
10348 \LWR@orig@caption{#1}[{#2}]% also takes third argument
10349 }%
10350
10351 \renewcommand{\@makecaption}[2]{%
10352 \LWR@traceinfo{@makecaption}%
10353 \caption@begin{@captype}%
10354 \LWR@isolate{#1}%
10355 \edef\LWR@tempone{#1}%
10356 \ifdefvoid{\LWR@tempone}{\CaptionSeparator}%
10357 \LWR@isolate{#2}%
10358 \caption@end%
10359 \LWR@traceinfo{@makecaption: done}%
10360 }%
10361 }
10362 }
```

## 76.4 Caption and L<sup>o</sup>F linking and tracking

When a new HTML file is marked in the  $\text{\LaTeX}$  PDF file, or at the start of a new section, the  $\text{\LaTeX}$  page number at that point is stored in `LWR@latestautopage`, (and the associated filename is remembered by the special  $\text{\LaTeX}$  labels). This page number is used to generate an autopage HTML `<id>` in the HTML output at the start of the new HTML file or section. Meanwhile, there is a float counter used to generate an HTML autoid `<id>` at the start of the float itself in the HTML file. The autopage and autoid values to use for each float are written to the `.lof`, etc. files just before each float's entry. These values are used by `\l@figure`, etc. to create the HTML links in the List of Figures, etc.

Ctrl `LWR@nextautoid` Tracks autoid for floats. Tracks autopage for floats.  
 Ctrl `LWR@nextautopage` These are updated per float as the `.lof`, `.lot` file is read.

```

10363 \newcounter{LWR@nextautoid}
10364 \newcounter{LWR@nextautopage}
```

`\LWRsetnextfloat` `{\langle autopage \rangle}{\langle float autoid \rangle}`

File `*_html.lof` This is written to the `*_html.lof` or `*_html.lot` file just before each float's usual entry.  
 File `*_html.lot` The autopage and the float's autoid are remembered for `\l@figure` to use when creating the HTML links.

```

10365 \newcommand*\LWRsetnextfloat[2]{%
10366 \setcounter{LWR@nextautopage}{#1}%
10367 \setcounter{LWR@nextautoid}{#2}%
10368 }
```

Ctrl `LWR@latestautopage` The HTML output's PDF page number at the start of a new HTML file or section.

`\LWRsetnextfloat` is written with this and the `auto`id by the modified `\addcontentsline` just before each float's entry.

```
10369 \newcounter{LWR@latestautopage}
10370 \setcounter{LWR@latestautopage}{1}
```

Env `LWR@figcaption` An HTML `<figcaption>` is not allowed in places where  $\text{\LaTeX}$  does allow a figure caption, such as inside a `longtable` where the tabular has already started, or inside a `center` environment. Therefore, a `<div>` of class `figurecaption` is used instead.

```
10371 \newenvironment*{LWR@figcaption}
10372 {%
10373 \ifbool{FormatWP}{%
10374 \BlockClass[font-style:italic]{figurecaption}%
10375 }{\LWR@print@vspace*{\baselineskip}}
10376 }{%
10377 \BlockClass{figurecaption}%
10378 }%
10379 }%
10380 {\endBlockClass}
```

`\LWR@HTML@caption@begin` `{\langle type \rangle}`

Low-level code to create HTML tags for captions.

The print versions are from the `caption` package, if loaded.

```
10381 \newcommand*{\LWR@HTML@caption@begin}[1]
10382 {%
10383 \LWR@traceinfo{LWR@HTML@caption@begin}%
```

Keep `par` and `minipage` changes local:

```
10384 \begingroup%
```

No need for a `minipage` or `\parbox` inside the caption:

```
10385 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{\}{\}%
10386 \RenewDocumentCommand{\parbox}{O{t} O{} O{t} m +m}{##5}%
```

Enclose the original caption code inside an HTML tag:

```
10387 \LWR@figcaption%
10388 \LWR@traceinfo{LWR@HTML@caption@begin: about to LWR@origcaption@begin}%
10389 \LWR@print@caption@begin{#1}%
10390 \LWR@traceinfo{LWR@HTML@caption@begin: done}%
10391 }
```

`\LWR@HTML@caption@end` Low-level patches to create HTML tags for captions.

```
10392 \newcommand*{\LWR@HTML@caption@end}
10393 {%
10394 \LWR@traceinfo{LWR@HTML@caption@end}%
10395 \LWR@print@caption@end%
```

Closing tag:

```

10396 \endLWR@figcaption%
10397 \endgroup%
10398 % \leavevmode% avoid bad space factor (0) error
10399 \LWR@traceinfo{LWR@HTML@caption@end: done}%
10400 }

```

`\caption@begin` Low-level patches to create HTML tags for captions. These are assigned `\AtBeginDocument`  
`\caption@end` so that other packages which modify captions will have already been loaded before saving the print-mode version.

Print versions are provided here in case `caption` is not loaded.

```

10401 \AtBeginDocument{
10402 \providecommand{\caption@begin}[1]{}
10403 \LWR@formatted{caption@begin}
10404
10405 \providecommand{\caption@end}{}
10406 \LWR@formatted{caption@end}
10407 }

```

`\captionlistentry` Tracks the float number for this caption used outside a float. Patched to create an HTML anchor.

```

10408 \AtBeginDocument{%
10409 \ifpackageloaded{caption}{
10410 \let\LWR@origcaptionlistentry\captionlistentry
10411
10412 \renewcommand*{\captionlistentry}{%
10413 \LWR@ensuredoingapar%
10414 \LWR@origcaptionlistentry%
10415 }

10416 \def\LWR@LTcaptionlistentry{%
10417 \LWR@ensuredoingapar%
10418 \LWR@forcenewautoidanchor%
10419 \bgroup%
10420 \@ifstar{\egroup\LWR@LT@captionlistentry}% gobble *
10421 {\egroup\LWR@LT@captionlistentry}%
10422 }%
10423
10424 \def\LWR@LT@captionlistentry#1{%
10425 \caption@listentry\@firstoftwo[\LTcapttype]{#1}%
10426 }%
10427 }% caption loaded
10428 {% caption not loaded
10429 \newcommand{\captionlistentry}[2][{}]{%
10430 \newcommand{\LWR@LT@captionlistentry}[2][{}]{%
10431 }
10432 }% AtBeginDocument

```

`\addcontentsline` Patched to write the autopage and autoid before each float's entry. No changes if writing `.toc`. For a theorem, automatically defines `\ext@<type>` as needed, to mimic and reuse the float mechanism.

f

```

10433 \let\LWR@origaddcontentsline\addcontentsline
10434
10435 \renewcommand*{\addcontentsline}[3]{%
10436 \ifstrequal{#1}{toc}{}% not TOC

10437 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10438 {}%
10439 {\LWR@newautoidanchor}%

10440 \ifcvoid{ext@#2}{\csdef{ext@#2}{#1}}{%

10441 \addtocontents{\@nameuse{ext@#2}}{%
10442 \protect\LWRsetnextfloat%
10443 {\arabic{LWR@latestautopage}}%
10444 {\arabic{LWR@thisautoid}}%
10445 }%
10446 }% not TOC
10447 \LWR@origaddcontentsline{#1}{#2}{#3}%
10448 }
```

Pkg `capt-of` Either package provides `\captionof`, which is later patched at the beginning of the document.

Pkg `caption`

`\captionof` Patched to handle paragraph tags.

```

10449 \RequirePackage{capt-of}
10450
10451 \AtBeginDocument{
10452 \let\LWR@origcaptionof\captionof
10453
10454 \renewcommand*{\captionof}{%
10455 \LWR@stoppars%
10456 \LWR@origcaptionof%
10457 }
10458 }% AtBeginDocument

10459 \end{warpHTML}
```

## 77 Table of Contents, LOF, LOT

This section controls the generation of the TOC, LOF, and LOT.

The `.toc`, `.lof`, and `.lot` files are named by the source code `\jobname`.

In HTML, the printed tables are placed inside a `<div>` of class `toc`, `lof`, or `lot`.

A “sidedtoc” is provided which prints a subset of the TOC on the side of each page other than the homepage.

The regular  $\text{\LaTeX}$  infrastructure is used for TOC, along with some patches to generate HTML output.

**for HTML output:** 10460 `\begin{warpHTML}`

## 77.1 Reading and printing the toc

`\LWR@myshorttoc`  $\{\langle\text{toc/lof/lot/sidetoc}\rangle\}$

Reads in and prints the TOC/LOF/LOT at the current position. While doing so, makes the @ character into a normal letter to allow formatting commands in the section names.

Unlike in regular  $\text{\LaTeX}$ , the file is not reset after being read, since the sidedtoc may be referred to again in each HTML page.

```
10461 \newcommand*\LWR@myshorttoc[1]{%
10462 \LWR@traceinfo{\LWR@myshorttoc: #1}%
10463 \LWR@ensuredoingapar%
```

Only if the file exists:

```
10464 \IfFileExists{\jobname.#1}{%
10465 \LWR@traceinfo{\LWR@myshorttoc: loading}%
```



Many of the commands in the file will have @ characters in them, so @ must be made a regular letter.

```
10466 \begingroup%
10467 \makeatletter%
```

Disable CJK xpinyin while generating the sidedtoc.

```
10468 \LWR@disablepinyin%
```

Read in the TOC file:

```
10469 \@input{\jobname.#1}%
10470 \endgroup%
10471 }%
10472 {}%
10473 \LWR@traceinfo{\LWR@myshorttoc: done}%
10474 }
```

`\LWR@subtableofcontents`  $\{\langle\text{toc/lof/lot}\rangle\} \{\langle\text{sectionstarname}\rangle\}$

Places a TOC/LOF/LOT at the current position.

```
10475 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
10476 \ifundefined{chapter}%
10477 {\LWR@closeprevious{section}}%
10478 {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large TOC:

```
10479 \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
10480 \ifundefined{chapter}{\section*{#2}}{\chapter*{#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
10481 \LWR@htmlclass{nav}{#1}%
```

Create the actual list:

```
10482 \LWR@myshorttoc{#1}%
```

Close the nav:

```
10483 \LWR@htmlclassend{nav}{#1}%
10484 }
```

`\@starttoc {<ext>}`

Patch `\@starttoc` to encapsulate the TOC inside HTML tags:

```
10485 \let\LWR@orig@starttoc\@starttoc
10486
10487 \renewcommand{\@starttoc}[1]{
10488 \LWR@htmlclass{nav}{#1}%
10489 \LWR@orig@starttoc{#1}%
10490 \LWR@htmlclassend{nav}{#1}%
10491 }
```

**Bool** `LWR@copiedsidetoc` Used to only copy the TOC file to the sidetoc a single time.

(listings and perhaps other packages would re-use `\tableofcontents` for their own purposes, causing the sidetoc to be copied more than once, and thus end up empty.)

```
10492 \newbool{LWR@copiedsidetoc}
10493 \boolfalse{LWR@copiedsidetoc}
```

`\tableofcontents` Patch `\tableofcontents`, etc. to print footnotes first. **newfloat** uses `\listoffigures` for all future float types.

```
10494 \AtBeginDocument{
10495
10496 \let\LWR@origtableofcontents\tableofcontents
```

```

10497
10498 \renewcommand*{\tableofcontents}{%

```

Do not print the table of contents if formatting for a word processor, which will presumably auto-generate its own updated table of contents:

```

10499 \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{
10500
10501 === table of contents ===
10502
10503 }
10504 {

```

Copy the .toc file to .sidetoc for printing the sidetoc. The original .toc file is renewed when \tableofcontents is finished.

```

10505 \ifbool{LWR@copiedsidetoc}{}{%
10506 \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}%
10507 \booltrue{LWR@copiedsidetoc}%
10508 }%
10509 \LWR@printpendingfootnotes
10510 \LWR@origtableofcontents
10511 }
10512 }% \tableofcontents
10513
10514 }% AtBeginDocument

```

## \listoffigures

```

10515 \let\LWR@origlistoffigures\listoffigures
10516
10517 \renewcommand*{\listoffigures}{
10518 \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10519
10520 === list of figures ===
10521
10522 }
10523 {
10524 \LWR@printpendingfootnotes
10525 \LWR@origlistoffigures
10526 }
10527 }

```

## \listoftables

```

10528 \let\LWR@origlistoftables\listoftables
10529
10530 \renewcommand*{\listoftables}{
10531 \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10532
10533 === list of tables ===
10534
10535 }
10536 {

```



```

10537 \LWR@printpendingfootnotes
10538 \LWR@origlistoftables
10539 }
10540 }

```

## 77.2 High-level toc commands

`\listof {<type>} {<title>}`

Emulate the `\listof` command from the `float` package (section 267). Used to create lists of custom float types. Also used to redefine the standard  $\LaTeX$  `\listoffigures` and `\listoftables` commands.

```

10541 \NewDocumentCommand{\listof}{m +m}{%
10542 \ifundefined{l@#1}{%
10543 \csdef{l@#1}##1##2{\hypertocfloat{1}{#1}{\@nameuse{ext@#1}}{##1}{##2}}%
10544 }{ }%
10545 \LWR@subtableofcontents{\@nameuse{ext@#1}}{#2}%
10546 \expandafter\newwrite\csname tf@#1\endcsname\endcsname%
10547 \immediate\openout \csname tf@#1\endcsname\endcsname%
10548 \jobname.\@nameuse{ext@#1}\relax%
10549 }

```

## 77.3 Side toc

The “side toc” is a table-of-contents positioned to the side.

It may be renamed by redefining `\sidetocname`, and may contain paragraphs.

Per table 16, `css` may be used to format the `sidetoc`.

Table 16: CSS related to the `sidetoc`

**div.sidetoccontainer:** The entire `sidetoc`.

**div.sidetocitle:** The title.

**div.sidetoccontents:** The table of contents.

```

10550 \end{warpHTML}

```

**for HTML & PRINT:** 10551 `\begin{warpall}`

**Ctrl SideTOCDepth** Controls how deep the side-TOC gets. Use a standard  $\LaTeX$  section level similar to `tocdepth`. Warn if parts of the website may be inaccessible.

```

10552 \newcounter{SideTOCDepth}
10553 \setcounter{SideTOCDepth}{1}
10554
10555 \AtEndDocument{%
10556 \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{
10557 \PackageWarningNoLine{lwarp}

```

```

10558 {%
10559 SideTOCDepth is less than FileDepth,\MessageBreak
10560 so some website pages may be inaccessible%
10561 }
10562 }{}
10563 }

```

`\sitetocname` Holds the default name for the sidenav.

```

10564 \newcommand{\sitetocname}{Contents}

10565 \end{warpall}

```

**for HTML output:** 10566 `\begin{warpHTML}`

`\LWR@sidenav` Creates the actual side-TOC.

```

10567 \newcommand*{\LWR@sidenav}{%
10568 \LWR@forcenewpage
10569 \LWR@stoppars
10570 }

```

The entire sidenav is placed into a nav of class sidenav.

```

10571 \LWR@htmlElementclass{div}{sidenavcontainer}
10572 \LWR@htmlElementclass{nav}{sidenav}
10573
10574 \setcounter{tocdepth}{\value{SideTOCDepth}}
10575

```

The title is placed into a <div> of class sidenavTitle, and may contain paragraphs.

```

10576 \begin{BlockClass}{sidenavTitle}
10577 \ifcsvoid{thetitle}{}{\InlineClass{sidenavthetitle}{\thetitle}\par}
10578 \sitetocname
10579 \end{BlockClass}

```

The table of contents is placed into a <div> of class sidenavContents.

```

10580 \begin{BlockClass}{sidenavContents}
10581 \LinkHome
10582
10583 \LWR@myshorttoc{sidenav}
10584 \end{BlockClass}
10585 \LWR@htmlElementclassend{nav}{sidenav}
10586 \LWR@htmlElementclassend{div}{sidenavcontainer}
10587 }

```

## 77.4 Low-level toc line formatting

`\numberline`  $\{\langle number \rangle\}$

(Called from each line in the .aux, .lof files.)

Record this section number for further use:

```
10588 \newcommand*{\LWR@numberline}[1]{%
10589 \LWR@sectionnumber{#1}\quad%
10590 }
10591
10592 \let\LTxMacro\numberline\LWR@numberline
```

`\LWR@maybetocdata` Replaced by `tocdata`. Adds author name.

```
10593 \newcommand*{\LWR@maybetocdata}{}
```

`\hypertoc`  $\{\langle 1: depth \rangle\} \{\langle 2: type \rangle\} \{\langle 3: name \rangle\} \{\langle 4: page \rangle\}$

Called by `\l@section`, etc. to create a hyperlink to a section.

The autopage label is always created just after the section opens.

**#1** is depth

**#2** is section, subsection, etc.

**#3** the text of the caption

**#4** page number

```
10594 \NewDocumentCommand{\hypertoc}{m m +m m}{%
10595 \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}%
```

Respond to `tocdepth`:

```
10596 \ifnumcomp{#1}{>}{\value{tocdepth}}{%
10597 }{%
10598 }{%
10599 \LWR@startpars%
```

Create an HTML link to `<filename>#autosec-(page)`, with the name, of the given HTML class.

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
10600 \LWR@subhyperrefclass{%
10601 \LWR@htmlrefsectionfilename{\BaseJobname-autopage-#4}%
10602 \LWR@origpound\LWR@print@box{autosec-#4}%
10603 }{#3}{toc#2}%

10604 \LWR@maybetocdata%

10605 \LWR@stoppars%
10606 }%
10607 \LWR@traceinfo{hypertoc done}%
10608 }
```

Ctrl lofdepth toc depth for figures.

```
10609 \ifclassloaded{memoir}{%
10610 \newcounter{lofdepth}
10611 \setcounter{lofdepth}{1}
10612 }
```

Ctrl lotdepth toc depth for tables.

```
10613 \ifclassloaded{memoir}{%
10614 \newcounter{lotdepth}
10615 \setcounter{lotdepth}{1}
10616 }
```

\hypertocfloat {<1: depth>} {<2: type>} {<3: ext of parent>} {<4: caption>} {<5: page>}

#1 is depth

#2 is figure, table, etc.

#3 is lof, lot, of the parent.

#4 the text of the caption

#5 page number

```
10617 \newcommand{\hypertocfloat}[5]{%
```

If some float-creation package has not yet defined the float type's lofdepth counter, etc, define it here:

```
10618 \ifundefined{c@#3depth}{%
10619 \newcounter{#3depth}%
10620 \setcounter{#3depth}{1}%
10621 }{ }%
```

Respond to lofdepth, etc.:

```
10622 \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%
10623 \ifthenelse{\cnttest{#1}<=}{\arabic{#3depth}}}%
10624 {%
10625 \LWR@startpars%
```

Create an HTML link to filename#autoid-(float number), with text of the caption, of the given HTML class.

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
10626 \LWR@subhyperrefclass{%
10627 \LWR@htmlrefsectionfilename{%
10628 \BaseJobname-autopage-\arabic{LWR@nextautopage}%
10629 }%
10630 \LWR@origpound\LWR@print@mbbox{autoid-\arabic{LWR@nextautoid}}}%
10631 {#4}{toc#2}%
```

```

10632 \LWR@maybetocdata%

10633 \LWR@stoppars%
10634 }%
10635 {}%
10636 }

```

Automatically called by \contentsline:

```
\l@book {\langle name\rangle} {\langle page\rangle}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \book.

```
10637 \DeclareDocumentCommand{\l@book}{m m}{\hypertoc{-2}{book}{#1}{#2}}
```

```
\l@part {\langle name\rangle} {\langle page\rangle}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \part.

```
10638 \DeclareDocumentCommand{\l@part}{m m}{\hypertoc{-1}{part}{#1}{#2}}
```

```
\l@chapter {\langle name\rangle} {\langle page\rangle}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \chapter.

```

10639 \ifundefined{chapter}
10640 {}
10641 {
10642 \DeclareDocumentCommand{\l@chapter}{m m}
10643 {\hypertoc{0}{chapter}{#1}{#2}}
10644 }

```

```
\l@section {\langle name\rangle} {\langle page\rangle}
```

```
10645 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

```
\l@subsection {\langle name\rangle} {\langle page\rangle}
```

```
10646 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

```
\l@subsubsection {\langle name\rangle} {\langle page\rangle}
```

```
10647 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}
```

```
\l@paragraph {\langle name\rangle} {\langle page\rangle}
```

```
10648 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}
```

```
\l@subparagraph {\langle name\rangle} {\langle page\rangle}
```

```
10649 \renewcommand{\l@subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}
```

```

\l@figure {\langle name\rangle} {\langle page\rangle}

10650 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}

\l@table {\langle name\rangle} {\langle page\rangle}

10651 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}

10652 \end{warpHTML}

```

## 78 Index and glossary

See:

[http://tex.stackexchange.com/questions/187038/  
how-to-mention-section-number-in-index-created-by-imakeidx](http://tex.stackexchange.com/questions/187038/how-to-mention-section-number-in-index-created-by-imakeidx)

Index links are tracked by the counter LWR@autoindex. This counter is used to create a label for each index entry, and a reference to this label for each entry in the index listing. This method allows each index entry to link directly to its exact position in the document.

**for HTML output:**

```

10653 \begin{warpHTML}

10654 \newcounter{LWR@autoindex}
10655 \setcounter{LWR@autoindex}{0}
10656
10657 \newcounter{LWR@autoglossary}
10658 \setcounter{LWR@autoglossary}{0}

```

`\IndexPageSeparator` User-adjustable delimiters for page and range separators in the \*.ind files.

`\IndexRangeSeparator`

```

10659 \newcommand*\IndexPageSeparator}{, }
10660 \newcommand*\IndexRangeSeparator}{--}

```

Env `theindex`

```

10661 \@ifundefined{chapter}
10662 {\newcommand*\LWR@indexsection}[1]{\section*{#1}}
10663 {\newcommand*\LWR@indexsection}[1]{\chapter*{#1}}
10664
10665
10666 \AtBeginDocument{
10667
10668 \renewenvironment*{theindex}{%
10669 \LWR@indexsection{\indexname}%
10670 \let\item\LWR@indexitem%
10671 \let\subitem\LWR@indexsubitem%
10672 \let\subsubitem\LWR@indexsubsubitem%
10673 }{}
10674
10675 }% AtBeginDocument

```

`\LWR@indexitem` [*<index key>*]      The optional argument is added to support `repeatindex`.

```
10676 \newcommand{\LWR@indexitem}[1][\@empty]{
10677
10678 \InlineClass{indexitem}{\LWR@htmlcomment{}}#1%
10679 }
```

`\LWR@indexsubitem`

```
10680 \newcommand{\LWR@indexsubitem}{
10681
10682 \InlineClass{indexsubitem}{\LWR@htmlcomment{}}%
10683 }
```

`\LWR@indexsubsubitem`

```
10684 \newcommand{\LWR@indexsubsubitem}{
10685
10686 \InlineClass{indexsubsubitem}{\LWR@htmlcomment{}}%
10687 }
```

`\LWR@index@modifyentry` {*<indexing term>*}

If using *xindex*, modifies the pipe character to become `\hyperindexformat`. The indexing term is split into two argument at the pipe, then fed to `\LWR@index@modifyentrysub`.

```
10688 \NewDocumentCommand{\LWR@index@modifyentry}{>\SplitArgument{1}{|}}{m}
10689 {\LWR@index@modifyentrysub#1}
```

Handle left and right parenthesis range argument, or add a `hyperindexformat` clause.

```
10690 \newcommand*{\LWR@index@modifyentrysub}[2]{%
10691 \edef\LWR@tempone{#1}%
10692 \edef\LWR@temptwo{#2}%
10693 \IfValueTF{#2}{%
10694 \ifx#2(%
10695 \appto\LWR@tempone{|}%
10696 \else%
10697 \ifx#2)%
10698 \appto\LWR@tempone{|}%
10699 \else%
10700 \appto\LWR@tempone{%
10701 |hyperindexformat\LWRleftbrace%
10702 \LWRbackslash#2%
10703 \LWRrightbrace%
10704 }%
10705 \fi%
10706 \fi%
10707 }%
10708 {}%
10709 }
```

`\@wrindex` {*<indexing term>*}      Redefined to write the `LWR@autoindex` counter instead of page.

If using *xindex*, the first line is a comment including a special phrase which tricks *xindex* into thinking that *hyperref* was used.

```

10710 \newbool{LWR@index@tricked}
10711 \boolfalse{LWR@index@tricked}
10712
10713 \def\LWR@wrindex#1{%
10714 \ifbool{LWR@index}{%
10715 \ifbool{LWR@index@tricked}{%
10716 \protected@write\@indexfile{%
10717 {%
10718 \LWRpercent\space hyperpage\LWRrightbrace%
10719 \LWRpercent\space trick xindex to assume hyperref%
10720 }%
10721 \global\booltrue{LWR@index@tricked}%
10722 }%
10723 \LWR@index@modifyentry{#1}%
10724 }{%
10725 \def\LWR@tempone{#1}%
10726 }%
10727 \addtocounter{LWR@autoindex}{1}%
10728 \label{LWRindex-\arabic{LWR@autoindex}}%
10729 \protected@write\@indexfile{%
10730 {\string\indexentry{LWR@tempone}{\arabic{LWR@autoindex}}}%
10731 \endgroup%
10732 \@esphack%
10733 }
10734
10735 \AtBeginDocument{
10736 \let\@wrindex\LWR@wrindex
10737 }

```

`\@wrglossary {⟨term⟩}`      Redefined to write the LWR@latestautopage counter instead of page.

```

10738 \def\@wrglossary#1{%
10739 \addtocounter{LWR@autoglossary}{1}%
10740 \LWR@new@Label{LWRglossary-\theLWR@autoglossary}%
10741 \protected@write\@glossaryfile{%
10742 {\string\glossaryentry{#1}{\theLWR@autoglossary}}%
10743 \endgroup%
10744 \@esphack%
10745 }

```

`\LWR@indexnameref@anonref {⟨LWR@autoindex⟩}`

Displays a reference link where there no \ref available.

```

10746 \newcommand*{\LWR@indexnameref@anonref}[1]{%
10747 \LWR@startref{LWRindex-#1}%
10748 (*)%
10749 \LWR@htmltag{/a}%
10750 }

```

`\LWR@indexnameref@ref {⟨LWR@autoindex⟩}`



Creates \ref-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first.

```

10751 \newcommand*{\LWR@indexnameref@ref}[1]{%
10752 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
10753 \ifdefvoid{\LWR@thisref}{}{%
10754 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10755 \ifdefvoid{\LWR@thisref}%
10756 {\LWR@indexnameref@anonref{#1}}%
10757 {\ref{LWRindex-#1}}%
10758 }%
10759 }
```

`\LWR@indexnameref@refnameref` `{\LWR@autoindex}`

Creates \ref-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first. For links to starred or ?? objects, only the name is used.

```

10760 \newcommand*{\LWR@indexnameref@refnameref}[1]{%
10761 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
10762 \ifdefvoid{\LWR@thisref}{}{%
10763 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10764 \ifdefvoid{\LWR@thisref}{}{%
10765 \ifdefstring{\LWR@thisref}{(*)}%
10766 {}%
10767 {\ref{LWRindex-#1} }% space
10768 }%
10769 }%
10770 \nameref{LWRindex-#1}%
10771 }
```

`\LWR@indexnameref@cref` `{\LWR@autoindex}`

Creates \cref-style index references. If no numbered reference is available, a \nameref is used instead. If the reference is ??, which will be changed by \LWR@indexnameref to become (\*), then the link is changed to show (\*).

```

10772 \newcommand*{\LWR@indexnameref@cref}[1]{%
10773 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
10774 \ifdefvoid{\LWR@thisref}{}%
10775 \nameref{LWRindex-#1}%
10776 }{%
10777 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10778 \ifdefvoid{\LWR@thisref}{}%
10779 \nameref{LWRindex-#1}%
10780 }{%
10781 \ifdefstring{\LWR@thisref}{(*)}{%
10782 \LWR@indexnameref@anonref{#1}%
10783 }{%
10784 \cref{LWRindex-#1}%
10785 }%
10786 }%
10787 }%
```

10788 }

`\LWR@indexnameref@crefnameref` {*`\LWR@autoindex`*}

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is `??`, which will be changed by `\LWR@indexnameref` to become `(*)`, then the link is changed to show only the name.

```

10789 \newcommand*{\LWR@indexnameref@crefnameref}[1]{%
10790 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
10791 \ifdefvoid{\LWR@thisref}%
10792 {}%
10793 {%
10794 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10795 \ifdefvoid{\LWR@thisref}%
10796 {}%
10797 {%
10798 \ifdefstring{\LWR@thisref}{(*)}%
10799 {}%
10800 {\cref{LWRindex-#1}} % space
10801 }%
10802 }%
10803 \nameref{LWRindex-#1}%
10804 }
```

`\LWR@indexnameref` {*`\LWR@autoindex`*}

Creates a hyperlink based on the given entry's autoindex.

```

10805 \newcommand*{\LWR@indexnameref}[1]{%
10806 {% group
```

Temporarily redefine `\caption's \caption@xref` because it was printing `??` in the indexes, and also causing error on expansion:

```

10807 \ifdef{\caption@xref}{%
10808 \renewcommand*{\caption@xref}[2]{(*)}%
10809 }{%

10810 \ifdefstring{\LWR@IndexRef}{ref}{%
10811 \LWR@indexnameref@ref{#1}%
10812 }{%
10813 \ifdefstring{\LWR@IndexRef}{nameref}{%
10814 \nameref{LWRindex-#1}%
10815 }{%
10816 \ifdefstring{\LWR@IndexRef}{refnameref}{%
10817 \LWR@indexnameref@refnameref{#1}%
10818 }{%
10819 \ifdefstring{\LWR@IndexRef}{cref}{%
10820 \LWR@indexnameref@cref{#1}%
10821 }{%
10822 \ifdefstring{\LWR@IndexRef}{crefnameref}{%
10823 \LWR@indexnameref@crefnameref{#1}%
10824 }{%
```

```

10825 \ifdefstring{\LWR@IndexRef}{autoref}{%
10826 \LWR@indexnameref@cref{#1}%
10827 }{% text string
10828 \LWR@startref{\LWRindex-#1}%
10829 \LWR@IndexRef%
10830 \LWR@htmltag{/a}%
10831 }}}}}%
10832 }% group
10833 }

```

`\LWR@doindexentrysubsub` {<range start: *LWR@autoindex*, or macros.>} {<range end or blank>}

Creates a hyperlink, or handles `\see`, `\textbf`, etc.

```

10834 \newrobustcmd{\LWR@doindexentrysubsub}[2]{%
10835 \IfInteger{#1}%
10836 {\LWR@indexnameref{#1}%
10837 {#1}%
10838 \IfValueT{#2}{%
10839 \IndexRangeSeparator%
10840 \IfInteger{#2}%
10841 {\LWR@indexnameref{#2}}%
10842 {#2}%
10843 }%
10844 }

```

`\LWR@doindexentrysub` {<range delimiter>} {<*LWR@autoindex* or macros, possible a range>}

```

10845 \NewDocumentCommand{\LWR@doindexentrysub}{m >{\SplitArgument{1}{#1}}m}
10846 {\LWR@doindexentrysubsub#2}

```

`\LWR@doindexentry` {<*LWR@autoindex* or macros, possible a range>}

```

10847 \newcommand*{\LWR@doindexentry}[1]{%
10848 \relax% required
10849 \expandafter\LWR@doindexentrysub\expandafter{\IndexRangeSeparator}{#1}%
10850 }

```

`\LWR@hyperindexrefnullified` Handles macros commonly seen inside an `\index` entry. Each macro is redefined to create and format a link to its entry.

 **index formatting** To handle additional macros:

`\appto\LWR@hyperindexrefnullified{. . .}`

```

10851 \newcommand{\LWR@hyperindexrefnullified}{%
10852 \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{##1}}}%
10853 \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{##1}}}%
10854 \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{##1}}}%
10855 \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{##1}}}%
10856 \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{##1}}}%
10857 \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{##1}}}%
10858 \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{##1}}}%

```

```

10859 \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{##1}}}%
10860 \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}%
10861 \renewrobustcmd{\textulc}[1]{\LWR@HTML@textulc{\LWR@doindexentry{##1}}}%
10862 \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{##1}}}%
10863 \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}%
10864 \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}%
10865 }

```

`\hyperindexref` {*(list of LWR@autoindex, commas, and ranges)*}

`\hyperindexref{LWR@autoindex}` is inserted into \*.ind by the *makeindex* style file `lwarp.ist` or the *xindy* style file `lwarp.xdy`. For *xindex*, `\hyperpage` is inserted, which is `\let` to `\hyperindexref`. For *gindex*, `\addindexitem` and related are inserted, which are defined to use `\hyperindexref`.

The argument is split at commas, and also for ranges, then passed to `\LWR@hyperindexrefsub`.

```

10866 \newcommand*{\hyperindexref}[1]{%
10867 \relax% required
10868 \expandafter\LWR@hyperindexref@comma\expandafter{\IndexPageSeparator}{#1}%
10869 }

```

`\LWR@hyperindexref@comma` {*(separator)*} {*(list of args)*}

The list is split at commas, and passed to `\LWR@hyperindexref@@comma`.

```

10870 \NewDocumentCommand{\LWR@hyperindexref@comma}
10871 {m >\SplitList{#1}} m}
10872 {%

```

Used to place the separator between each entry, but not before the first.

```

10873 \def\LWR@hyperindexref@thiscomma{%
10874 \def\LWR@hyperindexref@nextcomma{#1}%

```

Each comma-delimited entry is now passed individually to `\LWR@hyperindexref@@comma`.

```

10875 \ProcessList{#2}\LWR@hyperindexref@@comma%
10876 }

```

`\LWR@hyperindexref@@comma` {*(arg, perhaps with a range)*}

A comma separator is placed if not the first item, then the range is parsed.

```

10877 \newcommand*{\LWR@hyperindexref@@comma}[1]{%
10878 \LWR@hyperindexref@thiscomma%
10879 \renewcommand{\LWR@hyperindexref@thiscomma}{\LWR@hyperindexref@nextcomma}%
10880 \expandafter\LWR@hyperindexref@range\expandafter{\IndexRangeSeparator}{#1}%
10881 }

```

`\LWR@hyperindexref@range` {*(range delimiter)*} {*(arg)*}

```

10882 \NewDocumentCommand{\LWR@hyperindexref@range}
10883 {m >{\SplitArgument{1}{#1}} m}
10884 {\LWR@hyperindexrefsub#2}

```

`\LWR@hyperindexrefsub`  $\langle \langle \textit{range start: LWR@autoindex} \rangle \rangle \langle \langle \textit{range end, or -NoValue-} \rangle \rangle$

Handles the start and end of a range, if applicable.

```

10885 \newcommand*{\LWR@hyperindexrefsub}[2]{%
10886 \LWR@hyperindexrefsubtwo{#1}%
10887 \IfValueT{#2}{%
10888 \IndexRangeSeparator%
10889 \LWR@hyperindexrefsubtwo{#2}%
10890 }%
10891 }

```

`\LWR@hyperindexrefsubtwo`  $\langle \langle \textit{LWR@autoindex} \rangle \rangle$

```

10892 \newcommand*{\LWR@hyperindexrefsubtwo}[1]{%

```

In long index lines with numerous entries, *makeindex* can insert a newline before the page number, resulting in an extra space before the first digit. If the first character is a space, remove it first.

```

10893 \edef\LWR@tempone{#1}%
10894 \IfBeginWith{\LWR@tempone}{ }{%
10895 \StrGobbleLeft{\LWR@tempone}{1}[\LWR@tempone]%
10896 }{%

```

If a numeric entry, create a link. If not numeric, such as `\see`, use the entry as-is. `\emph`, `\textit`, etc. have been redefined above to create and format the entry.

```

10897 \IfInteger{\LWR@tempone}%
10898 {\LWR@indexnameref{\LWR@tempone}}%
10899 {%
10900 \begingroup%
10901 \LWR@hyperindexrefnullified%
10902 #1%
10903 \endgroup%
10904 }%
10905 }

```

`\hyperpage` Emulate **hyperref**.

```

10906 \LetLtxMacro\hyperpage\hyperindexref

```

`\nohyperpage` Emulate **hyperref**.

```

10907 \def\nohyperpage#1{}

```

`\hyperindexformat` Emulate **hyperref**.

```

10908 \def\hyperindexformat#1#2{%
10909 #1{\hyperpage{#2}}%
10910 }%

```

```

10911 \end{warpHTML}

```

**for PRINT output:** A null command for print mode, in case `hyperref` was not used:

```

10912 \begin{warpprint}
10913 \newcommand{\hyperindexref}[1]{#1}
10914 \end{warpprint}

```

**for HTML & PRINT:** For the `glossaries` package, try to prevent an error where `\glo@name` was not found:

```

10915 \begin{warpall}
10916 \providecommand{\glo@name}{}
10917 \end{warpall}

```

## 79 Bibliography presentation

**for HTML output:** 10918 \begin{warpHTML}

`\bibliography {<filenames>}` At one time this was modified to read `\BaseJobname.bbl`, which meant the HTML version could not resolve until the print version was also present. This also confused `multibib`. It has been reverted to the original to use `\jobname.bbl`.

`\@biblabel {<text-refnumber>}`

```

10919 \renewcommand{\@biblabel}[1]{[#1]\quad}

```

**Env thebibliography** To emphasize document titles in the bibliography, the following redefines `\em` inside `thebibliography` to gather everything until the next closing brace, then display these tokens with `\textit`.

*Adapted from `embracedef.sty`, which is by TAKAYUKI YATO:*

<https://gist.github.com/zr-tex8r/b72555e3e7ad2f0a37f1>

```

10920 \AtBeginDocument{
10921
10922 \AtBeginEnvironment{thebibliography}{
10923
10924 \providecommand*\LWR@newem}[1]{\textit{#1}}
10925
10926 \renewrobustcmd{\em}{%
10927 \begingroup
10928 \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
10929 \afterassignment\LWR@em@after
10930 \toks@\bgroup
10931 }
10932

```

```

10933 \def\LWR@em@finish#1{%
10934 \xdef\LWR@em@after{\noexpand#1{\the\toks@}}}%
10935 \endgroup
10936 \LWR@em@after\egroup
10937 }
10938
10939 }% \AtBeginEnvironment{thebibliography}
10940
10941 }% \AtBeginDocument

10942 \end{warpHTML}

```

## 80 Restoring original formatting

**for HTML output:** 10943 \begin{warpHTML}

`\LWR@restoreMathJaxformatting` A few macros (ref: `tcolorbox`) must be treated separately while printing the HTML comment for a MATHJAX expression. These are set here, to which other functions may be appended.

```
10944 \newcommand*\LWR@restoreMathJaxformatting{{}
```

`\LWR@restoreorigformatting` Used to temporarily restore the print-mode meaning of a number of formatting, graphics, and symbols-related macros while generating svg math or a lateximage.

Must be used inside a group.

Sets `\LWR@formatting` to print until the end of the group.

A number of packages will `\appto` additional actions to this macro.

Various packages add to this macro using `\appto`.

```

10945 \newcommand*\LWR@restoreorigformatting){%
10946 \LWR@traceinfo{LWR@restoreorigformatting}%

```

Numerous macros change their print/HTML meaning depending on `\LWR@formatting`:

```

10947 \renewcommand*\LWR@formatting){print}%
10948 \linespread{1}%

10949 \let\par\LWR@origpar%

10950 \LWR@select@print@hspace%

10951 \let\txMacro\hfil\LWR@origfil%
10952 \let\hss\LWR@orighss%
10953 \let\llap\LWR@origllap%
10954 \let\rlap\LWR@origrlap%
10955 \let\hfilneg\LWR@origfilneg%

```

```

10956 \let\, \LWR@origcomma% disable HTML short unbreakable space
10957 \let\thinspace \LWR@origthinspace% disable HTML short unbreakable space
10958 \let\negthinspace \LWR@orignegthinspace% disable HTML negative short unbreakable space
10959 \let\textellipsis \LWR@origtextellipsis%

10960 \let\vdots \LWR@origvdots%

10961 \let\textless \LWR@origtextless%
10962 \let\textgreater \LWR@origtextgreater%

10963 \let\& \LWR@origampersand%

10964 \LetLtxMacro\em \LWR@origem%
10965 \LetLtxMacro\normalfont \LWR@orignormalfont%
10966 \let\sp \LWR@origsp%
10967 \let\sb \LWR@origsb%
10968 \LetLtxMacro\underline \LWR@origunderline%
10969 \let~ \LWR@origtilde%
10970 \let\enskip \LWR@origenskip%
10971 \let\quad \LWR@origquad%
10972 \let\qqquad \LWR@origqqquad%

```

`\endtabular` must be restored to its original, instead of relying on `lwarp`'s `\LWR@formatted` mechanism:

```

10973 \LetLtxMacro\endtabular \LWR@origendtabular%
10974 \csletcs{endtabular*}{\LWR@origendtabular*}%

10975 \LetLtxMacro\noalign \LWR@orignoalign%
10976 \LetLtxMacro\hline \LWR@orighline%

10977 \let\newline \LWR@orignewline%
10978 \LetLtxMacro\includegraphics \LWR@origincludegraphics%

10979 \LetLtxMacro\@ensuredmath \LWR@origensuredmath%

10980 \let\math \LWR@orig@math%
10981 \let\endmath \LWR@orig@endmath%
10982 \let\displaymath \LWR@orig@displaymath%
10983 \let\enddisplaymath \LWR@orig@enddisplaymath%
10984 %
10985 \LWR@restoreorigaccents%
10986 \LWR@restoreoriglists%
10987 %
10988 \LWR@hook@processingtags%

```

To enable MATHJAX-specific nullification, used for `tcolorbox`:

```

10989 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
10990 {\LWR@restoreMathJaxformatting}%
10991 {}%
10992 }

```



```
10993 \end{warpHTML}
```

## 81 Nullifying filename formatting

The following are used to nullify certain macros and environments while converting section names to file names.

**for HTML output:** 10994 \begin{warpHTML}

Also commonly used are \@empty, \@gobble, and \@firstofone.

```
10995 \newcommand*{\LWR@dash}{-}
```

**\LWR@nullfonts** Removes formatting during filename operations, file references, and HTML comments.



**Use only inside a group.**

The following are *not* made robust, since they must be expanded to their nullified versions.

```
10996 \catcode'\$=\active% redefining $ below
10997 \catcode'_ =12% redefining _ below
10998 \newcommand*{\LWR@nullfonts}{%
```

Various built-in symbols.

```
10999 \renewcommand*{\$}{-}%
11000 \renewcommand*{\%}{-}%
11001 \renewcommand*{_}{-}%
11002 \renewcommand*{\%}{-}%
11003 \renewcommand*{\%}{-}%
11004 \renewcommand*{\&}{-}% used to be 'and'
11005 \renewcommand*{\#}{-}%
11006 \renewcommand*{\,}{-}%
11007 \renewcommand*{\~}{-}%
11008 %
11009 % accents:
11010 \renewcommand*{\`}[1]{##1}%
11011 \renewcommand*{\'}[1]{##1}%
11012 \renewcommand*{\^}[1]{##1}%
11013 \renewcommand*{\~}[1]{##1}%
11014 \renewcommand*{\=}[1]{##1}%
11015 \renewcommand*{\u}[1]{##1}%
11016 \renewcommand*{\.}[1]{##1}%
11017 \renewcommand*{\"}[1]{##1}%
11018 \renewcommand*{\H}[1]{##1}%
11019 \renewcommand*{\V}[1]{##1}%
11020 \renewcommand*{\d}[1]{##1}%
11021 \renewcommand*{\c}[1]{##1}%
11022 \renewcommand*{\b}[1]{##1}%
11023 \renewcommand*{\t}[1]{##1}%
11024 %
11025 \let\newline\LWR@dash%
```

```

11026 \let\textasciicircum\LWR@dash%
11027 \let\textasciitilde\LWR@dash%
11028 \let\textasteriskcentered\LWR@dash%
11029 \let\textbackslash\LWR@dash%
11030 \let\textbar\LWR@dash%
11031 \let\textbardbl\LWR@dash%
11032 \let\textbigcircle\LWR@dash%
11033 \let\textbraceleft\LWR@dash%
11034 \let\textbraceright\LWR@dash%
11035 \let\textbullet\LWR@dash%
11036 \let\textcopyright\LWR@dash%
11037 \let\textdagger\LWR@dash%
11038 \let\textdaggerdbl\LWR@dash%
11039 \let\textdollar\LWR@dash%
11040 \let\textellipsis\LWR@dash%
11041 \let\textemdash\LWR@dash%
11042 \let\textendash\LWR@dash%
11043 \let\textexclamdown\LWR@dash%
11044 \let\textgreater\LWR@dash%
11045 \let\textless\LWR@dash%
11046 \let\textordfeminine\LWR@dash%
11047 \let\textordmasculine\LWR@dash%
11048 \let\textparagraph\LWR@dash%
11049 \let\textperiodcentered\LWR@dash%
11050 \let\textpertenthousand\LWR@dash%
11051 \let\textperthousand\LWR@dash%
11052 \let\textquestiondown\LWR@dash%
11053 \let\textquotedblleft\LWR@dash%
11054 \let\textquotedblright\LWR@dash%
11055 \let\textquoteleft\LWR@dash%
11056 \let\textquoteright\LWR@dash%
11057 \let\textregistered\LWR@dash%
11058 \let\textsection\LWR@dash%
11059 \let\textsterling\LWR@dash%
11060 \let\texttrademark\LWR@dash%
11061 \let\textunderscore\LWR@dash%
11062 \let\textvisiblespace\LWR@dash%
11063 \let\copyright\LWR@dash%
11064 \let\dag\LWR@dash%
11065 \let\ddag\LWR@dash%
11066 \let\dots\LWR@dash%
11067 \let\P\LWR@dash%
11068 \let\pounds\LWR@dash%
11069 \let\S\LWR@dash%
11070 %
11071 \renewcommand*{\aa}{a}%
11072 \renewcommand*{\AA}{A}%
11073 \renewcommand*{\AE}{AE}%
11074 \renewcommand*{\ae}{ae}%
11075 \renewcommand*{\dh}{d}%
11076 \renewcommand*{\DH}{D}%
11077 \renewcommand*{\DJ}{D}%
11078 \renewcommand*{\dj}{d}%
11079 \renewcommand*{\IJ}{IJ}%
11080 \renewcommand*{\ij}{ij}%

```

```

11081 \renewcommand*\L}{L}%
11082 \renewcommand*\l}{l}%
11083 \renewcommand*\NG}{NG}%
11084 \renewcommand*\ng}{ng}%
11085 \renewcommand*\O}{O}%
11086 \renewcommand*\o}{o}%
11087 \renewcommand*\oe}{oe}%
11088 \renewcommand*\OE}{OE}%
11089 \renewcommand*\ss}{ss}%
11090 \renewcommand*\SS}{SS}%
11091 \renewcommand*\th}{th}%
11092 \renewcommand*\TH}{TH}%
11093 %
11094 \let\guillemotleft\@empty%
11095 \let\guilsinglleft\@empty%
11096 \let\quotedblbase\@empty%
11097 \let\textquotedbl\@empty%
11098 \let\guillemotright\@empty%
11099 \let\guilsinglright\@empty%
11100 \let\quotesinglbase\@empty%

11101 \renewcommand*\HTMLunicode}[1]{}%
11102 \renewcommand*\HTMLentity}[1]{}%

11103 \renewcommand*\textsuperscript}[1]{##1}%
11104 \renewcommand*\textsubscript}[1]{##1}%

11105 \renewcommand*\underline}[1]{##1}%

11106 \RenewDocumentCommand{\hspace}{s m}{}%

11107 \RenewDocumentCommand{\LWR@htmlspanclass}{o m +m}{##3}%
11108 \DeclareExpandableDocumentCommand{\InlineClass}{D{()}{}}{ o m +m}{##4}%

```

Nullify math macros.

```

11109 \def\(#1\){}%
11110 \def\[##1\]{}%
11111 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%

```

Nullify logos:

```

11112 \renewcommand*\TeX}{TeX}%
11113 \renewcommand*\LaTeX}{LaTeX}%
11114 \renewcommand*\LaTeXe}{LaTeX2e}%
11115 \renewcommand*\LuaTeX}{LuaTeX}%
11116 \renewcommand*\LuaLaTeX}{LuaLaTeX}%
11117 \renewcommand*\XeTeX}{XeTeX}%
11118 \renewcommand*\XeLaTeX}{XeLaTeX}%
11119 \renewcommand*\ConTeXt}{ConTeXt}%
11120 \renewcommand*\BibTeX}{BibTeX}%
11121 \renewcommand*\MakeIndex}{MakeIndex}%
11122 \renewcommand*\AmS}{AmS}%

```

```

11123 \renewcommand*\MiKTeX{\MiKTeX}%
11124 \renewcommand*\LyX{\LyX}%

```

Use the simpler form with `\texorpdfstring`:

```

11125 \def\texorpdfstring{\expandafter\@secondoftwo}%
11126 }
11127 \catcode'\$=3%
11128 \catcode'_ =8%

```

`\FilenameNullify` {*<redefinitions>*}

Adds more nullifying definitions for filename generation.

```

11129 \newcommand*\FilenameNullify[1]{%
11130 \appto{\LWR@nullfonts}{#1}%
11131 }

11132 \end{warpHTML}

```

## 82 Math

### 82.1 Limitations

See [Math](#), section 8.7.

### 82.2 HTML alt tag names

Redefinable names for the HTML alt tags, for translation according to the reader's native language.

**for HTML & PRINT:** 11133 \begin{warpall}

`\AltTextOpen` The opening part of HTML alt tag for an image. The default is a left parenthesis.

Default: (

```
11134 \newcommand*\AltTextOpen{({}
```

`\AltTextClose` The closing part of HTML alt tag for an image. The default is a right parenthesis.

Default: )

```
11135 \newcommand*\AltTextClose{)}
```

`\ImageAltText` The HTML alt tag for an image.

Default: image

```
11136 \newcommand*\ImageAltText{image}
```

`\MathImageAltText` The HTML alt tag for an SVG math image.

Default: “math image”

```
11137 \newcommand*{\MathImageAltText}{math image}
```

`\LWR@ThisAltText` The HTML alt tag for the next image. Cleared after use, and also after each `lateximage`, `\LWR@subsingledollar`, and each use of `MATHJAX`.

```
11138 \newcommand*{\LWR@ThisAltText}{}
```

`\ThisAltText`  $\{ \langle text \rangle \}$

Assigns the HTML alt tag for the next image generated by **lwarp**, such as a `lateximage`, `picture`, or `svg math`.

```
11139 \newcommand*{\ThisAltText}[1]{%
11140 \renewcommand{\LWR@ThisAltText}{#1}%
11141 }
```

`\PackageDiagramAltText` Appended to the `lateximage` HTML alt tag for the images generated by many packages.

```
11142 \newcommand*{\PackageDiagramAltText}{diagram}
```

```
11143 \end{warpall}
```

## 82.3 Inline and display math

for HTML output: 11144 `\begin{warpHTML}`

Ctrl `LWR@externalfilecnt` Counter for the external files which are generated and then referenced from the HTML:

```
11145 \newcounter{LWR@externalfilecnt}
```

Bool `LWR@indisplaymathimage` True if processing display math for SVG output. Inside a `lateximage`, display math is only set to print-mode output if `LWR@indisplaymathimage` is false. Used to avoid nullifying display math before it has been completed.

```
11146 \newbool{LWR@indisplaymathimage}
```

Bool `LWR@insidemathcomment` True while inside an HTML comment which is displaying a math environment. Used to undo the comment for a moment while creating a `\label`, so that the label’s HTML tags will be seen by HTML.

```
11147 \newbool{LWR@insidemathcomment}
11148 \boolfalse{LWR@insidemathcomment}
```

Bool `LWR@xfakebold` True if `xfakebold \setBold` is in use.

```
11149 \newbool{LWR@xfakebold}
11150 \boolfalse{LWR@xfakebold}
```

`\LWR@orig@setBold` Redefined by `lwarp-xfakebold`.

```
11151 \newcommand*{\LWR@orig@setBold}{{}
```

`\LWR@orig@unsetBold` Redefined by `lwarp-xfakebold`.

```
11152 \newcommand*{\LWR@orig@unsetBold}{{}
```

`\LWR@applyxfakebold` Redefined by `lwarp-xfakebold`.

```
11153 \newcommand*{\LWR@applyxfakebold}{{}
```

`\LWR@setcurrentfont` Sets the actual  $\text{\LaTeX}$  font to that which was selected for HTML output. Ex: In HTML mode, `\bfseries` sets `\LWR@f@series` to “bf”. This sets the PDF output here for use inside a `lateximage`.

```
11154 \newcommand*{\LWR@setcurrentfont}{%
11155 \LWR@traceinfo{Using font family \LWR@f@family}%
11156 \@nameuse{\LWR@print@\LWR@f@family family}%
11157 \LWR@traceinfo{Using font series \LWR@f@series}%
11158 \@nameuse{\LWR@print@\LWR@f@series series}%
11159 \LWR@traceinfo{Using font shape \LWR@f@shape}%
11160 \@nameuse{\LWR@print@\LWR@f@shape shape}%
11161 \LWR@traceinfo{Using font caps shape \LWR@f@shapecaps}%
11162 \@nameuse{\LWR@print@\LWR@f@shapecaps shape}%
11163 }
```

`\$` Plain dollar signs appearing in the HTML output may be interpreted by `MATHJAX` to be math shifts. For a plain text dollar `\$`, use an HTML entity to avoid it being interpreted by `MATHJAX`, unless are inside a `lateximage`, in which case it will not be seen by `MATHJAX`.

```
11164 \let\LWR@origtextdollar\$
11165
11166 \renewcommand*{\$}{%
11167 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11168 {\LWR@origtextdollar}%
11169 {\HTMLUnicode{00024}}%
11170 }
```

File `lwarp_baseline_marker.png` A marker to be used to help *pdfcrop* identify the inline math baseline and width. If either `graphicx` or `graphics` is loaded, this marker is placed at the lower left and lower right corners of the inline math. *pdfcrop* is then able to identify the width of the image, and also the height of an image such as a horizontal dash which does not otherwise touch the baseline.

File `lwarp_baseline_marker.eps`

A marker with alpha or opacity of 0% is not registered by *pdfcrop*, so the marker is a small square block of 1% alpha, which seems to work while still being effectively invisible in the final SVG image.

If `graphicx` is loaded, this marker is sized as a tiny 1 sp square. If `graphics` is loaded, this marker is used at its default size of around .25 pt. If neither graphics package is loaded, the marker is replaced by a 10 sp horizontal space, and there is no assistance for determining

baseline or width of the inline math image. The best results are obtained when using `graphicx`.

`\LWR@addbaselinemarker` Places a small marker in an svg inline image. If `graphics` or `graphicx` are loaded, the marker is a mostly transparent image. If neither is loaded, no marker is used.

```

11171 \AtBeginDocument{
11172
11173 \ifpdf
11174 \newcommand*\LWR@baselinename{\lwarp_baseline_marker.png}
11175 \else
11176 \ifXeTeX
11177 \newcommand*\LWR@baselinename{\lwarp_baseline_marker.png}
11178 \else
11179 \newcommand*\LWR@baselinename{\lwarp_baseline_marker.eps}
11180 \fi
11181 \fi
11182
11183 \IfFileExists{\LWR@baselinename}%
11184 {
11185 \@ifpackageloaded{graphicx}{
11186 \newcommand*\LWR@addbaselinemarker{%
11187 \LWR@originincludegraphics{\LWR@baselinename}%
11188 }
11189 }{
11190 \@ifpackageloaded{graphics}{
11191 \newcommand*\LWR@addbaselinemarker{%
11192 \LWR@originincludegraphics{\LWR@baselinename}%
11193 }
11194 }{
11195 \newcommand*\LWR@addbaselinemarker{%
11196 \global\booltrue{LWR@warnbaselinemarker}%
11197 }
11198 \AtEndDocument{
11199 \ifbool{LWR@warnbaselinemarker}{
11200 \PackageWarningNoLine{lwarp}{%
11201 Load graphicx or graphics for improved\MessageBreak
11202 SVG math sizing and baselines%
11203 }
11204 }{}
11205 }
11206 }
11207 }
11208 }{% lwarp_baseline_marker.png or .eps is not present
11209 \newcommand*\LWR@addbaselinemarker{%
11210 \global\booltrue{LWR@warnbaselinemarker}%
11211 }
11212 \AtEndDocument{
11213 \ifbool{LWR@warnbaselinemarker}{
11214 \PackageWarningNoLine{lwarp}{%
11215 File \LWR@baselinename\space is not installed\MessageBreak
11216 alongside the lwarp-*.sty files, so\MessageBreak
11217 SVG math sizing and baselines may not be accurate}
11218 }{}
11219 }

```

```

11220 }
11221
11222 }% AtBeginDocument

```

Bool LWR@warnbaselinemarker True if the math baseline marker was ever called for, but `graphics` or `graphicx` were not loaded.

```

11223 \newbool{LWR@warnbaselinemarker}
11224 \boolfalse{LWR@warnbaselinemarker}

```

Bool LWR@unknownmathsize If Tikz or other objects are used inside math mode, the resulting image may exceed the  $\TeX$  box, resulting in an incorrect measurement of the size of the resulting image. If this is so, the HTML styles for image size and depth will be neutralized.

```

11225 \newbool{LWR@unknownmathsize}

```

`\LWR@singledollarmeasure`  $\{ \langle \textit{math expression} \rangle \}$

Measures the size of the image of the math expression.

(In some circumstances `svg math` is used even if `MATHJAX` is preferred.)

**svg math:** `\LWR@origensuredmath` is part of argument #4.

**svg math \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**svg dynamic math:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

**MATHJAX \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

**\ifmmode:** Included “just in case”.

Factored from `\LWR@subsingledollarsvg`.

```

11226 \newcommand*{\LWR@singledollarmeasure}[1]{%
11227 \begingroup%

```

Temporarily disable formatting while measuring the image parameters:

```

11228 \LWR@restoreorigformatting%
11229 \RenewDocumentEnvironment{lateximage}{s o s o o}{}{}% inside group
11230 \LWR@print@normalsize%

```

Temporarily set font for the HTML PDF output:

```

11231 \LWR@setcurrentfont%

```



`lateximagedepth` must be nested to avoid generating paragraph tags. *AMS* math modifies the `\text` macro such that `\addtocounter` does not always occur as expected. Lower-level code is used instead.

```
11232 \global\advance\c@LWR@lateximagedepth 1\relax%
```

Typeset the math in a box. While doing so, some macros or environments may set `LWR@unknownmathsize`, in which case this will be used to cancel the HTML styles being generated here.

```
11233 \boolfalse{LWR@unknownmathsize}%
11234 \ifmmode%
11235 \global\sbox{LWR@singledollarbox}{#1}%
11236 \else%
11237 \ifbool{LWR@dynamicmath}{%
11238 \ifbool{mathjax}{%
11239 \global\sbox{LWR@singledollarbox}%
11240 {LWR@origensuredmath{#1}}%
11241 }{%
11242 \global\sbox{LWR@singledollarbox}{#1}%
11243 }%
11244 }{%
11245 \global\sbox{LWR@singledollarbox}{#1}%
11246 }%
11247 \fi%
```

Add a small and almost transparent marker at the depth of the image.

A math minus sign has the same depth as a plus, even though it does not draw anything below the baseline. This means that *pdfcrop* would crop the image without depth. The marker below the baseline is seen by *pdfcrop* and preserves the depth.

```
11248 \global\sbox{LWR@singledollarbox}{%
11249 \usebox{LWR@singledollarbox}%
11250 \raisebox{-\dp\LWR@singledollarbox}{%
11251 LWR@addbaselinemarker%
11252 }%
11253 }
```

More low-level code to undo the counter change.

```
11254 \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.
```

Measure the depth:

```
11255 \setlength{LWR@singledollardepth}{%
11256 \LateximageFontScale\dp\LWR@singledollarbox%
11257 }
```

Make the length a global change:

```
11258 \global\LWR@singledollardepth=LWR@singledollardepth%
```

Likewise for width:

```

11259 \setlength{\LWR@singledollarwidth}{%
11260 \LateximageFontScale\wd\LWR@singledollarbox%
11261 }%
11262 \global\LWR@singledollarwidth=\LWR@singledollarwidth%

```

Likewise for total height:

```

11263 \setlength{\LWR@singledollarheight}{%
11264 \LateximageFontScale\ht\LWR@singledollarbox%
11265 }%
11266 \addtolength{\LWR@singledollarheight}{%
11267 \LateximageFontScale\dp\LWR@singledollarbox%
11268 }%
11269 \global\LWR@singledollarheight=\LWR@singledollarheight%

11270 \endgroup%
11271 }

```

`\LWR@subsingledollarsvg` \*  $\langle 2: \textit{alt text} \rangle \{ \langle 3: \textit{add'l hashing} \rangle \} \{ \langle 4: \textit{math expression} \rangle \}$

For inline math. Uses svg math. The image is measured and adjusted to the baseline of the HTML output, and placed inside a `lateximage`.

(In some circumstances svg math is used even if MATHJAX is preferred.)

Factored from `\LWR@subsingledollar`.

```

11272 \newcommand*\LWR@subsingledollarsvg[4]{%

```

Measure the depth, width, and height of the math image:

```

11273 \LWR@singledollarmeasure{#4}%

```

Set a style for the the height or width. The em unit is used so that the math scales according to the user's selected font size.

Start with the greater of the width or the height, biased towards the width:

```

11274 \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
11275 \def\LWR@singledollarstyle{%
11276 width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11277 }%
11278 }{%
11279 \def\LWR@singledollarstyle{%
11280 height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11281 }%
11282 }%

```

If a very narrow width, use the height.

```

11283 \ifdimless{\LWR@singledollarwidth}{.2em}%
11284 {%
11285 \def\LWR@singledollarstyle{%
11286 height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%

```

```

11287 }%
11288 }%
11289 {}%

```

If very wide and short, use the width:

```

11290 \ifdimless{\LWR@singledollarheight}{.2em}%
11291 {%
11292 \def\LWR@singledollarstyle{%
11293 width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11294 }%
11295 }%
11296 {}%

```

If there is significant text depth, add the depth to the style.

```

11297 \ifdimgreater{\LWR@singledollardepth}{0.05ex}{%
11298 \def\LWR@singledollardepthstyle{%
11299 \ ; % extra space
11300 \LWR@print@mbbox{%
11301 vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
11302 } % extra space
11303 }%
11304 }{%
11305 \def\LWR@singledollardepthstyle{}%
11306 }%

```

If using certain Tikz actions inside math, the resulting image may exceed the  $\TeX$  boundaries, so the HTML size styles may be incorrect, and must be neutralized.

```

11307 \ifbool{LWR@unknownmathsize}{%
11308 \def\LWR@singledollarstyle{}%
11309 \def\LWR@singledollardepthstyle{}%
11310 }{}%

```

Create the `lateximage` using the alternate tag and the computed size and depth. The star causes `lateximage` to use an MD5 hash as the filename. When hashing, also include the current font and color in the hash.

```

11311 \ifbool{LWR@dynamicmath}{%
11312 \LWR@traceinfo{subsingledollar: dynamic}%
11313 \begin{lateximage}% no hashing
11314 [\MathImageAltText]% alt tag
11315 []% no add'l hashing
11316 [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11317 }{% not dynamic math
11318 \LWR@traceinfo{subsingledollar: static}%
11319 \IfValueTF{#1}{% #1 True
11320 \LWR@findcurrenttextcolor% sets \LWR@tempcolor

```

Support for `xfakebold`:

```

11321 \ifbool{LWR@xfakebold}%
11322 {\def\LWR@tempone{Y}}%
11323 {\def\LWR@tempone{N}}%

```

```

11324 \begin{lateximage}% use hashing
11325 [#2]% alt
11326 *% do not add open/closing braces
11327 [% addl' hashing
11328 #3%
11329 FM\LWR@f@family%
11330 SR\LWR@f@series%
11331 SH\LWR@f@shape%
11332 SHC\LWR@f@shapecaps%
11333 CL\LWR@tempcolor%
11334 FB\LWR@tempone% xfakebold
11335]%
11336 [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11337 }{% #1 False
11338 \begin{lateximage}% no hashing
11339 [#2]% alt
11340 [% no add'l hashing
11341 [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11342 }%
11343 }% not dynamic math

```

Place small and almost transparent markers on the baseline at the left and right edges of the image. These markers are seen by *pdfcrop*, and force vertically-centered objects such as a dash to be raised off the baseline in the cropped image, and also force the total width and left/right margins to be correct. (Except that in some fonts a character may exceed the bounding box, and thus may appear wider than expected when converted to an image.)

```

11344 \LWR@addbaselinemarker%

```

Support for *xfakebold*:

```

11345 \LWR@applyxfakebold%

```

Typeset the contents:

```

11346 \usebox{\LWR@singledollarbox}%

```

The closing baseline marker:

```

11347 \LWR@addbaselinemarker%

```

```

11348 \end{lateximage}%

```

```

11349 %

```

```

11350 }

```

```

\LWR@subsingledollar * {\langle alt text \rangle} {\langle 3: add'l hashing \rangle} {\langle 4: math expression \rangle}

```

For inline math. Uses *MATHJAX*, or for SVG math the image is measured and adjusted to the baseline of the HTML output, and placed inside a *lateximage*.

**svg math:** *\LWR@origensuredmath* is part of argument #4.

**svg math \ensuremath:** *\LWR@origensuredmath* is part of argument #4.

**svg dynamic math:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

**MATHJAX \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

**image filename hashing** If starred, a hashed filename is used. If so, the hash is based on the `alt` tag and also the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated  $\TeX$  expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is duplicated in the additional hashing argument.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple `alt` tag is still the same.

```

11351 \newlength{\LWR@singledollarwidth}
11352 \newlength{\LWR@singledollarheight}
11353 \newlength{\LWR@singledollardepth}
11354
11355 \newsavebox{\LWR@singledollarbox}
11356
11357 \NewDocumentCommand{\LWR@subsingledollar}{s m m m}{%
11358 \LWR@traceinfo{\LWR@subsingledollar}%

11359 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11360 {%
11361 \LWR@traceinfo{\LWR@subsingledollar: already in a lateximage}%
11362 #4% contents
11363 }%
11364 {% not in a lateximage
11365 \begingroup%
```

Support for `xfakebold`:

```

11366 \LWR@applyxfakebold%
```

MATHJAX cannot parse the often complicated  $\TeX$  expressions which appear in the various uses of `\ensuredmath`. `\ensuremath` forces the `alt` tag to “(math image)”, as translated according to `\MathImageAltText`. If this is the case, force the use of a `lateximage` even if MATHJAX. Likewise for `siunitx` if `parse-numbers=false`.

If MATHJAX, or if formatting math for a word processor, and not `\ensuredmath`, and not a dynamic math expression, print the math expression:

```

11367 \ifboolexpr{%
11368 (
11369 bool{mathjax} or
11370 (bool{FormatWP} and bool{WPMarkMath})
11371) and
11372 (not test {
11373 \ifstrequal {#2}% from \ensuredmath
11374 {\AltTextOpen\MathImageAltText\AltTextClose}
11375 }
11376) and
11377 (not bool{LWR@dynamicmath})
11378 }%

```

For MATHJAX, print the math between  $\backslash($  and  $\backslash)$ :

```

11379 {%
11380 \LWR@traceinfo{LWR@subsingledollar: Mathjax}%
11381 {%
11382 \textbackslash(
11383 {%

```

$\backslash$ ifmmode to avoid error about  $\backslash$ ttfamily inside math mode in the case of nested math, ex. equation with tcolorbox with math.

```

11384 \ifmmode\else\LWR@print@ttfamily\fi%
11385 \LWR@HTMLsanitize{#4}%
11386 }%
11387 \textbackslash)%
11388 }%
11389 }% mathjax

```

For SVG, print the math inside a lateximage, with an `<alt>` tag of the  $\LaTeX$  code, and a CSS style to control the baseline adjustment.

```

11390 {% not mathjax
11391 \LWR@traceinfo{%
11392 LWR@subsingledollar: NOT mathjax, or is ensuremath, or is dynamic%
11393 }%
11394 \LWR@subsingledollarsvg{#1}{#2}{#3}{#4}%
11395 }% not mathjax
11396 \endgroup%
11397 }% not in a lateximage

```

Clear the single-use alt text:

```

11398 \gdef\LWR@ThisAltText{%
11399 \LWR@traceinfo{LWR@subsingledollar: done}%
11400 }

```

```

11401 \LetLtxMacro\LWR@origdollar$
11402 \LetLtxMacro\LWR@secondorigdollar$% balance for editor syntax highlighting

```

```

11403 \LetLtxMacro\LWR@origopenparen\((
11404 \LetLtxMacro\LWR@origcloseparen\)

```

```

11405 \LetLtxMacro\LWR@origopenbracket\[
11406 \LetLtxMacro\LWR@origclosebracket\]

```

**\$** Redefine the dollar sign to place math inside a `lateximage`, or use `MATHJAX`:  
**\$\$**

```

11407 \begingroup
11408 \catcode'\$=\active%
11409 \protected\gdef$\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by `chemformula` to escape single-dollar math:

```

11410 \protected\gdef\LWR@newsingledollar{\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

`\LWR@doubledollar` Redefine the double dollar sign to place math inside a `lateximage`, or use `MATHJAX`:

```

11411 \protected\gdef\LWR@doubledollar$#1$${%

```

If `MATHJAX` or formatting for a word processor, print the  $\LaTeX$  expression:

```

11412 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%

```

For `MATHJAX`, print the math between `\[` and `\]`:

```

11413 {
11414 \textbackslash[
11415 {\LWR@print@ttfamily\LWR@HTMLsanitize{#1}}%
11416 \textbackslash]
11417 }% mathjax
11418
11419 }% mathjax

```

For `svg`, print the math inside a `lateximage`, with an `<alt>` tag of the  $\LaTeX$  code:

```

11420 {% not mathjax
11421 \begin{BlockClass}{displaymath}%
11422 \LWR@newautoanchor%
11423 \booltrue{LWR@indisplaymathimage}%
11424 \begin{lateximage}%
11425 [%
11426 \textbackslash[% extra space
11427 \LWR@HTMLsanitize{#1} % extra space
11428 \textbackslash]%
11429]%
11430 *% do not add open/closing braces

```

Support for `xfakebold`:

```

11431 \LWR@applyxfakebold%

11432 \LWR@origdollar\LWR@origdollar#1\LWR@origdollar\LWR@origdollar%
11433 \end{lateximage}%
11434 \end{BlockClass}%
11435 }% not mathjax

```

Clear the single-use alt text:

```
11436 \gdef\LWR@ThisAltText{%
11437 }%
```

`\LWR@singledollar`  $\{\langle alt\ text\rangle\}\{\langle math\ expression\rangle\}$

```
11438 \protected\gdef\LWR@singledollar#1${%
11439 \ifbool{mathjax}{%
11440 \LWR@subsingledollar*%
11441 {% alt tag
11442 \textbackslash(%
11443 \LWR@HTMLsanitize{#1} % extra space
11444 \textbackslash)%
11445 }%
11446 {singledollar}% add'l hashing
11447 {#1}% contents
11448 }{% not mathjax
11449 \LWR@subsingledollar*%
11450 {% alt tag
11451 \textbackslash(%
11452 \LWR@HTMLsanitize{#1} % extra space
11453 \textbackslash)%
11454 }%
11455 {singledollar}% add'l hashing
11456 {\LWR@origensuredmath{#1}}% contents
11457 }% not mathjax
```

Clear the single-use alt text:

```
11458 \gdef\LWR@ThisAltText{%
11459 }
```

`\(` Redefine to the above dollar macros.

`\[`

```
11460 \AtBeginDocument{
11461 \protected\gdef\(<#1\){$#1$}
11462 \protected\gdef\[<#1\[{$$#1$$}
11463 }
11464
11465 \endgroup% active $
```

```
11466 \AtBeginDocument{
11467 \LetLtxMacro\LWR@openbracketnormal\[
11468 \LetLtxMacro\LWR@closebracketnormal\]
11469 }
```

`\@ensuredmath`  $\{\langle expression\rangle\}$

If MATHJAX, a `lateximage` is used, since `\ensuremath` is often used for complex  $\TeX$  expressions which MATHJAX may not render. If `svg math`, a hashed file is used with a simple alt tag, but additional hashing provided by the contents.



```

11470 \LetLtxMacro\LWR@origensuredmath\@ensuredmath
11471
11472 \renewcommand{\@ensuredmath}[1]{%
11473 \ifbool{mathjax}{%
11474 \LWR@subsingledollar*\AltTextOpen\MathImageAltText\AltTextClose}%
11475 {%
11476 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}}%
11477 }%
11478 {%
11479 \relax%
11480 \LWR@origensuredmath{#1}%
11481 }%
11482 }{% SVG math

```

If already inside a `lateximage` in math mode, continue as-is.

```

11483 \ifmmode%
11484 \LWR@origensuredmath{#1}%
11485 \else%

```

Create an inline math `lateximage` with a simple `alt` tag and additional hashing according to the contents.

```

11486 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
11487 {\LWR@origensuredmath{#1}}%
11488 {%
11489 \LWR@subsingledollar*%
11490 {\AltTextOpen\MathImageAltText\AltTextClose}%
11491 {\protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}}%
11492 {\LWR@origensuredmath{#1}}%
11493 }%
11494 \fi%
11495 }%

```

Clear the single-use `alt` text:

```

11496 \gdef\LWR@ThisAltText{}%
11497 }

```

Remember then remove the old `math` and `displaymath` environments:

```

11498 \let\LWR@orig@math\math
11499 \let\LWR@orig@endmath\endmath
11500 \let\LWR@orig@displaymath\displaymath
11501 \let\LWR@orig@enddisplaymath\enddisplaymath
11502
11503 \let\math\relax
11504 \let\endmath\relax
11505 \let\displaymath\relax
11506 \let\enddisplaymath\relax

```

Env `math` Set math mode then typeset the body of what was between the `begin/end`. See the `environ` package for `\BODY`.

```
11507 \NewEnviron{math}{\expandafter\(\BODY\)}
```

Env LWR@displaymathnormal Set math mode then typeset the body of what was between the begin/end. See the **environ** package for \BODY.

```
11508 \NewEnviron{LWR@displaymathnormal}{\expandafter\[\BODY\]\@ignoretrue}
```

Set the default displaymath to the normal version:

```
11509 \LetLtxMacro\displaymath\LWR@displaymathnormal%
11510 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
```

Env LWR@displaymathother A version of displaymath which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```
11511 \newenvironment{LWR@displaymathother}
11512 {%
11513 \begin{BlockClass}{displaymath}%
11514 \LWR@newautoidanchor%
11515 \booltrue{LWR@indisplaymathimage}%
11516 \begin{lateximage}%
11517 [\MathImageAltText]%
11518 \LWR@origdollar\LWR@origdollar%
11519 }
11520 {%
11521 \LWR@origdollar\LWR@origdollar%
11522 \end{lateximage}%
11523 \end{BlockClass}%
11524 }
```

Env LWR@equationother A version of displaymath which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```
11525 \newenvironment{LWR@equationother}
11526 {%
11527 \begin{BlockClass}{displaymathnumbered}%
11528 \LWR@newautoidanchor%
11529 \booltrue{LWR@indisplaymathimage}%
11530 \begin{lateximage}[\MathImageAltText]%
11531 \LWR@origequation%
11532 }
11533 {%
11534 \LWR@origendequation%
11535 \end{lateximage}%
11536 \end{BlockClass}%
11537 }
```

## 82.4 MATHJAX support

Ctrl LWR@nextequation Used to add one to compute the next equation number.

```
11538 \newcounter{LWR@nextequation}
```

Determining how to set MATHJAX section and equation numbers. Adjusts for various kinds of `\theequation` to determine `\theMathJaxsection` and `\theMathJaxequation`.

```

11539 \newcommand\LWR@article@theequation{\@arabic\c@equation}
11540
11541 \newcommand\LWR@book@theequation
11542 {\ifnum \c@chapter>\z@ \thechapter.\fi \@arabic\c@equation}
11543
11544
11545 \newcommand\LWR@chapter@theequation{\thechapter.\arabic{equation}}
11546 \newcommand\LWR@section@theequation{\thesection.\arabic{equation}}
11547 \newcommand\LWR@subsection@theequation{\thesubsection.\arabic{equation}}
11548
11549 \AtBeginDocument{
11550 % default per article class:
11551 \newcommand*\theMathJaxsubequations{\emptyset}
11552 \newcommand*\theMathJaxsection{}
11553 \newcommand*\theMathJaxequation{\arabic{equation}}
11554
11555 \ifdefstrequal{\theequation}\LWR@article@theequation
11556 {}{
11557 \ifdefstrequal{\theequation}\LWR@book@theequation{
11558 \renewcommand*\theMathJaxsection{\ifnum \c@chapter>\z@ \thechapter.\fi}
11559 }{
11560 \ifdefstrequal{\theequation}\LWR@subsection@theequation{
11561 \renewcommand*\theMathJaxsection{\thesubsection{}}.}
11562 }{
11563 \ifdefstrequal{\theequation}\LWR@section@theequation{
11564 \renewcommand*\theMathJaxsection{\thesection{}}.}
11565 }{
11566 \ifdefstrequal{\theequation}\LWR@chapter@theequation{
11567 \renewcommand*\theMathJaxsection{\thechapter{}}.}
11568 }{% unknown format
11569 \PackageWarningNoLine{lwarp}
11570 {%
11571 Unknown equation tag format for \protect\theequation.\MessageBreak
11572 Article-style equation numbering will be used%
11573 }
11574 }}}}
11575 }
```

`\LWR@syncmathjax` Sets the MATHJAX equation format and number for the following equations.

These MATHJAX commands are printed inside “`\(`” and “`\)`” characters. They are printed to HTML output, not interpreted by  $\TeX$ .

```
11576 \newcommand*\LWR@syncmathjax{%
```

Tell MATHJAX that the next equation number is the current  $\TeX$  equation number.

Before each equation, **lwarp** inserts into the HTML code:

```
\seteqnumber{subequations?}{section}{number}
```

**subequations?** is  $\emptyset$  usually, 1 if inside `amsmath` subequations.

**section** is a string printed as-is, or empty.

**number** is auto-incremented by MATHJAX between equations.

Place the MATHJAX command inside “\(" and “\)” characters, to be printed to HTML, not interpreted by  $\text{\LaTeX}$ .

```

11577 \LWR@stoppars%
11578 \InlineClass{hidden}{
11579 \textbackslash(
11580 \textbackslash{seteqnumber%
11581 \{\theMathJaxsubequations\}%
11582 \{\theMathJaxsection\}%
11583 \{\theMathJaxequation\}%
11584 \textbackslash)%
11585 }
11586 \LWR@startpars%
11587 }
```

`\LWR@hidelatexequation`  $\{\langle environment \rangle\} \{\langle contents \rangle\}$

Creates the  $\text{\LaTeX}$  version of the equation inside an HTML comment.

```
11588 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```

11589 \LWR@stoppars
11590 \LWR@htmlopencomment
11591
```

Start the  $\text{\LaTeX}$  math environment inside the HTML comment:

```

11592 \begingroup
11593 \@nameuse{LWR@orig#1}
```

While in the math environment, restore various commands to their  $\text{\LaTeX}$  meanings.

```

11594 \LWR@restoreorigformatting
11595 \booltrue{LWR@insidemathcomment}
```

See `\LWR@htmlmathlabel` in section 82.7.1.

Print the contents of the equation:

```
11596 #2
```

End the  $\text{\LaTeX}$  math environment inside the HTML comment:

```

11597 \@nameuse{LWR@origend#1}
11598 \endgroup
11599
```

Close the HTML comment and resume HTML paragraph handling:

```
11600 \LWR@htmlclosecomment
11601 \boolfalse{LWR@insidemathcomment}
11602 \LWR@startpars
11603 }
```

`\LWR@addmathjax`  $\{\langle environment \rangle\} \{\langle contents \rangle\}$

Given the name of a math environment and its contents, create a MATHJAX instance. The contents are printed to HTML output, not interpreted by  $\text{\LaTeX}$ .

```
11604 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
```

Enclose the MATHJAX environment inside printed “\{” and “\}” characters.

```
11605 \LWR@origtilde\LWR@orignewline
```

Print the environment name and contents, sanitizing for HTML special characters.

```
11606 {%
11607 \LWR@print@ttfamily%
11608 \textbackslash{}begin\{#1\}
11609 \LWR@orignewline%
11610 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{#2}}%
11611 \LWR@orignewline%
11612 \textbackslash{}end\{#1\}
11613 }%

11614 \LWR@orignewline
11615 }
```

## 82.5 Equation environment

Remember existing equation environment, after redefined by `amsmath`, if loaded.

```
11616 \AtBeginDocument{
11617 \let\LWR@origequation\equation
11618 \let\LWR@origendequation\endequation
11619 \csletcs{LWR@origequation*}{equation*}
11620 \csletcs{LWR@origendequation*}{endequation*}
11621 }
```

`\LWR@doequation`  $\{\langle env contents \rangle\} \{\langle env name \rangle\}$

For SVG math output, the contents are typeset using the original equation inside a `lateximage`, along with an `<alt>` tag containing a detokenized copy of the  $\text{\LaTeX}$  source for the math.

For MATHJAX output, the contents are typeset in an original equation environment placed inside a HTML comment, with special processing for `\labels`. The contents are also printed to the HTML output for processing by the MATHJAX script.

```
11622 \newcommand*{\LWR@doequation}[2]{%
11623
```

If mathjax or FormatWP, print the  $\LaTeX$  expression:

```
11624 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
```

MATHJAX output:

```
11625 {
```

Print commands to synchronize MATHJAX's equation number and format to the current  $\LaTeX$  chapter/section and equation number:

```
11626 \LWR@syncmathjax%
```

Print the  $\LaTeX$  math inside an HTML comment:

```
11627 \LWR@hidelatexequation{#2}{#1}
11628 }
```

svg output: Create the lateximage along with an HTML <alt> tag having an equation number, the  $\LaTeX$  equation environment commands, and the contents of the environment's \BODY.

```
11629 {% not mathjax
```

Begin the lateximage with an <alt> tag containing the math source:

```
11630 \ifstrequal{#2}{equation*}{%
11631 \begin{BlockClass}{displaymath}%
11632 }{%
11633 \begin{BlockClass}{displaymathnumbered}%
11634 }%
11635 \LWR@newautoidanchor%
11636 \booltrue{\LWR@indisplaymathimage}%
11637 \begin{lateximage}[%
11638 \ifstrequal{#2}{equation*}{%
11639 \ifdefequal{\LWR@equationtag}{\theequation}{%
11640 % no tag was given
11641 }{%
11642 (\LWR@equationtag) % tag was given
11643 }%
11644 }{%
11645 (\LWR@equationtag) % automatic numbering
11646 }%
11647 \textbackslashbegin\{#2\}} % extra space
11648 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{#1}} % extra space
11649 \textbackslashend\{#2\}}%
11650]*% alt tag
```

Support for xfakebold:

```
11651 \LWR@applyxfakebold%
```

Create the actual  $\text{\LaTeX}$ -formatted equation inside the `lateximage` using the contents of the environment.

```

11652 \@nameuse{LWR@orig#2}%
11653 #1% contents collected by \collect@body
11654 \@nameuse{LWR@origend#2}%
11655 \end{lateximage}%
11656 \end{BlockClass}%
11657 }% not mathjax

```

Clear the single-use alt text:

```

11658 \gdef\LWR@ThisAltText{}%
11659 }

```

After the environment, if `MATHJAX`, print the math to the `HTML` output for `MATHJAX` processing. If a footnote is used, sync the footnote counter before, then unsync after for non-equation environments, as defined next.

```

11660 \newcommand*{\LWR@doendequation}[1]{%
11661 \ifbool{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }{%
11662 {%
11663 \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
11664 \InlineClass{hidden}{\LWR@syncnotenumbers}%
11665 \LWR@addmathjax{#1}{\BODY}%
11666 \InlineClass{hidden}{\LWR@syncnotenames}%
11667 }{%
11668 \LWR@addmathjax{#1}{\BODY}%
11669 }%
11670 }{%
11671

```

Clear the single-use alt text:

```

11672 \gdef\LWR@ThisAltText{}%
11673 }

```

The following are used to synchronize footnote marks and related to `MATHJAX` if `*note*` is used inside the `MATHJAX` expression. The counter is read from  $\text{\LaTeX}$  then defined into `MATHJAX` for use during the following equation. After the equation, the `MATHJAX` value is returned to the text from `\footnotename`. Other notes may be added by appending to `\LWR@syncnotenumbers` and `\LWR@syncnotenames`.

`\LWR@synconenotenumbers`  $\{\langle \text{\textit{MATHJAX variable}} \rangle\} \{\langle \textit{mark} \rangle\}$

```

11674 \newcommand*{\LWR@synconenotenumbers}[2]{%
11675 \textbackslash(
11676 \textbackslash{def\textbackslash{#1}\{#2\}
11677 \textbackslash)
11678 }

```

`\LWR@syncnotenumbers` Assignments to make.

```
11679 \newcommand*{\LWR@syncnotenotenumbers}{\LWR@synconenotenumnumber{\LWRfootnote}{\thefootnote}}
```

```
\LWR@synconenotename { $\langle MATHJAX variable \rangle$ } { $\langle text \rangle$ }
```

```
11680 \newcommand*{\LWR@synconenotename}[2]{%
11681 \textbackslash(
11682 \textbackslash{def\textbackslash{#1}\{#2\}
11683 \textbackslash)
11684 }
```

`\LWR@syncnotenames` Assignments to make.

```
11685 \newcommand*{\LWR@syncnotenames}{\LWR@synconenotename{\LWRfootnote}{\footnotename}}
```

Remove existing equation environment:

```
11686 \AtBeginDocument{
11687 \let\equation\relax
11688 \let\endequation\relax
11689 \csletcs{equation*}{relax}
11690 \csletcs{endequation*}{relax}
11691 }
```

Env `equation` The new equation environment is created with `\NewEnviron` (from the `environ` package), which stores the contents of its environment in a macro called `\BODY`.

```
11692 \AtBeginDocument{
11693 \NewEnviron{equation}%
11694 {\LWR@doequation{\BODY}{equation}}%
11695 [\LWR@doendequation{equation}]
11696
11697 \LetLtxMacro\LWR@equationnormal\equation
11698 \LetLtxMacro\endLWR@equationnormal\endequation
11699 }% \AtBeginDocument
```

Env `equation*`

```
11700 \AtBeginDocument{
11701 \NewEnviron{equation*}%
11702 {\LWR@doequation{\BODY}{equation*}}%
11703 [\LWR@doendequation{equation*}]
11704
11705 \csletcs{LWR@equationnormalstar}{equation*}
11706 \csletcs{LWR@endequationnormalstar}{endequation*}
11707 }% \AtBeginDocument
```

Remember the “less” version of `equation`, which uses `MATHJAX` and `alt` tags, but does not support complicated contents such as some `Tikz` expressions.

```
11708 \AtBeginDocument{
11709 \LetLtxMacro\LWR@equationless\equation
```



```

11710 \LetLtxMacro\endLWR@equationless\endequation
11711 \csletcs{LWR@equationlessstar}{equation*}
11712 \csletcs{LWR@endequationlessstar}{endequation*}
11713 }

```

## 82.6 `\displaymathnormal` and `\displaymathother`

`\displaymathnormal` By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML for MATHJAX to interpret, and SVG display math environments render their contents as SVG images and use their contents as the alt tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated Tikz pictures, compilation will fail.

`\displaymathother` When selecting `\displaymathother`, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate Tikz picture, which will not render in MATHJAX and will not make sense as an HTML alt tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML alt tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as Tikz pictures are more likely to compile successfully.

`\displaymathnormal` Use when display math environments have simple math which is to sent to MATHJAX or  
`simple math objects` included in HTML alt tags.

```

11714 \newcommand*{\displaymathnormal}{%
11715 \ifbool{LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
11716 \LetLtxMacro\[\LWR@openbracketnormal%
11717 \LetLtxMacro\]\LWR@closebracketnormal%
11718 \LetLtxMacro\displaymath\LWR@displaymathnormal%
11719 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
11720 \LetLtxMacro\equation\LWR@equationnormal%
11721 \LetLtxMacro\endequation\endLWR@equationnormal%
11722 \csletcs{equation*}{LWR@equationnormalstar}%
11723 \csletcs{endequation*}{LWR@endequationnormalstar}%
11724 }

```

`\displaymathother` Use when display math environments have complicated objects which will not work with  
`complicated math objects` MATHJAX or should not be included in HTML alt tags. Complicated contents are more likely to compile correctly.

```

11725 \newcommand*{\displaymathother}{%
11726 \boolfalse{mathjax}%
11727 \LetLtxMacro\displaymath\LWR@displaymathother%
11728 \LetLtxMacro\enddisplaymath\endLWR@displaymathother%
11729 \LetLtxMacro\[\LWR@displaymathother%
11730 \LetLtxMacro\]\endLWR@displaymathother%
11731 \LetLtxMacro\equation\LWR@equationother%
11732 \LetLtxMacro\endequation\endLWR@equationother%
11733 \csletcs{equation*}{\displaymath}%
11734 \csletcs{endequation*}{\enddisplaymath}%
11735 }

```

```
11736 \end{warpHTML}
```

**for PRINT output:** 11737 \begin{warpprint}

Print-mode versions:

```
11738 \newcommand*{\displaymathnormal}{}
11739 \newcommand*{\displaymathother}{}
11740 \end{warpprint}
```

**for HTML output:** 11741 \begin{warpHTML}

## 82.7 AMS Math environments

### 82.7.1 Support macros

**Bool** `LWR@amsmultline` True if processing a multiline environment.

To compensate for multiline-specific code, `LWR@amsmultline` is used to add extra horizontal space in `\LWR@htmlmathlabel` if is used in an `amsmath` environment which is not a multiline environment and not an equation.

```
11742 \newbool{LWR@amsmultline}
11743 \boolfalse{LWR@amsmultline}
```

`\LWR@beginhideamsmath` Starts hiding  $\TeX$  math inside an HTML comment.

```
11744 \newcommand*{\LWR@beginhideamsmath}{
11745 \LWR@stoppars
11746 \LWR@origtilde\LWR@orignewline
11747 \LWR@htmlopencomment
11748
11749 \begingroup
11750 \LWR@restoreorigformatting
11751 \booltrue{LWR@insidemathcomment}
11752 }
```

`\LWR@endhideamsmath` Ends hiding  $\TeX$  math inside an HTML comment.

```
11753 \newcommand*{\LWR@endhideamsmath}{
11754 \endgroup
11755
11756 \LWR@htmlclosecomment
11757 \boolfalse{LWR@insidemathcomment}
11758 \LWR@orignewline
11759 \LWR@startpars
11760 }
```

### 82.7.2 Environment patches

The `amsmath` environments already collect their contents in `\@envbody` for further processing. `eqnarray` is not an  $\mathcal{AMS}$  package, and thus requires special handling.

For `svg math`: Each environment is encapsulated inside a `lateximage` environment, along with a special optional argument of `\LWR@amsmathbody` or `\LWR@amsmathbodynumbered` telling `lateximage` to use as the `HTML <alt>` tag the environment's contents which were automatically captured by the  $\mathcal{AMS}$  environment.

For `MATHJAX`: Each environment is syched with  $\text{\LaTeX}$ 's equation numbers, typeset with  $\text{\LaTeX}$  inside an `HTML` comment, then printed to `HTML` output for `MATHJAX` to process.

Env `eqnarray` This environmnet is not an  $\mathcal{AMS}$  environment and thus its body is not automatically captured, so the `environ` package is used to capture the environment into `\BODY`.

```
11761 \let\LWR@origeqnarray\eqnarray
11762 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
11763 \newbool{LWR@numbereqnarray}
11764 \booltrue{LWR@numbereqnarray}
```

Common code used by `eqnarray` and `Beqnarray` (from `fancybox`):

```
11765 \newcommand{\LWR@eqnarrayfactor}{%
```

If `mathjax` or `FormatWP`, print the  $\text{\LaTeX}$  expression:

```
11766 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
11767 {%
```

If `MATHJAX`, the environment contents (the `\BODY`) are executed in a `HTML` comment to trigger the correct equation number increment (if not starred), then are included verbatim in the output for `MATHJAX` to interpret:

```
11768 \LWR@syncmathjax%
11769 \boolfalse{LWR@amsmultline}%
11770 \ifbool{LWR@numbereqnarray}%
11771 {%
```

If numbering the equations, execute a copy inside an `HTML` comment block:

```
11772 \LWR@beginhideamsmath%
11773 \LWR@origeqnarray%
11774 \BODY%
11775 \LWR@origendeqnarray%
11776 \LWR@endhideamsmath%
```

Then print the (sanitized) contents to the output for `MATHJAX` to interpret:

```

11777 \LWR@addmathjax{eqnarray}{\BODY}%
11778 }%
11779 {% not LWR@numbreqnarray

```

If not numbering equations, just create the contents for MATHJAX:

```

11780 \LWR@addmathjax{eqnarray*}{\BODY}%
11781 }% LWR@numbreqnarray
11782 }% mathjax
11783 {% not mathjax
11784 \ifbool{LWR@numbreqnarray}%
11785 {%

```

For numbered svg equations, first create a lateximage with an alt attribute containing sanitized copy of the source code:

```

11786 \begin{BlockClass}{displaymathnumbered}%
11787 \LWR@newautoidanchor%
11788 \booltrue{LWR@indisplaymathimage}%
11789 \begin{lateximage}[(\LWR@startingequationtag\textendash\LWR@equationtag)%
11790 \LWR@addmathjax{eqnarray}{\BODY}]*%

```

Support for xfakebold:

```

11791 \LWR@applyxfakebold%

```

Create the image contents using an actual eqnarray:

```

11792 \LWR@origeqnarray%
11793 \BODY%
11794 \LWR@origendeqnarray%
11795 \end{lateximage}%
11796 \end{BlockClass}%
11797 }%
11798 {% not LWR@numbreqnarray

```

If not numbered, do the same, but an extra \nonumber seems to be required:

```

11799 \begin{BlockClass}{displaymath}%
11800 \LWR@newautoidanchor%
11801 \booltrue{LWR@indisplaymathimage}%
11802 \begin{lateximage}[(\LWR@addmathjax{eqnarray*}{\BODY})*%

```

Support for xfakebold:

```

11803 \LWR@applyxfakebold%

11804 \def\@eqnocr{\nonumber\@seqnocr}
11805 \csuse{LWR@origeqnarray}%
11806 \BODY%
11807 \nonumber\csuse{LWR@origendeqnarray}%
11808 \end{lateximage}%
11809 \end{BlockClass}%
11810 }% LWR@numbreqnarray
11811 }% not mathjax

```

Default to number equations in the future:

```
11812 \booltrue{LWR@numbreqnarray}%
```

Clear the single-use alt text:

```
11813 \gdef\LWR@ThisAltText{}%
11814 }
```

eqnarray itself is made with a blank line before and after to force it to be on its own line:

```
11815 \RenewEnviron{eqnarray}
11816 {%
11817
11818 \LWR@eqnarrayfactor
11819
11820 }
```

The starred version is patched to turn off the numbering:

```
11821 \csgpreto{eqnarray*}{\boolfalse{LWR@numbreqnarray}}
11822 \end{warpHTML}
```

## 83 Lateximages

### 83.1 Description

**Env lateximage** A lateximage is a piece of the document which is typeset in  $\text{\LaTeX}$  then included in the HTML output as an image. This is used for math if `svg math` is chosen, and also for the `picture`, `tikzpicture`, and other environments.

Before typesetting the lateximage a large number of formatting, graphics, and symbols-related macros are temporarily restored to their print-mode meaning by `\LWR@restoreorigformatting`. (See section 80.)

A lateximage is typeset on its own PDF page inside an HTML comment which starts on the preceeding page and ends on following page, and instructions are written to `lateximage.txt` for *lwarpmk* to extract the lateximage from the page of the PDF file then generate an accompanying `.svg` file image file. Meanwhile, instructions to show this image are placed into the HTML file after the comment.

An HTML `<span>` is created to hold both the HTML comment, which will have the *pdftotext* conversion, and also the link to the final `.svg` image.

A  $\text{\LaTeX}$  label is used to remember which PDF page has the image. A label is used because footnotes, endnotes, and pagenotes may cause the image to appear at a later time. The label is declared along with the image, and so it correctly remembers where the image finally ended up.

**HTML alt tag** The HTML alt tag is set to the  $\text{\LaTeX}$  source for `svg math`, some chemistry expressions,

and perhaps some other expressions which make sense for text copy/paste. In some other cases, the alt tag is set according to the package name.

When creating an SVG math image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the alt tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following SVG math images.

For many packages, the output is placed inside a `\lateximage` with an HTML alt tag set to the package name followed by `\PackageDiagramAltText`. For example:

```
(-xy- diagram)
```

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

**svg image font size** For the `\lateximage` environment, the size of the math and text used in the SVG image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline SVG math, font size is instead controlled by `\LateximageFontScale`, which defaults to:

```
\newcommand*{\LateximageFontScale}{.75}
```

## 83.2 Support counters and macros

**for HTML output:** 11823 `\begin{warphTML}`

Ctrl LWR@lateximagenumber Sequence the images.

```
11824 \newcounter{LWR@lateximagenumber}
11825 \setcounter{LWR@lateximagenumber}{0}
```

Ctrl LWR@lateximagedepth Do not create `\lateximage` inside of `\lateximage`.

```
11826 \newcounter{LWR@lateximagedepth}
11827 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
11828 \edef\LWR@hashmark{\string#} % for use in \write
11829 \edef\LWR@percent{\@percentchar} % for use in \write
```

Ctrl LWR@LImage Used to reference the PDF page number of a lateximage to be written into <project>-images.txt.

```
11830 \newcounter{LWR@LImage}
```

```
11831 \end{warpHTML}
```

### 83.3 Font size

for HTML & PRINT: 11832 \begin{warpall}

\LateximageFontSizeName Declares how large to write text in \lateximages. The .svg file text size should blend well with the surrounding HTML text size.

 no backslash *Do not include the leading backslash in the name.*

```
11833 \newcommand*{\LateximageFontSizeName}{normalsize}
```

\LateximageFontScale Declares how large to scale inline svg math images. The .svg file text size should blend well with the surrounding HTML text size. The default is 1, but it may be redefined as needed depending on the HTML font.

```
11834 \newcommand*{\LateximageFontScale}{1}
```

```
11835 \end{warpall}
```

### 83.4 Equation numbers

for HTML output: 11836 \begin{warpHTML}

Ctrl LWR@startingequation For use with lateximage and multi-line numbered equations. Remembers the next equation number so that it may be printed in the alt tag.

```
11837 \newcounter{LWR@startingequation}
11838
11839 \@ifundefined{chapter}
11840 {
11841 \renewcommand{\theLWR@startingequation}{%
11842 \arabic{LWR@startingequation}%
11843 }
11844 }
11845 {% chapter defined
11846 \renewcommand{\theLWR@startingequation}{%
11847 \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}.}{}%
11848 \arabic{LWR@startingequation}%
11849 }
11850 }
```

Bool LWR@isstartingequation True for the first equation tag, false for later tags in the same environment.

```
11851 \newbool{LWR@isstartingequation}
```

`\LWR@startingequationtag` Prints the starting equation number or tag.

```
11852 \let\LWR@startingequationtag\theLWR@startingequation
```

`\LWR@equationtag` Prints the ending equation number or tag.

This is reset by `lateximage`, may be temporarily overwritten by `\tag` calling `\LWR@rememberetag`.

```
11853 \newcommand*{\LWR@equationtag}{}%
```

Only if `svg math`, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```
11854 \AtBeginDocument{
11855
11856 \ifbool{mathjax}{}{% not mathjax
```

`\LWR@rememberetag` `{\tag}`

For use inside the math environments while using `svg math`. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```
11857 \NewDocumentCommand{\LWR@rememberetag}{m}{%
11858 \ifbool{LWR@isstartingequation}%
11859 {%
11860 \global\boolfalse{LWR@isstartingequation}%
11861 \xdef\LWR@startingequationtag{#1}%
11862 }{}%
11863 \xdef\LWR@equationtag{#1}%
11864 }%

11865 }% not mathjax
11866 }% AtBeginDocument
```

### 83.5 HTML alt tags

`\LWR@amsmathbody` `{\envname}` For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `<alt>` tag.

```
11867 \newcommand*{\LWR@amsmathbody}[1]
11868 {%
11869 \textbackslash\{begin\}\{#1\} % extra space
11870 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\the\envbody}}%
11871 \textbackslash\{end\}\{#1\}%
11872 }
```

`\LWR@amsmathbodynumbered` `{\envname}` For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `alt` tag, prefixed by the equation numbers.

```
11873 \newcommand*{\LWR@amsmathbodynumbered}[1]
```



```

11874 {%
11875 \ifnumcomp{\value{LWR@startingequation}}{=}{\value{equation}}%
11876 {(\LWR@equationtag)}%
11877 {(\LWR@startingequationtag\textendash\LWR@equationtag)} % extra space
11878 \LWR@amsmathbody{#1} % extra space
11879 }

```

### 83.6 lateximage environment

`\LWR@lateximage@oneimageb`  $\{\langle 1: alt\ text\rangle\}\{\langle 2: filename\rangle\}\{\langle 3: CSS\ style\rangle\}$  Creates the image for the lateximage.

```

11880 \newcommand{\LWR@lateximage@oneimageb}[3]{%
11881 \LWR@subinlineimage{#1}{lateximage}%
11882 {%
11883 \LWR@print@mbox{%
11884 \LWR@ImagesDirectory\OSPathSymbol%
11885 #2%
11886 }%
11887 \svg{#3}%
11888 }

```

`\LWR@lateximage@oneimage`  $\{\langle 1: alt\ text\rangle\}\{\langle 2: filename\rangle\}\{\langle 3: css\ style\rangle\}\{\langle 4: delimit?\rangle\}$

Creates an image for the lateximage, whose alt text depends on the circumstances.

```

11889 \newcommand{\LWR@lateximage@oneimage}[4]{%
11890 \ifdefvoid{\LWR@ThisAltText}{%
11891 \IfBooleanTF{#4}{%
11892 \LWR@lateximage@oneimageb{#1}{#2}{#3}%
11893 }{%
11894 \LWR@lateximage@oneimageb%
11895 {\AltTextOpen#1\AltTextClose}%
11896 {#2}{#3}%
11897 }%
11898 }{%
11899 \LWR@lateximage@oneimageb%
11900 {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
11901 {#2}{#3}%
11902 }%
11903 }

```

Env `lateximage` \*  $[\langle 2: <alt>\ tag\rangle]\ast[\langle 4: add'l\ hashing\rangle][\langle 5: css\ style\rangle]$

Typesets the contents and then renders the result as an svg file. Star #1 causes the image to be hashed for reuse. Star #3 causes the alt tag to not include `\AltTextOpen` and `\AltTextClose`, for use with math expressions.

The optional `<alt>` tag is included in the HTML code for use with copy/paste.

**image filename hashing** If starred, a hashed filename is used. If so, the hash is based on the alt tag and also the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated  $\TeX$  expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is duplicated in the additional hashing argument.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple `alt` tag is still the same.

File `*_html.aux` A new label is placed into the file `*_html.aux`:

```
\newlabel{LWRlateximage-<BaseJobname>-<number>}{<x>}{<y>}}
```

This is used to find the image in the `PDF` file, according to its name.

File `*-images.txt` A list of images to generate is created in `<jobname>-images.txt`. Each line has three pipe-delimited fields, containing the `PDF` page number from `<jobname>_html.pdf`, where the image is located, a boolean indicating whether the image is hashed, and the filename of the image. The last line has “end” in each field, and is used to detect an incomplete compile.

```
11904 \catcode'\$=\active%
11905
11906 \NewDocumentEnvironment{lateximage}{s O{\ImageAltText} s O{} O{}}
11907 {%
11908 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
11909 \LWR@traceinfo{lateximage: entering depth is \arabic{LWR@lateximagedepth}}%
```

Nested `lateximages` remain one large `lateximage`:

```
11910 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
```

If nesting inside an already-existing `lateximage`, simply record one more level.  $\mathcal{AMS}$  packages redefine `\addtocounter` to do nothing if inside a `\text`, so lower-level  $\TeX$  macros are used for tracking nested `lateximages`.

```
11911 {%
11912 % \addtocounter{LWR@lateximagedepth}{1}%
11913 \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
11914 }%
```

Otherwise, this is the outer-most `lateximage`:

```
11915 {% start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```
11916 \LWR@traceinfo{lateximage: starting outer-most lateximage}%
11917 \setcounter{LWR@startingequation}{\value{equation}}%
```

```

11918 \addtocounter{LWR@startingequation}{1}%
11919 \booltrue{LWR@isstartingequation}%
11920 \let\LWR@startingequationtag\theLWR@startingequation%

```

The default equation tag, unless overwritten by `\tag`:

```

11921 \let\LWR@equationtag\theequation%

```

Starting a new lateximage:

```

11922 \addtocounter{LWR@lateximagenumber}{1}%
11923 \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%

```

While inside a lateximage, locally do not use mathjax:

```

11924 \boolfalse{mathjax}%

```

Be sure that are doing a paragraph:

```

11925 \LWR@ensuredoingapar%

```

Next file:

```

11926 \addtocounter{LWR@externalfilecnt}{1}%
11927 \LWR@traceinfo{lateximage: LWR@externalfilecnt is \arabic{LWR@externalfilecnt}}%

```

Figure out what the next page number will be. `\setcounterpageref` assigns `LWR@LPage` to the page number for the reference `LWR@lateximage-BaseJobname-XXX`:

```

11928 \setcounterpageref{LWR@LPage}{%
11929 LWR@lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
11930 }%
11931 \LWR@traceinfo{lateximage: LWR@LPage is \arabic{LWR@LPage}}%

```

Create an HTML span which will hold the comment which contains the *pdftotext* translation of the image's page, and also will hold the link to the .svg file:

```

11932 \LWR@htmltag{span\LWR@indentHTML%
11933 id=\textquotedbl{}%
11934 lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
11935 \textquotedbl\LWR@indentHTML
11936 class=\textquotedbl{}lateximagesource\textquotedbl\LWR@orignewline
11937 }%

```

Write instructions to the `<ImagesDirectory>.txt` file:

```

11938 \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
11939 \IfBooleanTF{#1}% starred
11940 {% hash

```

Compute and save the hashed file name for later use:

```

11941 \ifdefvoid{\LWR@ThisAltText}{%
11942 \IfBooleanTF{#3}{%

```

```

11943 \edef\LWR@hashedname{%
11944 \LWR@mdfive{\detokenize\expandafter{#2}-!-#4}%
11945 }%
11946 }{%
11947 \edef\LWR@hashedname{%
11948 \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-#4}%
11949 }%
11950 }%
11951 }{%
11952 \edef\LWR@hashedname{%
11953 \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-#4}%
11954 }%
11955 }%
11956 \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%

```

Write the page, hashing, and hashed name:

```

11957 \immediate\write\LWR@lateximagesfile{%
11958 |\arabic{LWR@LPage}|true|\LWR@hashedname|%
11959 }%
11960 }% hash
11961 {% no hash

```

No hash, so write the page, no hashing, and the image number:

```

11962 \LWR@traceinfo{lateximage: hash false}%
11963 \immediate\write\LWR@lateximagesfile{%
11964 |\arabic{LWR@LPage}|false|\LWR@ImagesName\arabic{LWR@externalfilecnt}}%
11965 }%
11966 }% no hash

```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```

11967 \LWR@traceinfo{lateximage: about to create open comment}%
11968 \LWR@htmlopencomment%

```

One level deeper. At this outer-most lateximage, it is known that this is not being used inside an  $\mathcal{MS}$  \text, since the outer-most level will never be in math mode.

```

11969 \addtocounter{LWR@lateximagedepth}{1}%

```

Start the new PDF page:

```

11970 \LWR@traceinfo{lateximage: about to create a new page}%
11971 \LWR@maybe@originnewpage%

```

If the current page is larger, typeset the image in a “standard” width page and font size:

```

11972 \LWR@traceinfo{lateximage: about to create minipage}%
11973 \ifdimless{\linewidth}{6in}{%
11974 \LWR@print@minipage{\linewidth}%
11975 }{%
11976 \LWR@print@minipage{6in}%
11977 }%

```

```
11978 \nameuse{LWR@print@LateximageFontSizeName}%
```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for \hspace, etc. inside a lateximage.

```
11979 \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
11980 \LWR@restoreorigformatting%
```

Use full-page footnotes instead of minipage footnotes. These become HTML footnotes.

```
11981 \def\@mpfn{footnote}%
11982 \def\thempfn{\thefootnote}%
11983 \LetLtxMacro\@footnotetext\LWR@footnotetext%
```

Create the LWRlateximage<number> label:

```
11984 \LWR@traceinfo{lateximage: about to create label}%
11985 \LWR@orig@label{LWRlateximage-BaseJobname-Varabic{LWR@lateximagenumber}}%
11986 \LWR@traceinfo{lateximage: finished creating the label}%
```

Adjust the rule color to match HTML:

```
11987 \ifdefvoid{\LWR@ruleHTMLcolor}{}{%
11988 \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
11989 }%
```

Enable print-mode math functions:

```
11990 \LetLtxMacro$\LWR@origdollar%
11991 \catcode'\$=3% math shift
11992 \LetLtxMacro\(\LWR@origopenparen%
11993 \LetLtxMacro\)\LWR@origcloseparen%
```

Only enable print-mode display math if are not already inside display math:

```
11994 \ifbool{LWR@indisplaymathimage}{}{% not in display math
11995 \LetLtxMacro\[\LWR@origopenbracket%
11996 \LetLtxMacro\]\LWR@origclosebracket%
11997 \let\equation\LWR@origequation%
11998 \let\endequation\LWR@origendequation%
11999 \csletcs{equation*}{LWR@origequation*}%
12000 \csletcs{endequation*}{LWR@origendequation*}%
12001 }% not in display math
```

For chemformula:

```
12002 \LetLtxMacro\LWR@newsingledollar$%
12003 \LetLtxMacro\LWR@newsingledollar$% syntax highlighting

12004}% end of outer-most lateximage
12005 \LWR@traceinfo{lateximage: finished start of environment}%
12006}% end of \begin{lateximage}
```

`\endlateximage` When the lateximage environment closes:

```
12007 {% start of \end{lateximage}
12008 \LWR@traceinfo{lateximage: starting end of lateximage}%
```

Nested more than one deep?

```
12009 \LWR@traceinfo{lateximage: internal depth was \arabic{LWR@lateximagedepth}}%
12010 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
```

If nesting inside an already existing lateximage, simply record one less level. Uses a lower-level  $\TeX$  macro due to  $\mathcal{A}\mathcal{M}\mathcal{S}$   $\text{\textbackslash text}$  change of  $\text{\textbackslash addtocounter}$ .

```
12011 {%
12012 \LWR@traceinfo{lateximage: unnesting}%
12013 \global\advance\c@LWR@lateximagedepth -1\relax%
12014 }%
```

If this is the outer-most lateximage:

```
12015 {% end of outer-most lateximage
```

Finish the lateximage minipage and start a new PDF page:

```
12016 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
12017 \endLWR@print@minipage%
12018 \LWR@maybe@orignewpage%
```

Close the HTML comment which encapsulated any traces of the lateximage picked up by *pdftotext*:

```
12019 \LWR@print@vspace*{.5\baselineskip}%
12020 \LWR@htmlclosecomment%
12021 \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%
```

Create a link to the lateximage, allowing its natural height:

```
12022 \IfBooleanTF{#1}% starred
12023 {% hash
12024 \LWR@lateximage@oneimage{#2}{\LWR@hashedname}{#5}{#3}%
12025 }% hash
12026 {% no hash
12027 \LWR@lateximage@oneimage{#2}{\LWR@ImagesName\theLWR@externalfilecnt}{#5}{#3}%
12028 }% no hash
```

Be sure that are doing a paragraph:

```
12029 \LWR@ensuredoingapar%
```

Close the HTML span which has the *pdftotext* comment and also the link to the .svg image:

```
12030 \LWR@htmltag{/span}%
12031 \ifbool{HTMLDebugComments}{%
12032 \LWR@htmlcomment{End of lateximage}%
12033 }{%}
```

Undo one lateximage level. This is not inside an  $\mathcal{AMS}$   $\text{\textbackslash text}$ , so regular  $\text{\textbackslash addtocounter}$  may be used here.

```
12034 \addtocounter{LWR@lateximagedepth}{-1}%
```

Clear the single-use alt text:

```
12035 \gdef\LWR@ThisAltText{}%
12036}% end of outer-most lateximage
12037 \LWR@traceinfo{lateximage: exiting depth is \arabic{LWR@lateximagedepth}}%
12038 \LWR@traceinfo{lateximage: done}%
12039}%
12040 \catcode'\$=3% math shift
12041 \end{warpHTML}
```

**for PRINT output:** 12042  $\text{\textbackslash begin}\{\text{warpprint}\}$

Env lateximage \* [ $\langle \text{alt} \rangle$  tag] \* [ $\langle \text{add'l hashing} \rangle$ ] [ $\langle \text{css style} \rangle$ ]

varwidth is used to create a box of the natural width of its contents.

```
12043 \NewDocumentEnvironment{lateximage}{s o s o o}
12044 {\begin{varwidth}[b]{\linewidth}}
12045 {\end{varwidth}}

12046 \end{warpprint}
```

## 84 center, flushleft, flushright

**for HTML output:** 12047  $\text{\textbackslash begin}\{\text{warpHTML}\}$

Env center Replace center functionality with css tags:

```
12048 \newenvironment*{LWR@HTML@center}
12049 {
12050 \LWR@forcenewpage
12051 \ifbool{FormatWP}
12052 {\BlockClass[\LWR@print@mbbox{text-align:center}]{center}}
12053 {\BlockClass{center}}
12054 }
12055 {\endBlockClass}
12056
12057 \LWR@formattedenv{center}
```

Env flushright

```
12058 \newenvironment*{LWR@HTML@flushright}
12059 {
12060 \LWR@forcenewpage
12061 \ifbool{FormatWP}
```

```

12062 {\BlockClass[\LWR@print@mbbox{text-align:right}]{flushright}}
12063 {\BlockClass{flushright}}
12064 }
12065 {\endBlockClass}
12066
12067 \LWR@formattedenv{flushright}

```

Env flushleft

```

12068 \newenvironment*{\LWR@HTML@flushleft}
12069 {
12070 \LWR@forcenewpage
12071 \ifbool{FormatWP}
12072 {\BlockClass[\LWR@print@mbbox{text-align:left}]{flushleft}}
12073 {\BlockClass{flushleft}}
12074 }
12075 {\endBlockClass}
12076
12077 \LWR@formattedenv{flushleft}

```

`\centering`, `\raggedleft`, and `\raggedright` usually have no effect on the HTML output, but they may be used to compare with the next token to identify their use at the start of a float. See `\LWR@floatalignment`.

`\centering`

```

12078 \newcommand*{\LWR@HTML@centering}{%
12079 \ifbool{HTMLDebugComments}{%
12080 \LWR@htmlcomment{centering}%
12081 }{}%
12082 }
12083 \LWR@formatted{centering}

```

`\raggedleft`

```

12084 \newcommand*{\LWR@HTML@raggedleft}{%
12085 \ifbool{HTMLDebugComments}{%
12086 \LWR@htmlcomment{raggedleft}%
12087 }{}%
12088 }
12089 \LWR@formatted{raggedleft}

```

`\raggedright`

```

12090 \newcommand*{\LWR@HTML@raggedright}{%
12091 \ifbool{HTMLDebugComments}{%
12092 \LWR@htmlcomment{raggedright}%
12093 }{}%
12094 }
12095 \LWR@formatted{raggedright}

```

`\leftline {<text>}`



```
12096 \renewcommand{\leftline}[1]{\begin{flushleft}#1\end{flushleft}}
```

```
\centerline {<text>}
```

```
12097 \renewcommand{\centerline}[1]{\begin{center}#1\end{center}}
```

```
\rightline {<text>}
```

```
12098 \renewcommand{\rightline}[1]{\begin{flushright}#1\end{flushright}}
```

```
12099 \end{warpHTML}
```

## 85 Preloaded packages

**for HTML output:** 12100 \begin{warpHTML}

If the given package was loaded before or by **lwarp**, load the **lwarp** version as well.

```
\LWR@PreloadedPackage {<packagename>}
```

```
12101 \newcommand*\LWR@PreloadedPackage[1]{%
12102 \ifpackageloaded{#1}%
12103 {%
12104 \AtBeginDocument{
12105 \LWR@origRequirePackage{lwarp-#1}%
12106 }
12107 }%
12108 }%
12109 }
```

If **inputtrc** was loaded before **lwarp**, as is usually done, explicitly load the **lwarp** patches now:

```
12110 \LWR@PreloadedPackage{inputtrc}
```

If **textcomp** was loaded before **lwarp**, perhaps as part of the font-related packages, explicitly load the **lwarp** patches now:

```
12111 \LWR@PreloadedPackage{textcomp}
```

If **xunicode** was loaded before **lwarp**, perhaps as part of the font-related packages, explicitly load the **lwarp** patches now:

```
12112 \LWR@PreloadedPackage{xunicode}
```

If **graphics** or **graphicx** were loaded before **lwarp**, perhaps by **xunicode**, explicitly load the **lwarp** patches now:

```
12113 \LWR@PreloadedPackage{graphics}
```

```
12114 \LWR@PreloadedPackage{graphicx}
```

**scalefnt** may have been preloaded by **babel**

```
12115 \LWR@PreloadedPackage{scalefnt}
```

**fontaxes** must be preloaded so that **lwarp** may patch it for HTML.

```
12116 \LWR@PreloadedPackage{fontaxes}
```

Various font packages which may be loaded before **lwarp**:

```
12117 \LWR@PreloadedPackage{cmbright}
12118 \LWR@PreloadedPackage{fourier}
12119 \LWR@PreloadedPackage{kpfonts}
12120 \LWR@PreloadedPackage{kpfonts-otf}
12121 \LWR@PreloadedPackage{libertinust1math}
12122 \LWR@PreloadedPackage{pxfonts}
12123 \LWR@PreloadedPackage{txfonts}
12124 \LWR@PreloadedPackage{txgreek}
12125 \LWR@PreloadedPackage{newpxmath}
12126 \LWR@PreloadedPackage{newtxmath}
12127 \LWR@PreloadedPackage{newtxsf}
12128 \LWR@PreloadedPackage{mathalpha}
12129 \LWR@PreloadedPackage{unicode-math}
```

**nfssect-cfr** may be preloaded by **cfm-lm** or related font packages.

```
12130 \LWR@PreloadedPackage{nfssect-cfr}
```

**ulem** may be preloaded by **ctex**, **ctextart**, and related classes.

```
12131 \LWR@PreloadedPackage{ulem}
```

**xetexko-vertical** may be preloaded by **xetexko**.

```
12132 \LWR@PreloadedPackage{xetexko-vertical}
```

**geometry** is preloaded by **lwarp**, and perhaps by various classes.

```
12133 \LWR@PreloadedPackage{geometry}
```

**plext** is preloaded by some CJK classes.

```
12134 \LWR@PreloadedPackage{plext}
```

**stfloats** is preloaded by **ltj\*** classes.

```
12135 \LWR@PreloadedPackage{stfloats}
```

**lltjtext** is preloaded by **ltj\*** classes.

```
12136 \LWR@PreloadedPackage{lltjtext}
```

**luatexko** must be loaded before **lwarp**.

```
12137 \LWR@PreloadedPackage{luatexko}
```

12138 \end{warpHTML}

## 86 siunitx

Pkg `siunitx` The `lwarp` core passes a few options to `siunitx`.

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

 **math mode required** Some units will require that the expression be placed inside math mode.

 **tabular** Tabular S columns are rendered as simple c columns, and tabular s columns are not supported. These may be replaced by c columns with each cell contained in `\num` or `\si`.

 **MathJax** For math mode with svg display, the original `siunitx` code is used while generating the svg image. For text mode, `lwarp` uses an emulation which provides a very effective HTML interpretation of `siunitx`. For math expressions while using `MATHJAX`, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. Complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

Document modifications required for `MATHJAX`:

**custom units** • Custom units may be added with `\CustomizeMathJax`. See the `lwarp-siunitx` code for examples.

 **unit spacing** • Units work better using `~` between units instead of using periods.

 **\square, \cubic** • To square or cube compound units, enclose the following compound units in braces:  
`\cubic{\centi\meter}`  
 Single units do not require braces.

Also see **MATHJAX option**, section 8.7.4.

**for HTML output:** 12139 \begin{warpHTML}

Options for `siunitx`:

```
12140 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}%
12141 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}%
12142 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLUnicode{2032}}%
12143 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLUnicode{2033}}%
12144 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLUnicode{210F}}}}%
12145
12146 \appto\LWR@restoreorigformatting{%
12147 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^{\circ}C}}}%
12148 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^{\circ}}}}%
12149 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^{\prime}}}}%
12150 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^{\prime\prime}}}}%
12151 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}%
12152 }
```

```

12153
12154 \PassOptionsToPackage{
12155 detect-mode=true,
12156 per-mode=symbol,% fraction is not seen by pdftotext
12157 text-celsius = {\LWR@siunitx@textcelsius},
12158 text-degree = {\LWR@siunitx@textdegree},
12159 text-arcminute = {\LWR@siunitx@textprime} ,
12160 text-arcsecond = {\LWR@siunitx@textdblprime} ,
12161 }{siunitx}

12162 \end{warpHTML}

```

## 87 Graphics print-mode modifications

### 87.1 General limitations

 **scale** Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{...}
```

to:

```
\includegraphics[width=<yy>\linewidth]{...}
```

**`\includegraphics` file formats** For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, **lwarp** will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for HTML:

```

\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html

```

Prog `pdftocairo` To convert a PDF image to SVG, use the utility *pdftocairo*:  
**PDF to SVG**

Enter  $\Rightarrow$  **`pdftocairo -svg filename.pdf`**

Prog `lwarpmk pdftosvg` For a large number of images, use *lwarpmk*:

Enter  $\Rightarrow$  **`lwarpmk pdftosvg *.pdf`** (or a list of filenames)

Prog `lwarpmk epstopdf` For EPS images converted to PDF using the package *epstopdf*, use

Prog `epstopdf`  
**epstopdf package**

Enter  $\Rightarrow$  **`lwarpmk pdftosvg *.PDF`**

to convert to SVG images.

**DVI  $\LaTeX$**  When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter  $\Rightarrow$  **lwarpmk epstopdf \*.eps** (or a list of filenames)

Enter  $\Rightarrow$  **lwarpmk pdftosvg \*.pdf** (or a list of filenames)

**PNG and JPG** For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

**GIF** GIF files may be used for HTML, but another format must also be provided for print output.

**file extension priorities** If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

 **graphics vs. graphicx** If using the older **graphics** syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer **graphicx** syntax. Note that viewports are not supported by **lwarp** – the entire image will be shown.

 **viewport**

 **viewport units**

For `\includegraphics`, avoid px and % units for width and height, or enclose them inside warpHTML environments. For font-proportional image sizes, use ex or em. For fixed-sized images, use cm, mm, in, pt, or pc. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.

**options** `\includegraphics` accepts width and height, origin, rotate and scale, plus new class and alt keys.

**HTML class** With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

**HTML alt tags** Likewise, the `\includegraphics alt` key adds an HTML alt tag to an image, and is ignored for print output. If not assigned, each image is given an alt tag according to `\ImageAltText`.

**\rotatebox** `\rotatebox` accepts the optional origin key.

 **browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The css3 standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike  $\LaTeX$ , so expect some ugly results for scaling and rotating.

## 87.2 Print-mode modifications

**for PRINT output:** For print output, accept and then discard the new class key:

```
12163 \begin{warpprint}
12164 \define@key{Gin}{class}{}
12165 \define@key{Gin}{alt}{}

```

Print-mode additions for the **overpic** package. See section 445 for the HTML version.

```
12166 \AtBeginDocument{
12167 \ifpackageloaded{overpic}{
12168 \newcommand*{\overpicfontsize}{12}
12169 \newcommand*{\overpicfontskip}{14}

```

```

12170 }{}
12171 }
12172 \end{warpprint}

```

## 88 xcolor boxes

**Pkg xcolor** A few new definitions are provided for enhanced HTML colored boxes, and `\fcolorbox` is slightly modified. Print-mode version are also provided.

Print-mode versions of new `xcolor` definitions. These are defined inside `warpall` because they are also used for HTML while inside a `lateximage`. They are defined `\AtBeginDocument` so that the `xcolor` originals may first be loaded and saved for reuse.

The framed versions are modified to allow a background color of none, in which case only the frame is drawn, allowing the background page color to show.

**for HTML & PRINT:** 12173 `\begin{warpall}`

After `xparse` may have been loaded ...

```

12174 \AtBeginDocument{

```

... and *only* if `xcolor` was loaded:

```

12175 \ifpackageloaded{xcolor}{
12176 \LWR@traceinfo{patching xcolor}

```

The print version:

`\colorboxBlock` `\colorboxBlock` is the same as `\colorbox`:

```

12177 \LetLtxMacro\colorboxBlock\colorbox

```

The original definition is reused by the new versions:

```

12178 \LetLtxMacro\LWR@orig@print@fcolorbox\fcolorbox

```

`\fcolorbox` [`\framecolor`] [`\framecolor`] [`\boxcolor`] [`\boxcolor`] [`\text`]

In print mode, `\fcolorbox` is modified to accept a background color of none.

(`\fcolorbox` is particular about its optional arguments, thus the elaborate combinations of `\ifthenelse`.)

```

12179 \newsavebox{\LWR@colorminipagebox}
12180
12181 \NewDocumentCommand{\LWR@print@fcolorbox}{o m o m +m}{%
12182 \LWR@traceinfo{\LWR@print@fcolorbox #2 #4}%

```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```

12183 \begin{lrbox}{\LWR@colorminipagebox}%
12184 #5%
12185 \end{lrbox}%

```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a \fcolorbox.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```

12186 \ifstrequal{#4}{none}%
12187 {% #4 none
12188 \LWR@traceinfo{background is none}%
12189 {% scope the \colorlet
12190 \colorlet{\LWR@currentcolor}{.}%
12191 \color{#2}%
12192 \fbox{%
12193 \color{\LWR@currentcolor}%
12194 \usebox{\LWR@colorminipagebox}%
12195 }% fbox
12196 }% colorlet
12197 }% #4 none
12198 {% #4 not none
12199 \LWR@traceinfo{background not none}%
12200 \IfValueTF{#1}%
12201 {%
12202 \IfValueTF{#3}%
12203 {\LWR@orig@print@fcolorbox[#1][#2][#3][#4]{\usebox{\LWR@colorminipagebox}}}%
12204 {\LWR@orig@print@fcolorbox[#1][#2][#4]{\usebox{\LWR@colorminipagebox}}}%
12205 }%
12206 {% no value #1
12207 \IfValueTF{#3}%
12208 {\LWR@orig@print@fcolorbox[#2][#3][#4]{\usebox{\LWR@colorminipagebox}}}%
12209 {\LWR@orig@print@fcolorbox[#2][#4]{\usebox{\LWR@colorminipagebox}}}%
12210 }% no value #1
12211 }% #4 not none
12212 \LWR@traceinfo{\LWR@print@fcolorbox done}%
12213 }

12214 \renewrobustcmd*\fcolorbox{\LWR@print@fcolorbox}%

```

`\fcolorboxBlock` [*<framemodel>*] [*<framecolor>*] [*<boxmodel>*] [*<boxcolor>*] [*<text>*]

In print mode, \fcolorboxBlock is the same as \fcolorbox.

```

12215 \newcommand*\LWR@print@fcolorboxBlock{\LWR@print@fcolorbox}

12216 \newrobustcmd*\fcolorboxBlock{\LWR@print@fcolorboxBlock}

```

Env `fcolorminipage` [*<1:framemodel>*] [*<2:framecolor>*] [*<3:boxmodel>*] [*<4:boxcolor>*] [*<5:align>*] [*<6:height>*] [*<7:inner-align>*] [*<8:width>*]

In print mode, becomes a \fcolorbox containing a minipage:

```

12217 \NewDocumentEnvironment{LWR@print@fcolorminipage}{o m o m O{c} O{ } o m}
12218 {%
12219 \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%

```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```

12220 \begin{lrbox}{\LWR@colorminipagebox}%

```

If inner alignment is not given, use the outer alignment instead:

```

12221 \IfValueTF{#7}%
12222 {\begin{minipage}[#5][#6][#7]{#8}}%
12223 {\begin{minipage}[#5][#6][#5]{#8}}%
12224 }%
12225 {%
12226 \end{minipage}%
12227 \end{lrbox}%
12228 \LWR@traceinfo{*** starting end fcolorminipage #1 #2 #3 #4 #8}%

```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a `\fcolorbox`.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```

12229 \ifstrequal{#4}{none}%
12230 {% #4 none
12231 {% scope the \colorlet
12232 \colorlet{LWR@currentcolor}{.}%
12233 \color{#2}%
12234 \fbox{%
12235 \color{LWR@currentcolor}%
12236 \usebox{\LWR@colorminipagebox}%
12237 }% fbox
12238 }% colorlet
12239 }% #4 none
12240 {% #4 not none
12241 \IfValueTF{#1}%
12242 {%
12243 \IfValueTF{#3}%
12244 {\LWR@orig@print@fcolorbox[#1][#2][#3][#4]{\usebox{\LWR@colorminipagebox}}}%
12245 {\LWR@orig@print@fcolorbox[#1][#2][#4]{\usebox{\LWR@colorminipagebox}}}%
12246 }%
12247 {% no value #1
12248 \IfValueTF{#3}%
12249 {\LWR@orig@print@fcolorbox[#2][#3][#4]{\usebox{\LWR@colorminipagebox}}}%
12250 {\LWR@orig@print@fcolorbox[#2][#4]{\usebox{\LWR@colorminipagebox}}}%
12251 }% no value #1
12252 }% #4 not none
12253 \LWR@traceinfo{*** finished end fcolorminipage}%
12254 }

12255 \NewDocumentEnvironment{fcolorminipage}{}
12256 {\LWR@print@fcolorminipage}
12257 {\endLWR@print@fcolorminipage}

```



```

12258 \LWR@traceinfo{xcolor patches done}
12259 }{}% xcolor loaded
12260 }% AtBeginDocument

12261 \end{warppall}

```

## 89 chemmacros environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in print mode, and in the `chemmacros` code in HTML mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate alt tag.

for PRINT output: 12262 `\begin{warpprint}`

```

12263 \AtBeginDocument{
12264 \ifpackageloaded{chemmacros}{

```

Env `polymerdelims`

```

12265 \DeclareDocumentEnvironment{polymerdelims}{}
12266 {}{}

```

Env `redoxreaction` `{\space above}}{\space below}}`

For print output, extra space is include above and below the image, and a `lateximage` is not necessary. This extra space must be enforced, even inside a float, so zero-width rules are used.

For the HTML version, see section 188.4.

```

12267 \DeclareDocumentEnvironment{redoxreaction}{m m}
12268 {\rule{0pt}{#1}}{\rule[-#2]{0pt}{#2}}

```

```

12269 }{}% chemmacros
12270 }% AtBeginDocument

```

```

12271 \end{warpprint}

```

## 90 cleveref

**loading order** `cleveref` and `lwarp-cleveref` with its associated macro patches are automatically preloaded at the end of the preamble via `\AtEndPreamble` and `\AfterEndPreamble`. This is done because the HTML conversion requires `cleveref`. The user's document may not require `cleveref`, thus the user may never explicitly load it, so during HTML output `lwarp` loads it last. If the user's document preamble uses `cleveref` options, or functions such as `\crefname`, then `cleveref` may be loaded in the user's preamble near the end, and `lwarp`'s additional loading of `cleveref` will have no effect.

`\AtEndPreamble` forces `cleveref` to be loaded last, if it has not yet been loaded by the user.

**for HTML output:**

```

12272 \begin{warpHTML}
12273
12274 \AtEndPreamble{
12275 \RequirePackage{cleveref}
12276 }
12277
12278 \end{warpHTML}

```

## 91 Preexisting label and reference definitions

Remember and patch some label-related definitions. These will be further encased and patched by other packages later.

`\label` and `\pageref` do NOT change their behavior according to print or HTML output, and thus do not use the `\LWR@formatted` system.

**for HTML output:**

```

12279 \begin{warpHTML}
12280
12281 \LetLtxMacro\LWR@orig@label\label% includes memoir, before cleveref
12282 \LetLtxMacro\label\LWR@new@label
12283
12284 \LetLtxMacro\LWR@orig@pageref\pageref
12285 \LetLtxMacro\pageref\LWR@new@pageref
12286
12287 \end{warpHTML}

```

## 92 picture environment

Env `picture` The `picture` environment is enclosed inside a `\lateximage`.

**for HTML output:**

```

12288 \begin{warpHTML}

```

Env `picture`

```

12289 \BeforeBeginEnvironment{picture}{\begin{lateximage}[picture]}
12290
12291 \AfterEndEnvironment{picture}{\end{lateximage}}
12292 \end{warpHTML}

```

## 93 Minipages and Boxes

A css flexbox is used for minipages and parboxes, allowing external and internal vertical positioning.

- ⚠ **inline** A line of text with an inline minipage or `\parbox` will have the minipage or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made inline-block.
- placement** minipages and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.
- side-by-side** Side-by-side minipages may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a center environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side minipages and these spacing commands, but not at the start or end of the paragraph.
- ⚠ **minipage in a span** There is limited support for minipages inside an HTML `<span>`. An HTML `<div>` cannot appear inside a `<span>`. While in a `<span>`, minipages, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.
- ⚠ **minipage size** When using minipage, `\parbox`, and `fminipage`, a virtual  $6 \times 9$  inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.
- if width is `\linewidth`** If a minipage or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.
- full-width if HTML** A new macro `\minipagefullwidth` requests that, during HTML output, the next single minipage or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version’s width makes no sense in HTML.
- ⚠ **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every minipage or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell **lwarp** to honor the specified widths of all following minipages and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell **lwarp** to ignore the specified widths.
- ⚠ **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.
- ⚠ **text alignment** Nested minipages adopt their parent’s text alignment in HTML, whereas in regular  $\text{\LaTeX}$  PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.
- for HTML output:** 12293 `\begin{warphTML}`

## 93.1 Computed lengths

- Len `\LWR@minipagewidth` Used to convert the width into printable units.
- 12294 `\newlength{\LWR@minipagewidth}`
- Len `\LWR@minipageheight` Used to convert the height into printable units.
- 12295 `\newlength{\LWR@minipageheight}`

## 93.2 Virtual page size

**Ctrl** `LWR@virtualpagedepth` Used to only reset the line width at the outermost minipage.

```
12296 \newcounter{LWR@virtualpagedepth}
12297 \setcounter{LWR@virtualpagedepth}{0}
```

**Env** `LWR@setvirtualpage` \* [`<columns>`]

If not nesting a minipage, adjust `\linewidth`, `\textwidth`, and `\textheight` for a virtual  $6 \times 9$  page, and start on a new PDF page to help prevent page overflows.

If starred, force a new page in the PDF before generating more HTML. This may be done to reduce the chance of page overflow when starting a new minipage.

The optional number of columns defaults to 1.

```
12298 \NewDocumentEnvironment{LWR@setvirtualpage}{s O{1}}{%
12299 \ifnumequal{\value{LWR@virtualpagedepth}}{0}{%
12300 \IfBooleanT{#1}{\LWR@maybe@orignewpage}%
12301 \setlength{\linewidth}{6in/#2}%
12302 \setlength{\textwidth}{6in}%
12303 \setlength{\textheight}{9in}%
12304 }{}%
12305 \addtocounter{LWR@virtualpagedepth}{1}%
12306 }
12307 {\addtocounter{LWR@virtualpagedepth}{-1}}
```

## 93.3 Footnote handling

Also see section 60 for other forms of footnotes. Minipage footnotes are gathered in section 60.5, and then placed into the document in section 93.4.

## 93.4 Minipage handling

**Bool** `LWR@minipagefullwidth` Should the next minipage have no HTML width?

```
12308 \newbool{LWR@minipagefullwidth}
12309 \boolfalse{LWR@minipagefullwidth}
```

**Bool** `LWR@forceminipagefullwidth` Should the next minipage have no HTML width? Used to force full width for all minipages in an environment such as `tabular` or `multicols`, where the actual width depends on the browser width. Controlled by `\useminipagewidths` and `\ignoreminipagewidths`.

```
12310 \newbool{LWR@forceminipagefullwidth}
12311 \boolfalse{LWR@forceminipagefullwidth}
```

`\minipagefullwidth` Requests that the next minipage have no width tag in HTML:

**for HTML output:** 12312 \newcommand\*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}

`\UseMinipageWidths` Locally requests that minipage widths be honored.

```
12313 \newcommand*{\UseMinipageWidths}{\boolfalse{LWR@forceminipagefullwidth}}
```

`\IgnoreMinipageWidths` Locally requests that minipage widths be ignored.

```
12314 \newcommand*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}
12315 \end{warppHTML}
```

**for PRINT output:**

```
12316 \begin{warpprint}
12317 \newcommand*{\minipagefullwidth}{}
12318 \newcommand*{\UseMinipageWidths}{}
12319 \newcommand*{\IgnoreMinipageWidths}{}
12320 \end{warpprint}
```

**for HTML output:**

```
12321 \begin{warppHTML}
```

**Bool** `LWR@minipagethispar` Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

```
12322 \newbool{LWR@minipagethispar}
12323 \boolfalse{LWR@minipagethispar}
```

**Env** `minipage` [*<vert position>*] [*<height>*] [*<inner vert position>*] [*<width>*]

The vertical positions may be 'c', 't', or 'b'. The inner position may also be 's'.

When using `\linewidth`, `\textwidth`, or `\textheight`, these are scaled proportionally to a 6×9 inch text area.

```
12324 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}
12325 {%
12326 \LWR@traceinfo{minipage}%
```

Start an environment, in which width and height is computed based on a virtual page size instead of the extra-large PDF page used during HTML tag generation.

```
12327 \begin{LWR@setvirtualpage}*%
```

Save the requested width now that `\linewidth`, etc. are adjusted to virtual size.

```
12328 \setlength{\LWR@minipagewidth}{#4}%
12329 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
12330 \addtolength{\LWR@minipagewidth}{3em}% room for frames
12331 }{}%
12332 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%
```

Compute height:

```
12333 \setlength{\LWR@minipageheight}{\textheight}% default unless specified
12334 \ifblank{#2}{}{\setlength{\LWR@minipageheight}{#2}}%
```

ET<sub>X</sub> wants to start a paragraph for the virtual minipage, then start a paragraph again for the contents of the minipage, so cancel the paragraph tag handling until the minipage has begun.

```
12335 \ifbool{FormatWP}{\newline}{}%
12336 \LWR@stoppars%
```

If FormatWP, add a text frame:

```
12337 \ifbool{FormatWP}{%
12338
12339 \addtocounter{LWR@thisautoidWP}{1}%
12340 \LWR@htmltag{%
12341 div id=\textquotedbl%
12342 \LWR@print@mbox{autoidWP-\arabic{LWR@thisautoidWP}}}%
12343 \textquotedbl\ % space
12344 class=\textquotedbl{wpminipage}\textquotedbl%
12345 }%
12346
12347 }{ }%
```

Create the <div> tag with optional alignment style:

```
12348 \LWR@traceinfo{minipage: creating div class}%
12349 \LWR@htmltag{div class=\textquotedbl{minipage}\textquotedbl\ style=\textquotedbl%
12350 \ifthenelse{\equal{#1}{t}}{\LWR@print@mbox{vertical-align:bottom} ; }{ }%
12351 \ifthenelse{\equal{#1}{c}}{\LWR@print@mbox{vertical-align:middle} ; }{ }%
12352 \ifthenelse{\equal{#1}{b}}{\LWR@print@mbox{vertical-align:top} ; }{ }%
12353 \ifthenelse{\equal{#3}{t}}{\LWR@print@mbox{justify-content:flex-start} ; }{ }%
12354 \ifthenelse{\equal{#3}{c}}{\LWR@print@mbox{justify-content:center} ; }{ }%
12355 \ifthenelse{\equal{#3}{b}}{\LWR@print@mbox{justify-content:flex-end} ; }{ }%
12356 \ifthenelse{\equal{#3}{s}}{\LWR@print@mbox{justify-content:space-between} ; }{ }%
```

Print the width and optional height styles:

```
12357 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
12358 \ifbool{LWR@minipagefullwidth}%
12359 {\global\boolfalse{LWR@minipagefullwidth}}%
12360 {%
12361 \ifbool{LWR@forceminipagefullwidth}%
12362 {}%
12363 {%
12364 \ifdimequal{#4}{\linewidth}%
12365 {}%
12366 {width:\LWR@printlength{\LWR@minipagewidth} ; }%
12367 }%
12368 }%
12369 \LWR@traceinfo{minipage: about to print the height}%
12370 \ifblank{#2}{\height:\LWR@printlength{\LWR@minipageheight} ; }%
12371 \textquotedbl%
12372 }%
```

Finish with an empty line to start the contents on a new line.

```
12373
```

12374 % The preceding empty line is required.

Set the user-accessible line and text width and height values inside the virtual minipage. These do not affect the actual size of the PDF output, but are used by any reference to `\linewidth`, etc. inside the virtual minipage being created here. `\LWR@minipagewidth` was the original then padded by 3em, which is restored here. This is done instead of settings back to #4, in case #4 was `\linewidth`, which was changed to 6in above.

```
12375 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
12376 \addtolength{\LWR@minipagewidth}{-3em}% undo frame padding
12377 }{}%
12378 \setlength{\linewidth}{\LWR@minipagewidth}%
```

`\raggedright` cancels hyphenation, which will be done by HTML instead.

```
12379 \LWR@print@raggedright%
```

Set minipage footnotes:

```
12380 \def\@mpfn{mpfootnote}%
12381 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
12382 \let\@footnotetext\@mpfootnotetext%
```

Resume paragraph tag handling for the contents of the minipage:

```
12383 \LWR@startpars%
12384 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12385
12386 === begin minipage ===
12387
12388 }{}%
12389 \LWR@traceinfo{minipage: finished starting the minipage}%
12390 }% finished \minipage
12391 {% \endminipage
```

Print pending minipage footnotes:

```
12392 \LWR@printpendingmpfootnotes%
```

End the environment with closing tag:

```
12393 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12394
12395 === end minipage ===
12396
12397 }{}%
12398 \LWR@stoppars%
12399
12400 \ifbool{FormatWP}{%
12401
12402 \LWR@html@elementend{div}%
12403
12404 }{}%
12405 \LWR@html@divclassend{minipage}%
```

```

12406
12407 \end{LWR@setvirtualpage}%
12408 \LWR@startpars%
12409 \ifbool{FormatWP}{\newline}{}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12410 \global\booltrue{LWR@minipagethispar}%
12411 \LWR@traceinfo{LWR@minipage: done}%
12412 }
12413
12414 \NewDocumentEnvironment{LWR@HTML@minipage}{O{t} O{} O{t} m}
12415 {\LWR@HTML@sub@minipage{#1}{#2}{#3}{#4}}
12416 {\endLWR@HTML@sub@minipage}
12417
12418 \LWR@formattedenv{minipage}

```

### 93.5 \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox

for HTML output:

`\parbox` [*<pos>*] [*<height>*] [*<inner-pos>*] {*<width>*} {*<text>*}

A parbox uses the minipage code:

```

12419 \NewDocumentCommand{\LWR@HTML@parbox}{O{t} O{} O{t} m +m}
12420 {
12421 \LWR@traceinfo{parbox of width #4}%
12422 \begin{minipage}[#1][#2][#3]{#4}%
12423 #5
12424 \end{minipage}%
12425 }
12426
12427 \LWR@formatted{parbox}

```

`\mbox` {*<text>*}      Nullified for HTML.

```

12428 \newcommand*{\LWR@HTML@mbox}[1]{#1}
12429
12430 \LWR@formatted{mbox}

```

`\LWR@makebox@paren` {*<width>*}, {*<height>*}

Adds to the style in `\LWR@temptwo`.

```

12431 \NewDocumentCommand{\LWR@makebox@paren}{m m}{%
12432 \IfValueTF{#2}{%
12433 \setlength{\LWR@tempwidth}{#1\unitlength}%
12434 \setlength{\LWR@tempheight}{#2\unitlength}%
12435 \appto{\LWR@temptwo}{%
12436 \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
12437 \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
12438 }%

```



```

12439 }{%
12440 \PackageError{lwarp}%
12441 {(width,height) is missing a comma ',' character}%
12442 {\protect\makebox\space and \protect\framebox\space accept
12443 a size in the format (width,height).}%
12444 }%
12445 }

```

`\LWR@makebox@align` {<alignment character>}

Adds to the style in `\LWR@temptwo`.

```

12446 \newcommand*{\LWR@makebox@align}[1]{%
12447 \def\LWR@align{center}%
12448 \ifstrequal{#1}{l}{\def\LWR@align{left}}{%
12449 \ifstrequal{#1}{r}{\def\LWR@align{right}}{%
12450 \ifstrequal{#1}{s}{\def\LWR@align{justify}}{%
12451 \appto{\LWR@temptwo}{%
12452 \LWR@print@mbx{text-align:\LWR@align} ; %
12453 }%
12454 }

```

`\makebox` (<width,height>) [<width>] [<pos>] {<text>}

```

12455 \NewDocumentCommand{\LWR@HTML@makebox}{>\SplitArgument{1}{,}}d() o o +m}{%

```

Build the style depending on arguments:

```

12456 \begin{LWR@setvirtualpage}%
12457 \def\LWR@temptwo{%
12458 \IfValueTF{#1}%
12459 {% (width,height) ..
12460 \LWR@makebox@paren #1%
12461 \IfValueT{#2}%
12462 {% (width,height) [posn]
12463 \LWR@makebox@align{#2}%
12464 }%
12465 }%
12466 {% [width]
12467 \IfValueT{#2}% [width]
12468 {%
12469 \setlength{\LWR@tempwidth}{#2}%
12470 \ifdimgreater{\LWR@tempwidth}{0pt}{%
12471 \appto{\LWR@temptwo}{%
12472 width:\LWR@printlength{\LWR@tempwidth} ; % space
12473 }%
12474 }{}%
12475 }%
12476 }%
12477 \IfValueT{#3}%
12478 {% [width] [posn]
12479 \LWR@makebox@align{#3}%
12480 }%
12481 \InlineClass[%

```

```

12482 \LWR@print@mbx{display:inline-block} ; %
12483 \LWR@temptwo%
12484]%
12485 {makebox}%
12486 {#4}%
12487 \end{LWR@setvirtualpage}%
12488 }
12489 \LWR@formatted{makebox}

```

`\framebox` (*<width,height>*) [*<width>*] [*<pos>*] {*<text>*}

```

12490 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
12491 \fbox{\makebox{#1}[#2][#3]{#4}}%
12492 }
12493
12494 \LWR@formatted{framebox}

```

`\LWR@forceminwidth` {*<legth>*}

Sets `\LWR@atleastonept` to be at least 1pt.

```

12495 \newlength{\LWR@atleastonept}
12496
12497 \newcommand*{\LWR@forceminwidth}[1]{%
12498 \setlength{\LWR@atleastonept}{#1}%
12499 \ifthenelse{%
12500 \lengthtest{\LWR@atleastonept>0pt}\AND%
12501 \lengthtest{\LWR@atleastonept<1pt}%
12502 }%
12503 {\setlength{\LWR@atleastonept}{1pt}}%
12504 {}%
12505 }

```

`\LWR@fboxstyle` Prints the HTML attributes for a black border and padding.

`\LWR@forceminwidth` must be used first in order to set the border width.

```

12506 \newcommand*{\LWR@fboxstyle}{%
12507 \LWR@findcurrenttextcolor%
12508 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
12509 padding:\LWR@printlength{\fboxsep} ; %
12510 color:\LWR@origpound\LWR@tempcolor%
12511 }

```

`\fbox` {*<text>*}

Creates a framed inline span enclosing the text.

Create a new HTML version, but don't use it until after `xcolor` may have loaded:

```

12512 \newcommand{\LWR@HTML@fbox}[1]{%
12513 \LWR@traceinfo{HTML fbox}%
12514 \LWR@forceminwidth{\fboxrule}%

```

```

12515 \InlineClass[%
12516 \LWR@print@mbox{display:inline-block} ; %
12517 \LWR@fboxstyle%
12518]{fbox}{#1}%
12519 }

```

`xcolor` \lets things to `\fbox` when it is loaded, and this must remain even for HTML output while in a lateximage, so `\fbox` is not modified until `\AtBeginDocument`:

```

12520 \AtBeginDocument{\LWR@formatted{fbox}}

```

`\fboxBlock` `{\text}` Creates a framed HTML `<div>` of the text.

First, a print-mode version. This is newly defined for print mode, so it is defined inside `warpall`.

**for HTML & PRINT:**

```

12521 \end{warpHTML}
12522 \begin{warpall}
12523 \let\fboxBlock\fbox
12524 \end{warpall}
12525
12526 \begin{warpHTML}

```

**for HTML output:** Next, an HTML version:

```

12527 \newcommand{\LWR@HTML@fboxBlock}[1]{%
12528 \LWR@forceminwidth{\fboxrule}%
12529 \LWR@stoppars%
12530 \begin{BlockClass}[%
12531 \LWR@fboxstyle%
12532]{fboxBlock}
12533 #1
12534 \end{BlockClass}
12535 \LWR@startpars%
12536 }
12537
12538 \LWR@formatted{fboxBlock}
12539
12540 \end{warpHTML}

```

Env `fminipage` `[\align] [\height] [\align] {\width}`

Creates a framed HTML `<div>` around its contents.

**for HTML & PRINT:** Print version:

```

12541 \begin{warpall}
12542
12543 \newsavebox{\LWR@fminipagebox}
12544
12545 \NewDocumentEnvironment{\LWR@print@fminipage}{0{t} o 0{t} m}
12546 {%

```

An outer minipage will be used for vertical alignment. An inner minipage will be framed with `\fbox`.

If the optional inner alignment is not given, use the outer instead:

```
12547 \IfValueTF{#3}%
12548 {\def\LWR@thisalign{#3}}
12549 {\def\LWR@thisalign{#1}}%
```

Form the outer minipage depending on whether a height was given. Make the outer minipage larger to compensate for the frame.

```
12550 \IfValueTF{#2}%
12551 {\minipage[#1][#2+2\fbboxsep+2\fbboxrule][\LWR@thisalign]{#4+2\fbboxsep+2\fbboxrule}}%
12552 {\minipage[#1][#4+2\fbboxsep+2\fbboxrule}}%
```

Capture the contents of the environment:

```
12553 \begin{lrbox}{\LWR@fminipagebox}%
```

Nest the contents inside an inner minipage of the desired size:

```
12554 \IfValueTF{#2}%
12555 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
12556 {\minipage[#1][#4}}%
12557 }
12558 {%
```

Close the inner minipage and the LR box with the contents:

```
12559 \endminipage%
12560 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
12561 \fbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```
12562 \endminipage%
12563 }
12564
12565 \LetLtxMacro\fminipage\LWR@print@fminipage
12566 \LetLtxMacro\endfminipage\endLWR@print@fminipage
12567 % \newenvironment{fminipage}{\LWR@print@fminipage}{\endLWR@print@fminipage}
12568
12569 \end{warpall}
```

HTML version:

**for HTML output:**

```
12570 \begin{warpHTML}
12571
12572 \NewDocumentEnvironment{LWR@HTML@fminipage}{O{t} o O{t} m}
12573 {%
12574 \LWR@traceinfo{fminipage #1 #2 #3 #4}%
```

Locally change to the virtual page size before processing the requested sizes:

```

12575 \begin{LWR@setvirtualpage}*%
12576 \setlength{\LWR@tempwidth}{#4}%
12577 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%

```

Use a rule of at least one pixel in width:

```

12578 \LWR@forceminwidth{\fboxrule}%

12579 \LWR@stoppars%

12580 \begin{BlockClass}[%
12581 \LWR@fboxstyle ; %
12582 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%
12583 \ifbool{\LWR@minipagefullwidth}%
12584 {\global\boolfalse{\LWR@minipagefullwidth}}%
12585 {%
12586 \ifbool{\LWR@forceminipagefullwidth}%
12587 {%
12588 {%
12589 \ifdimequal{\LWR@tempwidth}{\linewidth}%
12590 {%
12591 {width:\LWR@printlength{\LWR@tempwidth} ; }%
12592 }%
12593 }%
12594]{fminipage}%
12595 }
12596 {%
12597 \end{BlockClass}%
12598 \end{LWR@setvirtualpage}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12599 \global\booltrue{\LWR@minipagethispar}%
12600 \LWR@traceinfo{fminipage done}%
12601 }
12602
12603 \LWR@formattedenv{fminipage}

```

`\raisebox` {*⟨raiselen⟩*} [*⟨height⟩*] [*⟨depth⟩*] {*⟨text⟩*}

```

12604 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
12605 #4%
12606 }
12607
12608 \LWR@formatted{raisebox}

12609 \end{warpHTML}

```

## 94 Direct formatting

 `\bfseries`, etc. `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.

 **HTML special chars** &, <, and > have special meanings in HTML. If \&, \textless, and \textgreater are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

**program listings** For program listings, the listings package is supported, and its literate option is used to convert &, <, and > to proper HTML entities.

**verbatim** The various verbatim-related environments do not convert &, <, and >, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

For high-level block and inline custom CSS classes, see section 52.10.

**for HTML & PRINT:** 12610 \begin{warpall}

**Bool** **FixSmallCaps** User may set FixSmallCaps to true if small caps are being incorrectly rendered as all caps.

```
12611 \newbool{FixSmallCaps}
12612 \boolfalse{FixSmallCaps}
```

```
12613 \end{warpall}
```

**for HTML output:** 12614 \begin{warphTML}

**\emph** {<text>}

```
12615 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
12616 {%
12617 \LWR@HTML@itshape%
12618 \LWR@htmlspan{em}{#1}%
12619 }%
12620 }
12621
12622 \LWR@formatted{emph}
```

**\textmd** {<text>}

```
12623 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
12624 {%
12625 \LWR@HTML@mdseries%
12626 \InlineClass(font-weight:normal){textmd}{#1}%
12627 }%
12628 }
12629
12630 \LWR@formatted{textmd}
```

**\textbf** {<text>}

```
12631 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
12632 {%
12633 \LWR@HTML@bfseries%
```

```

12634 \LWR@htmlspan{b}{#1}%
12635 }%
12636 }
12637
12638 \LWR@formatted{textbf}

```

`\texteb {<text>}` From `nfssex-cfr`.

```

12639 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
12640 {%
12641 \LWR@HTML@ebweight%
12642 \InlineClass{texteb}{#1}%
12643 }%
12644 }
12645
12646 \LWR@formatted{texteb}

```

`\textlg {<text>}` From `nfssex-cfr`.

```

12647 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
12648 {%
12649 \LWR@HTML@lgweight%
12650 \InlineClass{textlg}{#1}%
12651 }%
12652 }
12653
12654 \LWR@formatted{textlg}

```

`\textrm {<text>}`

```

12655 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
12656 {%
12657 \LWR@HTML@rmfamily%
12658 \InlineClass(font-family:serif){textrm}{#1}%
12659 }%
12660 }
12661
12662 \LWR@formatted{textrm}

```

`\textsf {<text>}`

```

12663 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
12664 {%
12665 \LWR@HTML@sffamily%
12666 \InlineClass(font-family:sans){textsf}{#1}%
12667 }%
12668 }
12669
12670 \LWR@formatted{textsf}

```

`\texttt {<text>}`

```

12671 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
12672 {%
12673 \LWR@HTML@ttfamily%
12674 \LWR@htmlspan{kbd}{#1}%
12675 }%
12676 }
12677
12678 \LWR@formatted{texttt}

```

`\textup`  $\{\langle text \rangle\}$

```

12679 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
12680 {%
12681 \LWR@HTML@upshape%
12682 \InlineClass(font-style:normal){textup}{#1}%
12683 }%
12684 }
12685
12686 \LWR@formatted{textup}

```

`\textit`  $\{\langle text \rangle\}$

```

12687 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
12688 {%
12689 \LWR@HTML@itshape%
12690 \LWR@htmlspan{i}{#1}%
12691 }%
12692 }
12693
12694 \LWR@formatted{textit}

```

`\textsc`  $\{\langle text \rangle\}$

```

12695 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
12696 {%
12697 \LWR@HTML@scshape%
12698 \InlineClass{textsc}{#1}%
12699 }%
12700 }
12701
12702 \LWR@formatted{textsc}

```

`\textulc`  $\{\langle text \rangle\}$       From `fontaxes`.

```

12703 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
12704 {%
12705 \LWR@HTML@ulcshape%
12706 \InlineClass{textulc}{#1}%
12707 }%
12708 }
12709
12710 \LWR@formatted{textulc}

```



`\textsi {<text>}`

```

12711 \@ifundefined{textsi}{
12712 \LetLtxMacro\LWR@print@textsi\LWR@print@textsc
12713 }{}
12714
12715 \DeclareRobustCommand{\LWR@HTML@textsi}[1]{%
12716 {%
12717 \LWR@HTML@sishape%
12718 \textsc{\textit{#1}}%
12719 \InlineClass(
12720 font-style: italic;
12721 font-variant: small-caps ;
12722 font-variant-numeric: oldstyle-nums ;
12723){textsi}{#1}%
12724 }%
12725 }
12726
12727 \LWR@formatted{textsi}

```

`\textsl {<text>}`

```

12728 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
12729 {%
12730 \slshape%
12731 \InlineClass(font-style:oblique){textsl}{#1}%
12732 }%
12733 }
12734
12735 \LWR@formatted{textsl}

```

`\textssc {<text>}`

```

12736 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
12737 \LWR@formatted{textssc}

```

`\textnormal {<text>}`

```

12738 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{\textmd{\textrm{\textup{#1}}}}
12739
12740 \LWR@formatted{textnormal}

12741 \FilenameNullify{%
12742 \LetLtxMacro\emph\@firstofone%
12743 \LetLtxMacro\textmd\@firstofone%
12744 \LetLtxMacro\textbf\@firstofone%
12745 \LetLtxMacro\texteb\@firstofone%
12746 \LetLtxMacro\textlg\@firstofone%
12747 \LetLtxMacro\textrm\@firstofone%
12748 \LetLtxMacro\textsf\@firstofone%
12749 \LetLtxMacro\texttt\@firstofone%
12750 \LetLtxMacro\textup\@firstofone%
12751 \LetLtxMacro\textit\@firstofone%

```

```

12752 \LetLtxMacro\textsc\@firstofone%
12753 \LetLtxMacro\textulc\@firstofone%
12754 \LetLtxMacro\textsi\@firstofone%
12755 \LetLtxMacro\textsl\@firstofone%
12756 \LetLtxMacro\textssc\@firstofone%
12757 \LetLtxMacro\textnormal\@firstofone%
12758 }

```

Remembers the current font family, series, and shape. fontaxes support is integrated here.

```

12759 \newcommand*{\LWR@family}{rm}
12760 \newcommand*{\LWR@series}{md}
12761 \newcommand*{\LWR@shape}{up}
12762 \newcommand*{\LWR@shapecaps}{ulc}

```

`\LWR@textcurrentfont` {*⟨text⟩*}

Prints the text with the current font choices. Avoids nesting repeated font selections.

```

12763 \newcounter{LWR@textcurrentfontdepth}
12764 \setcounter{LWR@textcurrentfontdepth}{0}
12765
12766 \newcommand*{\LWR@textcurrentfont}[1]{%
12767 \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}%
12768 {%
12769 \addtocounter{LWR@textcurrentfontdepth}{1}%
12770 #1%
12771 \addtocounter{LWR@textcurrentfontdepth}{-1}%
12772 }%
12773 {%
12774 \addtocounter{LWR@textcurrentfontdepth}{1}%
12775 \InlineClass{%
12776 text\LWR@family\LWR@origtilde{%
12777 text\LWR@series\LWR@origtilde{%
12778 text\LWR@shape\LWR@origtilde{%
12779 text\LWR@shapecaps%
12780 }%
12781 }#1}%
12782 \addtocounter{LWR@textcurrentfontdepth}{-1}%
12783 }%
12784 }

```

Env `LWR@blocktextcurrentfont` Prints the contents with the current font choices.

```

12785 \newenvironment*{LWR@blocktextcurrentfont}{%
12786 \LWR@stoppars%
12787 \BlockClass{%
12788 text\LWR@family\LWR@origtilde{%
12789 text\LWR@series\LWR@origtilde{%
12790 text\LWR@shape\LWR@origtilde{%
12791 text\LWR@shapecaps%
12792 }%
12793 }\endBlockClass\LWR@startpars}

```

## \mdseries

```
12794 \newrobustcmd*{\LWR@HTML@mdseries}{%
12795 \LWR@print@mdseries%
12796 \renewcommand*{\LWR@f@series}{md}%
12797 }
12798 \LWR@formatted{mdseries}
```

## \bfseries

```
12799 \newrobustcmd*{\LWR@HTML@bfseries}{%
12800 \LWR@print@bfseries%
12801 \renewcommand*{\LWR@f@series}{bf}%
12802 }
12803 \LWR@formatted{bfseries}
```

## \ebweight From nfssex-cfr.

```
12804 \newrobustcmd*{\LWR@HTML@ebweight}{%
12805 \LWR@print@ebweight%
12806 \renewcommand*{\LWR@f@series}{eb}%
12807 }
12808 \LWR@formatted{ebweight}
```

## \lgweight From nfssex-cfr.

```
12809 \newrobustcmd*{\LWR@HTML@lgweight}{%
12810 \LWR@print@lgweight%
12811 \renewcommand*{\LWR@f@series}{lg}%
12812 }
12813 \LWR@formatted{lgweight}
```

## \rmfamily

```
12814 \newrobustcmd*{\LWR@HTML@rmfamily}{%
12815 \LWR@print@rmfamily%
12816 \renewcommand*{\LWR@f@family}{rm}%
12817 }
12818 \LWR@formatted{rmfamily}
```

## \sffamily

```
12819 \newrobustcmd*{\LWR@HTML@sffamily}{%
12820 \LWR@print@sffamily%
12821 \renewcommand*{\LWR@f@family}{sf}%
12822 }
12823 \LWR@formatted{sffamily}
```

## \ttfamily

```
12824 \newrobustcmd*{\LWR@HTML@ttfamily}{%
```

```

12825 \LWR@print@ttfamily%
12826 \renewcommand*{\LWR@f@family}{tt}%
12827 }
12828 \LWR@formatted{ttfamily}

```

The following use `\AtBeginDocument` due to the  $\TeX$  core `\reinstall@nfss@defs`, which redefines these `\AtBeginDocument`. See **texdoc source2e**.

#### `\upshape`

```

12829 \newrobustcmd*{\LWR@HTML@upshape}{%
12830 \LWR@print@upshape%
12831 \renewcommand*{\LWR@f@shape}{up}%
12832 }
12833 \AtBeginDocument{\LWR@formatted{upshape}}

```

#### `\itshape`

```

12834 \newrobustcmd*{\LWR@HTML@itshape}{%
12835 \LWR@print@itshape%
12836 \renewcommand*{\LWR@f@shape}{it}%
12837 }
12838 \AtBeginDocument{\LWR@formatted{itshape}}

```

`\scshape` Note: `\LWR@print@scshape` is not used here since some fonts, such as **erewhon**, copy/paste as all-caps.

```

12839 \newrobustcmd*{\LWR@HTML@scshape}{%
12840 \ifbool{FixSmallCaps}{}%
12841 \LWR@print@scshape%
12842 }%
12843 \renewcommand*{\LWR@f@shapecaps}{sc}%
12844 }
12845 \AtBeginDocument{\LWR@formatted{scshape}}

```

`\ulcshape` From **fontaxes**.

```

12846 \@ifundefined{ulcshape}{
12847 \LetLtxMacro\ulcshape\upshape
12848 }{}
12849 \newrobustcmd*{\LWR@HTML@ulcshape}{%
12850 \LWR@print@ulcshape%
12851 \renewcommand*{\LWR@f@shapecaps}{ulc}%
12852 }
12853 \AtBeginDocument{\LWR@formatted{ulcshape}}

```

#### `\sishape`

```

12854 \@ifundefined{sishape}{
12855 \LetLtxMacro\sishape\scshape
12856 }{}

```

```

12857 \newrobustcmd*{\LWR@HTML@sishape}{%
12858 \ifbool{FixSmallCaps}{}%
12859 \LWR@print@sishape%
12860 }%
12861 \renewcommand*{\LWR@f@shape}{it}
12862 \renewcommand*{\LWR@f@shapecaps}{sc}%
12863 }
12864 \AtBeginDocument{\LWR@formatted{sishape}}

```

### \slshape

```

12865 \newrobustcmd*{\LWR@HTML@slshape}{%
12866 \LWR@print@slshape%
12867 \renewcommand*{\LWR@f@shape}{sl}%
12868 }
12869 \AtBeginDocument{\LWR@formatted{slshape}}

```

### \sscshape

```

12870 \newrobustcmd*{\LWR@HTML@sscshape}{\LWR@HTML@scshape}
12871 \AtBeginDocument{\LWR@formatted{sscshape}}

```

### \normalfont

```

12872 \newrobustcmd*{\LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}
12873 \LWR@formatted{normalfont}

```

```

12874 \FilenameNullify{%
12875 \LetLtxMacro\rmfamily\@empty%
12876 \LetLtxMacro\sffamily\@empty%
12877 \LetLtxMacro\ttfamily\@empty%
12878 \LetLtxMacro\bfseries\@empty%
12879 \LetLtxMacro\ebweight\@empty%
12880 \LetLtxMacro\lgweight\@empty%
12881 \LetLtxMacro\mdseries\@empty%
12882 \LetLtxMacro\upshape\@empty%
12883 \LetLtxMacro\slshape\@empty%
12884 \LetLtxMacro\sishape\@empty%
12885 \LetLtxMacro\scshape\@empty%
12886 \LetLtxMacro\itshape\@empty%
12887 \LetLtxMacro\ulcshape\@empty%
12888 \LetLtxMacro\sscshape\@empty%
12889 \LetLtxMacro\normalfont\@empty%
12890 }

```

\sp {<text>}

For siunitx. Must work in math mode.

```

12891 \renewcommand{\sp}[1]{\text{^{#1}}}

```

\sb {<text>}

For siunitx. Must work in math mode.

```
12892 \renewcommand{\sb}[1]{\text{_{#1}}}}
```

`\textsuperscript`  $\{\langle text \rangle\}$

```
12893 \newrobustcmd{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
```

```
12894 \LWR@formatted{textsuperscript}
```

`\@textsuperscript`  $\{\langle text \rangle\}$

```
12895 \newcommand{\LWR@HTML@@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
```

```
12896 \LWR@formatted{@textsuperscript}
```

`\textsubscript`  $\{\langle text \rangle\}$

```
12897 \newrobustcmd{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
```

```
12898 \LWR@formatted{textsubscript}
```

`\@textsubscript`  $\{\langle text \rangle\}$

```
12899 \newcommand{\LWR@HTML@@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
```

```
12900 \LWR@formatted{@textsubscript}
```

`\up`  $\{\langle text \rangle\}$  Prints superscript.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
12901 \AtBeginDocument{\let\up\textsuperscript}
```

`\fup`  $\{\langle text \rangle\}$  Prints superscript.

Supports `fmtcount` package.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
12902 \AtBeginDocument{\let\fup\textsuperscript}
```

`\underline`  $\{\langle text \rangle\}$

```
12903 \renewcommand{\underline}[1]{%
```

```
12904 \InlineClass%
```

```
12905 (text-decoration:underline; text-decoration-skip: auto)%
```

```
12906 {underline}{#1}%
```

```
12907 }
```

`\LWR@overline`  $\{\langle text \rangle\}$

```

12908 \newcommand{\LWR@overline}[1]{%
12909 \InlineClass%
12910 (text-decoration:overline; text-decoration-skip: auto)%
12911 {overline}{#1}%
12912 }

```

`\LWR@currenttextcolor` The color to use for text and `\rule`, defaulting to black:

```

12913 \newcommand*{\LWR@currenttextcolor}{black}

```

`\LWR@tempcolor` The color converted to HTML colorspace.  
`\LWR@tempcolortwo`

```

12914 \newcommand*{\LWR@tempcolor}{}
12915 \newcommand*{\LWR@tempcolortwo}{}

```

`\LWR@findcurrenttextcolor` Sets `\LWR@tempcolor` to the current color.

```

12916 \newcommand*{\LWR@findcurrenttextcolor}{%
12917 \renewcommand{\LWR@tempcolor}{000000}%
12918 }

```

`\LWR@textcurrentcolor` `{\langle text \rangle}` Like `\textcolor` but uses the current `\color` instead.

```

12919 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
12920 \renewcommand*{\LWR@currenttextcolor}{black}%
12921 #1%
12922 }

```

```

12923 \end{warpHTML}

```

**for PRINT output:** `\begin{warpprint}`

`\LWR@textcurrentfont` `{\langle text \rangle}`

Prints the text with the current font choices.

```

12925 \newcommand*{\LWR@textcurrentfont}[1]{#1}

```

Env `\LWR@blocktextcurrentfont` Prints the contents with the current font choices.

```

12926 \newenvironment*\LWR@blocktextcurrentfont{}{}

```

`\FilenameNullify` `{\langle macros to nullify \rangle}`

```

12927 \newcommand*{\FilenameNullify}[1]{}

```

```

12928 \end{warpprint}

```

## 95 Skips, spaces, font sizes

for HTML output: 12929 \begin{warpHTML}

`\,` and `\thinspace` may be redefined by other packages, so are redefined `\AtBeginDocument` here.

Direct-formatting space commands become HTML entities:

```
12930 \AtBeginDocument{
12931 \renewrobustcmd*{\,}{\HTMLUnicode{202f}} % HTML thin non-breakable space
12932 \renewrobustcmd*{\thinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
12933 \renewrobustcmd*{\negthinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
12934 \renewrobustcmd*{\~}{\HTMLentity{nbsp}}
12935 \renewrobustcmd*{\textellipsis}{\HTMLUnicode{2026}}
12936 \renewrobustcmd*{\vdots}{\HTMLUnicode{22EE}}
12937 }
```

Direct-formatting font sizes are remembered for future use:

```
12938 \newcommand*{\LWR@font@size}{normalsize}
12939
12940 \newrobustcmd*{\LWR@HTML@normalsize}{\renewcommand*{\LWR@font@size}{normalsize}}
12941 \LWR@formatted{normalsize}
12942
12943 \newrobustcmd*{\LWR@HTML@small}{\renewcommand*{\LWR@font@size}{small}}
12944 \LWR@formatted{small}
12945
12946 \newrobustcmd*{\LWR@HTML@footnotesize}{\renewcommand*{\LWR@font@size}{footnotesize}}
12947 \LWR@formatted{footnotesize}
12948
12949 \newrobustcmd*{\LWR@HTML@scriptsize}{\renewcommand*{\LWR@font@size}{scriptsize}}
12950 \LWR@formatted{scriptsize}
12951
12952 \newrobustcmd*{\LWR@HTML@tiny}{\renewcommand*{\LWR@font@size}{tiny}}
12953 \LWR@formatted{tiny}
12954
12955 \newrobustcmd*{\LWR@HTML@large}{\renewcommand*{\LWR@font@size}{large}}
12956 \LWR@formatted{large}
12957
12958 \newrobustcmd*{\LWR@HTML@Large}{\renewcommand*{\LWR@font@size}{Large}}
12959 \LWR@formatted{Large}
12960
12961 \newrobustcmd*{\LWR@HTML@LARGE}{\renewcommand*{\LWR@font@size}{LARGE}}
12962 \LWR@formatted{LARGE}
12963
12964 \newrobustcmd*{\LWR@HTML@huge}{\renewcommand*{\LWR@font@size}{huge}}
12965 \LWR@formatted{huge}
12966
12967 \newrobustcmd*{\LWR@HTML@Huge}{\renewcommand*{\LWR@font@size}{Huge}}
12968 \LWR@formatted{Huge}

12969 \DeclareDocumentCommand{\onecolumn}{}{}{}
```



```

12970
12971 \DeclareDocumentCommand{\twocolumn}{0{}}{
12972
12973 #1
12974
12975 }

```

### \hfill

```

12976 \newcommand*{\LWR@HTML@hfill}{\quad}
12977 \LWR@formatted{hfill}

```

### \hrulefill

```

12978 \newcommand*{\LWR@HTML@hrulefill}{%
12979 \ifbool{LWR@doingapar}%
12980 {\rule{1in}{1pt}}%
12981 {%
12982 \LWR@findcurrenttextcolor%
12983 \ifdefstring{\LWR@tempcolor}{000000}%
12984 {%
12985 \begin{BlockClass}{hrule}%
12986 \end{BlockClass}%
12987 }%
12988 {%
12989 \begin{BlockClass}[%
12990 border-top: 1px solid \LWR@origpound\LWR@tempcolor % space
12991]{hrule}%
12992 \end{BlockClass}%
12993 }%
12994 }%
12995 }%
12996 \LWR@formatted{hrulefill}

```

### \dotfill

```

12997 \newcommand*{\LWR@HTML@dotfill}{\dots}
12998 \LWR@formatted{dotfill}

```

### \newpage

```

12999 \renewcommand*{\newpage}{
13000
13001 }

```

**\newline** Uses the HTML `<br />` element.

```

13002 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
13003 \LetLtxMacro\newline\LWR@newlinebr

```

**\** Redefined to `\LWR@endofline` or `\LWR@tabularendofline`.

`\LWR@endofline` \* [*len*]

`\\` is assigned to `\LWR@endofline` at `\LWR@LwarpStart`.

Inside `tabular`, `\\` is temporarily changed to `\LWR@tabularendofline`.

```
13004 \LetLtxMacro\LWR@origendofline\\
13005 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}
13006 {%
13007 \newline%

13008 \setlength{\LWR@templengthone}{#2}%
13009 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{}%
13010 }
```

`\LWR@minipagestartpars` Minipages are often placed side-by-side inside figures, with a bit of horizontal space to separate them. Since HTML does not allow a `<div>` to be inside a `p`, paragraphs must be turned off during the generation of the minipage, then turned on after the minipage is complete. When this occurs between side-by-side minipages, `lwarp` correctly suppresses the paragraph tags between the minipages, unless some other text is between the minipages. Such text forms its own paragraph, resulting in text after a minipage to be on its own line. Since people often place small horizontal space between minipages, it is desirable to maintain this space if possible. `lwarp` tries to do this by remembering that a minipage has been seen, in which case paragraph tags are suppressed around `\hspace`, `\enskip`, `\quad`, `\qquad` and `\qqquad` until the end of the paragraph, when the closing `p` tag is created.

When a minipage is seen, the boolean `LWR@minipagethispar` is set, telling the following horizontal whitespace commands to try to suppress their surrounding paragraph tags. `LWR@minipagethispar` is cleared at the next end of paragraph, when the HTML paragraph closing tag is generated.

Placed just before `\hspace`, `\quad`, or `\qqquad`'s HTML output.

```
13011 \newcommand*{\LWR@minipagestartpars}{%
13012 \ifbool{\LWR@minipagethispar}{\LWR@startpars}{}%
13013 }
```

`\LWR@minipagestoppars` Placed just after `\hspace`, `\quad`, or `\qqquad`'s HTML output.

```
13014 \newcommand*{\LWR@minipagestoppars}{%
13015 \ifbool{\LWR@minipagethispar}{\LWR@stoppars}{}%
13016 }
```

`\quad` Handles special minipage & horizontal space interactions. Uses `2003 EM SPACE` to pass validation.

```
13017 \renewrobustcmd*{\quad}{%
13018 \LWR@minipagestoppars%
13019 \HTMLUnicode{2003}%
13020 \LWR@minipagestartpars%
13021 }
```

`\quad` Handles special minipage & horizontal space interactions.

```
13022 \renewrobustcmd*{\quad}{\quad\quad}
```

`\enskip` Handles special minipage & horizontal space interactions.

```
13023 \renewrobustcmd*{\enskip}{%
13024 \LWR@minipagestoppars%
13025 \HTMLUnicode{2002}%
13026 \LWR@minipagestartpars%
13027 }
```

Len `\LWR@tempwidth` Used to compute span width, height, raise for `\hspace` and `\rule`:

```
Len \LWR@tempheight 13028 \newlength{\LWR@tempwidth}
Len \LWR@tempraise 13029 \newlength{\LWR@tempheight}
13030 \newlength{\LWR@tempraise}
```

```
\LWR@select@html@hspace *{\length} * {\length}
\hspace
```

Handles special minipage & horizontal space interactions.

Prints a span of a given width. Ignores the optional star.

`\hspace{\fill}` is converted to `\hspace{2em}`, equal to `\quad`.

```
13031 \newcommand{\LWR@select@html@hspace}{%
13032 \RenewDocumentCommand{\hspace}{s m}{%
13033 \setlength{\LWR@tempwidth}{##2}%
```

If `\fill`, change to `\quad`:

```
13034 \ifnum\gluestretchorder\LWR@tempwidth>0%
13035 \setlength{\LWR@tempwidth}{2em}%
13036 \fi%
```

Only if the width is greater than zero:

```
13037 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
13038 \LWR@minipagestoppars%
```

Support the HTML thin wrappable space:

```
13039 \ifdimcomp{\LWR@tempwidth}{=}{.16667em}%
13040 {%
13041 \HTMLUnicode{2009}% thin breakable space
13042 }%
```

Print the span with the converted width. Not rounded.

```

13043 {%
13044 \LWR@htmltagc{%
13045 span style=\textquotedbl{}width:\LWR@printlength{\LWR@tempwidth}; % extra space
13046 display:inline-block\textquotedbl%
13047 }%

```

If formatting for a word processor, approximate with a number of \quads, in case a span of a given width is not supported:

```

13048 \ifbool{FormatWP}{%
13049 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13050 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13051 \quad%
13052 \addtolength{\LWR@templengthone}{-1em}%
13053 }%
13054 }%

```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```

13055 {\LWR@htmlcomment{}}%

```

Close the span:

```

13056 \LWR@htmltagc{/span}%
13057 }%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

13058 \LWR@minipagestartpars%
13059 }{}% width greater than 0
13060 }%
13061 }

```

```

\LWR@select@html@nohspace *{\length}
\hspace

```

Used to disable \hspace while creating description \items.

```

13062 \newcommand{\LWR@select@html@nohspace}{%
13063 \RenewDocumentCommand{\hspace}{s m}{}%
13064 }

```

```

\LWR@select@print@hspace

```

```

13065 \newcommand*{\LWR@select@print@hspace}{%
13066 \renewrobustcmd\hspace{\@ifstar\@hspacer\@hspace}%
13067 }

```

```

\hspace *{\length}

```

Handles special minipage & horizontal space interactions.

```

13068 \LWR@select@html@hspace

```

`\LWR@vspace` \*  $\langle length \rangle$  Nullified vspace.

```
13069 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}
13070
13071 \LWR@formatted{vspace}
```

`\linebreak` [ $\langle num \rangle$ ] Inserts an HTML br tag.

```
13072 \renewcommand*{\linebreak}[1][\newline]
```

`\nolinebreak` [ $\langle num \rangle$ ]

```
13073 \renewcommand*{\nolinebreak}[1][{}]
```

`\pagebreak` [ $\langle num \rangle$ ] Starts a new paragraph.

```
13074 \renewcommand*{\pagebreak}[1][{}
13075
13076 }
```

`\nopagebreak` [ $\langle num \rangle$ ]

```
13077 \renewcommand*{\nopagebreak}[1][{}]
```

`\enlargethispage` \*  $\langle len \rangle$

```
13078 \RenewDocumentCommand{\enlargethispage}{s m}{}%
```

`\clearpage`

`\cleardoublepage`

```
13079 \renewcommand*{\clearpage}{}
13080 \renewcommand*{\cleardoublepage}{}%
```

`\rule` [ $\langle raise \rangle$ ]  $\langle width \rangle$   $\langle height \rangle$

Handles special minipage & horizontal space interactions.

Creates a span of a given width and height. Ignores the optional star.

`\fill` is zero-width, so `\hspace{\fill}` is ignored.

```
13081 \newcommand*{\LWR@HTML@rule}[3][{}%
```

The width is copied into a temporary L<sup>A</sup>T<sub>E</sub>X length, from which comparisons and conversions may be made:

```
13082 \setlength{\LWR@tempwidth}{#2}%
```

If it's zero-width then skip the entire rule:

```

13083 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
13084 {}% zero- width
13085 {% non-zero width

```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```

13086 \ifthenelse{%
13087 \lengthtest{\LWR@tempwidth>0pt}\AND%
13088 \lengthtest{\LWR@tempwidth<1pt}}%
13089 }%
13090 {\setlength{\LWR@tempwidth}{1pt}}%
13091 {}%

```

Likewise with height:

```

13092 \setlength{\LWR@tempheight}{#3}%
13093 \ifthenelse{%
13094 \lengthtest{\LWR@tempheight>0pt}\AND%
13095 \lengthtest{\LWR@tempheight<1pt}}%
13096 }%
13097 {\setlength{\LWR@tempheight}{1pt}}%
13098 {}%

```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```

13099 \LWR@minipagestoppars%

```

Print the span with the converted width and height. The width and height are NOT rounded, since a height of less than 1pt is quite common in  $\text{\LaTeX}$  code.

```

13100 \LWR@findcurrenttextcolor%
13101 \LWR@htmltagc{%
13102 span\LWR@indentHTML%
13103 style=\textquotedbl%

```

The HTML background color is used to draw the filled rule according to the  $\text{\LaTeX}$  foreground color set by `\textcolor`.

```

13104 \ifbool{FormatWP}{\background:\LWR@currenttextcolor ; }%

```

The width and height are printed, converted to PT:

```

13105 width:\LWR@printlength{\LWR@tempwidth} ; %
13106 height:\LWR@printlength{\LWR@tempheight} ; %

```

The raise height is converted to a CSS transform. The `*2` raise multiplier is to approximately match HTML output's X height. Conversion to a  $\text{\LaTeX}$  length allows a typical  $\text{\LaTeX}$  expression to be used as an argument for the raise, whereas printing the raise argument directly to HTML output without conversion to a  $\text{\LaTeX}$  length limits the allowable syntax. To do: A superior method would compute a ratio of  $\text{\LaTeX}$  ex height, then print that to HTML with an ex unit.

```

13107 \ifblank{#1}%
13108 {}%

```

```

13109 {%
13110 \setlength{\LWR@tempraise}{0pt-#1}%
13111 \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
13112 \LWR@indentHTML%
13113 -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13114 \LWR@indentHTML%
13115 -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13116 \LWR@indentHTML%
13117 transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13118 \LWR@indentHTML%
13119 }%

```

Display inline-block to place the span inline with the text:

```

13120 display:inline-block;\textquotedbl\LWR@orignewline%
13121 }%

```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```

13122 \ifbool{FormatWP}{%
13123 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13124 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13125 _{}%
13126 \addtolength{\LWR@templengthone}{-1em}%
13127 }%
13128 }%

```

If NOT formatting for a word processor, add a comment to avoid an empty <span>:

```

13129 {\LWR@htmlcomment{}}%

```

Close the span:

```

13130 \LWR@htmltagc{/span}%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

13131 \LWR@minipagestartpars%
13132 }% non-zero width
13133 }
13134
13135 \LWR@formatted{rule}

13136 \end{warpHTML}

```

## 96 \phantomsection

for HTML output: 13137 \begin{warpHTML}

`\LWR@phantomsection` Emulate the `hyperref` `\phantomsection` command, often used to insert the bibliography into the table of contents. Ignores `\ForceHTMLTOC`.

```

13138 \newrobustcmd*{\LWR@phantomsection}{%
13139 \begingroup%
13140 \boolfalse{LWR@forcinghtmltoc}%
13141 \section*{}}%
13142 \endgroup%
13143 }

13144 \end{warpHTML}

```

## 97 \LaTeX and other logos

Logos for HTML and print modes:

Some of these logos may be redefined in a later package, so after loading other packages, and at the beginning of the document, their definitions are finally set by `\LWR@formatted`.

For CSS conversions, see:

<http://edward.oconnor.cx/2007/08/tex-poshlet>

<http://nitens.org/taraborelli/texlogo>

and the spacing described in the `metafont` package documentation.

```

for HTML & PRINT: 13145 \begin{warpall}
13146 \newbool{LWR@warnXe}
13147 \boolfalse{LWR@warnXe}
13148
13149 \newrobustcmd*{\Xe}
13150 {%
13151 X\hspace{-.1667em}\raisebox{-.5ex}{E}%
13152 \global\booltrue{LWR@warnXe}%
13153 }
13154
13155 \AtBeginDocument{
13156 \@ifpackageloaded{graphics}{
13157 \@ifpackageloaded{metalogo}{}{
13158 \renewrobustcmd*{\Xe}
13159 {X\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}}
13160 }
13161 }{}
13162 }
13163
13164 \AtEndDocument{
13165 \ifbool{LWR@warnXe}{
13166 \PackageWarningNoLine{lwarp}{Load graphicx or graphics
13167 for improved XeTeX logo}
13168 }{}
13169 }
13170
13171 \providerobustcmd*{\XeTeX}{\mbox{\Xe\hspace{-.125em}\TeX}}
13172 \providerobustcmd*{\XeLaTeX}{\mbox{\Xe\hspace{-.125em}\LaTeX}}
13173 \providerobustcmd*{\AmS}{%

```



```

13174 \leavevmode\hbox{$\mathcal A\kern-.2em\lower.376ex%
13175 \hbox{$\mathcal M$}\kern-.2em\mathcal S$}%
13176 }
13177 \newrobustcmd*{\LyX}{\textsf{LyX}}
13178 \providerobustcmd*{\LuaTeX}{\mbox{Lua\TeX}}
13179 \providerobustcmd*{\LuaLaTeX}{\mbox{Lua\LaTeX}}
13180 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{ib}\TeX}}
13181 \providerobustcmd*{\MakeIndex}{\mbox{\textit{MakeIndex}}}
13182 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeX{}t}}
13183 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX}}
13184 \end{warpall}

```

for HTML output: 13185 \begin{warpHTML}

The print-mode versions of the following may be changed by `metalogo`, so their print formatting is recorded `\AtBeginDocument`.

`\TeX`  $\TeX$

`latexlogo` is a css class used to properly typeset the E and A in  $\TeX$  and friends.

`latexlogofont` is a css class used to select the font for the rest of the logo in  $\TeX$ ,  $\text{Lua}\TeX$ ,  $\text{Con}\TeX$ t, etc.

```

13186 \newrobustcmd*{\LWR@HTML@TeX}
13187 {%
13188 \InlineClass{latexlogofont}%
13189 {%
13190 \InlineClass{latexlogo}%
13191 {%
13192 T%
13193 \InlineClass{latexlogosub}{e}%
13194 X%
13195 }%
13196 }%
13197 }
13198 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalogo

```

`\LaTeX`  $\text{\LaTeX}$ ,  $\text{\LaTeX} 2_{\epsilon}$   
`\LaTeXe`

```

13199 \newrobustcmd*{\LWR@HTML@LaTeX}
13200 {%
13201 \InlineClass{latexlogofont}%
13202 {%
13203 \InlineClass{latexlogo}%
13204 {%
13205 L%
13206 \InlineClass{latexlogosup}{a}%
13207 T%
13208 \InlineClass{latexlogosub}{e}%
13209 X%
13210 }%
13211 }%
13212 }

```

```

13213
13214 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalogo
13215
13216
13217 \newrobustcmd*{\LWR@HTML@LaTeXe}
13218 {%
13219 \LaTeX%
13220 \InlineClass{latexlogofont}{%
13221 \InlineClass{latexlogotwoe}{%
13222 2%
13223 \InlineClass{latexlogotwoesub}{\HTMLUnicode{03B5}}%
13224 }%
13225 }%
13226 }
13227 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

```

`\LuaTeX`   `LuaTeX`, `LuaUTeX`  
`\LuaLaTeX`

```

13228 \newrobustcmd*{\LWR@HTML@LuaTeX}{\InlineClass{latexlogofont}{Lua}\TeX}
13229 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
13230
13231 \newrobustcmd*{\LWR@HTML@LuaLaTeX}{\InlineClass{latexlogofont}{Lua}\LaTeX}
13232 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo

```

`\XeTeX`   `XqTeX`, `XqUTeX`  
`\XeLaTeX`

`xetexlogo` is a css class which aligns the backwards E in `XqTeX` and spaces `TeX` appropriately.

`xelatexlogo` is a css class which aligns the backwards E in `XqUTeX` and spaces `TeX` appropriately.

```

13233 \newrobustcmd*{\LWR@HTML@Xe}
13234 {%
13235 X%
13236 \InlineClass{xelatexlogosub}{\HTMLUnicode{18e}}%
13237 }
13238 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
13239
13240 \newrobustcmd*{\LWR@HTML@XeTeX}{\InlineClass{xetexlogo}{\Xe}\TeX}
13241 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
13242
13243 \newrobustcmd*{\LWR@HTML@XeLaTeX}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
13244 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo

```

`\ConTeXt`   `ConTeXt`

```

13245 \newrobustcmd*{\LWR@HTML@ConTeXt}{%
13246 \InlineClass{latexlogofont}{Con}\TeX}%
13247 \InlineClass{latexlogofont}{t}%
13248 }
13249 \LWR@formatted{ConTeXt}

```

`\BibTeX`  $\text{\texttt{BibTeX}}$ , *MakeIndex*  
`\MakeIndex`

```
13250 \newrobustcmd*{\LWR@HTML@BibTeX}
13251 {\InlineClass{latexlogofont}{B\textsc{ib}}\TeX}
13252 \LWR@formatted{BibTeX}
13253
13254 \newrobustcmd*{\LWR@HTML@MakeIndex}
13255 {\InlineClass{latexlogofont}{\textit{MakeIndex}}}
13256 \LWR@formatted{MakeIndex}
```

`\AmS`  $\mathcal{AMS}$

`amslogo` is a css class used for the  $\mathcal{AMS}$  logo.

```
13257 \AtBeginDocument{%
13258 \newrobustcmd*{\LWR@HTML@AmS}
13259 {%
13260 \InlineClass{amslogo}{%
13261 \textit{%
13262 A%
13263 \InlineClass{latexlogosub}{M}%
13264 S%
13265 }%
13266 }%
13267 }%
13268 \LWR@formatted{AmS}
13269 }
```

`\MiKTeX`  $\text{\texttt{MiKTeX}}$

```
13270 \newrobustcmd*{\LWR@HTML@MiKTeX}{\InlineClass{latexlogofont}{MiK}\TeX}
13271 \LWR@formatted{MiKTeX}
```

`\LyX`  $\text{\texttt{LyX}}$

`lyxlogo` is a css class used for the  $\text{\texttt{LyX}}$  logo.

```
13272 \newrobustcmd*{\LWR@HTML@LyX}{\InlineClass{lyxlogo}{LyX}}
13273 \LWR@formatted{LyX}

13274 \end{warpHTML}
```

## 98 Starting and stopping lwarp

**for HTML output:** 13275 `\begin{warpHTML}`

`\LWR@LwarpStart` Automatically sets up the HTML-related actions for the start and end of the document.

```
\LWR@LwarpEnd
13276 \AfterEndPreamble{\LWR@LwarpStart}
13277 \AtEndDocument{\LWR@LwarpEnd}

13278 \end{warpHTML}
```

## 99 Loading everyshi patches

**everyshi** is emulated by the  $\text{\LaTeX}$  core, so its patches are loaded here. `\AtBeginDocument` is used in case an older version of  $\text{\LaTeX}$  is used.

**for HTML output:**

```

13279 \begin{warpHTML}
13280 \AtBeginDocument{
13281 \ifpackageloaded{everyshi}{
13282 \RequirePackage{lwarp-everyshi}
13283 }{}
13284 }
13285 \end{warpHTML}

```

## 100 Loading textcomp patches

**textcomp** has now been integrated into the  $\text{\LaTeX}$  core, so its patches are loaded now.

**for HTML output:**

```

13286 \begin{warpHTML}
13287 \RequirePackage{lwarp-textcomp}
13288 \end{warpHTML}

```

## 101 Loading amsmath, amsthm patches, centernot

**amsmath**, **amsthm**, and **centernot** may have been preloaded, such as by **newtx**, so their patches are loaded now.

**for HTML output:**

```

13289 \begin{warpHTML}
13290 \ifpackageloaded{amsthm}{
13291 \RequirePackage{lwarp-amsthm}
13292 }{}

13293 \ifpackageloaded{amsmath}{
13294 \RequirePackage{lwarp-amsmath}
13295 }{}

```

**amsthm** may load **centernot**, so **centernot** must be checked second.

```

13296 \ifpackageloaded{centernot}{
13297 \RequirePackage{lwarp-centernot}
13298 }{}
13299 \end{warpHTML}

```

## 102 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

**for HTML output:**

```

13300 \begin{warpHTML}

```

```

13301 \ifclassloaded{scrbook}{\RequirePackage{lwarp-patch-komascript}}{}
13302 \ifclassloaded{scrartcl}{\RequirePackage{lwarp-patch-komascript}}{}
13303 \ifclassloaded{scrreprt}{\RequirePackage{lwarp-patch-komascript}}{}

13304 \end{warpHTML}

```

## 103 Loading MEMOIR class patches

Load patches to memoir.

**for HTML & PRINT:**

```

13305 \begin{warpprint}
13306 \@ifclassloaded{memoir}{\LWR@origRequirePackage{xcolor}}{}
13307 \end{warpprint}

```

**for HTML output:**

```

13308 \begin{warpHTML}
13309 \@ifclassloaded{memoir}{\RequirePackage{lwarp-patch-memoir}}{}
13310 \end{warpHTML}

```

## 104 ut\* class patches

Load patches to uj\* and ut\* classes, as well as ltj\* classes.

**for HTML output:**

```

13311 \begin{warpHTML}

13312 \newcommand*{\LWR@patchujtclasses}{

 uj/t does not use \partname

13313 \def\@partnameformat{}

13314 \def\@partcntformat##1{%
13315 \prepartname%
13316 \csname the##1\endcsname%
13317 \postpartname%
13318 \quad%
13319 }
13320 \@ifundefined{chapter}{}{
13321 \def\@chapcntformat##1{%
13322 \prechaptername%
13323 \csname the##1\endcsname%
13324 \postchaptername%
13325 \quad%
13326 }
13327 }
13328 \renewcommand*{\LWR@printchaptername}{}

```

Use decimal points instead of centered dots:

```

13329 \renewcommand{\thepart}{\@Roman\c@part}

```

```

13330 \ifundefined{chapter}{
13331 \renewcommand{\thesection}{\@arabic\c@section}
13332 }{
13333 \renewcommand{\thechapter}{\@arabic\c@chapter}
13334 \renewcommand{\thesection}{\thechapter.\@arabic\c@section}
13335 }
13336 \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}
13337 \renewcommand{\thesubsubsection}{%
13338 \thesubsection.\@arabic\c@subsubsection}
13339 \renewcommand{\theparagraph}{%
13340 \thesubsubsection.\@arabic\c@paragraph}
13341 \renewcommand{\thesubparagraph}{%
13342 \theparagraph.\@arabic\c@subparagraph}
13343 \ifundefined{chapter}{
13344 \renewcommand{\thefigure}{\@arabic\c@figure}
13345 \renewcommand{\thetable}{\@arabic\c@table}
13346 }{
13347 \renewcommand{\thefigure}{%
13348 \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}
13349 \renewcommand{\thetable}{%
13350 \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}
13351 }
13352 }
13353
13354 \@ifclassloaded{ujarticle}{\LWR@patchujtclasses}{}
13355 \@ifclassloaded{ujbook}{\LWR@patchujtclasses}{}
13356 \@ifclassloaded{ujreport}{\LWR@patchujtclasses}{}
13357 \@ifclassloaded{utarticle}{\LWR@patchujtclasses}{}
13358 \@ifclassloaded{utbook}{\LWR@patchujtclasses}{}
13359 \@ifclassloaded{utreport}{\LWR@patchujtclasses}{}
13360 \@ifclassloaded{ltjarticle}{\LWR@patchujtclasses}{}
13361 \@ifclassloaded{ltjbook}{\LWR@patchujtclasses}{}
13362 \@ifclassloaded{ltjreport}{\LWR@patchujtclasses}{}
13363 \@ifclassloaded{ltjsarticle}{\LWR@patchujtclasses}{}
13364 \@ifclassloaded{ltjsbook}{\LWR@patchujtclasses}{}
13365 \@ifclassloaded{ltjsreport}{\LWR@patchujtclasses}{}
13366 \@ifclassloaded{ltjskiyou}{\LWR@patchujtclasses}{}
13367 \@ifclassloaded{ltjspf}{\LWR@patchujtclasses}{}
13368 \@ifclassloaded{ltjtarticle}{\LWR@patchujtclasses}{}
13369 \@ifclassloaded{ltjtbook}{\LWR@patchujtclasses}{}
13370 \@ifclassloaded{ltjtreport}{\LWR@patchujtclasses}{}
13371 \end{warpHTML}

```

## 105 C<sub>T</sub><sub>E</sub>X patches

Patches for `ctex` and related classes, which are loaded before `lwarp`.

All C<sub>T</sub><sub>E</sub>X classes and the `ctex` package seem to load `ctexpatch`, so its presence is used to decide whether to have `lwarp` patch C<sub>T</sub><sub>E</sub>X.

for HTML output: 13372 \begin{warpHTML}

\AtBeginDocument in case the user set FileSectionNames in the preamble.

```

13373 \AtBeginDocument{
13374 \ifpackageloaded{ctexpatch}{%
13375 \def\@partcntformat#1{%
13376 \LWR@isolate{\CTEX@partname}~%
13377 \CTEX@part@aftername%
13378 }%
13379
13380 \def\@partnameformat{}
13381
13382 \def\@chapcntformat#1{%
13383 \LWR@isolate{\CTEX@chaptername}~%
13384 \CTEX@chapter@aftername%
13385 }%
13386
13387 \renewcommand*{\LWR@printchaptername}{}
13388 }{}
13389 }

13390 \end{warpHTML}

```

## 106 kotexutf patches

Patch for kotexutf, which is loaded before lwarp.

kotexutf's \@setref was conflicting with lwarp's cross references.

for HTML output: 13391 \begin{warpHTML}

If kotexutf's version of \@setref is detected, it is reverted to the original.

```

13392 \AtBeginDocument{
13393 \ifpackageloaded{kotexutf}{%
13394 \def\LWR@kotexutf@setref#1#2#3{%
13395 \@setref@dhuks@orig{#1}{#2}{#3}%
13396 \ifx#1\relax\else
13397 \bgroup
13398 \dhuks@make@ckkchar@null
13399 \edef\@temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
13400 \egroup
13401 \fi%
13402 }%
13403
13404 \ifdefequal{\@setref}{\LWR@kotexutf@setref}{
13405 \let\@setref\@setref@dhuks@orig
13406 }{}
13407 }{}
13408 }

13409 \end{warpHTML}

```

## 107 babel and polyglossia warnings

lwarp prints a message instructing the user how to avoid the following error.

(These are not \PackageWarnings because there may not be a problem.)

lwarp uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . __hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

```
for HTML output: 13410 \begin{warpHTML}
13411 \AtBeginDocument{
13412
13413 \ifpackageloaded{polyglossia}{
13414 \PackageWarningNoLine{lwarp}
13415 {%
13416 Polyglossia has been loaded. Lwarp also uses cleveref.\MessageBreak
13417 See the cleveref documentation regarding\MessageBreak
13418 polyglossia support. Some languages are not supported%
13419 }
13420 \typeout{---}
13421 \typeout{Package lwarp:}
13422 \typeout{If the error}
13423 \typeout{\space\space‘! Undefined control sequence.
13424 \space ... \space \protect__hook begindocument’}
13425 \typeout{occurs here, use the polyglossia macro:}
13426 \typeout{\space\space\protect\setmainlanguage\protect{...\protect}}
13427 \typeout{---}
13428 }{
13429 \ifpackageloaded{babel}{
13430 \PackageWarningNoLine{lwarp}
13431 {%
13432 Babel has been loaded. Lwarp also uses cleveref.\MessageBreak
13433 See the cleveref documentation regarding\MessageBreak
13434 babel support. Some languages are not supported%
13435 }
13436 }{}
13437 }
13438
```



```

13439 }
13440 \end{warpHTML}

```

## 108 MATHJAX warnings

`\LWR@mathjaxwarn`  $\{\langle packagename \rangle\} \{\langle More text. \rangle\}$

To be done `\AtBeginDocument`.

```

13441 \newcommand*{\LWR@mathjaxwarn}[2]{%
13442 \ifpackageloaded{lwarp-#1}{%
13443 \ifblank{#2}{%
13444 \PackageWarningNoLine{lwarp}
13445 {%
13446 Lwarp provides emulation for MathJax when used\MessageBreak
13447 with the #1 package%
13448 }
13449 }{%
13450 \PackageWarningNoLine{lwarp}
13451 {%
13452 Lwarp provides emulation for MathJax when used\MessageBreak
13453 with the #1 package.\MessageBreak
13454 #2%
13455 }
13456 }%
13457 }{}%
13458 }
13459
13460 % \begin{macro}{\LWR@nomathjaxwarn} \marg{packagename} \marg{More text.}
13461 %
13462 % To be done \cs{AtBeginDocument}.
13463 %
13464 % \changes{v0.894}{2020/12/22}{Warn if using packages not supported by \brand{MathJax}.}
13465 % \changes{v0.895}{2021/01/08}{Improved \brand{MathJax} warning.}
13466 % \begin{macrocode}
13467 \newcommand*{\LWR@nomathjaxwarn}[2]{%
13468 \ifpackageloaded{lwarp-#1}{%
13469 \ifblank{#2}{%
13470 \PackageWarningNoLine{lwarp}
13471 {%
13472 Lwarp does not provide MathJax support for #1.\MessageBreak
13473 Use SVG math by removing the Lwarp mathjax option%
13474 }
13475 }{%
13476 \PackageWarningNoLine{lwarp}
13477 {%
13478 Lwarp does not provide MathJax support for #1.\MessageBreak
13479 #2%
13480 }
13481 }%
13482 }{}%
13483 }

```

`\LWR@forceSVGmessage`  $\{\langle package name \rangle\}$

```

13484 \newcommand*{\LWR@forceSVGmessage}[1]{%
13485 SVG math output may be enabled for select math\MessageBreak
13486 expressions to preserve #1 visual\MessageBreak
13487 features for those particular expressions.\MessageBreak
13488 Before the chosen inline math, use \protect\inlinemathother\MessageBreak
13489 to begin using SVG math, and \protect\inlinemathnormal\MessageBreak
13490 afterward to resume using MathJax math.\MessageBreak
13491 Before display math, use \protect\displaymathother\MessageBreak
13492 to begin using SVG math, and use \protect\displaymathnormal\MessageBreak
13493 after to resume using MathJax for the following math.\MessageBreak
13494 Or, use SVG math for all expressions by removing\MessageBreak
13495 the mathjax option for the lwarp package%
13496 }
```

If MATHJAX is being used, issue a warning for certain packages.

```

13497 \AtBeginDocument{
13498 \ifbool{mathjax}{
13499 \LWR@nomathjaxwarn{aligned-overset}{}
13500 \LWR@nomathjaxwarn{amscdx}
13501 {\LWR@forceSVGmessage{amscdx}}
13502 \LWR@mathjaxwarn{arydshln}
13503 {In a math array, do not use the optional argument\MessageBreak
13504 for \protect\cdashline.\space\space
13505 Furthermore, \protect\cline\space is not\MessageBreak
13506 supported by MathJax}
13507 \LWR@nomathjaxwarn{autoalign}{}
13508 \LWR@mathjaxwarn{autonum}
13509 {MathJax does not support equation+.\MessageBreak
13510 You may use the warpprint and warpHTML\MessageBreak
13511 environments to isolate the package load\MessageBreak
13512 and the equation+ environments}
13513 \LWR@mathjaxwarn{bigdelim}
13514 {Delimiters appear only of the first line}
13515 \LWR@nomathjaxwarn{boldtensors}{}
13516 \LWR@mathjaxwarn{booktabs}
13517 {\protect\cmidrule\space is not displayed}
13518 \LWR@mathjaxwarn{breqn}
13519 {Each environment becomes an SVG image}
13520 \LWR@mathjaxwarn{colortbl}
13521 {Colors are ignored in MathJax.\MessageBreak
13522 (Text mode tabular does support colortbl.)\MessageBreak
13523 \LWR@forceSVGmessage{colortbl}}
13524 \LWR@mathjaxwarn{delarray}
13525 {\LWR@forceSVGmessage{delarray}}
13526 \LWR@nomathjaxwarn{gauss}
13527 {\LWR@forceSVGmessage{gauss}}
13528 \LWR@mathjaxwarn{hhline}
13529 {A simple \protect\hline\space is used}
13530 \LWR@mathjaxwarn{isomath}
13531 {Some of the symbol font macros such as \protect\mathsfbf\space
13532 do not use a sans font because MathJax does not yet\MessageBreak
13533 have sans Greek. Tensors may look like vectors%

```

```

13534 }
13535 \LWR@nomathjaxwarn{jkmath}
13536 {\LWR@forceSVGmessage{jkmath}}
13537 \LWR@mathjaxwarn{libertinust1math}
13538 {Some of the symbol font macros such as \protect\mathsfbf\it\MessageBreak
13539 do not use a sans font because MathJax does not yet\MessageBreak
13540 have sans Greek. Tensors may look like vectors%
13541 }
13542 \LWR@mathjaxwarn{mathtools}
13543 {See the Lwarp manual regarding the disallowspace\MessageBreak
13544 and showonlyrefs options, the alignat environment,\MessageBreak
13545 and \protect\DeclarePairedDelimiter\space and related%
13546 }
13547 \LWR@mathjaxwarn{mathspec}
13548 {Double quotes are removed, even inside \protect\text}
13549 \LWR@mathjaxwarn{multirow}
13550 {Multirow works as expected in text mode, but\MessageBreak
13551 limited emulation is provided for MathJax math.\MessageBreak
13552 \protect\multirow\space ignores all arguments except\MessageBreak
13553 the text}
13554 \LWR@mathjaxwarn{nicematrix}
13555 {Keys/values are ignored in MathJax.\MessageBreak
13556 \protect\Cdots, etc. do not span multiple cells.\MessageBreak
13557 AutoNiceMatrix, etc. are not supported for MathJax.\MessageBreak
13558 \LWR@forceSVGmessage{nicematrix}%
13559 }
13560 \LWR@nomathjaxwarn{pb-diagram}
13561 {\LWR@forceSVGmessage{pb-diagram}}
13562 % \LWR@mathjaxwarn{physics}
13563 % {The third-party extension is not used.\MessageBreak
13564 % {The MathJax v3 extension is used.\MessageBreak
13565 % See the Lwarp manual for details}
13566 \LWR@nomathjaxwarn{tensind}{ }
13567 \LWR@mathjaxwarn{unicode-math}
13568 {Do not use embedded Unicode characters.\MessageBreak
13569 (Not all characters are encoded correctly.)\MessageBreak
13570 Some symbol fonts are not supported by MathJax,\MessageBreak
13571 and are only approximated.\MessageBreak
13572 Greek macros such as \protect\alpha\space respond to the math-style\MessageBreak
13573 option. Latin symbols does not, per MathJax\MessageBreak
13574 limitations, unless placed inside \protect\symbit\space or similar}
13575 \LWR@nomathjaxwarn{unitsdef}{ }
13576 \LWR@mathjaxwarn{witharrows}
13577 {Arrows can only point to the next line.\MessageBreak
13578 Text is only placed on a single line}
13579 \LWR@nomathjaxwarn{xy}
13580 {In text, xy works as-is. SVG images will be generated.\MessageBreak
13581 \LWR@forceSVGmessage{xy}}
13582 }{ }
13583 }

```

---

File 2 **lwarp-2in1.sty**

§ 109    Package **2in1**

Pkg    2in1    2in1 is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{2in1}

---

File 3 **lwarp-2up.sty**

§ 110    Package **2up**

Pkg    2up    2up is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{2up}[2010/05/15]

```

2 \def\source#1#2#3{}
3 \def\target#1#2#3{}
4 \def\targetlayout#1{}
5 \newdimen\pageseplength
6 \newdimen\pagesepwidth
7 \newdimen\pagesepoffset
8 \def\twoupemptypage{}
9 \def\twoupclearpage{}
10 \def\twoupeject{}
11 \def\twouparticle{}
12 \def\twoupplain{}
13 \def\twouplegaltarget{}
14 \def\twouplandscape{}
15 \def\TwoupWrites{}

```

---

File 4 **lwarp-a4.sty**

§ 111    Package **a4**

Pkg    a4    a4 is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{a4}[2004/04/15]

```

2 \newcommand*{\WideMargins}{}

```

---

File 5 **lwarp-a4wide.sty**

## § 112 Package **a4wide**

Pkg a4wide **a4wide** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]

---

### File 6 **lwarp-a5comb.sty**

## § 113 Package **a5comb**

Pkg a5comb **a5comb** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{a5comb}

---

### File 7 **lwarp-abstract.sty**

## § 114 Package **abstract**

*(Emulates or patches code by PETER WILSON.)*

Pkg abstract **abstract** is supported and patched by **lwarp**.

 **missing TOC** If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

for HTML output: memoir provides an abstract environment even though it is not an **article** or **report** class. Meanwhile, **lwarp** loads **book** to emulate **memoir**, but **book** does not have an abstract environment, so when the **abstract** package is loaded for emulation there is no pre-existing abstract to redefine, which would cause an error. Thus, a null abstract is provide here:

```
1 \ProvideDocumentEnvironment{abstract}{}{}{}
```

Accept all options for **lwarp-abstract**:

```
2 \LWR@ProvidesPackagePass{abstract}[2009/06/08]
```

```
3 \AtBeginDocument{
4 \BeforeBeginEnvironment{abstract}{
5 \LWR@forcenewpage
6 \BlockClass{abstract}
7 }
8 \AfterEndEnvironment{abstract}{\endBlockClass}
9 }
10
11 \renewcommand{\@bsrunintitle}{%
12 \hspace*{\abstitlekip}%
13 {\abstractnamefont%
14 \InlineClass{abstractrunintitle}{\abstractname}%
15 \@bslabeldelim}%
16 }
```

```

17 \@ifclassloaded{memoir}
18 {
19 \renewenvironment{abstract}{%
20 % \titlepage
21 % \null\vfil
22 % \@beginparpenalty\@lowpenalty
23 \setupabstract
24 \if@bsrunin
25 \else
26 % \if@bsstyle
27 % \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
28 % \else
29 % \ifnumber@bs
30 % \num@bs
31 % \else
32 % \begin{\absnamepos}%
33 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
34 % \endparpenalty\@M
35 % \end\absnamepos%
36 % \vspace{\abstitleskip}%
37 % \fi
38 % \fi
39 % \vspace{\abstitleskip}%
40 \fi
41 \put@bsintoc%
42 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
43 {\par\end{@bstr@ctlist}}\vfil\null%\endtitlepage
44 }
45 }{% not memoir
46 \if@titlepage
47 \renewenvironment{abstract}{%
48 % \titlepage
49 % \null\vfil
50 % \@beginparpenalty\@lowpenalty
51 % \if@bsrunin
52 % \else
53 % \if@bsstyle
54 % \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
55 % \else
56 % \ifnumber@bs
57 % \num@bs
58 % \else
59 % \begin{\absnamepos}%
60 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
61 % \endparpenalty\@M
62 % \end\absnamepos%
63 %% \vspace{\abstitleskip}%
64 % \fi
65 % \fi
66 % \vspace{\abstitleskip}%
67 % \fi
68 % \put@bsintoc%
69 % \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
70 % {\par\end{@bstr@ctlist}}\vfil\null%\endtitlepage
71 }

```

```

72 \else
73 \renewenvironment{abstract}{%
74 \if@bsrunin
75 \else
76 \if@bsstyle
77 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
78 \else
79 \ifnumber@bs
80 \num@bs
81 \else
82 \begin{\absnamepos}%
83 \abstractnamefont\BlockClassSingle{abstracttitle}{\abstractname}%
84 \end\absnamepos%
85 %% \vspace{\abstitleskip}%
86 \fi
87 \fi
88 \vspace{\abstitleskip}%
89 \fi
90 \put@bsintoc%
91 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
92 {\par\end{@bstr@ctlist}}
93 \fi
94 }% not memoir

```

---

File 8 **lwarp-academicons.sty**

§ 115      Package **academicons**

*(Emulates or patches code by DIOGO A. B. FERNANDES.)*

Pkg   academicons   **academicons** is patched for use by **lwarp**.

If `\aiicon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{academicons}[2018/06/27]
2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@academicons@orig@AI\AI
5
6 \newcommand*{\LWR@academicons@symbol}[1]{%
7 \begin{lateximage}*[\academicon][academicons#1]%
8 \begingroup%
9 \LWR@academicons@orig@AI%
10 \LWR@orig@symbol{#1}%
11 \endgroup%
12 \end{lateximage}%
13 }
14
15 \renewcommand*{\AI}{%
16 \LetLtxMacro\symbol\LWR@academicons@symbol%
17 }

```

```

18
19 \renewcommand*{\aiicon}[1]
20 {%
21 \begin{lateximage}*[#1 icon][academicons#1]%
22 \AI\cename aiicon@#1\endcsname%
23 \end{lateximage}%
24 }

```

---

File 9 **lwarp-accents.sty**

§ 116 Package **accents**

(Emulates or patches code by JAVIER BEZOS.)

Pkg accents **accents** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{accents}[2006/05/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \LWR@info{processingmathjax}{accents}
4
5 \CustomizeMathJax{\newcommand{\ring}[1]{\mathring{#1}}}
6 \CustomizeMathJax{\newcommand{\accentset}[2]{\overset{#1}{#2}}}

```

As of this writing, MATHJAX v3 does not yet support groups for macros, so for `\underaccent`, the originals are remembered here, then they are temporarily redefined and used inside `\underaccent`, then restored to their originals. `\LARGE` gives a reasonable size, and `\raise` is used to adjust vertically without introducing extra line space.

```

7 \CustomizeMathJax{\let\LWRgrave\grave}
8 \CustomizeMathJax{\let\LWRacute\acute}
9 \CustomizeMathJax{\let\LWRcheck\check}
10 \CustomizeMathJax{\let\LWRbreve\breve}
11 \CustomizeMathJax{\let\LWRbar\bar}
12 \CustomizeMathJax{\let\LWRhat\hat}
13 \CustomizeMathJax{\let\LWRdot\dot}
14 \CustomizeMathJax{\let\LWRtilde\tilde}
15 \CustomizeMathJax{\let\LWRddot\ddot}
16 \CustomizeMathJax{\let\LWRvec\vec}
17 \CustomizeMathJax{\let\LWRwidetilde\widetilde}
18
19 \CustomizeMathJax{\newcommand{\underaccent}[2]{%
20 {%
21 \renewcommand{\grave}[1]{\LARGE\LWRgrave{##1}}}%
22 \renewcommand{\acute}[1]{\LARGE\LWRacute{##1}}}%
23 \renewcommand{\check}[1]{\LARGE\LWRcheck{##1}}}%
24 \renewcommand{\breve}[1]{\LARGE\LWRbreve{##1}}}%
25 \renewcommand{\bar}[1]{\LARGE\LWRbar{##1}}}%
26 \renewcommand{\hat}[1]{\LARGE\LWRhat{##1}}}%
27 \renewcommand{\dot}[1]{\LARGE\LWRdot{##1}}}%

```



---

```

28 \renewcommand{\tilde}[1]{\LARGE\LWRtilde{##1}}}%
29 \renewcommand{\ddot}[1]{\LARGE\LWRddot{##1}}}%
30 \renewcommand{\vec}[1]{\LARGE\LWRvec{##1}}}%
31 \renewcommand{\widetilde}[1]{\LARGE\LWRwidetilde{\hphantom{#2}}}%
32 \underset{\raise 2pt {#1}}{#2}%
33 \let\grave\LWRgrave%
34 \let\acute\LWRacute%
35 \let\check\LWRcheck%
36 \let\breve\LWRbreve%
37 \let\bar\LWRbar%
38 \let\hat\LWRhat%
39 \let\dot\LWRdot%
40 \let\tilde\LWRtilde%
41 \let\ddot\LWRddot%
42 \let\vec\LWRvec%
43 \let\widetilde\LWRwidetilde%
44 }%
45 }}
46
47 \CustomizeMathJax{\newcommand{\undertilde}[1]{%
48 \underset{\raise 3pt {\widetilde{\hphantom{#1}}}}{#1}%
49 }}
50 \end{warpMathJax}

```

---

File 10 **lwarp-accessibility.sty**

§ 117 Package **accessibility**

Pkg accessibility accessibility is emulated.

**for HTML output:** Discard all options for lwarp-accessibility:

```

1 \LWR@ProvidesPackageDrop{accessibility}[2019/10/14]

2 \newcommand{\alt}[1]{\ThisAltText{#1}}
3 \newcommand{\newhref}[3]{\ThisAltText{#2}\LWR@href{#1}{#3}}%
4 \providecommand{\thead}[1]{\textbf{#1}}

```

For MATHJAX:

```

5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\alt}[1]}{}
7 \CustomizeMathJax{\newcommand{\thead}[1]{\text{\textbf{#1}}}}
8 \end{warpMathJax}

```

---

File 11 **lwarp-accsupp.sty**

§ 118 Package **accsupp**

Pkg accsupp accsupp is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{accsupp}[2018/03/28]

2 \newcommand\*\BeginAccSupp[1]{}  
3 \newcommand\*\EndAccSupp[1]{}  
4

For MATHJAX:

4 \begin{warpMathJax}  
5 \CustomizeMathJax{\newcommand{\BeginAccSupp}[1]{}  
6 \CustomizeMathJax{\newcommand{\EndAccSupp}[1]{}  
7 \end{warpMathJax}

---

## File 12 **lwarp-acro.sty**

### § 119 Package **acro**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg acro **acro** is patched for use by **lwarp**.

 **formats** Define acronymn formats using \textbf instead of \bfseries etc.

for HTML output: 1 \LWR@ProvidesPackagePass{acro}[2019/10/12]

\DeclareAcronym is used in the preamble, where **lwarp** has not yet made the dollar active, so temporarily enable **lwarp** math catcode just for this definition:

```
2 \ExplSyntaxOn
3 \NewDocumentCommand \LWR@DeclareAcronym {mm}
4 {
5 \acro_declare_acronym:nn {#1} {#2}
6 \catcode'\$=3% lwarp
7 }
8 \ExplSyntaxOff
9
10 \RenewDocumentCommand{\DeclareAcronym}{}{
11 \catcode'\$=\active% lwarp
12 \LWR@DeclareAcronym
13 }
```

Replace dot fill with simple dots:

```
14 \ExplSyntaxOn
15 \cs_new_protected:Npn \LWR@HTML@acro_dot_fill: {\dots\space}
16 \LWR@formatted{acro_dot_fill:}
17 \ExplSyntaxOff
```

Modified to activate the current font:

```
18 \ExplSyntaxOn
19 \ifpackageafter{acro}{2020/04/29}%
20 {}% v3 or later
```

```

21{% before v3
22 \@ifpackagelater{acro}{2019/09/23}%
23{% v2.10 or later
24 \cs_gset_protected:Npn __acro_typeset:nn #1#2
25 {
26 \mode_if_horizontal:F { \leavevmode }
27 \group_begin:
28 \use:x
29 {
30 \bool_if:cTF {l__acro_custom_#1_format_bool}
31 { \exp_not:v {l__acro_custom_#1_format_tl} }
32 { \exp_not:v {l__acro_#1_format_tl} }
33 { \exp_not:N\LWR@textcurrentfont{#2}}% lwarp
34 }
35 \group_end:
36 }
37
38 \cs_gset_protected:Npn __acro_ending_format:nn #1#2
39 {
40 \bool_if:NTF \l__acro_include_endings_format_bool
41 {
42 \str_case:nn {#1}
43 {
44 {long}
45 {
46 \bool_if:NTF \l__acro_custom_long_format_bool
47 { \l__acro_custom_long_format_tl }
48 {
49 \bool_if:NTF \l__acro_first_instance_bool
50 { \l__acro_first_long_format_tl }
51 { \l__acro_long_format_tl }
52 }
53 }
54 } {short}
55 {
56 \bool_if:NTF \l__acro_custom_short_format_bool
57 { \l__acro_custom_short_format_tl }
58 { \l__acro_short_format_tl }
59 }
60 } {alt}
61 {
62 \bool_if:NTF \l__acro_custom_alt_format_bool
63 { \l__acro_custom_alt_format_tl }
64 { \l__acro_alt_format_tl }
65 }
66 }
67 }
68 { \use:n }
69 { \exp_not:N\LWR@textcurrentfont{#2}}% lwarp
70 }
71}% v2.10 or later
72{% before v2.10
73 \cs_gset_protected:Npn \acro_write_short:nn #1#2
74 {
75 \mode_if_horizontal:F { \leavevmode }

```

```

76 \group_begin:
77 \bool_if:NTF \l__acro_custom_format_bool
78 { \l__acro_custom_format_tl }
79 { \l__acro_short_format_tl }
80 {\LWR@textcurrentfont{#2}}% lwarp
81 \group_end:
82 }
83
84 \cs_gset_protected:Npn \acro_write_alt:nn #1#2
85 {
86 \mode_if_horizontal:F { \leavevmode }
87 \group_begin:
88 \bool_if:NTF \l__acro_custom_format_bool
89 { \l__acro_custom_format_tl }
90 { \l__acro_alt_format_tl }
91 {\LWR@textcurrentfont{#2}}% lwarp
92 \group_end:
93 }
94
95 \cs_gset_protected:Npn \acro_write_long:nn #1#2
96 {
97 \mode_if_horizontal:F { \leavevmode }
98 \group_begin:
99 \bool_if:NTF \l__acro_custom_long_format_bool
100 { \l__acro_custom_long_format_tl }
101 { \use:n }
102 {
103 \use:x
104 {
105 \exp_not:n {#1}
106 {
107 \bool_if:NTF \l__acro_first_upper_bool
108 { \exp_not:N \l__acro_first_upper_case:n { \exp_not:n {
109 \LWR@textcurrentfont{#2}}% lwarp
110 } } }
111 { \exp_not:n {\LWR@textcurrentfont{#2}} }% lwarp
112 }
113 }
114 }
115 \group_end:
116 }
117 }% before v2.10
118 }% before v3
119 \ExplSyntaxOff

```

File 13 **lwarp-acronym.sty**§ 120 Package **acronym***(Emulates or patches code by TOBIAS OETIKER.)*Pkg acronym **acronym** is patched for use by **lwarp**. **multiply-defined labels** \acresetall does not work with **cleveref**, causing multiply-defined labels. **lwarp** patches

acronym for HTML, but not for print mode.

for HTML output: `1 \LWR@ProvidesPackagePass{acronym}[2015/03/21]`

Uses `\textit` instead of `\itshape`:

```
2 \renewcommand{\acfia}[1]{%
3 {\textit{\AC@acl{#1}}} (\ifAC@starred\acs*{#1}\else\acs{#1}\fi)}
```

Removes the mbox to allow math inside:

```
4 \renewcommand*\AC@acs[1]{%
5 % \mbox{
6 \expandafter\AC@get\csname fn#1\endcsname\@firstoftwo{#1}}
7 % }
```

Fix for acronym labels in the captions of floats.

```
8 \renewcommand{\@starttoc}[1]{
9 \LWR@html@elementclass{nav}{#1}
10 \LetLtxMacro\@verridelabel\@gobble
11 \LWR@orig@starttoc{#1}
12 \LWR@html@elementclassend{nav}{#1}
13 }
```

Modified for `cleveref` and `lwarp`:

```
14 \renewcommand*\AC@und@newl@bel[3]{%
15 \@ifundefined{#1@#3}%
16 {%
17 \global\expandafter\let\csname#2@#3\endcsname\@nnil
18 \global\expandafter\let\csname#2@#3@lwarp\endcsname\@nnil% lwarp
19 \global\expandafter\let\csname#2@#3@cref\endcsname\@nnil% lwarp
20 }%
21 {%
22 \global\expandafter\let\csname#1@#3\endcsname\relax
23 \global\expandafter\let\csname#1@#3@lwarp\endcsname\relax% lwarp
24 \global\expandafter\let\csname#1@#3@cref\endcsname\relax% lwarp
25 }%
26 }
```

---

File 14 **lwarp-adjmulticol.sty**

§ 121 Package **adjmulticol**

(Emulates or patches code by BORIS VEYTSMAN.)

Pkg adjmulticol **adjmulticol** is emulated.

Emulation similar to `multicols` is used, with adjusted margins. If the number of columns is specified as 1, it is set so, but if two or greater are used, `lwarp` allows a variable number of columns up to three.

for HTML output: 1 \LWR@ProvidesPackageDrop{adjmulticol}[2012/01/20]

2 \RequirePackage{multicol}

adjmulticols \* {\<numcols>} {\<left margi>} {\<right margin>}

3 \NewDocumentEnvironment{adjmulticols}{s m m m}

4 {%

Compute the margins, and limit to positive only:

5 \setlength{\LWR@templengthone}{#3}%

6 \ifdimcomp{\LWR@templengthone}{<}{0pt}{\setlength{\LWR@templengthone}{0pt}}{%

7 \setlength{\LWR@templengthtwo}{#4}

8 \ifdimcomp{\LWR@templengthtwo}{<}{0pt}{\setlength{\LWR@templengthtwo}{0pt}}{%

If one column is specified, use a <div> of class singlecolumn, else use multicols:

9 \newcommand\*{\LWR@mcstyle}{multicols}%

10 \ifnumcomp{#2}{=}{1}{\renewcommand\*{\LWR@mcstyle}{singlecolumn}}{%

Help avoid page overflow:

11 \LWR@forcenewpage%

Create the <div> with the given margin and class:

12 \BlockClass[%

13 \LWR@print@box{margin-left:\LWR@printlength{\LWR@templengthone}} ; %

14 \LWR@print@box{margin-right:\LWR@printlength{\LWR@templengthtwo}}%

15 ]{\LWR@mcstyle}%

16 }

17 {\endBlockClass}

---

File 15 **lwarp-addlines.sty**

§ 122 Package **addlines**

(Emulates or patches code by WILL ROBERTSON.)

Pkg addlines **addlines** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{addlines}[2018/12/05]

2 \newcommand\addlines{\@ifstar\addlines@a\addlines@a}

3 \newcommand\addlines@a[1][1]{}

4 \let\addline\addlines

5 \newcommand\removelines{\@ifstar\removelines@a\removelines@a}

6 \newcommand\removelines@a[1][1]{}

7 \let\removeline\removelines

8 \newcommand\squeezepage[1][0]{}

File 16 **lwarp-afterpage.sty**§ 123 Package **afterpage**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg afterpage **afterpage** is emulated.

for HTML output: Discard all options for lwarp-afterpage:

```
1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]
2 \newcommand{\afterpage}[1]{#1}
```

File 17 **lwarp-algorithm2e.sty**§ 124 Package **algorithm2e**

*(Emulates or patches code by CHRISTOPHE FIORIO.)*

Pkg algorithm2e **algorithm2e** is patched for use by lwarp.

For print output, captions are placed according to package options, but for HTML output captions are placed where used. Therefore, to have captions appear at the top of the algorithms for both print and HTML, place each captions at the top of each algorithm.

for HTML output: `1 \LWR@ProvidesPackagePass{algorithm2e}[2017/07/18]`

For the list-of entries:

```
2 \renewcommand{\l@algocf}[2]{\hypertocfloat{1}{algocf}{loa}{#1}{#2}}
```

Select the lwarp float style according to the algorithm2e style:

```
3 \newcommand*\LWR@floatstyle@algocf{ruled}
4
5 \ifdefstring{\algocf@style}{boxed}{%
6 \renewcommand*\LWR@floatstyle@algocf{boxed}
7 }{}
8
9 \ifdefstring{\algocf@style}{boxruled}{%
10 \renewcommand*\LWR@floatstyle@algocf{boxruled}
11 }{}
12
13 \ifdefstring{\algocf@style}{plain}{%
14 \renewcommand*\LWR@floatstyle@algocf{plain}
15 }{}
```

Paragraph handling to allow line numbers under certain conditions:

```

16 \newbool{LWR@algocf@dopars}
17 \booltrue{LWR@algocf@dopars}
18
19 \renewcommand{\algocf@everypar}{%
20 \ifbool{LWR@algocf@dopars}{%
21 \ifbool{LWR@doingstartpars}{%
22 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
23 {}%
24 {%
25 \algocf@everyparnl\algocf@everyparhanging%
26 }%
27 }{}%
28 }{}%
29 }
```

lwarp caption handling:

```

30 \renewcommand{\algocf@makecaption}[2]{%
31 \LWR@HTML@caption@begin{algocf}%
32 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
33 \LWR@HTML@caption@end%
34 }
```

Print any caption where it is declared:

```

35 \renewcommand{\algocf@makecaption@plain}[2]{%
36 \LWR@HTML@caption@begin{algocf}%
37 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
38 \LWR@HTML@caption@end%
39 }
40
41 \renewcommand{\algocf@makecaption@boxed}[2]{%
42 \LWR@HTML@caption@begin{algocf}%
43 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
44 \LWR@HTML@caption@end%
45 }
46
47 \renewcommand{\algocf@makecaption@ruled}[2]{%
48 \LWR@HTML@caption@begin{algocf}%
49 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
50 \LWR@HTML@caption@end%
51 }
```

Turn off line numbering while making the caption:

```

52 \long\def\algocf@latexcaption#1[#2]#3{% original definition of caption
53 \boolfalse{LWR@algocf@dopars}% lwarp
54 \par%
55 \addcontentsline{\csname ext@#1\endcsname}{#1}%
56 {\protect\numberline{\csname the#1\endcsname}{\ignorespaces \LWR@isolate{#2}}}%
57 \begingroup%
58 \@parboxrestore%
59 \if@minipage%
```



```

60 \setminipage%
61 \fi%
62 \normalsize%
63 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par%
64 \endgroup%
65 \booltrue{LWR@algocf@dopars}% lwarp
66 }

```

Line numbers are printed in a `<span>` of class `alg2elinenum`:

```

67 \renewcommand{\algocf@printnl}[1]{%
68 \InlineClass{alg2elinenum}{\NlSty{#1}}~%
69 }%

```

While initializing an algorithm environment, locally declare the style of a regular figure to be the same as the algorithm style, in case the `figure` option was used.

```

70 \preto\algocf@init{%
71 \edef\LWR@floatstyle@figure{\LWR@floatstyle@algocf}%
72 }

```

For **lwarp**, the algorithm is not assembled inside a box, since `lateximages` would not work, so the captions are printed where declared.

```

73 \renewcommand{\algocf@start}{%
74 \let\@mathsemicolon=\; \def\;{\ifmmode\@mathsemicolon\else\@endalgoln\fi}%
75 % \raggedright%
76 \AlFnt{}}%
77 \booltrue{LWR@algocf@dopars}% lwarp
78 }
79
80 \renewcommand{\algocf@finish}{%
81 \boolfalse{LWR@algocf@dopars}% lwarp
82 \lineskip\normallineskip\setlength{\skiptotal}{\@defaultskiptotal}%
83 \let\;=\@mathsemicolon%
84 \let\]=\@mathdisplay%
85 }

```

Use an HTML break:

```

86 \renewcommand{\BlankLine}{%
87 \LWR@stoppars%
88 \LWR@htmltagc{br /}%
89 \LWR@startpars%
90 }

```

Simplified for HTML. The paragraph handling must be preserved.

```

91 \renewcommand{\SetKwInOut}[2]{%
92 \algocf@newcommand{#1}[1]{%
93 \ifthenelse{\boolean{algocf@hanginginout}}%
94 {\relax}%
95 {\algocf@seteveryparhanging{\relax}}%
96 \ifthenelse{\boolean{algocf@inoutnumbered}}%
97 {\relax}%

```

```

98 {\algocf@seteverypar\nl{\relax}}%
99 {%
100 \KwSty{#2\algocf@typo:}%
101 ~##1\par%
102 }%
103 \algocf@linesnumbered% reset the numbering of the lines
104 \ifthenelse{\boolean{algocf@hanginginout}}{%
105 {\relax}%
106 {\algocf@reseteveryparhanging}%
107 }%
108 }%
109
110 \renewcommand{\ResetInOut}[1]{}%

```

Each of the following creates a <div> of a given class, and turns off line numbering while creating the <div> tags:

```

111 \renewcommand{\algocf@Vline}[1]{%
112 \boolfalse{LWR@algocf@dopars}%
113 \begin{BlockClass}{alg2evline}
114 \booltrue{LWR@algocf@dopars}%
115 #1
116 \boolfalse{LWR@algocf@dopars}%
117 \end{BlockClass}
118 \booltrue{LWR@algocf@dopars}%
119 }

120 \renewcommand{\algocf@Vsline}[1]{%
121 \boolfalse{LWR@algocf@dopars}%
122 \begin{BlockClass}{alg2evsline}
123 \booltrue{LWR@algocf@dopars}%
124 #1
125 \boolfalse{LWR@algocf@dopars}%
126 \end{BlockClass}
127 \booltrue{LWR@algocf@dopars}%
128 }

129 \renewcommand{\algocf@Noline}[1]{%
130 \boolfalse{LWR@algocf@dopars}%
131 \begin{BlockClass}{alg2enoline}
132 \booltrue{LWR@algocf@dopars}%
133 #1
134 \boolfalse{LWR@algocf@dopars}%
135 \end{BlockClass}
136 \booltrue{LWR@algocf@dopars}%
137 }

```

The [H] environment is converted to a regular float, which in HTML is placed where declared. Reusing the regular float allows the [H] version to reuse the ruled and boxed options.

```

138 \LetLtxMacro\algocf@Here\algocf
139 \LetLtxMacro\endalgocf@Here\endalgocf

```

---

File 18 **lwarp-algorithmicx.sty**

§ 125      Package **algorithmicx**

*(Emulates or patches code by SZÁSZ JÁNOS.)*

Pkg    algorithmicx    **algorithmicx** is supported with minor adjustments.

**for HTML output:**    1 \LWR@ProvidesPackagePass{algorithmicx}[2005/04/27]

Inside the algorithmic environment, level indenting is converted to a <span> of the required length, and comments are placed inside a <span> which is floated right.

 **package conflicts**    If using \newfloat, trivfloat, and/or algorithmicx together, see section 616.1.

```

2 \AtBeginEnvironment{algorithmic}{%
3 %
4 \let\origALG@doentity\ALG@doentity%
5 %
6 \renewcommand*{\ALG@doentity}{%
7 \origALG@doentity%
8 \LWR@htmltagc{%
9 span style=\textquotedbl{}%
10 width:\LWR@printlength{\ALG@thistlm}; display:inline-block;%
11 \textquotedbl{}%
12 }%
13 \ifbool{FormatWP}{%
14 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
15 \whileo{\lengthtest{\LWR@templengthone>1em}}{%
16 \quad%
17 \addtolength{\LWR@templengthone}{-1em}%
18 }%
19 }{}%
20 \LWR@htmltagc{/span}%
21 }%
22
23 \let\LWR@origComment\Comment%
24
25 \renewcommand{\Comment}[1]{%
26 \InlineClass{floatright}{\LWR@origComment{#1}}%
27 }%
28 }
29
30 \renewcommand\algorithmiccomment[1]{%
31 \hfill\HTMLUnicode{25B7} #1 white right triangle
32 }%
```

---

File 19 **lwarp-alltt.sty**

## § 126 Package **alltt**

(Emulates or patches code by JOHANNES BRAAMS.)

Pkg alltt alltt is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{alltt}[1997/06/16]

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching alltt.}
4
5 \AtBeginEnvironment{alltt}{%
6 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7 {}%
8 {%
9 \LWR@forcenewpage

```

Vertical spacing changes if inside a list.

```

10 \LWR@atbeginverbatim{alltt}%
11 }%
12 }
13
14 \AfterEndEnvironment{alltt}{%
15 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
16 {}%
17 {%

```

Vertical spacing changes if inside a list.

```

18 \LWR@afterendverbatim%
19 }%
20 }
21
22 }

```

---

File 20 **lwarp-amscdx.sty**

## § 127 Package **amscdx**

(Emulates or patches code by MARTIN VERMEER.)

Pkg amscdx amscdx is used as-is for SVG math.

 **MATHJAX** For MATHJAX, a warning notes that the CD environment must be enclosed between `\displaymathother` and `\displaymathnormal`.

for HTML output:

```

1 \LWR@ProvidesPackagePass{amscdx}[2019/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \renewenvironment{CD}

```

---

```

5 {\text{(Use \unicode{x005C}displaymathother before the CD enviroment.) \quad}}
6 {\quad \text{(Use \unicode{x005C}displaymathnormal after the CD enviroment.)}}
7 }
8
9 \CustomizeMathJax{\newcommand{\CDfattrue}{} }
10 \CustomizeMathJax{\newcommand{\CDfatfalse}{} }
11 \CustomizeMathJax{\newcommand{\CDashtrue}{} }
12 \CustomizeMathJax{\newcommand{\CDashfalse}{} }
13 \CustomizeMathJax{\newcommand{\CDlor}[1]{} }
14 \end{warpMathJax}

```

---

File 21 **lwarp-amsmath.sty**

§ 128      Package **amsmath**

*(Emulates or patches code by AMERICAN MATHEMATICAL SOCIETY, L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)*

Pkg    amsmath    **amsmath** is patched for use by **lwarp**.

for HTML output:    1 \LWR@ProvidesPackagePass{amsmath}[2017/09/02]

\dotso    An HTML text-mode version.

```

2 \newcommand*{\LWR@HTML@dotso}{\textellipsis\ }
3 \LWR@formatted{dotso}

```

Patches to allow \eqref inside a caption:

```

4 \def\maketag@@@#1{\text{#1}}
5 \def\tagform@#1{\maketag@@@(\ignorespaces#1\unskip)}

```

Patches for  $\mathcal{MS}$  math \tag macro to remember the first tag:

```

6 \ifbool{mathjax}{}{% not mathjax
7
8 \LetLtxMacro\LWR@origmake@df@tag@@\make@df@tag@@
9 \LetLtxMacro\LWR@origmake@df@tag@@@\make@df@tag@@@
10
11 \renewcommand*{\make@df@tag@@}[1]{%
12 \LWR@remembertag{#1}%
13 \LWR@origmake@df@tag@@{#1}%
14 }
15
16 \renewcommand*{\make@df@tag@@@}[1]{%
17 \LWR@remembertag{#1}%
18 \LWR@origmake@df@tag@@@{#1}%
19 }
20
21 }% not mathjax

```

For nesting  $\mathcal{MS}$  environments:

```

22 \newcounter{LWR@amsmathdepth}
23 \setcounter{LWR@amsmathdepth}{0}

```

The following  $\mathcal{AMS}$  environments are patched in-place:

```

\LRW@amsmathenv@@before * {<environment name>}
* if the environment was starred.
Embeds the environment inside a lateximage.

24 \NewDocumentCommand{\LRW@amsmathenv@@before}{s m}{%
25 \IfBooleanTF{#1}{
26 \begin{BlockClass}{displaymath}
27 }{
28 \begin{BlockClass}{displaymathnumbered}
29 }
30 \LRW@newautoidanchor%
31 \booltrue{LWR@indisplaymathimage}%
32 \begin{lateximage}[\LRW@amsmathbodynumbered{#2}]*%
33 \LRW@applyxfakebold%
34 }

```

```

\LRW@amsmathenv@before * {<environment name>}
* if the environment was starred.
Embeds the environment with MATHJAX or a lateximage.

35 \NewDocumentCommand{\LRW@amsmathenv@before}{s m}{%
36 \ifnumequal{\value{LWR@amsmathdepth}}{0}{%
37 \LRW@stoppars%
38 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
39 {
40 \LRW@syncmathjax
41 \boolfalse{LWR@amsmultline}
42 \ifstrequal{#2}{multline}{\booltrue{LWR@amsmultline}}{}
43 \ifstrequal{#2}{multiline*}{\booltrue{LWR@amsmultline}}{}

```



**autonom's "+" environments are not supported by MATHJAX.**

```

44 \LRW@beginhideamsmath
45 }
46 {
47 \IfBooleanTF{#1}{
48 \LRW@amsmathenv@@before*{#2}
49 }{
50 \LRW@amsmathenv@@before{#2}
51 }
52 }
53 }{}
54 \addtocounter{LWR@amsmathdepth}{1}
55 }

```

```
\LRW@amsmathenv@@after
```

Embeds the environment inside a lateximage.

```
56 \newcommand*{\LRW@amsmathenv@@after}{%
```

```

57 \end{lateximage}\end{BlockClass}\LWR@startpars%
58 }

```

`\LWR@amsmathenv@after` \* {*environment name*}

\* if the environment was starred. Ignored here, only used for a consistent syntax.

Embeds the environment with MATHJAX or a lateximage.

```

59 \NewDocumentCommand{\LWR@amsmathenv@after}{s m}{%
60 \ifnumequal{\value{LWR@amsmathdepth}}{1}{%
61 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }{%
62 {
63 \LWR@endhideamsmath
64 \boolfalse{LWR@amsmultline}
65 \LWR@addmathjax{#2}{\the\@envbody}
66 }
67 {\LWR@amsmathenv@@after}

```

Clear the single-use alt text:

```

68 \gdef\LWR@ThisAltText{}%
69 }{}
70 \addtocounter{LWR@amsmathdepth}{-1}
71 }

```

Env `multline`

```

72 \BeforeBeginEnvironment{multline}{\LWR@amsmathenv@before{multline}}
73
74 \AfterEndEnvironment{multline}{\LWR@amsmathenv@after{multline}}

```

Env `multline*`

```

75 \BeforeBeginEnvironment{multline*}{\LWR@amsmathenv@before*{multline*}}
76
77 \AfterEndEnvironment{multline*}{\LWR@amsmathenv@after*{multline*}}
78

```

Env `gather`

```

79 \BeforeBeginEnvironment{gather}{\LWR@amsmathenv@before{gather}}
80
81 \AfterEndEnvironment{gather}{\LWR@amsmathenv@after{gather}}

```

Env `gather*`

```

82 \BeforeBeginEnvironment{gather*}{\LWR@amsmathenv@before*{gather*}}
83
84 \AfterEndEnvironment{gather*}{\LWR@amsmathenv@after*{gather*}}

```

Env `align`

```

85 \BeforeBeginEnvironment{align}{\LWR@amsmathenv@before{align}}

```

```

86
87 \AfterEndEnvironment{align}{\LWR@amsmathenv@after{align}}

```

Env align\*

```

88 \BeforeBeginEnvironment{align*}{\LWR@amsmathenv@before*{align*}}
89
90 \AfterEndEnvironment{align*}{\LWR@amsmathenv@after*{align*}}

```

Env flalign

```

91 \BeforeBeginEnvironment{flalign}{\LWR@amsmathenv@before{flalign}}
92
93 \AfterEndEnvironment{flalign}{\LWR@amsmathenv@after{flalign}}

```

Env flalign\*

```

94 \BeforeBeginEnvironment{flalign*}{\LWR@amsmathenv@before*{flalign*}}
95
96 \AfterEndEnvironment{flalign*}{\LWR@amsmathenv@after*{flalign*}}

```

Env alignat

```

97 \BeforeBeginEnvironment{alignat}{\LWR@amsmathenv@before{alignat}}
98
99 \AfterEndEnvironment{alignat}{\LWR@amsmathenv@after{alignat}}

```

Env alignat\*

```

100 \BeforeBeginEnvironment{alignat*}{\LWR@amsmathenv@before*{alignat*}}
101
102 \AfterEndEnvironment{alignat*}{\LWR@amsmathenv@after*{alignat*}}

```

```

103 \AtBeginEnvironment{subequations}{
104 \renewcommand*\theMathJaxsubequations{1}
105 \renewcommand*\theMathJaxsection{\theparentequation}
106 \renewcommand*\theMathJaxequation{\arabic{equation}}
107 }

```

For MATHJAX:

```

108 \begin{warpMathJax}
109 \CustomizeMathJax{\newcommand{\intertext}[1]{\text{\#1}\notag \\\}}
110 \CustomizeMathJax{\let\Hat\hat}
111 \CustomizeMathJax{\let\Check\check}
112 \CustomizeMathJax{\let\Tilde\tilde}
113 \CustomizeMathJax{\let\Acute\acute}
114 \CustomizeMathJax{\let\Grave\grave}
115 \CustomizeMathJax{\let\Dot\dot}
116 \CustomizeMathJax{\let\Ddot\ddot}
117 \CustomizeMathJax{\let\Breve\breve}

```



---

```

118 \CustomizeMathJax{\let\Bar\bar}
119 \CustomizeMathJax{\let\Vec\vec}
120 \end{warpMathJax}

```

---

File 22 **lwarp-amsthm.sty**

## § 129 Package **amsthm**

(Emulates or patches code by PUBLICATIONS TECHNICAL GROUP — AMERICAN MATHEMATICAL SOCIETY.)

The original source code is located in `amscldx.dtx`, and printed in `amscldx.pdf`.

Pkg amsthm **amsthm** is patched for use by **lwarp**.

---

Table 17: **amsthm** package — css styling of theorems and proofs

---

**Theorem:** `<div>` of class `amsthmbody<theoremstyle>`

**Theorem Name:** `<span>` of class `amsthmname<theoremstyle>`

**Theorem Number:** `<span>` of class `amsthmnumber<theoremstyle>`

**Theorem Note:** `<span>` of class `amsthmnote<theoremstyle>`

**Proof:** `<div>` of class `amsthmproof`

**Proof Name:** `<span>` of class `amsthmproofname`

where `<theoremstyle>` is `plain`, `definition`, etc.

---

for HTML output: **amsthm** must be loaded before **mdframed**:

```

1 \@ifpackageloaded{mdframed}{
2 \PackageError{lwarp}
3 {%
4 Package mdframed must be loaded after package amsthm.\MessageBreak
5 Enter 'H' for solutions%
6 }
7 {%
8 Move ‘‘\protect\usepackage{amsthm}’’ before
9 ‘‘\protect\usepackage{mdframed}’’.\MessageBreak
10 Package amsthm may be loaded by something else,\MessageBreak
11 which must also be moved before mdframed.%
12 }
13 }
14 {\relax}

```

Necessary for `\text`, used by `\openbox`, etc., below:

```

15 \RequirePackage{amsmath}

16 \LWR@ProvidesPackagePass{amsthm}[2017/10/31]

```

Storage for the style being used for new theorems:

```
17 \newcommand{\LWR@newtheoremstyle}{plain}
```

Patched to remember the style being used for new theorems:

```
18 \renewcommand{\theoremstyle}[1]{%
19 \ifundefined{th@#1}{%
20 \PackageWarning{amsthm}{Unknown theoremstyle ‘#1’}%
21 \thm@style{plain}%
22 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
23 }{%
24 \thm@style{#1}%
25 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
26 }%
27 }
```

Patched to remember the style for this theorem type:

```
28 \def\@xnthm#1#2{%
29 \csedef{LWR@thmstyle#2}{\LWR@newtheoremstyle}% lwarp
30 \let\@tempa\relax
31 \@xp\@ifdefinable\csname #2\endcsname{%
32 \global\@xp\let\csname end#2\endcsname\@endtheorem
33 \ifx *#1% unnumbered, need to get one more mandatory arg
34 \edef\@tempa##1{%
35 \gdef\@xp\@nx\csname#2\endcsname{%
36 \@nx\@thm{\@xp\@nx\csname th@\the\thm@style\endcsname}%
37 {}{##1}}}%
38 \else % numbered theorem, need to check for optional arg
39 \def\@tempa{\@oparg{\@ynthm{#2}}{}}%
40 \fi
41 \AtBeginEnvironment{#2}{%
42 \edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#2}}%
43 }% lwarp
44 }%
45 \@tempa
46 }
```

Patched to enclose with css:

```
47 \newcommand{\LWR@haveamsthmname}{
48 \renewcommand{\thmname}[1]{%
49 \InlineClass{amsthmname\LWR@thisthmstyle}{##1}%
50 }
51 }
52
53 \newcommand{\LWR@haveamsthmnumber}{
54 \renewcommand{\thmnumber}[1]{%
55 \InlineClass{amsthmnumber\LWR@thisthmstyle}{##1}%
56 }
57 }
58
59 \newcommand{\LWR@haveamsthmnote}{
60 \renewcommand{\thmnote}[1]{%
```

```

61 \InlineClass{amsthmnote\LWR@thisthmstyle}{##1}%
62 }
63 }
64
65 \LWR@haveamsthmname
66 \LWR@haveamsthmnumber
67 \LWR@haveamsthmnote

```

Patched for css:

```

68 \def\@begintheorem#1#2[#3]{%

69 \GetTitleString{#3}% lwarp
70 \let\@currentlabelname\GetTitleStringResult% lwarp

71 \item[
72 % \deferred@thm@head{
73 % \the\thm@headfont \thm@indent
74 \@ifempty{#1}{\let\thmname\@gobble}{\LWR@haveamsthmname}% lwarp
75 \@ifempty{#2}{\let\thmnumber\@gobble}{\LWR@haveamsthmnumber}% lwarp
76 \@ifempty{#3}{\let\thmnote\@gobble}{\LWR@haveamsthmnote}% lwarp
77 \thm@swap\swappedhead\thmhead{#1}{#2}{#3}%
78 \the\thm@headpunct~
79 \thmheadnl % possibly a newline.
80 \hskip\thm@headsep
81 % }%
82]
83 \ignorespaces}

```

Patched for css:

```

84 \def\@thm#1#2#3{%
85 \ifhmode\unskip\unskip\par\fi
86 \normalfont
87 \LWR@forcenewpage% lwarp
88 \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
89 \trivlist
90 \let\thmheadnl\relax
91 \let\thm@swap\@gobble
92 \thm@notefont{\fontseries\mddefault\upshape}%
93 \thm@headpunct{.}% add period after heading
94 \thm@headsep 5\p@ plus\p@ minus\p@\relax
95 \thm@space@setup
96 #1% style overrides
97 \@topsep \thm@preskip % used by thm head
98 \@topsepadd \thm@postskip % used by \endparenv
99 \def\@tempa{#2}\ifx\@empty\@tempa
100 \def\@tempa{\@oparg{\@begintheorem{#3}}{}}[]}%
101 \else
102 \refstepcounter{#2}%
103 \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]}%
104 \fi
105 \@tempa
106 }

```

`cleveref` patches `\@thm` to do `\cref@thmoptarg` if an optional argument is given. `lwarp` then patches `\cref@thmoptarg` `\AtBeginDocument`.

```

107 \AtBeginDocument{%
108 \def\cref@thmoptarg[#1]#2#3#4{%
109 \ifhmode\unskip\unskip\par\fi%
110 \normalfont%
111 \LWR@forcenewpage% lwarp
112 \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
113 \trivlist%
114 \let\thmheadnl\relax%
115 \let\thm@swap\@gobble%
116 \thm@notefont{\fontseries\mddefault\upshape}%
117 \thm@headpunct{.}% add period after heading
118 \thm@headsep 5\p@ plus\p@ minus\p@\relax%
119 \thm@space@setup%
120 #2% style overrides
121 \@topsep \thm@preskip % used by thm head
122 \@topsepadd \thm@postskip % used by \@endparenv
123 \def\@tempa{#3}\ifx\@empty\@tempa%
124 \def\@tempa{\@oparg{\@begintheorem{#4}}{}}[%
125 \else%
126 \refstepcounter[#1]{#3}% <<< cleveref modification
127 \def\@tempa{\@oparg{\@begintheorem{#4}{\cename the#3\endcsname}}[%
128 \fi%
129 \@tempa
130 }%
131 }% \AtBeginDocument
132
133 \def\@endtheorem{\endtrivlist\endBlockClass\@endefalse }
```

Proof QED symbol:

```

134 \AtBeginDocument{
135 \ifundefined{LWR@orig@openbox}{
136 \LetLtxMacro\LWR@orig@openbox\openbox
137 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
138 \LetLtxMacro\LWR@orig@Box\Box
139
140 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
141 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
142 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
143
144 \appto\LWR@restoreorigformatting{%
145 \LetLtxMacro\openbox\LWR@orig@openbox%
146 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
147 \LetLtxMacro\Box\LWR@orig@Box%
148 }% \appto
149 }{}% \ifundefined
150 }% \AtBeginDocument
```

Patched for css:

```

151 \renewenvironment{proof}[1][\proofname]{\par
152 \LWR@forcenewpage% lwarp
```

---

```

153 \BlockClass{amsthmproof}% lwarp
154 \pushQED{\qed}%
155 \normalfont \topsep6\p@\@plus6\p@\relax
156 \trivlist
157 \item[
158 \InlineClass{amsthmproofname}{#1\@addpunct{.}}]\ignorespaces% changes
159]{%
160 \InlineClass{theoremendmark}{\popQED}\endtrivlist%
161 \endBlockClass% lwarp
162 \@endpefalse
163 }
```

---

### File 23 **lwarp-anonchap.sty**

## § 130 Package **anonchap**

(Emulates or patches code by PETER WILSON.)

Pkg anonchap anonchap is emulated.

Pkg tocloft If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.



**tocloft & other packages**

The code is shared by tocbibind.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{anonchap}[2009/08/03]

2 \newcommand{\simplechapter}[1][\@empty]{%
3 \def\@chapcntformat##1{%
4 #1~\csname the##1\endcsname\simplechapterdelim\quad%
5 }%
6 }
7
8 \newcommand{\restorechapter}{%
9 \let\@chapcntformat\@seccntformat%
10 }
```

---

### File 24 **lwarp-anysize.sty**

## § 131 Package **anysize**

(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)

Pkg anysize anysize is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{anysize}[1994/08/13]

2 \def\papersize#1#2{}
3 \def\marginsize#1#2#3#4{}
```

---

File 25 **lwarp-appendix.sty**

§ 132      Package **appendix**

*(Emulates or patches code by PETER WILSON.)*

Pkg    appendix    **appendix** is patched for use by **lwarp**.

 **incorrect toc link** During HTML conversion, the option `toc` without the option `page` results in a toc link to whichever section was before the `appendices` environment. It is recommended to use both `toc` and also `page` at the same time.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{appendix}[2009/09/02]

2 \renewcommand*{\@chap@pppage}{%
3 \part*{\appendixpagename}
4 \if@dotoc@pp
5 \addappheadtotoc
6 \fi
7 }
8
9 \renewcommand*{\@sec@pppage}{%
10 \part*{\appendixpagename}
11 \if@dotoc@pp
12 \addappheadtotoc
13 \fi
14 }
```

---

File 26 **lwarp-ar.sty**

§ 133      Package **ar**

*(Emulates or patches code by AGOSTINO DE MARCO.)*

Pkg    ar          **ar** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{ar}[2012/01/23]
```

Measure and print the width of the supplied glyph.

```

2 \newlength{\LWR@ar@width}
3
4 \newcommand*{\LWR@ar@printwidth}[1]{%
5 \setlength{\LWR@ar@width}{\widthof{#1}}%
6 width:%
7 \LWR@convertto{em}{\the\LWR@ar@width}em%
8 }
```

The HTML version of \AR:

```
9 \newrobustcmd*{\LWR@HTML@AR}{%
```

Start a hashed lateximage, additionally hashed by the font series, with a width depending on the given glyph:

```
10 \begin{lateximage}*[AR][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@AR}]%
```

For text mode, set the font series according to the HTML font series:

```
11 \ifmmode\else\csuse{\LWR@orig\LWR@f@series series}\fi%
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```
13 \end{lateximage}%
```

```
14 }
```

Combine the print and HTML versions:

```
15 \LWR@formatted{AR}
```

```
16 \newrobustcmd*{\LWR@HTML@ARb}{%
```

```
17 \begin{lateximage}*[AR][b][\LWR@ar@printwidth{\LWR@print@ARb}]%
```

```
18 \LWR@print@ARb%
```

```
19 \end{lateximage}%
```

```
20 }
```

```
21 \LWR@formatted{ARb}
```

```
22 \newrobustcmd*{\LWR@HTML@ARss}{%
```

```
23 \begin{lateximage}*[ARss][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@ARss}]%
```

```
24 \ifmmode\else\csuse{\LWR@orig\LWR@f@series series}\fi%
```

```
25 \LWR@print@ARss%
```

```
26 \end{lateximage}%
```

```
27 }
```

```
28 \LWR@formatted{ARss}
```

```
29 \newrobustcmd*{\LWR@HTML@ARssb}{%
```

```
30 \begin{lateximage}*[AR][ssb][\LWR@ar@printwidth{\LWR@print@ARssb}]%
```

```
31 \LWR@print@ARssb%
```

```
32 \end{lateximage}%
```

```
33 }
```

```
34 \LWR@formatted{ARssb}
```

```
35 \newrobustcmd*{\LWR@HTML@ARtt}{%
```

```
36 \begin{lateximage}*[AR][tt][\LWR@ar@printwidth{\LWR@print@ARtt}]%
```

```
37 \LWR@print@ARtt%
```

```
38 \end{lateximage}%
```

```
39 }
```

```
40 \LWR@formatted{ARtt}
```

For MATHJAX:

```
41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\AR}{\mathit{A\!\!R}}}
43 \CustomizeMathJax{\newcommand{\ARb}{\boldsymbol{A\!\!R}}}
44 \end{warpMathJax}
```

---

File 27 **lwarp-arabicfront.sty**

§ 134     Package **arabicfront**

Pkg    arabicfront    arabicfront is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

---

File 28 **lwarp-array.sty**

§ 135     Package **array**

Pkg    array    array is used as-is for print output, and emulated for HTML.

plarray and plectarray do not affect \firsthline or \lasthline, and so are not affected by the following.

**for HTML output:**    Remove the default nullfied macros:

```
1 \let\firsthline\relax
2 \let\lasthline\relax
3
4 \LWR@ProvidesPackagePass{array}[2018/12/30]

5 \newcommand*{\LWR@HTML@firsthline}{\LWR@HTMLhline}%
6 \LWR@expandableformatted{firsthline}
7
8 \newcommand*{\LWR@HTML@lasthline}{\LWR@HTMLhline}%
9 \LWR@expandableformatted{lasthline}

10 \providecommand*{\LWR@HTML@tabularnewline}{\LWR@tabularendofline}
11 \LWR@formatted{tabularnewline}
```

For MATHJAX:

```
12 \CustomizeMathJax{
13 \newcommand{\multicolumn}[3]{#3}% only uses one cell
14 }
```

---

File 29 **lwarp-arydshln.sty**



## § 136 Package **arydshln**

(Emulates or patches code by HIROSHI NAKASHIMA.)

**Pkg** `arydshln` **arydshln** heavily patches tabular code, so the actual package is not used. `arydshln` is emulated for HTML tabular, and reverts to solid rules for SVG math array and tabular in a `lateximage`.

css is not able to display a double-dashed border, so a single-dashed rule is displayed as a single-dashed border, and a double-dashed rule is displayed as a thicker single-dashed border.

For MATHJAX, limited emulation is provided for math mode.

**for HTML output:** `array` is required to allow `\newcolumn` below.

```
1 \RequirePackage{array}

2 \LWR@ProvidesPackageDrop{arydshln}[2018/09/26]
```

Ignored, but included for source compatibility:

```
3 \newdimen\dashlinedash \dashlinedash4pt %
4 \newdimen\dashlinegap \dashlinegap4pt %
5 \let\hdashlinedash\dashlinedash
6 \let\hdashlinegap\dashlinegap
7
8 \def\ADLnullwide{}
9 \def\ADLsomewide{}
10 \def\ADLnullwidehline{}
11 \def\ADLsomewidehline{}
12
13 \def\ADLactivate{}
14 \def\ADLinactivate{}
15 \newcommand*\ADLdrawingmode[1]{}
16 \newcommand*\ADLnoshorthand{}
17 \newcommand*\dashgapcolor[2][{}]{
18 \newcommand*\nodashgapcolor{}}
```

In a `lateximage`, revert to solid vertical rules:

```
19 \appto\LWR@restoreorigformatting{%
20 \newcolumnntype{:}{|}%
21 \newcolumnntype{;}[1]{|}%
22 \LetLtxMacro\hdashline\hline%
23 }
```

Some of these macros are already defined as temporary placeholders in the `lwarp` core, so they must be redefined here.

The emulated defaults also work for an emulated print mode inside a `lateximage`:

```
24 \def\hdashline{
25 % \adl@hdashline\adl@ihdashline
26 \adl@hdashline\adl@inactivehdl}
```

```

27 }
28 \def\adl@hdashline#1{\noalign{\ifnum0='}\fi
29 % \ifadl@zwhrule \vskip-\arrayrulewidth
30 % \else
31 % \adl@hline\adl@connect\arrayrulewidth
32 % \hrule \@height \arrayrulewidth% lwarp
33 % \fi
34 % \ifnextchar[%
35 % {#1}%
36 % {#1[%
37 % \dashlinedash/\dashlinegap
38 % 1pt/1pt
39 %]}}
40 \def\adl@ihdashline[#1/#2]{\ifnum0='{ \fi}%
41 % \multispan{\adl@columns}\unskip \adl@hline\z@[#1/#2]%
42 % \noalign{\ifnum0='}\fi
43 % \futurelet\@tempa\adl@xhline}
44 \def\adl@inactivehdl[#1/#2]{
45 % \ifadl@zwhrule \vskip-\arrayrulewidth \fi
46 % \hrule \@height\arrayrulewidth
47 % \futurelet\@tempa\adl@xhline}
48 \def\adl@xhline{\ifx\@tempa\hline \adl@ixhline\fi
49 \ifx\@tempa\hdashline \adl@ixhline\fi
50 \ifnum0='{ \fi}}
51 \def\adl@ixhline{\vskip\doublerulesep \adl@hline\relax\doublerulesep}
52 \def\adl@hline#1#2{%
53 % \@tempcnta#2
54 % \global\advance\adl@totalheight\@tempcnta
55 % \xdef\adl@rowsL{\adl@rowsL
56 % (#1/\number\@tempcnta);}
57 % \xdef\adl@rowsR{\adl@rowsR
58 % (#1/\number\@tempcnta);}
59 }
60
61 \def\cdashline#1{\noalign{\ifnum0='}\fi
62 % \ifnextchar[%
63 % {\adl@cdline[#1]]%
64 % {\adl@cdline[#1][\dashlinedash/\dashlinegap]}
65 % {\adl@inactivecdl[#1]]%
66 % {\adl@inactivecdl[#1][\dashlinedash/\dashlinegap]}
67 }
68
69 \def\adl@inactivecdl[#1-#2][#3]{\ifnum0='{ \fi}\cline{#1-#2}}

70 \begin{warpMathJax}
71 \CustomizeMathJax{\newcommand{\firsthdashline}[1][\hdashline]}
72 \CustomizeMathJax{\let\lasthdashline\firsthdashline}
73 \CustomizeMathJax{\let\cdashline\cline}
74 \end{warpMathJax}

```

## § 137 Package **asymptote**

(Emulates or patches code by ANDY HAMMERLINDL, JOHN BOWMAN, TOM PRINCE.)

Pkg asymptote **asymptote** is patched for use by **lwarp**.

To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex
```

```
lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1
```

```
lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

for HTML output:

```
1 \LWR@ProvidesPackagePass{asymptote}[2016/11/26]
2 \BeforeBeginEnvironment{asy}{%
3 \begin{lateximage}[-asymptote~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{asy}{\end{lateximage}}
6
7 \xpatchcmd{\asyinclude}
8 {\begingroup}
9 {\begin{lateximage}[-asymptote~\PackageDiagramAltText]}
10 {}
11 {\LWR@patcherror{asymptote}{asyinclude-begingroup}}
12
13 \xpatchcmd{\asyinclude}
14 {\endgroup}
15 {\end{lateximage}}
16 {}
17 {\LWR@patcherror{asymptote}{asyinclude-endgroup}}
```

---

File 31 **lwarp-atbegshi.sty**

## § 138 Package **atbegshi**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg atbegshi **atbegshi** is ignored.

for HTML output: Discard all options for **lwarp-atbegshi**:

```
1 \LWR@ProvidesPackageDrop{atbegshi}[2011/10/05]
```

---

```

2 \let\AtBeginShipout\relax
3 \let\AtBeginShipoutNext\relax
4 \let\AtBeginShipoutFirst\relax
5 \let\AtBeginShipoutDiscard\relax
6 \let\AtBeginShipoutInit\relax
7 \let\AtBeginShipoutAddToBox\relax
8 \let\AtBeginShipoutAddToBoxForeground\relax
9 \let\AtBeginShipoutUpperLeft\relax
10 \let\AtBeginShipoutUpperLeftForeground\relax
11 \let\AtBeginShipoutOriginalShipout\relax
12
13 \newcommand*\AtBeginShipout}[1]{}
14 \newbox\AtBeginShipoutBox
15 \newcommand*\AtBeginShipoutNext}[1]{}
16 \newcommand*\AtBeginShipoutFirst}[1]{}
17 \newcommand*\AtBeginShipoutDiscard[1]{}
18 \newcommand*\AtBeginShipoutInit[1]{}
19 \newcommand*\AtBeginShipoutAddToBox[1]{}
20 \newcommand*\AtBeginShipoutAddToBoxForeground[1]{}
21 \newcommand*\AtBeginShipoutUpperLeft[1]{}
22 \newcommand*\AtBeginShipoutUpperLeftForeground[1]{}
23 \newcommand*\AtBeginShipoutOriginalShipout[1]{}
24 \def\AtBeginShipoutBoxWidth{0pt}
25 \def\AtBeginShipoutBoxHeight{0pt}
26 \def\AtBeginShipoutBoxDepth{0pt}

```

---

File 32 **lwarp-attachfile.sty**§ 139 Package **attachfile***(Emulates or patches code by SCOTT PAKIN.)*Pkg attachfile **attachfile** is patched for use by lwarp.

Metadata is ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackagePass{attachfile}[2016/09/18]

Encloses each icon:

```

2 \newenvironment*{LWR@attachfile@icon}
3 {
4 \begin{lateximage}*%
5 [-attachfile-]%
6 [%
7 \detokenize\expandafter{\atfi@icon@icon}~%
8 \detokenize\expandafter{\atfi@color@rgb}%
9]%
10 }
11 {
12 \end{lateximage}
13 }

```

Each icon is enclosed inside a `LWR@attachfile@icon` environment:

```

14 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
15 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
16
17 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
18 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
19
20 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
21 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
22
23 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
24 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```

25 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an `\attachfile` reference:

```

26 \newcommand*{\LWR@attachfile@appearance}{}
27
28 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
29 \def\LWR@attachfile@appearance{#1}%
30 }

```

A file annotation becomes a reference:

```

31 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
32 \LWR@href{#1}{\LWR@attachfile@appearance}%
33 }

```

---

### File 33 **lwarp-attachfile2.sty**

§ 140

Package

## **attachfile2**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg attachfile2

**attachfile2** is patched for use by **lwarp**.



Metadata is ignored for now.

for HTML output:

```

1 \LWR@ProvidesPackagePass{attachfile2}[2016/05/16]

```

Adds memory of the selected color:

```

2 \def\LWR@attachfiletwo@color{}%
3
4 \define@key{AtFi}{color}{%
5 \def\LWR@attachfiletwo@color{#1}% lwarp
6 \HyColor@AttachfileColor{#1}%
7 \atfi@color@tex\atfi@color@inline\atfi@color@annot
8 {attachfile2}{color}%

```

9 }

Encloses each icon:

```

10 \newenvironment*{LWR@attachfile@icon}
11 {
12 \begin{lateximage}*%
13 [-attachfile-]%
14 [%
15 \detokenize\expandafter{\atfi@icon@icon}~%
16 \detokenize\expandafter{\LWR@attachfiletwo@color}%
17]%
18 }
19 {
20 \end{lateximage}
21 }
```

Each icon is enclosed inside a LWR@attachfile@icon environment:

```

22 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
23 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
24
25 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
26 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
27
28 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
29 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
30
31 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
32 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```

33 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an \attachfile reference:

```

34 \newcommand*{\LWR@attachfile@appearance}{}
35
36 \def\atfi@set@appearance@icon{%
37 \atfi@set@appearance{\csname atfi@acro\atfi@icon@icon\endcsname}%
38 }
39
40 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
41 \def\LWR@attachfile@appearance{#1}%
42 }

```

A file annotation becomes a reference:

```

43 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
44 \LWR@href{#1}{\LWR@attachfile@appearance}%
45 }

```

Modified for text color:

```

46 \DeclareRobustCommand{\notextattachfile}[2][\]{%
47 \begingroup
48 \atfi@setup{#1}%
49 \ifatfi@print
50 \leavevmode
51 \begingroup
52 \HyColor@UseColor\atfi@color@tex
53 \LWR@textcurrentcolor{#2}% lwarp
54 % \strut
55 \endgroup
56 % \else
57 % \sbox\ltx@zero{#2\strut}%
58 % \makebox[\wd0]{}%
59 \fi
60 \endgroup
61 }

```

Modified to draw the icon:

```

62 \DeclareRobustCommand{\noattachfile}[1][\]{%
63 \begingroup
64 \atfi@setup{#1}%
65 \atfi@set@appearance@icon
66 \ifatfi@print
67 \LWR@attachfile@appearance% lwarp
68 % \expandafter
69 % \atfi@refxform\csname atfi@appobj@atfi@icon@icon\endcsname
70 % \else
71 % \makebox[\atfi@appearancewidth]{}%
72 \fi
73 \endgroup
74 }

```

---

File 34 **lwarp-authblk.sty**

§ 141 Package **authblk**

(Emulates or patches code by PATRICK W. DALY.)

Pkg authblk **authblk** is patched for HTML.

**package support** **lwarp** supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages **authblk** and **titling**. If both are used, **authblk** should be loaded before **titling**.



**load order**

**\published and \subtitle** If using the **titling** package, additional titlepage fields for **\published** and **\subtitle** may be added by using **\AddSubtitlePublished** in the preamble. See section 68.8.

(Emulates or patches code by PATRICK W. DALY.)

**for HTML output:** Require that **authblk** be loaded before **titling**:

```

1 \@ifpackageloaded{titling}{
2 \PackageError{lwarp-authblk}
3 {Package authblk must be loaded before titling}

```

```

4 {%
5 Titling appends authblk's author macro,
6 so authblk must be loaded first.%
7 }
8 }
9 {\relax}

```

Load authblk:

```
10 \LWR@ProvidesPackagePass{authblk}[2001/02/27]
```

Patch to add a class for the affiliation:

```

11 \LetLtxMacro\LWRAB@affil\affil
12
13 \renewcommand{\affil}[2][{}]{%
14 \LWRAB@affil[#1]{\protect\InlineClass{affiliation}{#2}}
15 }

```

Create an HTML break for an \authorcr:

```
16 \renewcommand*{\authorcr}{\protect\LWR@newlinebr}
```

---

File 35 **lwarp-autobreak.sty**

## § 142 Package **autobreak**

(Emulates or patches code by TAKAHIRO UEDA.)

Pkg autobreak **autobreak** is used as-is for svg math, and nullified for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{autobreak}[2017/02/23]

For MATHJAX. The modified align environment is used for svg math, but is reverted to its original for MATHJAX. (Extraneous commas were appearing in the result.)

```

2 \begin{warpMathJax}
3 \renewenvironment{autobreak}{\newcommand{\MoveEqLeft}[1]{}{}}
4 \let\start@align\@autobreak@oldstart@align
5 \let\endalign\@autobreak@oldendalign
6 \CustomizeMathJax{\newenvironment{autobreak}{}{}}
7 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1]{}{}}
8 \CustomizeMathJax{\newcommand{\everybeforeautobreak}[1]{}{}}
9 \CustomizeMathJax{\newcommand{\everyafterautobreak}[1]{}{}}
10 \end{warpMathJax}

```

---

File 36 **lwarp-autonum.sty**

## § 143 Package **autonum**

Pkg autonum **autonum** is ignored.



 **numbering** All equations are numbered in HTML output.

MATHJAX does not support the “+” environments.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{autonum}[2015/01/18]
2 \RequirePackage{amsmath}
3
4
5 \newenvironment{equation+}{\equation}{\endequation}
6
7
8 \newenvironment{gather+}{\gather}{\endgather}
9
10 \BeforeBeginEnvironment{gather+}{\LWR@amsmathenv@@before{gather+}}
11
12 \AfterEndEnvironment{gather+}{\LWR@amsmathenv@@after}
13
14
15 \newenvironment{multline+}{\multline}{\endmultline}
16
17 \BeforeBeginEnvironment{multline+}{\LWR@amsmathenv@@before{multline+}}
18
19 \AfterEndEnvironment{multline+}{\LWR@amsmathenv@@after}
20
21
22 \newenvironment{flalign+}{\flalign}{\endflalign}
23
24 \BeforeBeginEnvironment{flalign+}{\LWR@amsmathenv@@before{flalign+}}
25
26 \AfterEndEnvironment{flalign+}{\LWR@amsmathenv@@after}
27
28
29 \newenvironment{align+}{\align}{\endalign}
30
31 \BeforeBeginEnvironment{align+}{\LWR@amsmathenv@@before{align+}}
32
33 \AfterEndEnvironment{align+}{\LWR@amsmathenv@@after}
34
35
36 \newenvironment{alignat+}{\alignat}{\endalignat}
37
38 \BeforeBeginEnvironment{alignat+}{\LWR@amsmathenv@@before{alignat+}}
39
40 \AfterEndEnvironment{alignat+}{\LWR@amsmathenv@@after}
41
42
43 \newenvironment{split+}{\split}{\endsplit}

```

---

File 37 **lwarp-awesomebox.sty**

§ 144 Package **awesomebox**

(Emulates or patches code by ÉTIENNE DEPARIS.)

Pkg awesomebox awesomebox is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{awesomebox}[2019/07/27]

2 \newcommand*{\LWR@awesomebox@boxborders}{}%
3 \newcommand*{\LWR@awesomebox@contentsborders}{}%
4
5 \newcommand*{\LWR@awesomebox@ruleborders}{}%
6 border-top: 1px solid black ;
7 border-bottom: 1px solid black%
8 }
9
10 % \awesomebox[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}{7:content}
11 \RenewDocumentCommand \awesomebox { 0{abvrulecolor} 0{ } o m m m +m }{%
12 \begin{awesomeblock}[#1][#2][#3]{#4}{#5}{#6}
13 #7
14 \end{awesomeblock}
15 }
16
17 % \begin{awesomeblock}[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}
18 % <contents>
19 % \end{awesomeblock}
20 \RenewDocumentEnvironment{awesomeblock}{ 0{abvrulecolor} 0{ } o m m m }
21 {%
22 \LWR@forceminwidth{#4}%
23 \convertcolorspec{named}{#1}{HTML}\LWR@tempcolor%
24 \renewcommand*{\LWR@awesomebox@boxborders}{}%
25 \renewcommand*{\LWR@awesomebox@contentsborders}{}%
26 \ifdefstrequal{\abShortLine}{#2}{%
27 \renewcommand*{\LWR@awesomebox@contentsborders}{\LWR@awesomebox@ruleborders}%
28 }{}%
29 \ifdefstrequal{\abLongLine}{#2}{%
30 \renewcommand*{\LWR@awesomebox@boxborders}{\LWR@awesomebox@ruleborders}%
31 }{}%
32 \begin{BlockClass}[\LWR@awesomebox@boxborders]{awesomebox}
33 \begin{BlockClass}[%
34 margin-left: 2\% ;
35 vertical-align: top
36]{minipage}
37 \color{#6}\Huge #5
38 \end{BlockClass}
39 \begin{BlockClass}[%
40 width:75\% ;
41 vertical-align: top ;
42 padding-left: 1em ;
43 \LWR@awesomebox@contentsborders ;
44 border-left: \LWR@printlength{\LWR@atleastonept} %
45 solid \LWR@origpound\LWR@tempcolor%
46]{minipage}
47 \IfValueTF{#3}{#3\newline}{}
48 }
49 {%
50 \end{BlockClass}
51 \end{BlockClass}
52 }

```

---

File 38 **lwarp-axessibility.sty**

§ 145     Package **axessibility**

Pkg    axessibility    axessibility is ignored.

**for HTML output:**

```

1 \PackageInfo{lwarp}{Using the lwarp version of package 'axessibility'.}%
2 \ProvidesPackage{lwarp-axessibility}% no date is declared by the original
3
4 \newif\iftagpdfopt
5
6 \DeclareOption{accsupp}{
7 \tagpdfoptfalse
8 }
9
10 \DeclareOption{tagpdf}{
11 \tagpdfopttrue
12 }
13
14 \ProcessOptions\relax
15
16 \iftagpdfopt
17 \RequirePackage{tagpdf}
18 \else
19 \RequirePackage{accsupp}
20 \fi

21 \long\def\wrap#1{}
22 \long\def\wrapml#1{}
23 \long\def\wrapmlstar#1{}
24 \long\def\wrapmlalt#1{}

```

For MATHJAX. These usually will not be needed.

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\wrap}[1]{} }
27 \CustomizeMathJax{\newcommand{\wrapml}[1]{} }
28 \CustomizeMathJax{\newcommand{\wrapmlstar}[1]{} }
29 \CustomizeMathJax{\newcommand{\wrapmlalt}[1]{} }
30 \end{warpMathJax}

```

---

File 39 **lwarp-axodraw2.sty**

§ 146     Package **axodraw2**

*(Emulates or patches code by JOHN C. COLLINS, J.A.M. VERMASEREN.)*

Pkg    axodraw2    axodraw2 is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{axodraw2}[2018/02/15]

2 \BeforeBeginEnvironment{axopicture}{%
3 \begin{lateximage}[-axopicture--\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{axopicture}{\end{lateximage}}
```

---

File 40 **lwarp-backnaur.sty**

## § 147 Package **backnaur**

(Emulates or patches code by ADRIAN P. ROBSON.)

Pkg backnaur **backnaur** is patched for use by **lwarp**, and emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{backnaur}[2019/06/18]

2 \renewenvironment{bnf}{\eqnarray}{\endeqnarray}
3 \renewenvironment{bnf*}{\csuse{eqnarray*}}{\csuse{endeqnarray*}}
```

For MATHJAX:

```

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\bnfpn}[1]{\langle \text{\texttrm{#1}} \rangle}}
6 \CustomizeMathJax{\newcommand{\bnfor}{\; \mid \;}}
7 \CustomizeMathJax{\newcommand{\bnfsp}{\;}}
8 \@ifpackagewith{backnaur}{perp}{
9 \CustomizeMathJax{\newcommand{\bnfes}{\perp}}
10 }{
11 \@ifpackagewith{backnaur}{epsilon}{
12 \CustomizeMathJax{\newcommand{\bnfes}{\epsilon}}
13 }{
14 \CustomizeMathJax{\newcommand{\bnfes}{\lambda}}
15 }
16 }
17 \@ifpackagewith{backnaur}{tsrm}{
18 \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{#1}}}
19 }{
20 \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{\texttt{#1}}}}
21 }
22 \CustomizeMathJax{\newcommand{\bnftd}[1]{\text{\textit{#1}}}}
23 \CustomizeMathJax{\newcommand{\bnfsk}{\dots}}
24 \@ifpackagewith{backnaur}{altpo}{
25 \CustomizeMathJax{\newcommand{\bnfpo}{:=}}
26 }{
27 \CustomizeMathJax{\newcommand{\bnfpo}{\models}}
28 }
29 \CustomizeMathJax{\newcommand{\bnfprod}{\ifstar{\LWRbnfprodnn}{\LWRbnfprodyn}}}
30 \CustomizeMathJax{\newcommand{\LWRbnfprodyn}[2]{\bnfpn{#1} & \bnfpo & #2}}
31 \CustomizeMathJax{\newcommand{\LWRbnfprodnn}[2]{\nonumber \bnfpn{#1} & \bnfpo & #2}}
32 \CustomizeMathJax{\newcommand{\bnfmore}{\ifstar{\LWRbnfmorenn}{\LWRbnfmoreyn}}}
```

---

```

33 \CustomizeMathJax{\newcommand{\LWRbfnmoreyn}[1]{ & & #1}}
34 \CustomizeMathJax{\newcommand{\LWRbfnmorenn}[1]{\nonumber & & #1}}
35 \end{warpMathJax}

```

---

File 41 **lwarp-backref.sty**

§ 148      Package **backref**

*(Emulates or patches code by DAVID CARLISLE AND SEBASTIAN RAHTZ.)*

Pkg    backref    **backref** is patched for use by **lwarp**.

 **loading**    Note that **backref** must be explicitly loaded, and is not automatically loaded by **hyperref** when generating HTML output.

**for HTML output:**    1 \LWR@ProvidesPackagePass{backref}[2016/05/21]

Force the hyperref option:

```

2 \def\backref{}
3
4 \long\def\hyper@section@backref#1#2#3{%
5 \ref{#3}%
6 }
7
8 \let\backrefxxx\hyper@section@backref

```

---

File 42 **lwarp-balance.sty**

§ 149      Package **balance**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg    balance    **balance** is ignored.

**for HTML output:**    Discard all options for **lwarp-balance**:

```

1 \LWR@ProvidesPackageDrop{balance}[1999/02/23]

2 \newcommand*{\balance}{}
3 \newcommand*{\nobalance}{}

```

---

File 43 **lwarp-bbding.sty**

§ 150      Package **bbding**

*(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)*

Pkg    bbding    **bbding** is patched for use by **lwarp**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{bbding}[1999/04/15]

2 \newcommand*{\LWR@bbdingsymbol}[2]{\HTMLunicode{#2}}
3
4 \newcommand{\LWR@HTML@ScissorRightBrokenBottom}{\LWR@bbdingsymbol{000}} {2701}}
5 \newcommand{\LWR@HTML@ScissorRight}{\LWR@bbdingsymbol{001}} {2702}}
6 \newcommand{\LWR@HTML@ScissorRightBrokenTop}{\LWR@bbdingsymbol{002}} {2703}}
7 \newcommand{\LWR@HTML@ScissorLeftBrokenBottom}{\LWR@bbdingsymbol{003}} {2701}}
8 \newcommand{\LWR@HTML@ScissorLeft}{\LWR@bbdingsymbol{004}} {2702}}
9 \newcommand{\LWR@HTML@ScissorLeftBrokenTop}{\LWR@bbdingsymbol{005}} {2703}}
10 \newcommand{\LWR@HTML@ScissorHollowRight}{\LWR@bbdingsymbol{006}} {2704}}
11 \newcommand{\LWR@HTML@ScissorHollowLeft}{\LWR@bbdingsymbol{007}} {2704}}
12 \newcommand{\LWR@HTML@Phone}{\LWR@bbdingsymbol{010}} {260E}}
13 \newcommand{\LWR@HTML@PhoneHandset}{\LWR@bbdingsymbol{011}} {2706}}
14 \newcommand{\LWR@HTML@Tape}{\LWR@bbdingsymbol{012}} {2707}}
15 \newcommand{\LWR@HTML@Plane}{\LWR@bbdingsymbol{013}} {2708}}
16 \newcommand{\LWR@HTML@Envelope}{\LWR@bbdingsymbol{014}} {2709}}
17 \newcommand{\LWR@HTML@HandCuffRight}{\LWR@bbdingsymbol{015}} {261B}}
18 \newcommand{\LWR@HTML@HandCuffLeft}{\LWR@bbdingsymbol{016}} {261A}}
19 \newcommand{\LWR@HTML@HandCuffRightUp}{\LWR@bbdingsymbol{017}} {261D}}
20 \newcommand{\LWR@HTML@HandCuffLeftUp}{\LWR@bbdingsymbol{020}} {261F}}
21 \newcommand{\LWR@HTML@HandRight}{\LWR@bbdingsymbol{021}} {261E}}
22 \newcommand{\LWR@HTML@HandLeft}{\LWR@bbdingsymbol{022}} {261C}}
23 \newcommand{\LWR@HTML@HandRightUp}{\LWR@bbdingsymbol{023}} {261D}}
24 \newcommand{\LWR@HTML@HandLeftUp}{\LWR@bbdingsymbol{024}} {261F}}
25 \newcommand{\LWR@HTML@Peace}{\LWR@bbdingsymbol{025}} {270C}}
26 \newcommand{\LWR@HTML@HandPencilLeft}{\LWR@bbdingsymbol{026}} {270D}}
27 \newcommand{\LWR@HTML@PencilRight}{\LWR@bbdingsymbol{027}} {270F}}
28 \newcommand{\LWR@HTML@PencilLeft}{\LWR@bbdingsymbol{030}} {270F}}
29 \newcommand{\LWR@HTML@PencilRightUp}{\LWR@bbdingsymbol{031}} {2710}}
30 \newcommand{\LWR@HTML@PencilLeftUp}{\LWR@bbdingsymbol{032}} {2710}}
31 \newcommand{\LWR@HTML@PencilRightDown}{\LWR@bbdingsymbol{033}} {270E}}
32 \newcommand{\LWR@HTML@PencilLeftDown}{\LWR@bbdingsymbol{034}} {270E}}
33 \newcommand{\LWR@HTML@NibRight}{\LWR@bbdingsymbol{035}} {2711}}
34 \newcommand{\LWR@HTML@NibLeft}{\LWR@bbdingsymbol{036}} {2711}}
35 \newcommand{\LWR@HTML@NibSolidRight}{\LWR@bbdingsymbol{037}} {2712}}
36 \newcommand{\LWR@HTML@NibSolidLeft}{\LWR@bbdingsymbol{040}} {2712}}
37 \newcommand{\LWR@HTML@Checkmark}{\LWR@bbdingsymbol{041}} {2713}}
38 \newcommand{\LWR@HTML@CheckmarkBold}{\LWR@bbdingsymbol{042}} {2714}}
39 \newcommand{\LWR@HTML@XSolid}{\LWR@bbdingsymbol{043}} {2715}}
40 \newcommand{\LWR@HTML@XSolidBold}{\LWR@bbdingsymbol{044}} {2716}}
41 \newcommand{\LWR@HTML@XSolidBrush}{\LWR@bbdingsymbol{045}} {2717}}
42 \newcommand{\LWR@HTML@PlusOutline}{\LWR@bbdingsymbol{046}} {2719}}
43 \newcommand{\LWR@HTML@Plus}{\LWR@bbdingsymbol{047}} {271A}}
44 \newcommand{\LWR@HTML@PlusCenterOpen}{\LWR@bbdingsymbol{050}} {271C}}
45 \newcommand{\LWR@HTML@PlusThinCenterOpen}{\LWR@bbdingsymbol{051}} {271B}}
46 \newcommand{\LWR@HTML@Cross}{\LWR@bbdingsymbol{052}} {271D}}
47 \newcommand{\LWR@HTML@CrossOpenShadow}{\LWR@bbdingsymbol{053}} {271E}}
48 \newcommand{\LWR@HTML@CrossOutline}{\LWR@bbdingsymbol{054}} {271F}}
49 \newcommand{\LWR@HTML@CrossBoldOutline}{\LWR@bbdingsymbol{055}} {271F}}
50 \newcommand{\LWR@HTML@CrossMaltese}{\LWR@bbdingsymbol{056}} {2720}}
51 \newcommand{\LWR@HTML@DavidStarSolid}{\LWR@bbdingsymbol{057}} {2721}}
52 \newcommand{\LWR@HTML@DavidStar}{\LWR@bbdingsymbol{060}} {2721}}
53 \newcommand{\LWR@HTML@FourAsterisk}{\LWR@bbdingsymbol{061}} {2722}}
54 \newcommand{\LWR@HTML@JackStar}{\LWR@bbdingsymbol{062}} {2723}}

```

|     |                                                                          |         |
|-----|--------------------------------------------------------------------------|---------|
| 55  | \newcommand{\LWR@HTML@JackStarBold}{\LWR@bbdingsymbol{063}}              | {2724}} |
| 56  | \newcommand{\LWR@HTML@CrossClowerTips}{\LWR@bbdingsymbol{064}}           | {2725}} |
| 57  | \newcommand{\LWR@HTML@FourStar}{\LWR@bbdingsymbol{065}}                  | {2726}} |
| 58  | \newcommand{\LWR@HTML@FourStarOpen}{\LWR@bbdingsymbol{066}}              | {2727}} |
| 59  | \newcommand{\LWR@HTML@FiveStarLines}{\LWR@bbdingsymbol{067}}             | {2729}} |
| 60  | \newcommand{\LWR@HTML@FiveStar}{\LWR@bbdingsymbol{070}}                  | {2605}} |
| 61  | \newcommand{\LWR@HTML@FiveStarOpen}{\LWR@bbdingsymbol{071}}              | {2729}} |
| 62  | \newcommand{\LWR@HTML@FiveStarOpenCircled}{\LWR@bbdingsymbol{072}}       | {272A}} |
| 63  | \newcommand{\LWR@HTML@FiveStarCenterOpen}{\LWR@bbdingsymbol{073}}        | {272B}} |
| 64  | \newcommand{\LWR@HTML@FiveStarOpenDotted}{\LWR@bbdingsymbol{074}}        | {272C}} |
| 65  | \newcommand{\LWR@HTML@FiveStarOutline}{\LWR@bbdingsymbol{075}}           | {272D}} |
| 66  | \newcommand{\LWR@HTML@FiveStarOutlineHeavy}{\LWR@bbdingsymbol{076}}      | {272E}} |
| 67  | \newcommand{\LWR@HTML@FiveStarConvex}{\LWR@bbdingsymbol{077}}            | {272F}} |
| 68  | \newcommand{\LWR@HTML@FiveStarShadow}{\LWR@bbdingsymbol{100}}            | {2730}} |
| 69  | \newcommand{\LWR@HTML@AsteriskBold}{\LWR@bbdingsymbol{101}}              | {2731}} |
| 70  | \newcommand{\LWR@HTML@AsteriskCenterOpen}{\LWR@bbdingsymbol{102}}        | {2732}} |
| 71  | \newcommand{\LWR@HTML@AsteriskThin}{\LWR@bbdingsymbol{103}}              | {273B}} |
| 72  | \newcommand{\LWR@HTML@AsteriskThinCenterOpen}{\LWR@bbdingsymbol{104}}    | {273C}} |
| 73  | \newcommand{\LWR@HTML@EightStarTaper}{\LWR@bbdingsymbol{105}}            | {2733}} |
| 74  | \newcommand{\LWR@HTML@EightStarConvex}{\LWR@bbdingsymbol{106}}           | {2735}} |
| 75  | \newcommand{\LWR@HTML@SixStar}{\LWR@bbdingsymbol{107}}                   | {2736}} |
| 76  | \newcommand{\LWR@HTML@EightStar}{\LWR@bbdingsymbol{110}}                 | {2737}} |
| 77  | \newcommand{\LWR@HTML@EightStarBold}{\LWR@bbdingsymbol{111}}             | {2738}} |
| 78  | \newcommand{\LWR@HTML@TwelveStar}{\LWR@bbdingsymbol{112}}                | {2739}} |
| 79  | \newcommand{\LWR@HTML@SixteenStarLight}{\LWR@bbdingsymbol{113}}          | {273A}} |
| 80  | \newcommand{\LWR@HTML@SixFlowerPetalRemoved}{\LWR@bbdingsymbol{114}}     | {273B}} |
| 81  | \newcommand{\LWR@HTML@SixFlowerOpenCenter}{\LWR@bbdingsymbol{115}}       | {273C}} |
| 82  | \newcommand{\LWR@HTML@Asterisk}{\LWR@bbdingsymbol{116}}                  | {273D}} |
| 83  | \newcommand{\LWR@HTML@SixFlowerAlternate}{\LWR@bbdingsymbol{117}}        | {273E}} |
| 84  | \newcommand{\LWR@HTML@FiveFlowerPetal}{\LWR@bbdingsymbol{120}}           | {273F}} |
| 85  | \newcommand{\LWR@HTML@SixFlowerPetalDotted}{\LWR@bbdingsymbol{121}}      | {2740}} |
| 86  | \newcommand{\LWR@HTML@FiveFlowerOpen}{\LWR@bbdingsymbol{122}}            | {2740}} |
| 87  | \newcommand{\LWR@HTML@EightFlowerPetal}{\LWR@bbdingsymbol{123}}          | {2741}} |
| 88  | \newcommand{\LWR@HTML@SunshineOpenCircled}{\LWR@bbdingsymbol{124}}       | {2742}} |
| 89  | \newcommand{\LWR@HTML@SixFlowerAltPetal}{\LWR@bbdingsymbol{125}}         | {2743}} |
| 90  | \newcommand{\LWR@HTML@FourClowerOpen}{\LWR@bbdingsymbol{126}}            | {273F}} |
| 91  | \newcommand{\LWR@HTML@FourClowerSolid}{\LWR@bbdingsymbol{127}}           | {273F}} |
| 92  | \newcommand{\LWR@HTML@AsteriskRoundedEnds}{\LWR@bbdingsymbol{130}}       | {2749}} |
| 93  | \newcommand{\LWR@HTML@EightFlowerPetalRemoved}{\LWR@bbdingsymbol{131}}   | {274A}} |
| 94  | \newcommand{\LWR@HTML@EightAsterisk}{\LWR@bbdingsymbol{132}}             | {274B}} |
| 95  | \newcommand{\LWR@HTML@SixFlowerRemovedOpenPetal}{\LWR@bbdingsymbol{133}} | {2740}} |
| 96  | \newcommand{\LWR@HTML@SparkleBold}{\LWR@bbdingsymbol{134}}               | {2748}} |
| 97  | \newcommand{\LWR@HTML@Sparkle}{\LWR@bbdingsymbol{135}}                   | {2747}} |
| 98  | \newcommand{\LWR@HTML@SnowflakeChevron}{\LWR@bbdingsymbol{136}}          | {2744}} |
| 99  | \newcommand{\LWR@HTML@SnowflakeChevronBold}{\LWR@bbdingsymbol{137}}      | {2746}} |
| 100 | \newcommand{\LWR@HTML@Snowflake}{\LWR@bbdingsymbol{140}}                 | {2744}} |
| 101 | \newcommand{\LWR@HTML@CircleSolid}{\LWR@bbdingsymbol{141}}               | {25CF}} |
| 102 | \newcommand{\LWR@HTML@Ellipse}{\LWR@bbdingsymbol{142}}                   | {274D}} |
| 103 | \newcommand{\LWR@HTML@EllipseSolid}{\LWR@bbdingsymbol{143}}              | {25CF}} |
| 104 | \newcommand{\LWR@HTML@CircleShadow}{\LWR@bbdingsymbol{144}}              | {274D}} |
| 105 | \newcommand{\LWR@HTML@EllipseShadow}{\LWR@bbdingsymbol{145}}             | {274D}} |
| 106 | \newcommand{\LWR@HTML@Square}{\LWR@bbdingsymbol{146}}                    | {25A1}} |
| 107 | \newcommand{\LWR@HTML@SquareSolid}{\LWR@bbdingsymbol{147}}               | {25A0}} |
| 108 | \newcommand{\LWR@HTML@SquareShadowBottomRight}{\LWR@bbdingsymbol{150}}   | {2751}} |
| 109 | \newcommand{\LWR@HTML@SquareShadowTopRight}{\LWR@bbdingsymbol{151}}      | {2752}} |

```

110 \newcommand{\LWR@HTML@SquareShadowTopLeft}{\LWR@bbdingsymbol{152} {2752}}
111 \newcommand{\LWR@HTML@SquareCastShadowBottomRight}{\LWR@bbdingsymbol{153} {2751}}
112 \newcommand{\LWR@HTML@SquareCastShadowTopRight}{\LWR@bbdingsymbol{154} {2752}}
113 \newcommand{\LWR@HTML@SquareCastShadowTopLeft}{\LWR@bbdingsymbol{155} {2752}}
114 \newcommand{\LWR@HTML@TriangleUp}{\LWR@bbdingsymbol{156} {25B2}}
115 \newcommand{\LWR@HTML@TriangleDown}{\LWR@bbdingsymbol{157} {25BC}}
116 \newcommand{\LWR@HTML@DiamondSolid}{\LWR@bbdingsymbol{160} {25C6}}
117 \newcommand{\LWR@HTML@OrnamentDiamondSolid}{\LWR@bbdingsymbol{161} {2756}}
118 \newcommand{\LWR@HTML@HalfCircleRight}{\LWR@bbdingsymbol{162} {25D7}}
119 \newcommand{\LWR@HTML@HalfCircleLeft}{\LWR@bbdingsymbol{163} {25D6}}
120 \newcommand{\LWR@HTML@RectangleThin}{\LWR@bbdingsymbol{164} {2758}}
121 \newcommand{\LWR@HTML@Rectangle}{\LWR@bbdingsymbol{165} {2759}}
122 \newcommand{\LWR@HTML@RectangleBold}{\LWR@bbdingsymbol{166} {275A}}
123 \newcommand{\LWR@HTML@ArrowBoldRightStrobe}{\LWR@bbdingsymbol{167} {27A0}}
124 \newcommand{\LWR@HTML@ArrowBoldUpRight}{\LWR@bbdingsymbol{170} {27A6}}
125 \newcommand{\LWR@HTML@ArrowBoldDownRight}{\LWR@bbdingsymbol{171} {27A5}}
126 \newcommand{\LWR@HTML@ArrowBoldRightShort}{\LWR@bbdingsymbol{172} {27A7}}
127 \newcommand{\LWR@HTML@ArrowBoldRightCircled}{\LWR@bbdingsymbol{173} {27B2}}
128
129
130 \LWR@formatted{ScissorRightBrokenBottom}
131 \LWR@formatted{ScissorRight}
132 \LWR@formatted{ScissorRightBrokenTop}
133 \LWR@formatted{ScissorLeftBrokenBottom}
134 \LWR@formatted{ScissorLeft}
135 \LWR@formatted{ScissorLeftBrokenTop}
136 \LWR@formatted{ScissorHollowRight}
137 \LWR@formatted{ScissorHollowLeft}
138 \LWR@formatted{Phone}
139 \LWR@formatted{PhoneHandset}
140 \LWR@formatted{Tape}
141 \LWR@formatted{Plane}
142 \LWR@formatted{Envelope}
143 \LWR@formatted{HandCuffRight}
144 \LWR@formatted{HandCuffLeft}
145 \LWR@formatted{HandCuffRightUp}
146 \LWR@formatted{HandCuffLeftUp}
147 \LWR@formatted{HandRight}
148 \LWR@formatted{HandLeft}
149 \LWR@formatted{HandRightUp}
150 \LWR@formatted{HandLeftUp}
151 \LWR@formatted{Peace}
152 \LWR@formatted{HandPencilLeft}
153 \LWR@formatted{PencilRight}
154 \LWR@formatted{PencilLeft}
155 \LWR@formatted{PencilRightUp}
156 \LWR@formatted{PencilLeftUp}
157 \LWR@formatted{PencilRightDown}
158 \LWR@formatted{PencilLeftDown}
159 \LWR@formatted{NibRight}
160 \LWR@formatted{NibLeft}
161 \LWR@formatted{NibSolidRight}
162 \LWR@formatted{NibSolidLeft}
163 \LWR@formatted{Checkmark}
164 \LWR@formatted{CheckmarkBold}

```



```
165 \LWR@formatted{XSolid}
166 \LWR@formatted{XSolidBold}
167 \LWR@formatted{XSolidBrush}
168 \LWR@formatted{PlusOutline}
169 \LWR@formatted{Plus}
170 \LWR@formatted{PlusCenterOpen}
171 \LWR@formatted{PlusThinCenterOpen}
172 \LWR@formatted{Cross}
173 \LWR@formatted{CrossOpenShadow}
174 \LWR@formatted{CrossOutline}
175 \LWR@formatted{CrossBoldOutline}
176 \LWR@formatted{CrossMaltese}
177 \LWR@formatted{DavidStarSolid}
178 \LWR@formatted{DavidStar}
179 \LWR@formatted{FourAsterisk}
180 \LWR@formatted{JackStar}
181 \LWR@formatted{JackStarBold}
182 \LWR@formatted{CrossClowerTips}
183 \LWR@formatted{FourStar}
184 \LWR@formatted{FourStarOpen}
185 \LWR@formatted{FiveStarLines}
186 \LWR@formatted{FiveStar}
187 \LWR@formatted{FiveStarOpen}
188 \LWR@formatted{FiveStarOpenCircled}
189 \LWR@formatted{FiveStarCenterOpen}
190 \LWR@formatted{FiveStarOpenDotted}
191 \LWR@formatted{FiveStarOutline}
192 \LWR@formatted{FiveStarOutlineHeavy}
193 \LWR@formatted{FiveStarConvex}
194 \LWR@formatted{FiveStarShadow}
195 \LWR@formatted{AsteriskBold}
196 \LWR@formatted{AsteriskCenterOpen}
197 \LWR@formatted{AsteriskThin}
198 \LWR@formatted{AsteriskThinCenterOpen}
199 \LWR@formatted{EightStarTaper}
200 \LWR@formatted{EightStarConvex}
201 \LWR@formatted{SixStar}
202 \LWR@formatted{EightStar}
203 \LWR@formatted{EightStarBold}
204 \LWR@formatted{TwelveStar}
205 \LWR@formatted{SixteenStarLight}
206 \LWR@formatted{SixFlowerPetalRemoved}
207 \LWR@formatted{SixFlowerOpenCenter}
208 \LWR@formatted{Asterisk}
209 \LWR@formatted{SixFlowerAlternate}
210 \LWR@formatted{FiveFlowerPetal}
211 \LWR@formatted{SixFlowerPetalDotted}
212 \LWR@formatted{FiveFlowerOpen}
213 \LWR@formatted{EightFlowerPetal}
214 \LWR@formatted{SunshineOpenCircled}
215 \LWR@formatted{SixFlowerAltPetal}
216 \LWR@formatted{FourClowerOpen}
217 \LWR@formatted{FourClowerSolid}
218 \LWR@formatted{AsteriskRoundedEnds}
219 \LWR@formatted{EightFlowerPetalRemoved}
```

```

220 \LWR@formatted{EightAsterisk}
221 \LWR@formatted{SixFlowerRemovedOpenPetal}
222 \LWR@formatted{SparkleBold}
223 \LWR@formatted{Sparkle}
224 \LWR@formatted{SnowflakeChevron}
225 \LWR@formatted{SnowflakeChevronBold}
226 \LWR@formatted{Snowflake}
227 \LWR@formatted{CircleSolid}
228 \LWR@formatted{Ellipse}
229 \LWR@formatted{EllipseSolid}
230 \LWR@formatted{CircleShadow}
231 \LWR@formatted{EllipseShadow}
232 \LWR@formatted{Square}
233 \LWR@formatted{SquareSolid}
234 \LWR@formatted{SquareShadowBottomRight}
235 \LWR@formatted{SquareShadowTopRight}
236 \LWR@formatted{SquareShadowTopLeft}
237 \LWR@formatted{SquareCastShadowBottomRight}
238 \LWR@formatted{SquareCastShadowTopRight}
239 \LWR@formatted{SquareCastShadowTopLeft}
240 \LWR@formatted{TriangleUp}
241 \LWR@formatted{TriangleDown}
242 \LWR@formatted{DiamondSolid}
243 \LWR@formatted{OrnamentDiamondSolid}
244 \LWR@formatted{HalfCircleRight}
245 \LWR@formatted{HalfCircleLeft}
246 \LWR@formatted{RectangleThin}
247 \LWR@formatted{Rectangle}
248 \LWR@formatted{RectangleBold}
249 \LWR@formatted{ArrowBoldRightStrobe}
250 \LWR@formatted{ArrowBoldUpRight}
251 \LWR@formatted{ArrowBoldDownRight}
252 \LWR@formatted{ArrowBoldRightShort}
253 \LWR@formatted{ArrowBoldRightCircled}

```

---

File 44 **lwarp-biblatex.sty**

§ 151 Package **biblatex**

*(Emulates or patches code by PHILIPP LEHMAN.)*

Pkg biblatex When **biblatex** is used, modifications from **newfloat** may have to be undone.

for HTML output:

1. **lwarp** uses **newfloat**.
2. For classes with chapters which **newfloat** does not know about, such as C<sub>T</sub><sub>E</sub>X-related classes, **newfloat** may modify `\addtocontents`.
3. **biblatex**, though, wants to patch `\addtocontents`, which causes an error if `\addtocontents` has been changed.
4. Therefore, `\addtocontents` is restored to its original here, since **biblatex** is about to be loaded.

5. This means that the **newfloat**'s `chapterlistsgaps` option may no longer work.

```
1 \ifdef{\newfloat@addtocontents@ORI}{
2 \let\addtocontents\newfloat@addtocontents@ORI
3 }{}
```

**hyperref** emulation is loaded `\AtBeginDocument` to avoid an options clash.

```
4 \AtBeginDocument{\RequirePackage{hyperref}}
5
6 \LWR@ProvidesPackagePass{biblatex}[2018/03/04]
```

The following create hyperlinks to the references. The original code to use **hyperref** is recreated here, because **hyperref** is emulated.

```
7 \AfterPreamble{
8
9 \let\blx@anchors\@empty
10 \protected\def\blx@anchor{%
11 \xifinlist{\the\c@refsection @\abx@field@entrykey}{\blx@anchors}
12 {}
13 {\listxadd\blx@anchors{\the\c@refsection @\abx@field@entrykey}%
14 \hypertarget{cite.\the\c@refsection @\abx@field@entrykey}{}}}
15
16 \protected\def\blx@imc@bibhyperref{%
17 \@ifnextchar[%
18 {\blx@bibhyperref}
19 {\blx@bibhyperref[\abx@field@entrykey]}}%
20
21 \long\def\blx@bibhyperref[#1]#2{%
22 % \blx@sfsave
23 \hyperlink{cite.\the\c@refsection @#1}{%
24 % \blx@sfst
25 #2%
26 % \blx@sfsave
27 }%
28 \blx@sfst%
29 }% \def\blx@nohyperref[#1]#2{#2}%
30
31 \protected\long\def\blx@imc@bibhyperlink#1#2{%
32 % \blx@sfsave
33 \hyperlink{cite.\the\c@refsection:#1}{%
34 % \blx@sfst
35 #2%
36 % \blx@sfsave
37 }%
38 \blx@sfst%
39 }%
40
41 \protected\long\def\blx@imc@bibhypertarget#1#2{%
42 % \blx@sfsave%
43 \hypertarget{cite.\the\c@refsection:#1}{%
44 % \blx@sfst
45 #2%
46 % \blx@sfsave%
```

```

47 }%
48 % \blx@sfrest%
49 }
50
51 \let\blx@imc@ifhyperref\@firstoftwo

```

The following patches are for back page references.

```

52 \DeclareListFormat{pageref}{%
53 \ifnumless{\abx@pagerefstyle}{0}%
54 {\usebibmacro{list:plain}%
55 \ifhyperref
56 {%
57 % \hyperlink{page.#1}{#1}%
58 \ref{\BaseJobname-autopage-#1}% lwarp
59 }
60 {#1}}
61 {\ifnumequal{\value{listcount}}{1}%
62 {\usebibmacro{pageref:init}}
63 {%
64 \usebibmacro{pageref:comp}{#1}%
65 \ifnumequal{\value{listcount}}{\value{liststop}}%
66 {\usebibmacro{pageref:dump}}
67 {}}}
68
69 \renewbibmacro*{pageref:comp}[1]{%
70 \numdef\abx@range@prev{\abx@range@prev+1}%
71 \ifinteger{#1}%
72 {\def\abx@range@num{#1}%
73 \def\abx@range@this{1}%
74 \ifnumequal{\abx@range@this}{\abx@range@last}%
75 {}
76 {\def\abx@range@prev{-1}}}
77 {\ifrmnum{#1}%
78 {\numdef\abx@range@num{\rmntonum{#1}}%
79 \def\abx@range@this{2}%
80 \ifnumequal{\abx@range@this}{\abx@range@last}%
81 {}
82 {\def\abx@range@prev{-1}}}
83 {\undef\abx@range@num
84 \def\abx@range@this{0}%
85 \def\abx@range@prev{-1}}}%
86 \ifdef\abx@range@num
87 {\ifnumequal{\abx@range@num}{\abx@range@prev}%
88 {\def\abx@range@hold{#1}%
89 \numdef\abx@range@diff{\abx@range@diff+1}}
90 {\usebibmacro{pageref:dump}%
91 \ifnumgreater{\abx@range@last}{-1}%
92 {\printdelim{multilistdelim}}
93 {}}%
94 \ifhyperref
95 % {\hyperlink{page.#1}{#1}}
96 {\ref{\BaseJobname-autopage-#1}% lwarp
97 {#1}}%
98 \edef\abx@range@prev{\abx@range@num}}

```

```

99 {\usebibmacro{pageref:dump}%
100 \ifnumgreater{\abx@range@last}{-1}
101 {\printdelim{multilistdelim}}
102 }%
103 \ifhyperref
104 {\hyperlink{page.#1}{#1}}
105 {\ref{\BaseJobname-autopage-#1}}% lwarp
106 {#1}%
107 \def\abx@range@prev{-1}%
108 \edef\abx@range@last{\abx@range@this}}
109
110 \renewbibmacro*{pageref:dump}{%
111 \ifnumgreater{\abx@range@diff}{0}
112 {\ifcase\abx@pagerefstyle\relax % two
113 \bibrangedash
114 \ifhyperref
115 {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
116 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
117 {\abx@range@hold}%
118 \or % three
119 \ifnumless{\abx@range@diff}{2}
120 {\printdelim{multilistdelim}}
121 {\bibrangedash}%
122 \ifhyperref
123 {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
124 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
125 {\abx@range@hold}%
126 \or % two+
127 \ifnumless{\abx@range@diff}{2}
128 {\sqspace
129 \ifhyperref
130 {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
131 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
132 {\bibstring{sequens}}}
133 {\bibrangedash
134 \ifhyperref
135 {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
136 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
137 {\abx@range@hold}}%
138 \or % three+
139 \ifnumless{\abx@range@diff}{2}
140 {\sqspace
141 \ifhyperref
142 {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
143 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
144 {\bibstring{sequens}}}
145 {\ifnumless{\abx@range@diff}{3}
146 {\sqspace
147 \ifhyperref
148 {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
149 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
150 {\bibstring{sequentes}}}
151 {\bibrangedash
152 \ifhyperref
153 {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}

```

---

```

154 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
155 {\abx@range@hold}}}%
156 \else % all+
157 \ifnumless{\abx@range@diff}{2}
158 {\sqspace
159 \ifhyperref
160 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
161 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
162 {\bibstring{sequens}}}
163 {\sqspace
164 \ifhyperref
165 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
166 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
167 {\bibstring{sequentes}}}%
168 \fi
169 \def\abx@range@diff{0}}
170 {}}}
171
172 }% \AfterPreamble

```

---

File 45 **lwarp-bibunits.sty**

§ 152 Package **bibunits**

*(Emulates or patches code by THORSTEN HANSEN.)*

Pkg bibunits **bibunits** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{bibunits}[2004/05/12]

2 \def\bu@bibdata{\BaseJobname}

---

File 46 **lwarp-bigdelim.sty**

§ 153 Package **bigdelim**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

Pkg bigdelim **bigdelim** is used as-is for print or lateximage, and patched for HTML.

The delimiters are displayed in HTML by printing the delimiter, the text, and a thick border across the side of the `\multirow` which indicates the actual height of the delimiter. The delimiter character is given a `<span>` class of `ldelim` or `rdelim`, and the default css sets this to `font-size:200%`

 use `\mrowcell` `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

---

```

\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\{3}{.25in}[left] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}

```

---

```

<-> a b
 {
left { c d
 { e f
 { g h
<-> i j

```

---

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

**for HTML output:** First, remove the temporary definitions of `\ldelim` and `\rdelim`, which were previously defined for tabular scanning in case `bigdelim` was not loaded:

```

1 \let\ldelim\relax
2 \let\rdelim\relax

```

Next, load the package's new definitions:

```

3 \LWR@ProvidesPackagePass{bigdelim}[2018/08/03]

```

```

\ldelim {\langle 1:delimiter \rangle} {\langle 2:#rows \rangle} {\langle 3:width \rangle} [\langle 4:text \rangle]
\rdelim

4 \NewDocumentCommand{\LWR@HTML@ldelim}{m m m O{}}{%
5 \renewcommand{\LWR@multirowborder}{right}%
6 \multirow{#2}{#3}{#4 \InlineClass{ldelim}{#1}}%
7 }
8
9 \LWR@formatted{ldelim}
10
11 \NewDocumentCommand{\LWR@HTML@rdelim}{m m m O{}}{%
12 \renewcommand{\LWR@multirowborder}{left}%
13 \multirow{#2}{#3}{\InlineClass{rdelim}{#1} #4}%
14 }
15
16 \LWR@formatted{rdelim}

```

Limited emulation for MATHJAX. The delimiter is printed on the first row, along with any optional text.

```

17 \begin{warpMathJax}
18 % \ldelim ([n]{width}[text]
19 \CustomizeMathJax{\newcommand{\LWRldelim}[1][\text{#1}~\LWRbigdelim]}
20 \CustomizeMathJax{\def\ldelim#1#2#3{\def\LWRbigdelim{#1}\LWRldelim}}
21 % \rdelim) [n]{width}[text]

```

---

```

22 \CustomizeMathJax{\newcommand{\LWRrdelim}[1][\LWRbigdelim~\text{#1}]}
23 \CustomizeMathJax{\def\rdelim#1#2#3{\def\LWRbigdelim{#1}\LWRrdelim}}
24 \end{warpMathJax}

```

---

File 47 **lwarp-bigfoot.sty**

§ 154      Package **bigfoot**

Pkg    bigfoot    bigfoot is emulated.

for HTML output:    1 \LWR@ProvidesPackageDrop{bigfoot}[2015/08/30]

```

2 \RequirePackage{manyfoot}
3 \RequirePackage{perpage}
4
5 \def\RestyleFootnote#1#2{}
6 \def\FootnoteSpecific#1{}
7 \def\DefineFootnoteStack#1{}
8 \def\PushFootnoteMark#1{}
9 \def\PopFootnoteMark#1{}
10 \def\hfootfraction{0.9}
11 \def\vttypefraction{0.7}
12 \def\FootnoteMinimum{1sp}
13 \def\FootnoteMainMinimum{0pt}
14 \newcount\bigfoottolerance
15 \bigfoottolerance=100
16 \providecommand\footnotecarryratio{2}

```

---

File 48 **lwarp-bigstrut.sty**

§ 155      Package **bigstrut**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

Pkg    bigstrut    bigstrut is used as-is for print or lateximage, and patched for HTML.

for HTML output:    1 \LWR@ProvidesPackagePass{bigstrut}[2018/08/03]

```

2 \LetLtxMacro\LWR@origbigstrut\bigstrut
3
4 \renewcommand\bigstrut[1][x]{}
5
6 \appto\LWR@restoreorigformatting{%
7 \LetLtxMacro\bigstrut\LWR@origbigstrut%
8 }
9
10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\bigstrut}[1][x]}
12 \end{warpMathJax}

```



---

File 49 **lwarp-bitpattern.sty**

§ 156      Package **bitpattern**

*(Emulates or patches code by JEAN-MARC BOURGUET.)*

Pkg   bitpattern   **bitpattern** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{bitpattern}[2015/12/11]

2 \xpatchcmd{\bitpattern}
3 {\begingroup}
4 {\begin{lateximage}[-bitpattern--\PackageDiagramAltText]}
5 {}
6 {\LWR@patcherror{bitpattern}{bitpattern}}
7
8 \xpatchcmd{\bp@Done}
9 {\endgroup}
10 {\end{lateximage}}
11 {}
12 {\LWR@patcherror{bitpattern}{bp@Done}}
```

---

File 50 **lwarp-blowup.sty**

§ 157      Package **blowup**

Pkg   blowup   **blowup** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]

2 \newcommand*\blowUp[1]{}

```

---

File 51 **lwarp-bm.sty**

§ 158      Package **bm**

*(Emulates or patches code by DAVID CARLISLE, FRANK MITTELBACH.)*

Pkg   bm   **bm** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{bm}[2019/07/24]

```

`\DeclareBoldMathCommand` must only be used in the preamble, since it adds to the MATH-JAX setup code.

---

```

2 \begin{warpMathJax}
3 \LetLtxMacro\LWR@orig@DeclareBoldMathCommand\DeclareBoldMathCommand
4
5 \renewcommand\DeclareBoldMathCommand[3][bold]{%
6 \LWR@orig@DeclareBoldMathCommand[#1]{#2}{#3}%
7 \CustomizeMathJax{\newcommand{#2}{\boldsymbol{#3}}}%
8 }
9
10 \@onlypreamble\DeclareBoldMathCommand
11
12 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}
13 \end{warpMathJax}

```

---

File 52 **lwarp-booklet.sty**

§ 159 Package **booklet**

(Emulates or patches code by PETER WILSON.)

Pkg booklet **booklet** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{booklet}[2009/09/02]

```

2 \newdimen\pageseplength
3 \newdimen\pagesepwidth
4 \newdimen\pagesepoffset
5 \newif\ifsidebyside \sidebysidetrue
6 \newif\ifuselandscape \uselandscapefalse
7 \newif\ifprintoption \printoptionfalse
8 \newcommand*\pagespersignature[1]{}
9 \def\magstepminus#1{}
10 \newcommand*\target[3]{}
11 \newcommand*\source[3]{}
12 \newcommand*\setpdftargetpages{}
13 \newcommand*\setdvipstargetpages{}
14 \newcommand*\targettopbottom{}
15 \newcommand*\twoupemptypage{}
16 \newcommand*\twoupclearpage{}
17 \newcommand*\checkforlandscape{}

```

---

File 53 **lwarp-bookmark.sty**

§ 160 Package **bookmark**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg bookmark **bookmark** is ignored.

for HTML output: Discard all options for lwarp-bookmark:

```

1 \LWR@ProvidesPackageDrop{bookmark}[2016/05/17]

```

```

2 \newcommand*{\bookmarksetup}[1]{}
3 \newcommand*{\bookmarksetupnext}[1]{}
4 \newcommand*{\bookmark}[2][1]{}
5 \newcommand*{\bookmarkdefinestyle}[2]{}
6 \newcommand*{\bookmarkget}[1]{}
7 \newcommand{\BookmarkAtEnd}[1]{}

```

---

File 54 **lwarp-booktabs.sty**

§ 161 Package **booktabs**

(Emulates or patches code by SIMON FEAR.)

Pkg booktabs **booktabs** is emulated during HTML output, and used as-is during print output and inside an HTML lateximage.

 **\cmidrule** For MATHJAX, emulation is provided in math mode, but **\cmidrule** trim must not be used.

**for HTML output:** If **booktabs** has already been loaded before **lwarp**, such as by **memoir**, use it as-is. If not, the **lwarp** core will have placed some dummy macros which should be removed before loading the actual **booktabs** definitions.

```

1 \@ifpackageloaded{booktabs}{}{
2 \LetLtxMacro\toprule\relax
3 \LetLtxMacro\midrule\relax
4 \LetLtxMacro\cmidrule\cline
5 \LetLtxMacro\bottomrule\relax
6 \LetLtxMacro\addlinespace\relax
7 \LetLtxMacro\morecmidrules\relax
8 \LetLtxMacro\specialrule\relax
9 }

```

Next, load the **booktabs** package:

```
10 \LWR@ProvidesPackagePass{booktabs}[2019/10/08]
```

Adjust to work even if **xltabular** is loaded:

```

11 % \def\LWR@HTML@BLTrule{\@BTnormal}
12 %
13 % \LWR@formatted{@BLTrule}
14 \LetLtxMacro{@BLTrule}\@BTnormal

15 \DeclareDocumentCommand{\LWR@HTML@toprule}{o d()}%
16 {%
17 \IfValueTF{#1}%
18 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
19 {%
20 \ifbool{FormatWP}%
21 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
22 {\booltrue{LWR@doingtbrule}}}%
23 }%
24 \LWR@getmynexttoken}

```

```

25
26 \LWR@expandableformatted{toprule}
27
28 \DeclareDocumentCommand{\LWR@HTML@midrule}{o d()}%
29 {%
30 \IfValueTF{#1}%
31 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
32 {%
33 \ifbool{FormatWP}%
34 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
35 {\defaddtocounter{LWR@hlines}{1}}}%
36 }%
37 \LWR@getmynexttoken}
38
39 \LWR@expandableformatted{midrule}
40
41 \DeclareDocumentCommand{\LWR@HTML@cmidrule}{O{\LWR@cmidrulewidth} d() m}{%
42 \LWR@docmidrule[#1](#2){#3}%
43 \LWR@getmynexttoken%
44 }%
45
46 \LWR@expandableformatted{cmidrule}
47
48 \DeclareDocumentCommand{\LWR@HTML@bottomrule}{o d()}{%
49 \IfValueTF{#1}%
50 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
51 {%
52 \ifbool{FormatWP}%
53 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
54 {\booltrue{LWR@doingtbrule}}}%
55 }%
56 \LWR@getmynexttoken%
57 }%
58
59 \LWR@expandableformatted{bottomrule}
60
61 \DeclareDocumentCommand{\LWR@HTML@addlinespace}{o}{}%
62
63 \LWR@expandableformatted{addlinespace}
64
65 \DeclareDocumentCommand{\LWR@HTML@morecmidrules}{}{}%
66
67 \LWR@expandableformatted{morecmidrules}
68
69 \DeclareDocumentCommand{\LWR@HTML@specialrule}{m m m d()}%
70 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}\LWR@getmynexttoken}%
71
72 \LWR@expandableformatted{specialrule}

```

For MATHJAX:

```

73 \begin{warpMathJax}
74 \CustomizeMathJax{\newcommand{\toprule}[1][\hline]}
75 \CustomizeMathJax{\let\midrule\toprule}
76 \CustomizeMathJax{\let\bottomrule\toprule}

```

---

```

77 \CustomizeMathJax{\def\LWRbooktabscmidruleparen(#1)#2{}}
78 \CustomizeMathJax{\newcommand{\LWRbooktabscmidrulenoparen}[1]{} }
79 \CustomizeMathJax{\newcommand{\cmidrule}[1][]{%
80 \ifnextchar(\LWRbooktabscmidruleparen\LWRbooktabscmidrulenoparen%
81 }}
82 \CustomizeMathJax{\newcommand{\morecmidrules}{} }
83 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}
84 \CustomizeMathJax{\newcommand{\addlinespace}[1][]{} }
85 \end{warpMathJax}

```

---

File 55 **lwarp-bophook.sty**

§ 162     Package **bophook**

Pkg    bophook    bophook is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{bophook}[2001/03/29]

```

2 \newcommand*{\AtBeginPage}[1]{}
3 \newcommand*{\PageLayout}[1]{}

```

---

File 56 **lwarp-bounddvi.sty**

§ 163     Package **bounddvi**

Pkg    bounddvi    bounddvi is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]

---

File 57 **lwarp-boxedminipage.sty**

§ 164     Package **boxedminipage**

(Emulates or patches code by SCOTT PAKIN.)

Pkg    boxedminipage    boxedminipage is emulated for HTML, and used as-is for lateximages.

for HTML output:    1 \LWR@ProvidesPackagePass{boxedminipage}[2020/04/19]

```

2 \newenvironment{LWR@HTML@boxedminipage}{%
3 \LWR@stoppars%
4 \begin{BlockClass}{framebox}%
5 \minipage%
6 }
7 {%
8 \endminipage%
9 \end{BlockClass}%

```

---

```

10 \LWR@startpars%
11 }
12 \LWR@formattedenv{boxedminipage}

```

---

File 58 **lwarp-boxedminipage2e.sty**

§ 165 Package **boxedminipage2e**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg boxedminipage2e **boxedminipage2e** has been renamed **boxedminipage** by the author.

**for HTML output:** Automatically loads **boxedminipage**:

```
1 \LWR@ProvidesPackagePass{boxedminipage2e}
```

---

File 59 **lwarp-braket.sty**

§ 166 Package **braket**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg braket **braket** works as-is for HTML with SVG math. For MATHJAX, the MATHJAX extension is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{braket}% No date is provided by the file.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{braket}}
4 \end{warpMathJax}

```

---

File 60 **lwarp-breakurl.sty**

§ 167 Package **breakurl**

*(Emulates or patches code by VILAR CAMARA NETO.)*

Pkg breakurl **breakurl** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{breakurl}[2013/04/10]

```

2 \LetLtxMacro\url\LWR@url
3
4 \NewDocumentCommand{\LWR@urlaltb}{0{} +m m}{%
5 \LWR@ensuredoingapar%
6 \LWR@subhyperref{#2}%
7 \LWR@subhyperref{#3}%
8 \endgroup% restore catcodes
9 }

```

---

```

10
11 \newrobustcmd*{\burlalt}{%
12 \begingroup%
13 \LWR@linkcatcodes%
14 \LWR@burlalbt%
15 }
16
17 \LetLtxMacro\burlalt\burlalt

```

---

File 61 **lwarp-breqn.sty**

§ 168    Package **breqn**

*(Emulates or patches code by MICHAEL J. DOWNES, MORTEN HØGHOLM.)*

Pkg    breqn    **breqn** is patched for use by **lwarp**.

 **darray**    darray is not supported, and in fact does not work in the print version either.

While using MATHJAX, **breqn** objects are converted to SVG images.

for HTML output:

```

1 \LWR@ProvidesPackagePass{breqn}[2017/01/27]

2 \setkeys{breqn}{spread={5pt}}
3
4 \def\eqnumside{R}
5 % \def\eqnumplace{T}
6
7 \BeforeBeginEnvironment{dmath}{
8 \begin{BlockClass}{displaymathnumbered}
9 \LWR@newautoidanchor%
10 \booltrue{LWR@indisplaymathimage}%
11 \begin{lateximage}[-breqn dmath- \MathImageAltText]
12 }
13
14 \AfterEndEnvironment{dmath}{
15 \end{lateximage}\end{BlockClass}
16 }
17
18 \BeforeBeginEnvironment{dmath*}{
19 \begin{BlockClass}{displaymath}
20 \LWR@newautoidanchor%
21 \booltrue{LWR@indisplaymathimage}%
22 \begin{lateximage}[-breqn dmath*- \MathImageAltText]
23 }
24
25 \AfterEndEnvironment{dmath*}{
26 \end{lateximage}\end{BlockClass}
27 }
28
29 \BeforeBeginEnvironment{dseries}{
30 \begin{BlockClass}{displaymathnumbered}
31 \LWR@newautoidanchor%

```

```

32 \booltrue{LWR@indisplaymathimage}%
33 \begin{lateximage}[-breqn dseries- \MathImageAltText]
34 }
35
36 \AfterEndEnvironment{dseries}{
37 \end{lateximage}\end{BlockClass}
38 }
39
40 \BeforeBeginEnvironment{dseries*}{
41 \begin{BlockClass}{displaymath}
42 \LWR@newautoidanchor%
43 \booltrue{LWR@indisplaymathimage}%
44 \begin{lateximage}[-breqn dseries* \MathImageAltText]
45 }
46
47 \AfterEndEnvironment{dseries*}{
48 \end{lateximage}\end{BlockClass}
49 }
50
51 \BeforeBeginEnvironment{dgroup}{
52 \begin{BlockClass}{displaymath}
53 \LWR@newautoidanchor%
54 \booltrue{LWR@indisplaymathimage}%
55 \begin{lateximage}[-breqn dgroup- \MathImageAltText]
56 }
57
58 \AfterEndEnvironment{dgroup}{
59 \end{lateximage}\end{BlockClass}
60 }
61
62 \BeforeBeginEnvironment{dgroup*}{
63 \begin{BlockClass}{displaymath}
64 \LWR@newautoidanchor%
65 \booltrue{LWR@indisplaymathimage}%
66 \begin{lateximage}[-breqn dgroup* \MathImageAltText]
67 }
68
69 \AfterEndEnvironment{dgroup*}{
70 \end{lateximage}\end{BlockClass}
71 }

```

---

File 62 **lwarp-bsheaders.sty**

§ 169     Package **bsheaders**

    Pkg   bsheaders   **bsheaders** is ignored.

for HTML output:     1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]

---

File 63 **lwarp-bussproofs.sty**



## § 170 Package **bussproofs**

(Emulates or patches code by SAMUEL R. BUSS.)

Pkg bussproofs **bussproofs** is used as-is for HTML, and emulated by MATHJAX's extension.

 **\DisplayProof** If not using MATHJAX, inline proofs with `\DisplayMath` must be placed inside a math expression.

If using MATHJAX, only the `prooftree` environment may be used, not `\DisplayProof`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{bussproofs}% no date in file

2 \ifbool{mathjax}{
3 \CustomizeMathJax{\require{bussproofs}}
4
5 \NewEnviron{LWR@HTML@prooftree}%
6 {\LWR@doequation{\BODY}{prooftree}}%
7 [\LWR@doendequation{prooftree}]
8 \LWR@formattedenv{prooftree}
9 }{% SVG HTML
10 \BeforeBeginEnvironment{prooftree}{%
11 \begin{lateximage}[-bussproofs-~\PackageDiagramAltText]%
12 }
13 \AfterEndEnvironment{prooftree}{\end{lateximage}}
14 }
```

---

### File 64 **lwarp-bxpapersize.sty**

## § 171 Package **bxpapersize**

Pkg bxpapersize **bxpapersize** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{bxpapersize}[2017/10/08]

2 \providecommand*\papersizesetup{\bxpapersizesetup}
3 \newcommand*\bxpapersizesetup[1]{}

```

---

### File 65 **lwarp-bytefield.sty**

## § 172 Package **bytefield**

(Emulates or patches code by SCOTT PAKIN.)

Pkg bytefield **bytefield** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{bytefield}[2017/09/15]

2 \BeforeBeginEnvironment{bytefield}{%
3 \begin{lateximage}[-bytefield-~\PackageDiagramAltText]%

```

---

```

4 }
5
6 \AfterEndEnvironment{bytefield}{\end{lateximage}}

```

---

File 66 **lwarp-cancel.sty**

## § 173 Package **cancel**

Pkg cancel **cancel** is used as-is for SVG math, and emulated for HTML text output.

**for HTML output:**

```

1 \LWR@origRequirePackage{lwarp-xcolor}% for \convertcolorspec
2 \LWR@ProvidesPackagePass{cancel}[2013/04/12]

```

`\cancelto` is math-only, so is used as-is.

```

3 \LetLtxMacro\LWR@origcancel\cancel
4 \LetLtxMacro\LWR@origbcancel\bcancel
5 \LetLtxMacro\LWR@origxcancel\xcancel
6
7 \appto\LWR@restoreorigformatting{%
8 \LetLtxMacro\cancel\LWR@origcancel%
9 \LetLtxMacro\bcancel\LWR@origbcancel%
10 \LetLtxMacro\xcancel\LWR@origxcancel%
11 }

```

`\LWR@cancelcolor` `{\text}{\color}{\class}{\colorstyle}{\FormatWPstyle}`

Add colors if not empty:

```

12 \newcommand{\LWR@cancelcolor}[5]{%
13 \ifcsempy{#2}%
14 {\InlineClass{#5}{#3}{#1}}%
15 {\LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}}%
16 }

```

`\cancel` `{\text}`

```

17 \DeclareRobustCommand{\cancel}[1]{%
18 \begingroup%
19 \CancelColor%
20 \LWR@findcurrenttextcolor%
21 \color{black}%
22 \LWR@cancelcolor{#1}{\LWR@tempcolor}{sout}{text-decoration-color}%
23 {text-decoration:line-through}%
24 \endgroup%
25 }
26
27 \LetLtxMacro\bcancel\cancel
28 \LetLtxMacro\xcancel\cancel

```

For MATHJAX:

---

```

29 \begin{warpMathJax}
30 \PackageWarningNoLine{lwarp, cancel}{The MathJax v3 extension will be used}
31 \CustomizeMathJax{\require{cancel}}
32 \end{warpMathJax}

```

---

File 67 **lwarp-canonicalayout.sty**

§ 174 Package **canonicalayout**

Pkg canonicalayout canonicalayout is ignored.

**for HTML output:** s1 \LWR@ProvidesPackageDrop{canonicalayout}[2011/11/05]

```

2 \newcommand*{\currentfontletters}{}
3 \newcommand*{\charactersperpage}{}

```

---

File 68 **lwarp-caption.sty**

§ 175 Package **caption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg caption caption is patched for use by lwarp.

**for HTML output:**

```

1 \typeout{---}
2 \typeout{Packages lwarp and caption:}
3 \typeout{If a ‘Missing \protect\begin\protect{document\protect}’ error occurs here,}
4 \typeout{try using: \space \protect\usepackage\protect{caption\protect}\space%
5 \protect\captionsetup{options}}
6 \typeout{instead of: \protect\usepackage[options]\protect{caption\protect}.}
7 \typeout{---}
8
9 \LWR@ProvidesPackagePass{caption}[2020/10/26]

10 \long\def\caption@iiibox@#1#2#3#4{%
11 % \setbox\@tempboxa\hbox{#4}%
12 \caption@iiibox{#1}{#2}{#3}%
13 % [\wd\@tempboxa]%
14 % []% lwarp
15 % [\captionbox@hj@default]%
16 % {\unhbox\@tempboxa}%
17 % {{#4}}% lwarp
18 }

19 \long\def\caption@iiibox@#1#2#3#4#5[#6][#7]#8{%
20 \begingroup
21 #1*% set \caption@position
22 \caption@iftop{%
23 \endgroup

```

```

24 \minipagefullwidth% lwarp
25 \parbox[t]{\linewidth}{%
26 #1\relax
27 \caption@setposition t%
28 % #2%
29 {\caption#4{#5}}%
30 % \captionbox@hrule
31 % \csname caption@hj@#7\endcsname
32 #8%
33 }%
34 }{%
35 \endgroup

36 % \parbox[b]{#6}{%
37 \minipagefullwidth% lwarp
38 \parbox[b]{\linewidth}{% lwarp
39 #1\relax
40 \caption@setposition b%
41 % \csname caption@hj@#7\endcsname
42 #8%
43 % \captionbox@hrule
44 % #3
45 {\caption#4{#5}}%
46 }%
47 }%
48 }

```

\caption@makecaption

```

49 \long\def\caption@makecaption#1#2{%
50 % \caption@make@above
51 \caption@make{#1}{#2}%
52 % \caption@make@below
53 }
54
55 \AtBeginDocument{
56 \let\makecaption\caption@makecaption
57 }

```

Appended to look ahead to the next token for \centering, etc:

```

58 \AtBeginDocument{
59 \xapptocmd{\@xfloat}
60 {\LWR@futurenonSPACElet\LWR@mynexttoken\LWR@floatalignment}
61 {}
62 {\LWR@patcherror{caption}{@xfloat}}
63
64 \xapptocmd{\@xdblfloat}
65 {\LWR@futurenonSPACElet\LWR@mynexttoken\LWR@floatalignment}
66 {}
67 {\LWR@patcherror{caption}{@xdblfloat}}
68 }

```

Updates for late patches for scrextend:

```

69 \caption@AtBeginDocument{
70 \ifpackageloaded{lwarp-scrextend}{
71 \LetLtxMacro\captionbelow\caption
72 \LetLtxMacro\captionabove\caption
73 \LetLtxMacro\captionofbelow\captionof
74 \LetLtxMacro\captionofabove\captionof
75 }{}
76 }

```

---

File 69 **lwarp-caption3.sty**

§ 176 Package **caption3**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg caption3 **caption3** is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{caption3}[2020/10/21]

```

\caption@@@make {<caption label>} {<caption text>}

2 \ifpackagelater{caption3}{2020/08/23}{
3 \renewcommand\caption@@@make[2]{%
4 \LWR@traceinfo{caption@@@make}%

5 \LWR@stoppars% lwarp

6 % \sbox\@tempboxa{#1}%
7 % \ifdim\wd\@tempboxa=\z@
8 % \caption@set{labelseparator}{none}%
9 % \fi
10 \caption@ifempty{#2}{%
11 \caption@set{labelseparator}{none}%
12 \caption@set{textformat}{simple}%
13 }%
14 \caption@labelseparator % defines \caption@iflabelfont,
15 % \caption@labelsep and \caption@labelsep@name
16 % (the latter is needed by \caption@fmt)
17 %

18 % \setpar{\@par\caption@@par}\caption@@par
19 \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

20 % \caption@fmt
21 {\ifcaption@star\else
22 \begingroup
23 \caption@labelfont

24 \LWR@isolate{#1}% lwarp
25 \endgroup
26 \fi}%
27 {\ifcaption@star\else

```

```

28 \begingroup
29 \caption@iflabelfont\captionlabelfont
30 \relax\caption@labelsep
31 \endgroup
32 \fi}%
33 {{\captiontextfont

34 \let\\newline% lwarp
35 %
36 \caption@textstart

37 % \caption@ifstrut
38 % {\vrule\@height\ht\strutbox\@width\z}%
39 % {}%
40 % \nobreak\hskip\z@skip % enable hyphenation

41 \LWR@isolate{\caption@textformat{#2}}% lwarp

42 % \caption@ifstrut
43 % {\ifhmode\@finalstrut\strutbox\fi}%
44 % {}%
45 \caption@textend}}}%

46 \LWR@startpars% lwarp
47 \LWR@traceinfo{caption@@@make done}%
48 }
49 }% later than 2020/08/23
50 {% earlier than 2020/08/23
51 \renewcommand\caption@@@make[2]{%
52 \LWR@traceinfo{caption@@@make}%
53 \LWR@stoppars% lwarp
54 % \sbox\@tempboxa{#1}%
55 % \ifdim\wd\@tempboxa=\z@
56 % \let\caption@lsep\relax
57 % \fi
58 \caption@ifempty{#2}%
59 \let\caption@lsep\@empty
60 \let\caption@tfmt\@firstofone
61 }%
62 % \setpar{\@par\caption@@par}\caption@@par
63 \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

64 % \caption@fmt
65 {\ifcaption@star\else
66 \begingroup
67 \captionlabelfont
68 \LWR@isolate{#1}% lwarp
69 \endgroup
70 \fi}%
71 {\ifcaption@star\else
72 \begingroup
73 \caption@iflfl\captionlabelfont
74 \relax
75 \caption@lsep
76 \endgroup
77 \fi}%

```

```

78 {%
79 \captiontextfont
80 \let\\newline% lwarp
81 % \caption@ifstrut
82 % {\vrule\@height\ht\strutbox\@width\z}%
83 % {}%
84 % \nobreak\hskip\z@skip % enable hyphenation
85 % \LWR@isolate{\caption@tfmt{#2}}% lwarp
86 % \caption@ifstrut
87 % {\ifhmode\@finalstrut\strutbox\fi}%
88 % {}%
89 % }}%
90 \LWR@startpars% lwarp
91 \LWR@traceinfo{caption@@@make done}%
92 }
93}% earlier than 2020/08/23

\caption@@make@ {<>}{<>}

94 \renewcommand{\caption@@make@}[2]{%
95 \caption@stepthecounter%
96 \caption@beginhook%
97 \caption@@make{#1}{#2}%
98 \caption@endhook%
99 }

100 \DeclareCaptionBox{none}{#2}
101 \DeclareCaptionBox{parbox}{%
102 #2%
103 }

104 \DeclareCaptionBox{colorbox}{%
105 #2%
106 }

```

---

## File 70 **lwarp-cases.sty**

### § 177 Package **cases**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg cases **cases** is patched for use by **lwarp**.

While using MATHJAX, **cases** objects are converted to svg math images.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{cases}[2002/05/02]

2 \BeforeBeginEnvironment{numcases}{
3 \begin{BlockClass}{displaymathnumbered}
4 \LWR@newautoidanchor%
5 \booltrue{LWR@indisplaymathimage}%
6 \begin{lateximage}[-cases- \MathImageAltText]

```

---

```

7 }
8
9 \AfterEndEnvironment{numcases}{
10 \end{lateximage}\end{BlockClass}
11 }
12
13 \BeforeBeginEnvironment{subnumcases}{
14 \begin{BlockClass}{displaymathnumbered}
15 \LWR@newautoidanchor%
16 \booltrue{LWR@indisplaymathimage}%
17 \begin{lateximage}[-cases- \MathImageAltText]
18 }
19
20 \AfterEndEnvironment{subnumcases}{
21 \end{lateximage}\end{BlockClass}
22 }

```

---

## File 71 **lwarp-centernot.sty**

### § 178 Package **centernot**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg centernot centernot is used as-is for SVG math, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{centernot}[2016/05/16]

Based on <https://github.com/mathjax/MathJax/issues/2107> with \textstyle removed to work with sub/super scripts.

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\centernot}[1]{%
6 \LWRoverlaysymbols{\unicode{x2215}}{\#1}
7 }}
8 \end{warpMathJax}

```

---

## File 72 **lwarp-changebar.sty**

### § 179 Package **changebar**

Pkg changebar changebar is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{changebar}[2018/03/09]

```

2 \newcommand*{\cbstart}{}
3 \newcommand*{\cbend}{}
4 \newenvironment*{\changebar}{}{}
5 \newcommand*{\cbdelete}{}

```



---

```

6 \newcommand*{\nochnagebars}{}
7 \newcommand*{\cbcolor}[1]{}
8 \newlength{\changebarwidth}
9 \newlength{\deletebarwidth}
10 \newlength{\changebarsep}
11 \newcounter{changebargrey}

```

---

File 73 **lwarp-changelayout.sty**

§ 180 Package **changelayout**

*(Emulates or patches code by AHMED MUSA.)*

Pkg changelayout changelayout is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{changelayout}[2009/10/07]

2 \renewrobustcmd\cpl@backtodefaults{}
3
4 \renewrobustcmd\cpl@checkifoddpagelayout{%
5 \cpl@oddpagelayoutfalse%
6 }
7
8 \renewrobustcmd\changepagelayout[1]{%
9 \setkeys[KV]{changelayout}{#1}%
10 }
11
12 \renewrobustcmd{\changetextlayout}[1]{\changepagelayout{#1}}
13
14 \renewrobustcmd\adjustpagelayout[1]{%
15 \setkeys[KV@X]{changelayout}{#1}%
16 }
17
18 \renewrobustcmd{\adjusttextlayout}[1]{\adjustpagelayout{#1}}
19
20 \renewrobustcmd\adjusttextwidth[1]{%
21 \setkeys[KV]{changelayout}{#1}%
22 \begin{BlockClass}[color:\LWR@colorstyle{named}]{\cpl@textcolor}}{changelayout}
23 \color{\cpl@textcolor}%
24 \cpl@content
25 \end{BlockClass}
26 }

```

---

File 74 **lwarp-changepage.sty**

§ 181 Package **changepage**

*(Emulates or patches code by PETER WILSON.)*

Pkg changepage changepage is ignored.

for HTML output: Discard all options for `lwarp-change`page:

```

1 \LWR@ProvidesPackageDrop{change}{2009/10/20}

2 \newif\ifoddp
3 \DeclareRobustCommand{\checkoddp}{\oddpagetrue}
4 \DeclareRobustCommand{\changetext}[5]{}
5 \DeclareRobustCommand{\change}[9]{}
6
7 \@ifundefined{adjustwidth}{
8 \newenvironment{adjustwidth}[2]{}{}
9 \newenvironment{adjustwidth*}[2]{}{}
10 }{
11 \renewenvironment{adjustwidth}[2]{}{}
12 \renewenvironment{adjustwidth*}[2]{}{}
13 }

14 \DeclareDocumentCommand{\strictpagecheck}{}{}
15 \DeclareDocumentCommand{\easypagecheck}{}{}

```

---

## File 75 `lwarp-changes.sty`

### § 182 Package `changes`

*(Emulates or patches code by EKKART KLEINOD.)*

Pkg `changes` `changes` is patched for use by `lwarp`.

 `\comment` Use `commandnameprefix=i` needed to avoid a conflict with the `\comment` command when using `lwarp`.

for HTML output: `1 \LWR@ProvidesPackagePass{changes}[2021/02/14]`

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```

2 \renewcommand{\ChangesListline}[4]{%
3 \IfIsInList{#1}{\Changes@loc@show}{%
4 \LWR@startpars%
5 #2: #3 \quad
6 \nameref{\BaseJobname-autopage-#4}%
7 \LWR@stoppars%
8 }{}%
9 }
10
11 \renewcommand{\listofchanges}[1][\@empty]{%
12 \setkeys{Changes@loc}{#1}%
13 \ifbool{Changes@optiondraft}{%
14 {%
15 \IfIsInList{\Changes@loc@style}{list|summary|compactsummary}%
16 }{}%
17 {%
18 \PackageWarning{changes}{Wrong style for list of changes: '\Changes@loc@style', using 'list' instead.}%

```

```

19 \def\Changes@loc@style{%
20 }%
21 \IfIsEmpty{\Changes@loc@style}%
22 {\def\Changes@loc@style{list}}%
23 }%
24 \IfStrEq{\Changes@loc@show}{all}%
25 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
26 }%
27 \IfIsInList{\Changes@loc@show}{added|deleted|replaced|highlight|comment}%
28 }%
29 {%
30 \PackageWarning{changes}{Wrong show-value for list of changes: '\Changes@loc@show', using 'all' instead.}%
31 \def\Changes@loc@show{}%
32 }%
33 \IfIsEmpty{\Changes@loc@show}%
34 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
35 }%
36 \IfIsEmpty{\Changes@loc@title}%
37 {%
38 \IfStrEq{\Changes@loc@style}{list}%
39 {\def\Changes@heading{\listofchangesname}}}%
40 \IfStrEq{\Changes@loc@style}{summary}%
41 {\def\Changes@heading{\summaryofchangesname}}}%
42 \IfStrEq{\Changes@loc@style}{compactsummary}%
43 {\def\Changes@heading{\compactsummaryofchangesname}}}%
44 }%
45 {\def\Changes@heading{\Changes@loc@title}}%
46 \section*{\Changes@heading}
47 \IfIsInList{\Changes@loc@style}{list}%
48 {%
49 \IfFileExists{\jobname.\Changes@loc@extension}%
50 {%
51 \newread\Changes@InFile%
52 \openin\Changes@InFile=\jobname.\Changes@loc@extension%
53 \loop\unless\ifeof\Changes@InFile%
54 \read\Changes@InFile to \Changes@Line%
55 \ifeof\Changes@InFile\else%
56 \Changes@Line%
57 \fi
58 \repeat
59 \closein\Changes@InFile%
60 }{%
61 \emph{\changesnocloc}%
62 \PackageWarning{changes}{LaTeX rerun needed for list of changes}%
63 }%
64 }{%
65 \IfIsInList{\Changes@loc@style}{summary|compactsummary}%
66 {%
67 \IfFileExists{\jobname.\Changes@soc@extension}%
68 {%
69 \newread\Changes@InFile%
70 \openin\Changes@InFile = \jobname.\Changes@soc@extension%
71 \loop\unless\ifeof\Changes@InFile%
72 \read\Changes@InFile to \Changes@Line%
73 \ifeof\Changes@InFile\else%

```

```

74 \expandafter\changes@chopline\Changes@Line\\%
75 \textbf{%
76 \IfIsColored%
77 {\color{\Changes@Incolor}}%
78 }%
79 \IfIsAnonymous{\Changes@Inid}%
80 {%
81 \LWR@textcurrentcolor{% lwarp
82 \changesauthorname: \changesanonymousname%
83 }% lwarp
84 }%
85 {%
86 \LWR@textcurrentcolor{% lwarp
87 \changesauthorname: \Changes@Inid%
88 }% lwarp
89 \IfIsEmpty{\Changes@Inname}%
90 }%
91 { %
92 \LWR@textcurrentcolor{% lwarp
93 (\Changes@Inname)%
94 }% lwarp
95 }%
96 }%
97 }\\%
98 \numdef{\Changes@InSum}{0}%
99 \renewcommand*{\do}[1]{%
100 \numdef{\Changes@InSum}{\Changes@InSum + \csuse{Changes@In#####1}}%
101 }%
102 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
103 \ifnumcomp{\Changes@InSum}{=}{0}%
104 {%
105 % \parbox{\Changes@summary@width}{% lwarp
106 \changesnochanges%
107 % }% lwarp
108 % \\[1ex]% lwarp
109 \par% \lwarp
110 }%
111 {%
112 \numdef{\Changes@InCount}{0}%
113 \renewcommand*{\do}[1]{%
114 \numdef{\Changes@InCount}{\Changes@InCount + \csuse{Changes@In#####1}}%
115 \ifboolexpr{%
116 not test {\IfStrEq{\Changes@loc@style}{compactsummary}} or%
117 test {\ifnumgreater{\csuse{Changes@In#####1}}{0}}%
118 }%
119 {%
120 % \parbox{\Changes@summary@width}{% lwarp
121 \csuse{changes#####1name}~%
122 % \let\cleaders\leaders\dotfill~% lwarp
123 \dotfill~% \lwarp
124 \csuse{Changes@In#####1}%
125 % }% lwarp
126 % \ifnumless{\Changes@InCount}{\Changes@InSum}% lwarp
127 {\}%
128 % \\[1ex]% lwarp

```

```

129 }%
130 {}%
131 }%
132 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
133 \par% lwarp
134 }%
135 \fi%
136 \repeat
137 \closein\Changes@InFile%
138 }{%
139 \emph{\changesnosoc}%
140 \PackageWarning{changes}{LaTeX rerun needed for summary of changes}%
141 }%
142 {}%
143 {}%
144 }
145
146
147 \renewcommand{\Changes@Markup@comment}[3]{%
148 \IfStrEq{\Changes@optioncommentmarkup}{todo}%
149 {%
150 \IfIsColored%
151 {\colorlet{Changes@todocolor}{authorcolor}}%
152 {\colorlet{Changes@todocolor}{black}}%
153 \todo[color=Changes@todocolor!10, bordercolor=Changes@todocolor, linecolor=Changes@todocolor!70, nolist
154]{}%
155 \IfStrEq{\Changes@optioncommentmarkup}{margin}%
156 {%
157 \marginpar{%
158 \IfIsColored%
159 {\leavevmode\color{authorcolor}}%
160 {}%
161 \LWR@textcurrentcolor{% lwarp
162 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}]:} #1%
163 }% lwarp
164 }%
165 {}%
166 \IfStrEq{\Changes@optioncommentmarkup}{footnote}%
167 {%
168 \footnote{%
169 \LWR@textcurrentcolor{% lwarp
170 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}]:} #1%
171 }% lwarp
172 }%
173 {}%
174 \IfStrEq{\Changes@optioncommentmarkup}{uwave}%
175 {%
176 {%
177 \IfIsColored%
178 {\color{authorcolor}}%
179 {}%
180 \allowbreak%
181 \uwave{%
182 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}]:} #1%
183 }%

```

```
184 }%
185 {}%
186 }
187
188 \renewrobustcmd{\Changes@output}[7]{%
189 \ifbool{Changes@optiondraft}%
190 {%
191 \Changes@check@author{#2}%
192 \Changes@set@color{#2}%
193 {%
194 \IfIsInList{#1}{added|deleted|replaced|highlight}%
195 {%
196 \IfIsEmpty{#5}%
197 {%
198 \IfIsAuthorEmptyAtPosition{#2}{left}%
199 }%
200 {%
201 \IfIsColored%
202 {\color{authorcolor}}%
203 }%
204 \LWR@textcurrentcolor{% lwarp
205 \Changes@Markup@author{\Changes@output@author{#2}{left}}%
206 }% lwarp
207 }}%
208 {}%
209 {%
210 \IfStrEq{#1}{highlight}%
211 {}%
212 \IfIsColored%
213 {\color{authorcolor}}%
214 }%
215 }%
216 \LWR@textcurrentcolor{% lwarp
217 \IfStrEq{#1}{added}{\Changes@Markup@added{#3}}{}%
218 \IfStrEq{#1}{deleted}{\Changes@Markup@deleted{#4}}{}%
219 \IfStrEq{#1}{replaced}{\Changes@Markup@added{#3}\allowbreak\Changes@Markup@deleted{#4}}{}%
220 \IfStrEq{#1}{highlight}{\Changes@Markup@highlight{#3}}{}%
221 }% lwarp
222 }%
223 \IfIsEmpty{#5}%
224 {%
225 \IfIsAuthorEmptyAtPosition{#2}{right}%
226 }%
227 {%
228 \IfIsColored%
229 {\color{authorcolor}}%
230 }%
231 \LWR@textcurrentcolor{% lwarp
232 \Changes@Markup@author{\Changes@output@author{#2}{right}}%
233 }% lwarp
234 }}%
235 {}%
236 \stepcounter{Changes@#1Count#2}%
237 }{}%
238 \IfIsEmpty{#5}%
```

---

```

239 {}%
240 {%
241 \stepcounter{Changes@commentCount#2}%
242 \Changes@set@commentcount{#2}%
243 \Changes@Markup@comment%
244 {#5}%
245 {#2}%
246 {\Changes@output@author{#2}{left}\Changes@output@author{#2}{right}}%
247 }%
248 }%
249 \IfIsEmpty{#2}%
250 {\def\Changes@locid{}}%
251 {\def\Changes@locid{~(#2)}}%
252 \addtocontents{\Changes@locextension}{\protect\ChangesListline{#1}{#6\Changes@locid}{#7}{\thepage}}%
253 }%
254 {%
255 \IfIsEmpty{#3}%
256 {\@bsphack\@esphack}%
257 {#3}%
258 }%
259 }

```

---

## File 76 **lwarp-chappg.sty**

### § 183 Package **chappg**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg chappg **chappg** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{chappg}[2006/05/09]

2 \renewcommand{\pagenumbering}[2][{}]{
3 \providecommand{\chappgsep}{--}

```

---

## File 77 **lwarp-chapterbib.sty**

### § 184 Package **chapterbib**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg chapterbib **chapterbib** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{chapterbib}[2010/09/18]

2 \xdef\@savedjobname{\BaseJobname}
3 \let\@currentipfile\@savedjobname

```

---

## File 78 **lwarp-chemfig.sty**

## § 185 Package **chemfig**

(Emulates or patches code by CHRISTIAN TELLECHEA.)

Pkg chemfig **chemfig** is patched for use by **lwarp**.

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{...}
\polymerdelim[...]{...}
\end{lateximage}
```

The images are not hashed because they depend on external settings which may be changed at any time, and are unlikely to be reused inline anyhow.

for HTML output:

```
1 \LWR@ProvidesPackagePass{chemfig}[2020/03/05]
2
3 \catcode'_ =11
4
5 \ifpackagelater{chemfig}{2020/03/05}
6 {
7 \xpretocmd\charge{\begin{lateximage}[-chemfig-~\PackageDiagramAltText]}
8 {}{\LWR@patcherror{chemfig}{charge}}
9 \xpretocmd\Charge{\begin{lateximage}[-chemfig-~\PackageDiagramAltText]}
10 {}{\LWR@patcherror{chemfig}{Charge}}
11 \xapptocmd\charge_c{\end{lateximage}}
12 {}{\LWR@patcherror{chemfig}{charge_c}}
13 }{}
14
15 \ifpackagelater{chemfig}{2019/04/18}%
16 {% 2019/04/18 or newer
17
18
19 \LetLtxMacro\LWR@chemfig@origchemfig\chemfig
20
21 \renewcommand*{\chemfig}[2][{}]{%
22 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
23 \LWR@chemfig@origchemfig[#1]{#2}%
24 \end{lateximage}%
25 }
26
27 \GlobalLetLtxMacro\LWR@chemfig@origCF_lewisc\CF_lewisc
28 \gdef\CF_lewisc#1,#2_nil{%
29 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
30 \LWR@chemfig@origCF_lewisc#1,#2_nil
31 \end{lateximage}
32 }
33
34 \gpreto{\schemestart}{%
35 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
36 }
37 \gappto{\CF_schemestop}{\end{lateximage}}
38 }
```



```

39 }% 2019/04/18 or newer
40 {% older than 2019/04/18
41
42 \LetLtxMacro\LWR@chemfig@origchemfig\chemfig
43
44 \DeclareDocumentCommand\chemfig{s O{} O{} m}{%
45 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
46 \IfBooleanTF{#1}{%
47 \LWR@chemfig@origchemfig*[#2][#3]{#4}%
48 }{%
49 \LWR@chemfig@origchemfig[#2][#3]{#4}%
50 }
51 \end{lateximage}%
52 }
53
54 \LetLtxMacro\LWR@chemfig@origCF@Lewis@b\CF@Lewis@b
55
56 \def\CF@Lewis@b#1#2{%
57 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
58 \LWR@chemfig@origCF@Lewis@b{#1}{#2}%
59 \end{lateximage}%
60 }
61
62 \preto{\schemestart}{%
63 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
64 }
65 \appto{\CF@schemestop}{\end{lateximage}}
66
67 }% older than 2019/04/18
68
69 \catcode'_ =8%
70
71
72
73 \LetLtxMacro\LWR@chemfig@origchemleft\chemleft
74
75 \def\chemleft#1#2\chemright#3{%
76 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
77 \LWR@chemfig@origchemleft#1#2\chemright#3%
78 \end{lateximage}%
79 }
80
81 \LetLtxMacro\LWR@chemfig@origchemup\chemup
82
83 \def\chemup#1#2\chemdown#3{%
84 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
85 \LWR@chemfig@origchemup#1#2\chemdown#3%
86 \end{lateximage}%
87 }

```

## § 186 Package **chemformula**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemformula **chemformula** is patched for use by lwarp.

The svg images are hashed according to contents and local options. Global options are assumed to be constant document-wide.

 **chemformula with MATHJAX** **chemformula** works best without MATHJAX. If MATHJAX is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The **chemformula** package adapts to `array`, but does not know about MATHJAX, and MATHJAX does not know about **chemformula**.)

While using MATHJAX, `\displaymathother` may also be used for other forms of display and inline math which contain **chemformula** expressions.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{chemformula}[2019/10/13]
2 \ExplSyntaxOn
```

`\ch` Enclose in an inline svg image or MATHJAX. The `alt` tag is the contents of the `\ch` expression. The filename is hashed, and also has additional hashing information based on the local options.

```
3 \RenewDocumentCommand \ch { O{}m }
4 {%
```

To work inside `align` with `\displaymathother`, a simple version must be used to work with **chemformula**'s adaptation to `align`.

```
5 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
6 {
7 \chemformula_ch:nn {#1} {#2}% original
8 }
```

If used as the outer level, must temporarily ensure MATHJAX is disabled:

```
9 {
10 \begingroup%
11 \boolfalse{mathjax}%
```

An inline image is used, adjusted for the baseline:

```
12 \LWR@subsingledollar*{% lwarp
13 \textbackslash{ch{\LWR@HTMLsanitize{#2}\}% alt text
14 }{%
15 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}% add'l hashing
16 }%
17 {%
18 \chemformula_ch:nn {#1} {#2}% original
19 }%
20 \endgroup%
21 }
22 }
```

\chcpd    Similar to \ch.

```

23 \ifpackagelater{chemformula}{2019/10/13}{
24 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
25 {
26 \begingroup%
27 \boolfalse{mathjax}%
28 \LWR@subsingledollar*{% lwarp
29 \textbackslash{}chcpd\{\LWR@HTMLsanitize{#2}\}%
30 }{%
31 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
32 }{% original
33 \group_begin:
34 \tl_if_blank:nF {#2}
35 {
36 \keys_set:nn {chemformula} {#1}
37 __chemformula_save_catcodes:
38 __chemformula_sanitize:Nn
39 \l__chemformula_chemformula_tmpa_tl
40 {#2}
41 __chemformula_input_compound_no_check:NV
42 \l__chemformula_compound_tl
43 \l__chemformula_chemformula_tmpa_tl
44 __chemformula_prepare_output:NV
45 \l__chemformula_compound_tl
46 \l__chemformula_catcodes_tl
47 \chemformula_write:V \l__chemformula_compound_tl
48 }
49 \group_end:
50 }
51 \endgroup
52 }
53 }% later than 2019/10/13
54 {% earlier than 2019/10/13
55 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
56 {
57 \begingroup%
58 \boolfalse{mathjax}%
59 \LWR@subsingledollar*{% lwarp
60 \textbackslash{}chcpd\{\LWR@HTMLsanitize{#2}\}%
61 }{%
62 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
63 }{% original
64 \group_begin:
65 \tl_if_blank:nF {#2}
66 {
67 \keys_set:nn {chemformula} {#1}
68 __chemformula_save_catcodes:
69 __chemformula_sanitize:Nn
70 \l__chemformula_chemformula_tmpa_tl
71 {#2}
72 __chemformula_input_compound_no_check:NV
73 \l__chemformula_compound_tl
74 \l__chemformula_chemformula_tmpa_tl
75 __chemformula_prepare_output:N \l__chemformula_compound_tl
76 \chemformula_write:V \l__chemformula_compound_tl

```

```

77 }
78 \group_end:
79 }
80 \endgroup
81 }
82}% earlier than 2019/10/13

```

`\charrow` If standalone, appears in a regular `lateximage`.

```

83 \RenewDocumentCommand \charrow { mO{}O{} }
84 {
85 \begin{lateximage}[-chemformula- charrow]
86 \group_begin:
87 __chemformula_draw_arrow:nnn {#1} {#2} {#3}
88 \group_end:
89 \end{lateximage}
90 }

```

`\chname` If standalone, appears in a regular `lateximage`, hashed according to contents.

```

91 \RenewDocumentCommand \chname { R(){}R(){} }
92 {
93 \begin{lateximage}*[%
94 \textbackslash{}chname(\LWR@HTMLsanitize{#1})(\LWR@HTMLsanitize{#2})
95]*%
96 \chemformula_chwritebelow:nn {#1} {#2}
97 \end{lateximage}
98 }

```

`\chlewis` Placed inline, hashed according to contents and options.

```

99 \RenewDocumentCommand \chlewis { O{}mm }
100 {
101 \begingroup%
102 \boolfalse{mathjax}%
103 \LWR@subsingledollar*{\textbackslash{}chlewis\{#2\}\{#3\}}%
104 {
105 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
106 }{
107 \chemformula_lewis:nnn {#1} {#2} {#3}
108 }
109 \endgroup%
110 }

```

**lwarp** redefines the `$` character, so special handling is required to escape math expressions inside `\ch`.

This boolean tracks a new kind of escaped math:

```

111 \bool_new:N \l__chemformula_first_last_LWRdollar_bool

```

`\chemformula_input_escape_math`

Adds additional escaping for the new dollar definition:

```

112 \cs_gset_protected:Npn __chemformula_input_escape_math:n #1
113 {
114 __chemformula_first_last_math:n {#1}
115 \bool_if:NT \l__chemformula_first_last_dollar_bool
116 {
117 \bool_set_true:N \l__chemformula_first_last_math_bool
118 __chemformula_read_escape_dollar:w #1 \q_nil
119 }
120 \bool_if:NT \l__chemformula_first_last_mathbraces_bool
121 {
122 \bool_set_true:N \l__chemformula_first_last_math_bool
123 __chemformula_read_escape_mathbraces:w #1 \q_nil
124 }

```

Added by **lwarp**:

```

125 \bool_if:NT \l__chemformula_first_last_LWRdollar_bool% lwarp
126 {
127 \bool_set_true:N \l__chemformula_first_last_math_bool% lwarp
128 __chemformula_read_escape_LWRdollar:w #1 \q_nil% lwarp
129 }
130 }

```

**\chemformula\_read\_escape\_LWRdollar**

The following parses the contents inside the new dollars.

**lwarp** keeps the dollar as its original math shift until the document starts. While **chemmacros** is being patched, the dollar must temporarily be set to its new meaning during the following definition.

```

131 \begingroup
132 \catcode'\$=\active
133
134 \cs_new_protected:Npn __chemformula_read_escape_LWRdollar:w $#1$ \q_nil
135 {
136 __chemformula_read_escape_math:n {#1}
137 }
138
139 \endgroup

```

**\chemformula\_bool\_set\_if\_first\_last**

The following looks at the first and last tokens for delimiters to escape math inside **\ch**. The original definition is modified to look for the control sequences which are used by the new meaning of **\$**.

```

140 \cs_new_protected:Npn __chemformula_bool_cs_set_if_first_last:NnNN #1#2#3#4
141 {
142 \int_zero:N \l__chemformula_tmpa_int
143 \int_zero:N \l__chemformula_tmpb_int
144 \int_set:Nn \l__chemformula_tmpa_int { \tl_count:n {#2} }
145 \tl_map_inline:nn {#2}
146 {

```

```

147 \int_incr:N \l__chemformula_tmpb_int
148 \int_compare:nT { \l__chemformula_tmpb_int = 1 }
149 {

```

At the start, the cs\_ version compares control sequences:

```

150 \ifdefstrequal{##1}{#3}% lwarp
151 {
152 \bool_set_true:N #1
153 }% lwarp
154 {}
155 }

```

At the end, compare more control sequences:

```

156 \int_compare:nT { \l__chemformula_tmpb_int = \l__chemformula_tmpa_int }
157 {
158 \ifdefstrequal{##1}{#4}
159 {}
160 {
161 \bool_set_false:N #1
162 }
163 }
164 }
165 }

```

\chemformula\_first\_last\_math

Modified to check for the new meaning of \$ at first/last:

```

166 \cs_gset_protected:Npn __chemformula_first_last_math:n #1
167 {
168 \bool_set_false:N \l__chemformula_first_last_math_bool
169 \bool_set_false:N \l__chemformula_first_last_dollar_bool
170 \bool_set_false:N \l__chemformula_first_last_LWRdollar_bool% lwarp
171 \bool_set_false:N \l__chemformula_first_last_mathbraces_bool
172 __chemformula_bool_set_if_first_last:Nnnn
173 \l__chemformula_first_last_dollar_bool
174 {#1}
175 { $ } { $ }
176 \bool_if:NF \l__chemformula_first_last_dollar_bool
177 {
178 __chemformula_bool_set_if_first_last:Nnnn
179 \l__chemformula_first_last_mathbraces_bool
180 {#1}
181 { \ (} { \) }

```

Added by lwarp:

```

182 \bool_if:NF \l__chemformula_first_last_mathbraces_bool% lwarp
183 {
184 __chemformula_bool_cs_set_if_first_last:NnnN
185 \l__chemformula_first_last_LWRdollar_bool
186 {#1}
187 { \LWR@newsingledollar } { \LWR@newsingledollar }
188 }% lwarp
189 }
190 }

```

---

```
191 \ExplSyntaxOff
```

---

File 80 **lwarp-chemgreek.sty**

§ 187 Package **chemgreek**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg chemgreek chemgreek is patched for use by lwarp.

 **Greek symbols** To use text-mode symbols, use packages **textalpha** or **textgreek**. Using the other packages supported by **chemgreek** will result in math-mode greek characters, which will result in svg images being used. These images will be hashed.

 **X<sub>Y</sub>LaTeX, LuaLaTeX** If using X<sub>Y</sub>LaTeX or LuaLaTeX, select the fontspec mapping:

```
\selectchemgreekmapping{fontspec}
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemgreek}[2020/01/16]

```
2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemgreek_text:n #1
5 { { \text {#1} } }
6
7 \appto\LWR@restoreorigformatting{%
8 \cs_set_protected:Npn \chemgreek_text:n #1%
9 { \ensuremath { \text {#1} } }%
10 }
11
12 \ExplSyntaxOff
```

---

File 81 **lwarp-chemmacros.sty**

§ 188 Package **chemmacros**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg chemmacros chemmacros is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemmacros}[2017/08/28]

svg file hashing assumes that the relevant options are constant for the entire document.

### § 188.1 Changes to the user's document

 **\makepolymerdelims** When using `\makepolymerdelims`, enclose the entire expression inside a `polymerdelims` environment, such as (from the `chemmacros` manual):

```
\begin{polymerdelims}
\chemfig{-[@{op,.75}]CH_2-CH(-[6]Cl)-[@{cl,0.25}]}
\makepolymerdelims{5pt}[27pt]{op}{cl}
\end{polymerdelims}
```

 **redox reactions** Redox reactions must be enclosed inside a `redoxreaction` environment. For print output, extra space must be included above and/or below the result, so they are declared as arguments to the environment, instead of being manually entered as per the `chemmacros` manual. For HTML output, the extra space is ignored and a `lateximage` is used instead.

```
\begin{redoxreaction}{7mm}{7mm}
\OX{a,Na} $\rightarrow$ \OX{b,Na}\pch{redox(a,b){oxidation}}
\end{redoxreaction}
```

### § 188.2 Code

#### § 188.3 Loading modules

Patching `chemmacros` modules must be done `\AtBeginDocument`, since modules are invoked by the user in the preamble, and each patch is only done if the module is loaded.

```
2 \ExplSyntaxOn
3
4 \newcommand{\ifchemmacrosmoduleloaded}[1]{%
5 \ifl@aded{\c__chemmacros_module_extension_tl}{\c__chemmacros_module_prefix_tl.#1}%
6 }
7
8 \ExplSyntaxOff
```

#### § 188.4 New environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in HTML mode, and in the `lwarp` core in print mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate alt tag.

Env `polymerdelims`

```
9 \DeclareDocumentEnvironment{polymerdelims}{}
10 {\begin{lateximage}[-chemmacros- polymer]}
11 {\end{lateximage}}
```

Env `redoxreaction` `{\space above}{\space below}`

For HTML output, the above and below space is ignored, and a `lateximage` is used instead. For the print output version, see section 89.



```

12 \DeclareDocumentEnvironment{redoxreaction}{m m}
13 {\begin{lateximage}[-chemmacros- redoxreaction]}
14 {\end{lateximage}}

15 \ExplSyntaxOn

```

## § 188.5 Acid-base

```

16 \AtBeginDocument{
17 \ifchemmacrosmoduleloaded{acid-base}{
18 \PackageInfo{lwarp}{Patching~chemmacros~module~acid-base}
19
20 \cs_gset_protected:Npn \chemmacros_p:n #1
21 {
22 \begingroup
23 \boolfalse{mathjax}
24 \LWR@subsingledollar*{
25 \textbackslash{}p\{\LWR@HTMLsanitize{#1}\}
26 }{
27 chemmacrosp\protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
28 }{
29 \group_begin:
30 \mbox
31 {
32 \chemmacros_p_style:n {p}
33 \ensuremath {#1}
34 }
35 \group_end:
36 }
37 \endgroup
38 }
39
40 \RenewDocumentCommand \pH {} {
41 \begingroup
42 \boolfalse{mathjax}
43 \LWR@subsingledollar*{\textbackslash{}pH}{chemmacros}{
44 \chemmacros_p:n { \chemmacros_chemformula:n {H} }
45 }
46 \endgroup
47 }
48
49 \RenewDocumentCommand \pOH {} {
50 \begingroup
51 \boolfalse{mathjax}
52 \LWR@subsingledollar*{\textbackslash{}pOH}{chemmacros}{
53 \chemmacros_p:n { \chemmacros_chemformula:n {OH} }
54 }
55 \endgroup
56 }
57
58 \RenewDocumentCommand \pKa {O{}}
59 {
60 \begingroup
61 \boolfalse{mathjax}
62 \LWR@subsingledollar*{\textbackslash{}pKa{[]#1{[]}}{chemmacros #1}{

```

```

63 \chemmacros_p:n
64 {
65 \Ka \ifblank {#1} {}
66 { {} \c_math_subscript_token { \chemmacros_bold:n {#1} } }
67 }
68 }
69 \endgroup
70 }
71
72 \RenewDocumentCommand \pKb {O{}}
73 {
74 \begingroup
75 \boolfalse{mathjax}
76 \LWR@subsingledollar*{\textbackslash{}pKb{[]#1[]}}{chemmacros #1}{
77 \chemmacros_p:n
78 {
79 \Kb \ifblank {#1} {}
80 { {} \c_math_subscript_token { \chemmacros_bold:n {#1} } }
81 }
82 }
83 \endgroup
84 }
85
86 \LetLtxMacro\LWR@chemmacros@origKa\Ka
87 \renewcommand*{\Ka}{%
88 \begingroup
89 \boolfalse{mathjax}
90 \LWR@subsingledollar*{\textbackslash{}Ka}{chemmacros}{%
91 \LWR@chemmacros@origKa%
92 }%
93 \endgroup
94 }
95
96 \LetLtxMacro\LWR@chemmacros@origKb\Kb
97 \renewcommand*{\Kb}{%
98 \begingroup
99 \boolfalse{mathjax}
100 \LWR@subsingledollar*{\textbackslash{}Kb}{chemmacros}{%
101 \LWR@chemmacros@origKb%
102 }%
103 \endgroup
104 }
105
106 \LetLtxMacro\LWR@chemmacros@origKw\Kw
107 \renewcommand*{\Kw}{%
108 \begingroup
109 \boolfalse{mathjax}
110 \LWR@subsingledollar*{\textbackslash{}Kw}{chemmacros}{
111 \LWR@chemmacros@origKw
112 }
113 \endgroup
114 }
115
116 }{}% \@ifchemmacrosmoduleloaded
117 }% AtBeginDocument

```

## § 188.6 Charges

```

118 \AtBeginDocument{
119 \ifchemmacrosmoduleloaded{charges}{
120 \PackageInfo{lwarp}{Patching~chemmacros~module~charges}
121
122 \cs_gset_protected:Npn \fplus {
123 \begingroup
124 \boolfalse{mathjax}
125 \LWR@subsingledollar*{\textbackslash{fplus}}{chemmacros}
126 { \LWR@origensuredmath{\chemformula_fplus:} }
127 \endgroup
128 }
129 \cs_gset_protected:Npn \fminus {
130 \begingroup
131 \boolfalse{mathjax}
132 \LWR@subsingledollar*{\textbackslash{fminus}}{chemmacros}
133 { \LWR@origensuredmath{\chemformula_fminus:} }
134 \endgroup
135 }
136
137 }{}% \ifchemmacrosmoduleloaded
138 }% AtBeginDocument

```

## § 188.7 Nomenclature

```

139 \AtBeginDocument{
140 \ifchemmacrosmoduleloaded{nomenclature}{
141 \PackageInfo{lwarp}{Patching~chemmacros~module~nomenclature}
142
143 \cs_gset_protected:Npn \chemmacros_charge:n #1
144 {
145 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{
146 {\chemmacros_chemformula:n { {}^{#1} }}
147 {
148 \ifmmode
149 {\chemmacros_chemformula:n { {}^{#1} }}
150 \else
151 { \textsuperscript{\ensuremath{#1}} }
152 \fi
153 }
154 }
155
156
157 \LetLtxMacro\LWR@chemmacros@origchemprime\chemprime
158
159 \protected\def\chemprime { \HTMLUnicode{2032} }
160
161 \appto\LWR@restoreorigformatting{%
162 \LetLtxMacro\chemprime\LWR@chemmacros@origchemprime%
163 }
164
165 \ChemCompatibilityFrom{5.8}
166 \cs_gset_protected:Npn __chemmacros_cip:n #1
167 {
168 \tl_set:Nn \l__chemmacros_tmpa_tl {#1}

```

```

168 \int_step_inline:nnnn {0} {1} {9}
169 {
170 \tl_replace_all:Nnn \l__chemmacros_tmpa_tl
171 {##1}
172 { { \l__chemmacros_cip_number_tl ##1} }
173 }
174 {
175 \l__chemmacros_cip_inner_tl
176 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
177 \l__chemmacros_tmpa_tl
178 }}% lwarp
179 }
180 }
181 \EndChemCompatibility

182 \RenewDocumentCommand \Sconf { 0{S} } {
183 \begin{lateximage}[\textbackslash{}Sconf{[]#1{}}]*
184 \chemmacros_sconf:n {#1}
185 \end{lateximage}
186 }
187
188 \RenewDocumentCommand \Rconf { 0{R} } {
189 \begin{lateximage}[\textbackslash{}Rconf{[]#1{}}]*
190 \chemmacros_rconf:n {#1}
191 \end{lateximage}
192 }

193 \cs_gset_protected:Npn \chemmacros_hapto:n #1
194 {
195 \begingroup
196 \boolfalse{mathjax}
197 \LWR@subsingledollar*{\textbackslash{}hapto\{#1\}}{\chemmacros}{
198 \chemmacros_coordination_symbol:nnnn
199 { \l__chemmacros_coord_use_hyphen_bool }
200 {
201 \chemmacros_if_compatibility:nnTF {>} {5.7}
202 { \c_true_bool }
203 { \c_false_bool }
204 }
205 { \chemeta }
206 {#1}
207 }
208 \endgroup
209 }
210
211 \cs_gset_protected:Npn \chemmacros_dento:n #1
212 {
213 \begingroup
214 \boolfalse{mathjax}
215 \LWR@subsingledollar*{\textbackslash{}dento\{#1\}}{\chemmacros}{
216 \chemmacros_coordination_symbol:nnnn
217 { \l__chemmacros_coord_use_hyphen_bool }
218 {
219 \chemmacros_if_compatibility:nnTF {>} {5.7}
220 { \c_true_bool }
221 { \c_false_bool }

```

```

222 }
223 { \chemkappa }
224 {#1}
225 }
226 \endgroup
227 }
228
229 \cs_gset_protected:Npn \chemmacros_bridge:n #1
230 {
231 \begingroup
232 \boolfalse{mathjax}
233 \LWR@subsingledollar*{\textbackslash{}bridge\{#1\}}{chemmacros}{
234 \chemmacros_coordination_symbol:nnnn
235 { \l__chemmacros_coord_use_hyphen_bool }
236 { \l__chemmacros_bridge_super_bool }
237 { \chemmu }
238 {#1}
239 }
240 \endgroup
241 }
242 }{}% \@ifchemmacrosmoduleloaded
243 }% AtBeginDocument

```

## § 188.8 Particles

```

244 \AtBeginDocument{
245 \@ifchemmacrosmoduleloaded{particles}{
246 \PackageInfo{lwarp}{Patching~chemmacros~module~particles}
247
248 \cs_gset_protected:Npn \chemmacros_declare_nucleophile:Nn #1#2
249 {
250 \cs_set_protected:cpn {__chemmacros_ \chemmacros_remove_backslash:N #1:}
251 {
252 \bool_if:NTF \l__chemmacros_nucleophile_elpair_bool
253 {
254 \chemmacros_elpair:n { #2 }
255 \chemmacros_if_compatibility:nnT {>=} {5.3}
256 { \skip_horizontal:N \l__chemmacros_nucleophile_dim }
257 \chemmacros_chemformula:n { {}^{ } }
258 }
259 { \chemmacros_chemformula:n { #2^{ } } }
260 }
261 \DeclareDocumentCommand #1 {o}
262 {%
263 \begin{lateximage}%
264 \group_begin:%
265 \IfNoValueF {##1}%
266 { \chemmacros_set_keys:nn {particles} {##1} }%
267 \use:c {__chemmacros_ \chemmacros_remove_backslash:N #1:}%
268 \group_end:%
269 \end{lateximage}%
270 }
271 }
272
273 \RenewChemNucleophile \Nuc {Nu}
274 \RenewChemNucleophile \ba {ba}

```

```

275
276 }{}% \@ifchemmacrosmoduleloaded
277 }% AtBeginDocument

```

### § 188.9 Phases

```

278 \AtBeginDocument{
279 \@ifchemmacrosmoduleloaded{phases}{
280 \PackageInfo{lwarp}{Patching~chemmacros~module~phases}
281
282 \cs_undefine:N \chemmacros_phase:n
283 \cs_new_protected:Npn \chemmacros_phase:n #1
284 {
285
286 \mode_leave_vertical:
287
288 \bool_if:NTF \l__chemmacros_phases_sub_bool
289 {
290 \ifnumequal{\value{LWR@lateximagedepth}}{0}
291 {
292 \textsubscript{ (#1) }
293 }
294 {
295 \chemformula_subscript:n { (#1) }
296 }
297 }
298 {
299 \skip_horizontal:N \l__chemmacros_phases_space_dim
300 \chemmacros_text:n { (#1) }
301 }
302 }{}% \@ifchemmacrosmoduleloaded
303 }% AtBeginDocument

```

### § 188.10 Mechanisms

```

304 \AtBeginDocument{
305 \@ifchemmacrosmoduleloaded{mechanisms}{
306 \PackageInfo{lwarp}{Patching~chemmacros~module~mechanisms}
307
308 \chemmacros_define_keys:nn {textmechanisms}
309 {
310 type .choice: ,
311 type / .code:n =
312 {
313 __chemmacros_set_mechanisms:nnn { S }
314 {
315 \textsubscript{N}
316 }
317 } ,
318 type / 1 .code:n =
319 {
320 __chemmacros_set_mechanisms:nnn { S }

```

```

322 {
323 \textsubscript{N}
324 1
325 }
326 { }
327 },
328 type / 2 .code:n =
329 {
330 __chemmacros_set_mechanisms:nnn { S }
331 {
332 \textsubscript{N}
333 2
334 }
335 { }
336 },
337 type / se .code:n =
338 {
339 __chemmacros_set_mechanisms:nnn { S }
340 {
341 \textsubscript{E}
342 }
343 { }
344 },
345 type / 1e .code:n =
346 {
347 __chemmacros_set_mechanisms:nnn { S }
348 {
349 \textsubscript{E}
350 1
351 }
352 { }
353 },
354 type / 2e .code:n =
355 {
356 __chemmacros_set_mechanisms:nnn { S }
357 {
358 \textsubscript{E}
359 2
360 }
361 { }
362 },
363 type / ar .code:n =
364 {
365 __chemmacros_set_mechanisms:nnn { S }
366 {
367 \textsubscript{E}
368 }
369 { Ar - }
370 },
371 type / e .code:n =
372 { __chemmacros_set_mechanisms:nnn { E } { } { } } ,
373 type / e1 .code:n =
374 { __chemmacros_set_mechanisms:nnn { E } { 1 } { } } ,
375 type / e2 .code:n =
376 { __chemmacros_set_mechanisms:nnn { E } { 2 } { } } ,

```

```

377 type / cb .code:n =
378 {
379 __chemmacros_set_mechanisms:nnn { E }
380 {
381 1
382 \textsubscript{cb}
383 }
384 { }
385 } ,
386 type .default:n =
387 }
388
389 \cs_gset_protected:Npn \chemmacros_mechanisms:n #1
390 {
391 \tl_if_blank:nTF {#1}
392 { \chemmacros_set_keys:nn {textmechanisms} { type } }
393 { \chemmacros_set_keys:nn {textmechanisms} { type = #1 } }
394 \mbox
395 {
396 \tl_use:N \l__chemmacros_mechanisms_ar_tl
397 \tl_use:N \l__chemmacros_mechanisms_type_tl
398 \tl_use:N \l__chemmacros_mechanisms_mol_tl
399 }
400 }
401
402 \appto\LWR@restoreorigformatting{%
403 \cs_set_protected:Npn \chemmacros_mechanisms:n #1%
404 {%
405 \tl_if_blank:nTF {#1}%
406 { \chemmacros_set_keys:nn {mechanisms} { type } }%
407 { \chemmacros_set_keys:nn {mechanisms} { type = #1 } }%
408 \mbox%
409 {%
410 \tl_use:N \l__chemmacros_mechanisms_ar_tl%
411 \tl_use:N \l__chemmacros_mechanisms_type_tl%
412 \tl_use:N \l__chemmacros_mechanisms_mol_tl%
413 }%
414 }%
415 }
416
417 }{}% \@ifchemmacrosmoduleloaded
418 }% AtBeginDocument

```

## § 188.11 Newman

```

419 \AtBeginDocument{
420 \@ifchemmacrosmoduleloaded{newman}{
421 \PackageInfo{lwarp}{Patching~chemmacros~module~newman}
422
423 \RenewDocumentCommand \newman {od()m}%
424 {
425 \IfValueTF{#2}
426 {\begin{lateximage}[\textbackslash{}newman(#2)\{#3\}]*}
427 {\begin{lateximage}[\textbackslash{}newman\{#3\}]*}
428 \group_begin:
429 \IfNoValueF {#1} { \chemmacros_set_keys:nn {newman} {#1} }

```



```

430 \IfNoValueTF {#2}
431 { \chemmacros_newman:nn { } {#3} }
432 { \chemmacros_newman:nn {#2} {#3} }
433 \group_end:
434 \end{lateximage}
435 }%
436
437 }{}% \@ifchemmacrosmoduleloaded
438 }% AtBeginDocument

```

## § 188.12 Orbital

```

439 \AtBeginDocument{
440 \@ifchemmacrosmoduleloaded{orbital}{
441 \PackageInfo{lwarp}{Patching~chemmacros~module~orbital}
442
443 \RenewDocumentCommand \orbital {om}
444 {
445 \IfValueTF{#1}
446 {
447 \begin{lateximage}[%
448 \textbackslash{}orbital{[]\LWR@HTMLsanitize{#1}{}}\{#2\}%
449]*[][\margin-left: 1em ; margin-right: 1em]
450 }
451 {
452 \begin{lateximage}[%
453 \textbackslash{}orbital\{#2\}%
454]*[][\margin-left: 1em ; margin-right: 1em]
455 }
456 \group_begin:
457 \chemmacros_set_keys:nn {orbital/type} {#2}
458 \IfNoValueTF {#1}
459 { \chemmacros_orbital:n { } }
460 { \chemmacros_orbital:n {#1} }
461 \group_end:
462 \end{lateximage}
463 }
464
465 }{}% \@ifchemmacrosmoduleloaded
466 }% AtBeginDocument

```

## § 188.13 Reactions

`\chemmacros_declare_reaction_env`     $\langle chem \rangle$   $\langle math \rangle$   $\langle args number \rangle$   $\langle argument list (\{#2\}\{#3\}...\rangle$

```

467 \AtBeginDocument{
468 \@ifchemmacrosmoduleloaded{reactions}{
469 \PackageInfo{lwarp}{Patching~chemmacros~module~reactions}
470
471 \cs_gset_protected:Npn \chemmacros_declare_reaction_env:nnnn #1#2#3#4
472 {
473 \exp_args:Nnx \DeclareDocumentEnvironment {#1} { 0 } \prg_replicate:nn {#3+0} {m} }
474 {
475 \boolfalse{mathjax}%
476 \ifdefvoid{\LWR@ThisAltText}{%

```

```

477 \ThisAltText{-chemmacros~reaction}% lwarp
478 }{}% lwarp
479 \chemmacros_add_reaction_description:n {##1}
480 __chemmacros_begin_reaction:
481 \chemmacros_reaction_read:nnw {#2} {#4}
482 }
483 {
484 __chemmacros_end_reaction:
485 \gdef\LWR@ThisAltText{}% lwarp
486 }
487 }
488 \cs_generate_variant:Nn \chemmacros_declare_reaction_env:nnnn {nnnV}
489
490 \RenewChemReaction {reaction} {equation}
491 \RenewChemReaction {reaction*} {equation*}
492 \RenewChemReaction {reactions} {align}
493 \RenewChemReaction {reactions*} {align*}
494
495 }{}% \@ifchemmacrosmoduleloaded
496 }% AtBeginDocument

```

#### § 188.14 Redox

```

497 \AtBeginDocument{
498 \@ifchemmacrosmoduleloaded{redox}{
499 \PackageInfo{lwarp}{Patching~chemmacros~module~redox}
500
501 \NewDocumentCommand \LWR@chemmacros@ox { s m >{\SplitArgument{1}{,}}m }
502 {
503 \IfBooleanTF {#1}
504 { \chemmacros_ox:nnnn {#1} {#2} #3 }
505 { \chemmacros_ox:nnnn { } {#2} #3 }
506 }
507
508 \RenewDocumentCommand \ox { s O{ } m }
509 {
510 \begingroup
511 \boolfalse{mathjax}
512 \IfBooleanTF {#1}
513 {
514 \LWR@subsingledollar*{% yes hash
515 \textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\}% alt
516 }{%
517 star \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}}%
518 }{%
519 \LWR@chemmacros@ox* {#2} {#3}% contents
520 }%
521 }
522 {
523 \LWR@subsingledollar*{% yes hash
524 \textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\}% alt
525 }{%
526 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}}%
527 }{%
528 \LWR@chemmacros@ox {#2} {#3}% contents
529 }%

```

```

530 }
531 \endgroup
532 }
533
534 }{}% \@ifchemmacrosmoduleloaded
535 }% AtBeginDocument

```

### § 188.15 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

536 \AtBeginDocument{
537 \@ifchemmacrosmoduleloaded{scheme}{
538 \PackageInfo{lwarp}{Patching~chemmacros~module~scheme}
539
540 \ifdefstring{\schemename}{los}{
541 \SetupFloatingEnvironment{scheme}{
542 name = \chemmacros_translate:n {scheme-name}
543 }
544 }{}
545
546 }{}% \@ifchemmacrosmoduleloaded
547 }% AtBeginDocument

```

### § 188.16 Spectroscopy

```

548 \AtBeginDocument{
549 \@ifchemmacrosmoduleloaded{spectroscopy}{
550 \PackageInfo{lwarp}{Patching~chemmacros~module~spectroscopy}
551
552 \ChemCompatibilityTo{5.8}
553 \cs_gset_protected:Npn __chemmacros_nmr_base:nn #1#2
554 {
555 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
556 {
557 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
558 \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
559 }
560 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
561 % \chemmacros_chemformula:n { ^{#1} }
562 #1
563 \bool_if:NTF \l__chemmacros_nmr_parse_bool
564 { \chemformula_ch:nV {} } \g__chemmacros_nmr_element_coupled_tl }
565 { \chemmacros_chemformula:V \g__chemmacros_nmr_element_coupled_tl }
566 \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
567 \tl_use:N \l__chemmacros_nmr_method_tl
568 }
569 \EndChemCompatibility
570 \ChemCompatibilityFrom{5.8}
571 \cs_gset_protected:Npn __chemmacros_nmr_base:nn #1#2
572 {
573 \group_begin:
574 \tl_use:N \l__chemmacros_nmr_base_format_tl
575 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
576 {

```

```

577 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
578 \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
579 }
580 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
581 % \chemmacros_chemformula:n { ^{#1} }
582 #1
583 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
584 {
585 \bool_if:NTF \l__chemmacros_nmr_parse_bool
586 { \chemformula_ch:nV {} } \g__chemmacros_nmr_element_coupled_tl }
587 { \chemmacros_chemformula:V \g__chemmacros_nmr_element_coupled_tl }
588 }
589 \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
590 \tl_use:N \l__chemmacros_nmr_method_tl
591 \group_end:
592 }
593 \EndChemCompatibility
594
595
596 \cs_gset_protected:Npn \chemmacros_nmr_position:n #1
597 {
598 \chemmacros_chemformula:x
599 {
600 \exp_not:V \g__chemmacros_nmr_element_tl
601 \bool_if:NF \l__chemmacros_nmr_position_side_bool
602 {
603 \tl_if_eq:NnTF \l__chemmacros_nmr_position_tl {^}% lwarp
604 { \textsuperscript{\exp_not:n { {#1} }} }% lwarp
605 { \textsubscript{\exp_not:n { {#1} }} }% lwarp
606 % \exp_not:V \l__chemmacros_nmr_position_tl
607 % \exp_not:n { {#1} }
608 }
609 }
610 \bool_if:NT \l__chemmacros_nmr_position_side_bool
611 {
612 \tl_use:N \l__chemmacros_nmr_position_tl
613 __chemmacros_nmr_position:n {#1}
614 }
615 }
616
617 \cs_gset_protected:Npn __chemmacros_nmr_coupling:w (#1;#2)
618 {
619 \tl_set:Nn \l__chemmacros_nmr_coupling_bonds_tl
620 {
621 \l__chemmacros_nmr_coupling_bonds_pre_tl
622 #1
623 \l__chemmacros_nmr_coupling_bonds_post_tl
624 }
625 \bool_if:NTF \l__chemmacros_nmr_coupling_nuclei_sub_bool
626 {
627 \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
628 {
629 % \c_math_subscript_token
630 \textsubscript% lwarp
631 {

```

```

632 \l__chemmacros_nmr_coupling_nuclei_pre_tl
633 \chemmacros_chemformula:n {#2}
634 \l__chemmacros_nmr_coupling_nuclei_post_tl
635 }
636 }
637 }
638 {
639 \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
640 {
641 \l__chemmacros_nmr_coupling_nuclei_pre_tl
642 \chemmacros_chemformula:n {#2}
643 \l__chemmacros_nmr_coupling_nuclei_post_tl
644 }
645 }
646 __chemmacros_nmr_coupling_aux_i:w
647 }
648 \AfterEndPreamble{% After \AtBeginDocument
649 % \NMR{<num>,<elem>}<num>,<unit>}<solvent>] ALL arguments are optional
650 % \NMR* same but without ": δ " at end
651 \cs_gset_protected:Npn \chemmacros_nmr:nnnn #1#2#3#4
652 {
653 \bool_if:NT \l__chemmacros_nmr_list_bool { \item \scan_stop: }
654 \group_begin:

655 \mode_leave_vertical:

656 \bool_set_false:N \l__chemmacros_nmr_frequency_bool
657 \bool_set_false:N \l__chemmacros_nmr_solvent_bool
658 \tl_if_empty:nF {#3}
659 { \bool_set_true:N \l__chemmacros_nmr_frequency_bool }
660 \tl_if_empty:nF {#4}
661 { \bool_set_true:N \l__chemmacros_nmr_solvent_bool }
662 \bool_if:nT
663 {
664 \l__chemmacros_nmr_frequency_bool
665 ||
666 \l__chemmacros_nmr_solvent_bool
667 }
668 { \bool_set_true:N \l__chemmacros_nmr_delimiters_bool }
669 \bool_if:nT
670 {
671 \l__chemmacros_nmr_frequency_bool
672 &&
673 \l__chemmacros_nmr_solvent_bool
674 }
675 { \bool_set_true:N \l__chemmacros_nmr_comma_bool }
676 \tl_if_empty:nTF {#2}
677 {
678 __chemmacros_nmr_nucleus:VV
679 \l__chemmacros_nmr_isotope_default_tl
680 \l__chemmacros_nmr_element_default_tl
681 }
682 { __chemmacros_nmr_nucleus:w #2 \q_stop }
683 \mode_if_math:TF
684 {
685 \text

```

```

686 {
687 \group_begin:
688 \tl_use:N \l__chemmacros_nmr_format_tl
689 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
690 __chemmacros_nmr_base:VV
691 \g__chemmacros_nmr_isotope_tl
692 \g__chemmacros_nmr_element_tl
693 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
694 { ~ (}
695 \bool_if:NT \l__chemmacros_nmr_frequency_bool
696 { __chemmacros_nmr_frequency:n {#3} }
697 \bool_if:NT \l__chemmacros_nmr_comma_bool
698 { , ~ }
699 \bool_if:NT \l__chemmacros_nmr_solvent_bool
700 { \chemmacros_chemformula:n {#4} }
701 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
702 {) }
703 \tl_if_blank:nT {#1} {:~}
704 }}% lwarp
705 \group_end:
706 }
707 \tl_if_blank:nT {#1}
708 {
709 \delta
710 \text { \l__chemmacros_nmr_delta_tl }
711 \bool_if:NT \l__chemmacros_nmr_use_equal_bool {=}
712 }
713 }
714 {
715 \group_begin:
716 \tl_use:N \l__chemmacros_nmr_format_tl
717 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
718 __chemmacros_nmr_base:VV
719 \g__chemmacros_nmr_isotope_tl
720 \g__chemmacros_nmr_element_tl
721 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
722 {~(}
723 \bool_if:NT \l__chemmacros_nmr_frequency_bool
724 { __chemmacros_nmr_frequency:n {#3} }
725 \bool_if:NT \l__chemmacros_nmr_comma_bool
726 {,~}
727 \bool_if:NT \l__chemmacros_nmr_solvent_bool
728 {
729 \bool_if:NTF \l__chemmacros_nmr_parse_bool

730 % { \chemformula_ch:nn { } {#4} }% original
731 {\ch{#4}}% lwarp
732 {#4}
733 }
734 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
735 {)}}
736 }}% lwarp
737 \tl_if_blank:nT {#1} {:}
738 \group_end:
739 \tl_if_blank:nT {#1}

```

```

740 {
741 \tl_use:N \c_space_tl
742 \c_math_toggle_token
743 \delta
744 \c_math_toggle_token
745 \l__chemmacros_nmr_delta_tl
746 \bool_if:NT \l__chemmacros_nmr_use_equal_bool {~=}
747 }
748 }
749 \group_end:
750 }
751}% AfterEndPreamble
752
753
754\RenewDocumentCommand \chemmacros_data:w { sm }
755 {
756 \bool_if:NT \l__chemmacros_nmr_list_bool { \item }
757 {
758 \tl_use:N \l__chemmacros_nmr_format_tl #2
759 \tl_use:N \l__chemmacros_nmr_format_tl
760 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
761 #2
762 \IfNoValueF {#3} { ~ (#3) }
763 \IfBooleanT {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { : } }
764 } } lwarp
765 }
766 \IfBooleanF {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { ~ = } }
767 }
768
769 }{}% \@ifchemmacrosmoduleloaded
770}% AtBeginDocument

```

## § 188.17 Thermodynamics

```

771\AtBeginDocument{
772\@ifchemmacrosmoduleloaded{thermodynamics}{
773\PackageInfo{lwarp}{Patching~chemmacros~module~thermodynamics}
774
775\cs_gset_protected:Npn \chemmacros_state:nn #1#2
776 {
777 \group_begin:
778 \boolfalse{mathjax}
779 \chemmacros_set_keys:nn {thermodynamics} {#1}
780 \LWR@subsingledollar*{% yes hashing
781 \textbackslash{}state\{\LWR@HTMLsanitize{#2}\}% alt
782 }{%
783 chemmacros_state% add'l hashing
784 #1% options
785 LSP \tl_use:N \l__chemmacros_state_sp_left_tl% super/subscripts
786 LSB \tl_use:N \l__chemmacros_state_sb_left_tl
787 RSP \tl_use:N \l__chemmacros_state_sp_right_tl
788 RSB \tl_use:N \l__chemmacros_state_sb_right_tl
789 }
790 {
791 \LWR@origensuredmath{
792 \chemmacros_text:V \l__chemmacros_state_pre_tl

```

```

793 \c_math_superscript_token
794 { \chemmacros_text:V \l__chemmacros_state_sp_left_tl }

```

Only add the subscripts if they are being used. This avoids causing an incorrect depth, as the empty subscript will be measured by T<sub>E</sub>X but cropped out by *pdfcrop*.

```

795 \tl_if_empty:NTF \l__chemmacros_state_sb_left_tl
796 {}
797 {
798 \c_math_subscript_token
799 { \chemmacros_text:V \l__chemmacros_state_sb_left_tl }
800 }
801 #2
802 \c_math_superscript_token
803 { \chemmacros_text:V \l__chemmacros_state_sp_right_tl }
804 \tl_if_empty:NTF \l__chemmacros_state_sb_right_tl
805 {}
806 {
807 \c_math_subscript_token
808 { \chemmacros_text:V \l__chemmacros_state_sb_right_tl }
809 }
810 \chemmacros_text:V \l__chemmacros_state_post_tl
811 }
812 }
813 \group_end:
814 }
815 \cs_generate_variant:Nn \chemmacros_state:nn { nV }
816
817 \cs_gset_protected:Npn \chemmacros_declare_state:Nn #1#2
818 {
819 \chemmacros_define_keys:xn
820 {thermodynamics/\chemmacros_remove_backslash:N #1}
821 {
822 pre .meta:nn = {chemmacros/thermodynamics} { pre = ##1 } ,
823 post .meta:nn = {chemmacros/thermodynamics} { post = ##1 } ,
824 superscript-left .meta:nn = {chemmacros/thermodynamics} { superscript-left = ##1 } ,
825 superscript-right .meta:nn = {chemmacros/thermodynamics} { superscript-right = ##1 } ,
826 superscript .meta:n = { superscript-right = ##1 } ,
827 subscript-left .meta:nn = {chemmacros/thermodynamics} { subscript-left = ##1 } ,
828 subscript-right .meta:nn = {chemmacros/thermodynamics} { subscript-right = ##1 } ,
829 subscript .meta:n = { subscript-left = ##1 } ,
830 subscript-pos .choices:nn =
831 { left , right }
832 { \tl_set_eq:NN \l__chemmacros_state_sb_pos_tl \l_keys_choice_tl } ,
833 symbol .tl_set:N = \l__chemmacros_state_symbol_tl ,
834 unit .tl_set:N = \l__chemmacros_state_unit_tl
835 }
836 \DeclareDocumentCommand #1 { sO{}D(){}m }
837 {
838 \group_begin:
839 \chemmacros_set_keys:xn
840 {thermodynamics/\chemmacros_remove_backslash:N #1}
841 {#2}
842 \tl_if_blank:nF {##3}
843 {

```



```

844 \chemmacros_set_keys:nx {thermodynamics}
845 { subscript-\l__chemmacros_state_sb_pos_tl = \exp_not:n {##3} }
846 }
847 \chemmacros_state:nV {##2} \l__chemmacros_state_symbol_tl
848 \chemmacros_set_keys_groups:nnn {thermodynamics} {variables} {##2}
849 \IfBooleanF {##1} { = ~ \SI {##4} { \l__chemmacros_state_unit_tl } }
850 \group_end:
851 }
852 }

```

The pre-existing macros are redefined with the new definition:

```

853 \RenewChemState \enthalpy { symbol = H , unit = \kilo\joule\per\mole }
854 \RenewChemState \entropy { symbol = S , unit = \joule\per\kelvin\per\mole , pre = }
855 \RenewChemState \gibbs { symbol = G , unit = \kilo\joule\per\mole }
856
857 }{}% \@ifchemmacrosmoduleloaded
858 }% AtBeginDocument

859 \ExplSyntaxOff

```

---

## File 82 **lwarp-chemnum.sty**

### § 189 Package **chemnum**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg chemnum **chemnum** is patched for use by **lwarp**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{chemnum}[2016/04/14]

2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemnum_compound_write:n #1
5 {
6 \chemnum_get_compound_property:nn {#1} {pre-main-label-code}
7 \group_begin:
8 \bool_if:NTF \l__chemnum_compound_local_bool
9 { \l__chemnum_local_label_format_tl }
10 { \chemnum_get_compound_property:nn {#1} {label-format} }
11 {
12 \LWR@textcurrentfont{
13 \chemnum_get_compound_property:nn {#1} {counter-representation}
14 }
15 }
16 \group_end:
17 \chemnum_get_compound_property:nn {#1} {post-main-label-code}
18 }
19
20 \cs_gset_protected:Npn \chemnum_subcompound_write:nn #1#2
21 {
22 \group_begin:
23 \bool_if:NTF \l__chemnum_compound_local_bool

```

---

```

24 { \l__chemnum_local_label_format_tl }
25 { \chemnum_get_compound_property:nn {#1} {label-format} }
26 {
27 \LWR@textcurrentfont{
28 \chemnum_get_subcompound_property:nnn {#1} {#2}
29 {counter-representation}
30 }
31 }
32 \group_end:
33 }
34
35 \ExplSyntaxOff

```

---

File 83 **lwarp-chkfloat.sty**

§ 190    Package **chkfloat**

Pkg    chkfloat    **chkfloat** is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

---

File 84 **lwarp-chngpage.sty**

§ 191    Package **chngpage**

*(Emulates or patches code by PETER WILSON.)*

Pkg    chngpage    **chngpage** is ignored.

for HTML output:    Discard all options for **lwarp-chngpage**:

```

1 \LWR@ProvidesPackageDrop{chngpage}[2009/10/20]
2 \LWR@origRequirePackage{lwarp-chngpage}

```

---

File 85 **lwarp-cite.sty**

§ 192    Package **cite**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg    cite    **cite** is patched for use by **lwarp**.

for HTML output:    1 \LWR@ProvidesPackagePass{cite}[2015/02/27]

For the [super] option, the \kern must be removed:

```

2 \def\LWRCT@biblabel#1{\@citess{#1}\kern-\labelsep\,}
3

```

---

```

4 \ifdefstrequal{\@biblabel}{\LWRCT@biblabel}
5 {
6 \def\@biblabel#1{\@citess{#1}}
7 }{}

```

For the [super] option, `\textsuperscript` is used instead of `math superscript`:

```

8 \def\@citess#1{#1}
9
10 \DeclareDocumentCommand\citepunct{}{\,\,\relax}

```

---

File 86 **lwarp-citeref.sty**

§ 193 Package **citeref**

*(Emulates or patches code by BJÖRN BRIEL.)*

Pkg citeref **citeref** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{citeref}[1999/27/05]

2 \def\@cprwrite#1={\write\@auxout{\string\citepageref{#1}{\theLWR@currentautosec}}}
3
4 \def\citepageref#1#2{%
5 \xdef\cpr@testa{\@nameuse{cpr@last@#1}}%letzte Zitatstelle
6 \xdef\cpr@testb{#2}% Seite dieser Zitatstelle
7 \ifx\cpr@testa\cpr@testb%
8 \relax% Konsekutive identische Seitenangaben weglassen
9 \else%
10 \@namexdef{cpr@last@#1}{#2}%
11 \@ifundefined{cpr@#1}%
12 {\@namexdef{cpr@#1}{\ref{\BaseJobname-autopage-#2}}}% lwarp
13 {\@namexdef{cpr@#1}{\@nameuse{cpr@#1}, \ref{\BaseJobname-autopage-#2}}}% lwarp
14 \fi
15 }

```

---

File 87 **lwarp-CJK.sty**

§ 194 Package **CJK**

Pkg CJK **CJK** does not work with **lwarp** unless called from **ctex**.

**for HTML output:**

```

1 \@ifpackageloaded{xeCJK}{}{
2 \LWR@loadnever{CJK}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJK}[2015/04/18]

```

---

File 88 **lwarp-CJKutf8.sty**

## § 195 Package **CJKutf8**

Pkg CJKutf8 CJKutf8 does not work with lwarp unless called from ctex.

for HTML output:

```

1 \ifpackageloaded{xeCJK}{%
2 \LWR@loadnever{CJKutf8}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJKutf8}[2015/04/18]
```

### File 89 **lwarp-cleveref.sty**

## § 196 Package **cleveref**

(Emulates or patches code by TOBY CUBITT.)

Pkg cleveref cleveref is patched for HTML, and limited MATHJAX emulation is added.

⚠ **cleveref page numbers** cleveref and varioref are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for \cpageref and \cpagerefrange. This phrase includes \cpagerefFor, which defaults to “for”.

Ex:

```

\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See \cpagerefFor at page 733 to redefine the message which is printed for page number references.

Table 14 on page 497 shows the data structure of the label/reference system as revised by lwarp and cleveref.

For MATHJAX, each references is printed as an \eqref, without cleveref’s description text. Page references are also printed as simple \eqrefs. Multiple labels in a single \cref will print as (???) in MATHJAX.

⚠ **multiple labels**

for HTML output:

```

1 \LWR@ProvidesPackagePass{cleveref}[2018/03/27]
```

The following patches are applied. Print-mode versions are not required since they all come down to \ref eventually, and \ref has a print-mode version.

```
\@@@setcref {<kindofref>} {<label>}
```

\@templabel becomes the section number.

```

2 \def\LWR@orig@@@setcref#1#2{\cref@getlabel{#2}{\@templabel}#1{\@templabel}{}}%
3
4 \ifdefequal{\@@setcref}{\LWR@orig@@@setcref}{% before v0.21
5 \renewcommand*{\@@setcref}[2]{#1{\ref{#2}}{}}
6 }
```

```

7 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% as of v0.21
8 \renewcommand*\@@@setcref}[2]{%
9 #1{\ref{#2}}{}}
10 }{
11 \PackageWarningNoLine{lwarp-cleveref}{
12 Unknown version of cleveref.
13 \protect\cref\space will fail.
14 }%
15 }
16 }

```

`\@@@setcrefrange`  $\{\langle text \rangle\} \{\langle label \rangle\} \{\langle label \rangle\}$

```

17 \def\LWR@orig@@@setcrefrange#1#2#3{%
18 \cref@getlabel{#2}{\@labela}%
19 \cref@getlabel{#3}{\@labelb}%
20 #1{\@labela}{\@labelb}{}}}%
21
22 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{
23 \renewcommand{\@@@setcrefrange}[3]{%
24 #1{\ref{#2}}{\ref{#3}}{}}}%
25 }
26 }{
27 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{
28 \renewcommand{\@@@setcrefrange}[3]{%
29 #1{\ref{#2}}{\ref{#3}}{}}}%
30 }
31 }{
32 \PackageWarningNoLine{lwarp-cleveref}{
33 Unknown version of cleveref.
34 \protect\crefrange\space will fail.
35 }
36 }
37 }

```

`\cpagerefFor` Redefinable word between “page(s)” and the page numbers.

```

38 \newcommand*\cpagerefFor{for}

```

`\@@@setcpageref`  $\{\langle typeofref \rangle\} \{\langle label \rangle\}$ , where `typeofref` is “page” or “pages”

```

39 \def\LWR@orig@@@setcpageref#1#2{% before v0.21
40 \cref@getpageref{#2}{\@temppage}#1{\@temppage}{}}}%
41
42 \def\LWR@orig@@@setcpageref#1#2{% as of v0.21
43 \cpageref@getlabel{#2}{\@temppage}#1{\@temppage}{}}}%
44
45 \ifdefequal{\@@@setcpageref}{\LWR@orig@@@setcpageref}{
46 \renewcommand*\@@@setcpageref}[2]{%
47 #1{\cpagerefFor\ \cref{#2}}{}}}%
48 }
49 }{
50 \ifdefequal{\@@@setcpageref}{\LWR@orig@@@setcpageref}{

```

```

51 \renewcommand*{\@@@setcpageref}[2]{%
52 #1{\cpagerefFor\ \cref{#2}}{}{}%
53 }
54 }
55 {
56 \PackageWarningNoLine{lwarp-cleveref}{
57 Unknown version of cleveref.
58 \protect\cpageref\space will fail.
59 }
60 }
61 }

62 \def\LWR@orig@@@setcpagerefrange#1#2#3{% before v0.21
63 \cref@getpageref{#2}{\@pagea}%
64 \cref@getpageref{#3}{\@pageb}%
65 #1{\@pagea}{\@pageb}{}{}{}{}%
66
67 \def\LWR@orig@@@setcpagerefrange#1#2#3{% as of v0.21
68 \cpageref@getlabel{#2}{\@pagea}%
69 \cpageref@getlabel{#3}{\@pageb}%
70 #1{\@pagea}{\@pageb}{}{}{}{}%
71
72 \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{
73 \renewcommand*{\@@@setcpagerefrange}[3]{%
74 #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{}{}{}{}%
75 }
76 }{
77 \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{
78 \renewcommand*{\@@@setcpagerefrange}[3]{%
79 #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{}{}{}{}%
80 }
81 }
82 {
83 \PackageWarningNoLine{lwarp-cleveref}{
84 Unknown version of cleveref.
85 \protect\cpagerefrange\space will fail.
86 }
87 }
88 }

```

If `hyperref` is loaded, `cleveref` defines starred versions of the following, but since `hyperref` is only emulated, starred versions are defined here:

```

89 \LWR@absorbstar{cref}
90 \LWR@absorbstar{Cref}
91 \LWR@absorbstar{crefrange}
92 \LWR@absorbstar{Crefrange}
93 \LWR@absorbstar{cpageref}
94 \LWR@absorbstar{Cpageref}
95 \LWR@absorbstar{cpagerefrange}
96 \LWR@absorbstar{Cpagerefrange}
97 \LWR@absorbstar{labelcref}
98 \LWR@absorbstar{labelcpageref}

```

If `hyperref` is loaded, `cleveref` also defines starred versions of `varioref` macros, so they are defined here.

```

99 \ifpackageloaded{varioref}{
100 \LWR@absorbstar{vref}
101 \LWR@absorbstar{Vref}
102 \LWR@absorbstar{vrefrange}
103 \LWR@absorbstar{Vrefrange}
104 \LWR@absorbstar{fullref}
105 \LWR@absorbstar{Fullref}
106 }{}% varioref

```

---

File 90 **lwarp-clrdblpg.sty**

§ 197    Package **clrdblpg**

Pkg    clrdblpg    clrdblpg is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{clrdblpg}[2018/04/21]

---

File 91 **lwarp-cmbright.sty**

§ 198    Package **cmbright**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg    cmbright    cmbright is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations**    The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and `\mathbold` is available.

The dedicated macros for upright Greek letters do work correctly.

svg math should appear the same as the printed output.

for HTML output:    1 \LWR@ProvidesPackagePass{cmbright}[2005/04/13]  
                       2  
                       3 \LWR@infoprocessingmathjax{cmbright}  
  
                       4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}  
                       5  
                       6 \begin{warpMathJax}  
                       7  
                       8 \@ifpackagewith{cmbright}{slantedGreek}  
                       9 {  
                      10    \LWR@mathjax@addgreek@u@it\*{}{}  
                      11 }  
                      12 {}  
                      13  
                      14 \LWR@mathjax@addgreek@u@up\*{}{}  
                      15

---

```

16 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
17
18 \end{warpMathJax}

```

---

File 92 **lwarp-cmdtrack.sty**

§ 199 Package **cmdtrack**

Pkg cmdtrack cmdtrack is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]

```
2 \newcommand{\untrack}[1]{}
```

---

File 93 **lwarp-colonequals.sty**

§ 200 Package **colonequals**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg colonequals colonequals is used as-is for SVG math, and is emulated for MATHJAX.

Since UNICODE symbols are not available for each of the following, only two are used for the single and double colons, and the other symbols are derived in a consistent manner. Occasional negative space is added as well. This may need to be undone for some fonts.

**for HTML output:** 1 \LWR@ProvidesPackagePass{colonequals}[2016/05/16]

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{colonequals}
4
5 \CustomizeMathJax{\newcommand{\ratio}{\mathrel{\unicode{x2236}}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\mathrel{\unicode{x2237}}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\mathrel{\unicode{x2236}\!=}}}
8 \CustomizeMathJax{\newcommand{\coloncolonequals}{\mathrel{\unicode{x2237}\!=}}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{\mathrel{=\!\unicode{x2236}}}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{\mathrel{=\!\unicode{x2237}}}}
11 \CustomizeMathJax{\newcommand{\coloncolonminus}{\mathrel{\unicode{x2236}-}}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\mathrel{\unicode{x2237}-}}}
13 \CustomizeMathJax{\newcommand{\minuscolon}{\mathrel{-\unicode{x2236}}}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{\mathrel{-\unicode{x2237}}}}
15 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{\unicode{x2236}\!\approx}}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\unicode{x2237}\!\approx}}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\mathrel{\approx\!\unicode{x2236}}}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\mathrel{\approx\!\unicode{x2237}}}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\unicode{x2236}\!\sim}}}
20 \CustomizeMathJax{\newcommand{\coloncolonsim}{\mathrel{\unicode{x2237}\!\sim}}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\mathrel{\sim\!\unicode{x2236}}}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\mathrel{\sim\!\unicode{x2237}}}}
23 \end{warpMathJax}

```



File 94 **lwarp-color.sty**§ 201 Package **color**

Pkg color Allowed but ignored. `xcolor` is then required as well.

`color` is superceded by `xcolor`, and `lwarp` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{color}[2016/07/10]
2 \RequirePackage{xcolor}
```

File 95 **lwarp-colortbl.sty**§ 202 Package **colortbl**

Pkg colortbl `colortbl` is used as-is for print output, and emulated for HTML.

⚠ row/cell color Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

`colortbl` ignores the overhang arguments.

for HTML output: A placeholder definition is forgotten first:

```
1 \let\rowcolor\relax
2
3 \LWR@ProvidesPackagePass{colortbl}[2018/12/12]
```

The following `\LWR@HTML` versions are used inside an HTML tabular.

`\columncolor` [*model*] {*color*} [*left overhang*] [*right overhang*]

`\LWR@getmynexttoken` is not used here because `\columncolor` is not used inside the data area of the tabular.

```
4 \NewDocumentCommand{\LWR@HTML@columncolor}{O{named} m o o}{%
5 \convertcolorspec{#1}{#2}{HTML}\LWR@columnHTMLcolor%
6 \LWR@addtabularcellcolor%
7 }
8
9 \AtBeginDocument{\LWR@formatted{columncolor}}
```

`\LWR@getmynexttoken` is used for `\rowcolor` because it is used inside the data area of the tabular.

`\rowcolor` [*model*] {*color*} [*left overhang*] [*right overhang*]

```
10 \NewDocumentCommand{\LWR@HTML@rowcolor}{O{named} m o o}{%
11 \convertcolorspec{#1}{#2}{HTML}\LWR@rowHTMLcolor%
```

```

12 \LWR@getmynexttoken%
13 }
14
15 \AtBeginDocument{\LWR@expandableformatted{rowcolor}}

```

`\cellcolor` [*⟨model⟩*] {*⟨color⟩*} [*⟨left overhang⟩*] [*⟨right overhang⟩*]

```

16 \NewDocumentCommand{\LWR@HTML@cellcolor}{0{named} m o o}{%
17 \convertcolorspec{#1}{#2}{HTML}\LWR@cellHTMLcolor%
18 \LWR@addtabularcellcolor%
19 }
20
21 \AtBeginDocument{\LWR@formatted{cellcolor}}

```

`\arrayrulecolor` [*⟨model⟩*] {*⟨color⟩*}

The HTML version for use outside a tabular. Inside a tabular, `\LWR@HTML@arrayrulecolornexttoken` is used instead.

```

22 \newcommand{\LWR@HTML@arrayrulecolor}[2][named]{%
23 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
24 }
25
26 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolor}}

```

[*⟨model⟩*] {*⟨color⟩*}

`\LWR@arrayrulecolornexttoken` The HTML version for use inside a tabular.

```

27 \newcommand{\LWR@HTML@arrayrulecolornexttoken}[2][named]{%
28 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
29 \LWR@getmynexttoken%
30 }
31
32 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolornexttoken}}

```

`\doublerulesepcolor` [*⟨model⟩*] {*⟨color⟩*}

The version for use outside a tabular.

```

33 \newcommand{\LWR@HTML@doublerulesepcolor}[2][named]{%
34
35 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor}}

```

[*⟨model⟩*] {*⟨color⟩*}

`\LWR@doublerulesepcolornexttoken` The version for use inside a tabular.

```

36 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
37
38 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}

```

For MATHJAX, colors are discarded.

```

39 \begin{warpMathJax}
40 \CustomizeMathJax{\newcommand{\columncolor}[2][\LWR@absorbtwooptions]}
41 \CustomizeMathJax{\let\rowcolor\columncolor}

```

---

```

42 \CustomizeMathJax{\let\cellcolor\columncolor}
43 \end{warpMathJax}

```

---

File 96 **lwarp-continue.sty**

§ 203      Package **continue**

Pkg    continue    **continue** is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{continue}}[2018/12/09]

```

2 \newcommand*{\flagcont}{}
3 \newcommand*{\flagend}{}
4 \newcommand*{\flagword}{}
5 \newcommand*{\preflagword}{}
6 \newcommand*{\postflagword}{}
7 \newlength\contsep
8 \newlength\contdrop

```

---

File 97 **lwarp-copyrightbox.sty**

§ 204      Package **copyrightbox**

*(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)*

Pkg    copyrightbox    **copyrightbox** is emulated for use by **lwarp**.

The entire copyright box is placed inside a <div> of class copyrightbox.

The contents are placed inside a <div> of class copyrightboxcontents.

The copyright notice is placed inside a <div> of class copyrightboxnote.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{copyrightbox}[2011/11/27]

```

2 \newcommand{\copyrightbox}[3][r]{%
3 \begin{BlockClass}[
4 display: inline-flex;
5 flex-direction: column ;
6]{\copyrightbox}
7 \begin{BlockClass}{copyrightboxcontents}
8 #2
9 \end{BlockClass}
10 \begin{BlockClass}{copyrightboxnote}
11 #3
12 \end{BlockClass}
13 \end{BlockClass}
14 }
15
16 \newcommand{\CRB@setcopyrightfont}{}
17 \newcommand{\CRB@setcopyrightparagraphstyle}{}

```

File 98 **lwarp-crop.sty**§ 205 Package **crop**

(Emulates or patches code by MELCHIOR FRANZ.)

Pkg crop **crop** is ignored.

for HTML output: Discard all options for **lwarp-crop**:

```
1 \LWR@ProvidesPackageDrop{crop}[2003/05/20]

2 \newcommand*{\crop}[1][{}]{
3 \newcommand*{\cropdef}[6][{}]{
```

File 99 **lwarp-ctable.sty**§ 206 Package **ctable**

(Emulates or patches code by WYBO DEKKER.)

Pkg ctable **ctable** is patched for use by **lwarp**.

⚠ Misplaced alignment tab Use \StartDefiningTabulars before one or more \ctables, and \StopDefiningTabulars character & after. These change the meaning of the ampersand & character.

for HTML output: 1 \LWR@ProvidesPackagePass{ctable}[2015/10/17]

The following is in the original:

```
2 \newcommand{\LWR@HTML@ctable}[4][{}]{%
3 \let\@CTtaborfig \@df\CTtaborfig
4 \let\@CTalign \@df\CTalign
5 \let\@CTsideways \@df\CTsideways
6 \let\@CTcontinued \empty
7 \let\@CTpos \@df\CTpos
8 \let\@CTcaption \empty
9 \let\@CTcap \undefined
10 \let\@CTlabel \empty
11 \let\@CTbotcap \@df\CTbotcap
12 \let\@CTstarred \@df\CTstarred
13 \let\@CTsuper \@df\CTsuper
14 \let\@CTnotespar \@df\CTnotespar
15 \let\@CTdoinside \@df\CTdoinside
16 \let\@CTbgopacity \@df\CTbgopacity
17 \@CTframerule \@df\CTframerule
18 \@CTcaptionskip \@df\CTcaptionskip
19 \@CTframesep \@df\CTframesep
20 \@CTwidth \@df\CTwidth
```

```

21 \CTmaxwidth \dfltCTmaxwidth
22 \CTmincapwidth \dfltCTmincapwidth
23 \CTfooterwidth \dfltCTfooterwidth
24 \def\CTfgactual {@dfltCTframefg}%
25 \def\CTbgactual {@dfltCTframebg}%
26 \def\CTbeg {\begin{@CTsideways\CTtaborfig\CTstarred}}%
27 \def\CTbegin {\CTbeg}%
28 \def\CTend {\end{@CTsideways\CTtaborfig\CTstarred}}%
29 \setkeys{CT}{#1}%
30 \ifx\CTcap\undefined\let\CTcap\CTcaption\fi
31 \ifx\CTcap\empty
32 \if\CTcaptionloaded\else
33 \PackageWarningNoLine{lwarp-ctable}{\MessageBreak
34 An empty cap= option prevents lot/loc entry only\MessageBreak
35 if the caption package is loaded!}
36 \fi
37 \fi
38 \if\CTinmemoir\else
39 \ifx\CTbotcap\undefined
40 \PackageError{lwarp-ctable}{\MessageBreak
41 You can, currently, use the sidecap option only with\MessageBreak
42 memoir documents. Use topcap or botcap only}
43 {}
44 \fi
45 \fi
46 \ifdim\CTwidth=0pt\else
47 \ifdim\CTmaxwidth=0pt\else
48 \PackageError{lwarp-ctable}{\MessageBreak
49 You may not use the width and maxwidth options together\MessageBreak
50 Use either width or maxwidth}
51 {}
52 \fi
53 \fi
54 \ifx\CTpos\empty
55 \ifx\CTsideways\empty\else
56 \PackageError{lwarp-ctable}{\MessageBreak
57 You may not use the pos and sideways options together\MessageBreak
58 Rotated tables and figures are always typeset on a separate page}
59 {}
60 \fi
61 \fi
62 \ifx\CTcaption\empty
63 \ifx\CTlabel\empty\else
64 \PackageError{lwarp-ctable}{\MessageBreak
65 You may not label a captionless table\MessageBreak
66 Such a label can't be referenced}
67 {}
68 \fi
69 \fi

```

Some of the original, regarding computing the width of \CT@t, is removed here.

```

70 \CTbegin
71 \ifx\CTcontinued\empty\else\addtocounter{\CTtaborfig}{-1}\fi
72 \CTalign

```

lwarp's patches begin here:

```

73 \begin{center}
74 \setlength{\fboxrule}{\@CTframerule}
75 \setlength{\fboxsep}{\@CTframesep}
76 \LWR@forceminwidth{\fboxrule}% lwarp
77 \convertcolorspec{named}{\@CTbgactual}{HTML}\LWR@tempcolor% lwarp
78 \begin{BlockClass}[% lwarp
79 border:
80 \LWR@printlength{\LWR@atleastonept}
81 solid
82 \LWR@colorstyle{named}{\@CTfgactual} ; %
83 padding:\LWR@printlength{\fboxsep} ; %
84 \ifdefstring{\LWR@tempcolor}{FFFFFF}{%
85 background: \LWR@colorstyle{named}{\@CTbgactual} ; %
86 }%
87]{fminipage}% lwarp
88 \ifx\@CTbotcap\@CTfalse\@CTCaption\vskip\@CTcaptionskip\fi
89 \ifx\@CTbotcap\undefined%
90 \begin{sidecaption}[\@CTcap]{\@CTcaption}[\@CTlabel]
91 \fi
92 \@CTdoinside
93 \begin{tabularx}{\linewidth}{#2}% lwarp
94 #4%
95 \end{tabularx}% lwarp
96 \def\@CTfootnotes{#3}%
97 \ifx#3\empty\else{% append footnotes, if any
98 \begin{BlockClass}{tnotes}% lwarp
99 #3
100 \end{BlockClass}% lwarp
101 }
102 \fi
103 \ifx\@CTbotcap\undefined\end{sidecaption}\fi
104 \ifx\@CTbotcap\@CTtrue\vskip\@CTcaptionskip\@CTCaption\fi
105 \end{BlockClass}
106 \end{center}
107 \@CTend
108 }
109 \LWR@formatted{ctable}

```

Required to properly detect the toprule:

```
110 \LetLtxMacro\FL\toprule
```

Table notes are redefined for HTML:

```

111 \newcommand{\LWR@HTML@tmark}[1][a]{%
112 \textsuperscript{\textrm{\textit{#1}}}}
113 }
114 \LWR@formatted{tmark}
115
116 \newcommand{\LWR@HTML@tnote}[2][a]{%
117 \tmark[#1]\,,#2\par
118 }
119 \LWR@formatted{tnote}

```

---

File 100 **lwarp-cuted.sty**

§ 207      Package **cuted**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg    cuted    **cuted** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{cuted}[2012/10/04]

2 \newenvironment{strip}{}{}
3 \newskip\stripsep
4 \def\oldcolsbreak#1{}
```

---

File 101 **lwarp-cutwin.sty**

§ 208      Package **cutwin**

*(Emulates or patches code by PETER WILSON AND ALAN HOENIG.)*

Pkg    cutwin    **cutwin** is emulated.

**for HTML output:** Discard all options for **lwarp-cutwin**:

```

1 \LWR@ProvidesPackageDrop{cutwin}[2010/09/29]

2 \newcommand*{\opencutleft}{}
3 \newcommand*{\opencutright}{}
4 \newcommand*{\opencutcenter}{}
5 \newcommand*{\cutfuzz}{}
6
7 \newenvironment{cutout}[4]
8 {\marginpar{\windowpagestuff}}
9 {}
10
11 \newcommand*{\windowpagestuff}{}
12
13 \newcommand*{\pageinwindow}{%
14 % \begin{minipage}{.3\linewidth}
15 \windowpagestuff
16 % \end{minipage}
17 }
18
19 \newenvironment{shapedcutout}[3]
20 {\marginpar{\picinwindow}}
21 {}
22
23 \newcommand*{\putstuffinpic}{}
24
```

---

```

25 \newcommand*{\picinwindow}{%
26 \begin{picture}(0,0)
27 \putstuffinpic
28 \end{picture}}

```

---

File 102 **lwarp-dblfloatfix.sty**

§ 209 Package **dblfloatfix**

Pkg dbfloatfix dbfloatfix is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]

---

File 103 **lwarp-dblfnote.sty**

§ 210 Package **dblfnote**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg dblfnote dblfnote is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{dblfnote}[1999/07/14]

---

```

2 \newcounter{DFNsloppiness}
3 \newdimen\DFNcolumnsep
4 \newdimen\DFNcolumnwidth
5 \def\DFNallowcbreak{}
6 \def\DFNinhibitcbreak{}
7 \def\DFNtrysingle{}
8 \def\DFNalwaysdouble{}
9 \def\DFNruleboth{}
10 \def\DFNruleleft{}

```

---

File 104 **lwarp-dcolumn.sty**

§ 211 Package **dcolumn**

Pkg dcolumn dcolumn is emulated by the lwarp core.

1 \LWR@ProvidesPackageDrop{dcolumn}[2014/10/28]

---

File 105 **lwarp-decimal.sty**

§ 212 Package **decimal**

*(Emulates or patches code by A. SYROPOULOS AND R. W. D. NICKALLS.)*



Pkg decimal decimal works as-is for svg math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{decimal}[2011/06/03]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\.\{\mbox{.}\}}
4 \end{warpMathJax}

```

---

File 106 **lwarp-diagbox.sty**

§ 213 Package **diagbox**

*(Emulates or patches code by LEO LIU.)*

Pkg diagbox diagbox is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{diagbox}[2016/12/28]

```

To restore print-mode inside a lateximage:

```

2 \LetLtxMacro\LWR@origdiagbox@double\diagbox@double
3 \LetLtxMacro\LWR@origdiagbox@triple\diagbox@triple
4
5 \appto\LWR@restoreorigformatting{%
6 \LetLtxMacro\diagbox@double\LWR@origdiagbox@double%
7 \LetLtxMacro\diagbox@triple\LWR@origdiagbox@triple%
8 }

```

```

\LWR@diagbox@AB {\langle E/W \rangle} {\langle A \rangle} {\langle E/W \rangle} {\langle B \rangle}

9 \newcommand{\LWR@diagbox@AB}[4]{
10 \begingroup%
11 \LetLtxMacro\\newline%
12 \BlockClassSingle{diagbox#1}{#2}%
13 \BlockClassSingle{diagbox#3}{#4}%
14 \endgroup%
15 \LWR@stoppars%
16 }

```

```

\LWR@diagboxNW {\langle A \rangle} {\langle B \rangle}

17 \newcommand{\LWR@diagboxNW}[2]{%
18 \LWR@diagbox@AB{E}{#2}{W}{#1}%
19 }

```

Likewise for NE, SW, SE:

```

20 \newcommand{\LWR@diagboxNE}[2]{%
21 \LWR@diagbox@AB{W}{#1}{E}{#2}%
22 }
23
24 \let\LWR@diagboxSW\LWR@diagboxNE
25 \let\LWR@diagboxSE\LWR@diagboxNW

```

```
\diagbox@double {\langle keys\rangle} {\langle A\rangle} {\langle B\rangle}

26 \def\diagbox@double#1#2#3{%
27 \setkeys{diagbox}{dir=NW,#1}%
28 \@nameuse{LWR@diagbox\diagbox@dir}{#2}{#3}%
29 }
```

```
\LWR@diagboxTNW {\langle title\rangle} {\langle A\rangle} {\langle B\rangle}

30 \newcommand{\LWR@diagboxTNW}[3]{%
31 \BlockClassSingle{diagboxtitleN}{#1}
32 \LWR@diagboxNW{#2}{#3}
33 }
```

Likewise for NE, SW, SE:

```
34 \newcommand{\LWR@diagboxTNE}[3]{%
35 \BlockClassSingle{diagboxtitleN}{#1}
36 \LWR@diagboxNE{#2}{#3}
37 }
38
39 \newcommand{\LWR@diagboxTSW}[3]{%
40 \LWR@diagboxSW{#2}{#3}
41 \BlockClassSingle{diagboxtitleS}{#1}
42 \LWR@stoppars%
43 }
44
45 \newcommand{\LWR@diagboxTSE}[3]{%
46 \LWR@diagboxSE{#2}{#3}
47 \BlockClassSingle{diagboxtitleS}{#1}
48 \LWR@stoppars%
49 }
```

```
\diagbox@triple {\langle keys\rangle} {\langle A\rangle} {\langle T\rangle} {\langle B\rangle}

50 \def\diagbox@triple#1#2#3#4{%
51 \setkeys{diagbox}{dir=NW,#1}%
52 \@nameuse{LWR@diagboxT\diagbox@dir}{#3}{#2}{#4}%
53 }
```

---

File 107 **lwarp-dingbat.sty**

§ 214      Package **dingbat**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg    dingbat    dingbat is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{dingbat}[2001/04/27]

2 \newcommand*{\LWR@dingbatsymbol}[1]{\HTMLUnicode{#1}}
3
```

---

```

4 \newcommand{\LWR@HTML@rightpointright}{\LWR@dingbatsymbol{261E}}
5 \newcommand{\LWR@HTML@leftpointright}{\LWR@dingbatsymbol{261E}}
6 \newcommand{\LWR@HTML@leftthumbsdown}{\LWR@dingbatsymbol{1F44E}}
7 \newcommand{\LWR@HTML@leftthumbsup}{\LWR@dingbatsymbol{1F44D}}
8 \newcommand{\LWR@HTML@rightpointleft}{\LWR@dingbatsymbol{261C}}
9 \newcommand{\LWR@HTML@rightthumbsdown}{\LWR@dingbatsymbol{1F44E}}
10 \newcommand{\LWR@HTML@rightthumbsup}{\LWR@dingbatsymbol{1F44D}}
11 \newcommand{\LWR@HTML@squarewithdots}{\LWR@dingbatsymbol{25C7}}
12 \newcommand{\LWR@HTML@filledsquarewithdots}{\LWR@dingbatsymbol{25C6}}
13 \newcommand{\LWR@HTML@Sborder}{\LWR@dingbatsymbol{271A}}
14 \newcommand{\LWR@HTML@Zborder}{\LWR@dingbatsymbol{274B}}
15 \newcommand{\LWR@HTML@largepencil}{\LWR@dingbatsymbol{270E}}
16 \newcommand{\LWR@HTML@anchor}{\LWR@dingbatsymbol{2693}}
17 \newcommand{\LWR@HTML@carriagereturn}{\LWR@dingbatsymbol{23CE}}
18 \newcommand{\LWR@HTML@checkmark}{\LWR@dingbatsymbol{2713}}
19 \newcommand{\LWR@HTML@eye}{\LWR@dingbatsymbol{1F441}}
20 \newcommand{\LWR@HTML@satellitedish}{\LWR@dingbatsymbol{1F4E1}}
21 \newcommand{\LWR@HTML@smallpencil}{\LWR@dingbatsymbol{270E}}
22
23 \LWR@formatted{rightpointright}
24 \LWR@formatted{leftpointright}
25 \LWR@formatted{leftthumbsdown}
26 \LWR@formatted{leftthumbsup}
27 \LWR@formatted{rightpointleft}
28 \LWR@formatted{rightthumbsdown}
29 \LWR@formatted{rightthumbsup}
30 \LWR@formatted{squarewithdots}
31 \LWR@formatted{filledsquarewithdots}
32 \LWR@formatted{Sborder}
33 \LWR@formatted{Zborder}
34 \LWR@formatted{largepencil}
35 \LWR@formatted{anchor}
36 \LWR@formatted{carriagereturn}
37 \LWR@formatted{checkmark}
38 \LWR@formatted{eye}
39 \LWR@formatted{satellitedish}
40 \LWR@formatted{smallpencil}

```

---

File 108 **lwarp-DotArrow.sty**

## § 215 Package **DotArrow**

(Emulates or patches code by SVEN SCHNEIDER.)

Pkg DotArrow **DotArrow** is patched for use by **lwarp**, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{DotArrow}[2007/02/12]

The width must be recomputed each time, depending on print or HTML output.

```

2 \xpretocmd{\dotarrow}{\settowidth{\oneWidth}{\onePartX}}{}{}
3
4 \begin{warpMathJax}

```

---

```

5 \CustomizeMathJax{\newcommand{\dotarrow}[1]{\stackrel{#1}{\unicode{x21E2}}}}
6 \end{warpMathJax}

```

---

File 109 **lwarp-dotlessi.sty**

§ 216 Package **dotlessi**

(Emulates or patches code by JAVIER BEZOS.)

Pkg dotlessi dotlessi is used as-is for SVG math, and is emulated for MATHJAX.

 HTML \dotlessj Use \usepackage{cmap} if \dotlessj does not appear in HTML in text mode. See section 7.4.

 not bold For MATHJAX, use \boldsymbol instead of \mathbf.

for HTML output: 1 \LWR@ProvidesPackagePass{dotlessi}[1999/10/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\dotlessi\imath}
4 \CustomizeMathJax{\let\dotlessj\jmath}
5 \end{warpMathJax}

```

---

File 110 **lwarp-dprogress.sty**

§ 217 Package **dprogress**

Pkg dprogress dprogress is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

---

File 111 **lwarp-draftcopy.sty**

§ 218 Package **draftcopy**

Pkg draftcopy draftcopy is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{draftcopy}[2002/02/25]

```

2 \newcommand{\draftcopyVersion}[1]{}
3 \newcommand{\draftcopySetGrey}[1]{}
4 \newcommand{\draftcopySetScale}[1]{}
5 \newcommand{\draftcopySetScaleFactor}[1]{}
6 \newcommand{\draftcopyFirstPage}[1]{}
7 \newcommand{\draftcopyLastPage}[1]{}
8 \newcommand{\draftcopyName}[2]{}

```

---

```

9 \newcommand{\draftcopyPageTransform}[1]{}
10 \newcommand{\draftcopyBottomTransform}[1]{}
11 \newcommand{\draftcopyPageX}[1]{}
12 \newcommand{\draftcopyPageY}[1]{}
13 \newcommand{\draftcopyBottomX}[1]{}
14 \newcommand{\draftcopyBottomY}[1]{}

```

---

File 112 **lwarp-draftfigure.sty**

§ 219 Package **draftfigure**

Pkg draftfigure **draftfigure** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{draftfigure}[2017/07/19]
2 \RequirePackage{xkeyval}

3 \define@key{draftfigure}{code}{}
4 \define@key{draftfigure}{noframe}[true]{}
5 \define@key{draftfigure}{filename}[true]{}
6 \define@key{draftfigure}{content}[]{}
7 \define@key{draftfigure}{style}[normal]{}
8 \define@key{draftfigure}{position}[left]{}
9 \define@key{draftfigure}{size}[normal]{}
10 \newcommand\setdf[1]{\setkeys{draftfigure}{#1}}

```

---

File 113 **lwarp-draftwatermark.sty**

§ 220 Package **draftwatermark**

*(Emulates or patches code by SERGIO CALLEGARI.)*

Pkg draftwatermark **draftwatermark** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{draftwatermark}[2020/03/14]

2 \newcommand{\DraftwatermarkOptions}[1]{}
3 \newcommand{\DraftwatermarkStdMark}{}
4 \newcommand{\SetWatermarkAngle}[1]{}
5 \newcommand{\SetWatermarkColor}[1]{}
6 \newcommand{\SetWatermarkLightness}[1]{}
7 \newcommand{\SetWatermarkFontSize}[1]{}
8 \newcommand{\SetWatermarkScale}[1]{}
9 \newcommand{\SetWatermarkHorCenter}[1]{}
10 \newcommand{\SetWatermarkVertCenter}[1]{}
11 \newcommand{\SetWatermarkText}[1]{}

```

---

File 114 **lwarp-drftcite.sty**

## § 221 Package **drftcite**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg drftcite **drftcite** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{drftcite}[1995/01/23]

2 \def\@lbibitem[#1]#2{\global\@HighCite\z@
3 \item[
4 \textsuperscript{\@nameuse{DCN@#2\@extra@b@citeb}}~% lwarp
5 \@biblabel{\ifundefined{DCN@#2\@extra@b@citeb}}{\@warning
6 {Reference ‘#2’ on page \thepage\space was never cited}}}{%
7 \DC@llap{$^{\@nameuse{DCN@#2\@extra@b@citeb}}$\ \ }%%o
8 \@citeverb{#2}}\hfil\if@filesw{\def\protect##1{\string ##1\space}%
9 \immediate\write\@auxout{\string\bibcite{#2}{#1}}}\fi\ignorespaces}
```

File 115 **lwarp-easy-todo.sty**

## § 222 Package **easy-todo**

(Emulates or patches code by JUAN RADA-VILELA.)

Pkg easy-todo **easy-todo** is patched for use by **lwarp**.

To remove the “P.” heading for HTML:

```
\warpHTMLonly{\renewcommand{\todoindexpagetitle}{}}
```

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{easy-todo}[2014/01/01]
```

**\listoftodos** Modified to correct buggy use of **\flushright**.

```

2 \let\LWR@easytodo@origlistoftodos\listoftodos
3
4 \renewcommand{\listoftodos}{%
5 \begingroup
6 \renewcommand{\flushright}{}
7 \LWR@easytodo@origlistoftodos
8 \endgroup
9 }
```

**\todoii** Modified to use **\textcolor** instead of **\color**.

```

10 \renewcommand{\todoii}[2]{%
11 \ifthenelse{\equal{\@todoobeyfinal}{true}}{%
12 {%
13 \ifoptionfinal{\todoenable{false}}{\todoenable{true}}%
14 }%
15 {%
16 \ifthenelse{\equal{\@todoenable}{true}}%
```

---

```

17 {%
18 \refstepcounter{todos}%
19 \noindent{%
20 \todocolor%
21 \LWR@textcurrentcolor{%
22 \normalfont\scriptsize{\bfseries{\thetodos.#1}}}%
23 }%
24 }%
25 \addcontentsline{lod}{todos}{\protect{\thetodos. } \LWR@isolate{#2}}%
26 }%
27 {}%
28 }

```

---

File 116 **lwarp-ebook.sty**

§ 223    Package **ebook**

*(Emulates or patches code by JØRGEN STEENSGAARD.)*

Pkg    ebook    ebook is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ebook}

2 \setcounter{secnumdepth}{0}
3 \setcounter{tocdepth}{2}
4
5 \providecommand{\pagefill}[1][0.001mm]{\noindent}
6
7 \providecommand{\ebook}{
8 \setcounter{secnumdepth}{0}
9 \setcounter{tocdepth}{2}
10 }

```

---

File 117 **lwarp-econometrics.sty**

§ 224    Package **econometrics**

*(Emulates or patches code by ERIK KOLE.)*

Pkg    econometrics    econometrics is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{econometrics}% no date specified in the original

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{econometrics}
6
7 \CustomizeMathJax{\newcommand{\SC}{\mathbb{C}}}
8 \CustomizeMathJax{\newcommand{\SN}{\mathbb{N}}}
9 \CustomizeMathJax{\newcommand{\SQ}{\mathbb{Q}}}

```

```

10 \CustomizeMathJax{\newcommand{\SR}{\mathbb{R}}}
11 \CustomizeMathJax{\newcommand{\SZ}{\mathbb{Z}}}
12
13 \CustomizeMathJax{\newcommand{\calA}{\mathcal{A}}}
14 \CustomizeMathJax{\newcommand{\calB}{\mathcal{B}}}
15 \CustomizeMathJax{\newcommand{\calC}{\mathcal{C}}}
16 \CustomizeMathJax{\newcommand{\calD}{\mathcal{D}}}
17 \CustomizeMathJax{\newcommand{\calE}{\mathcal{E}}}
18 \CustomizeMathJax{\newcommand{\calF}{\mathcal{F}}}
19 \CustomizeMathJax{\newcommand{\calG}{\mathcal{G}}}
20 \CustomizeMathJax{\newcommand{\calH}{\mathcal{H}}}
21 \CustomizeMathJax{\newcommand{\calI}{\mathcal{I}}}
22 \CustomizeMathJax{\newcommand{\calJ}{\mathcal{J}}}
23 \CustomizeMathJax{\newcommand{\calK}{\mathcal{K}}}
24 \CustomizeMathJax{\newcommand{\calL}{\mathcal{L}}}
25 \CustomizeMathJax{\newcommand{\calM}{\mathcal{M}}}
26 \CustomizeMathJax{\newcommand{\calN}{\mathcal{N}}}
27 \CustomizeMathJax{\newcommand{\calO}{\mathcal{O}}}
28 \CustomizeMathJax{\newcommand{\calP}{\mathcal{P}}}
29 \CustomizeMathJax{\newcommand{\calQ}{\mathcal{Q}}}
30 \CustomizeMathJax{\newcommand{\calR}{\mathcal{R}}}
31 \CustomizeMathJax{\newcommand{\calS}{\mathcal{S}}}
32 \CustomizeMathJax{\newcommand{\calT}{\mathcal{T}}}
33 \CustomizeMathJax{\newcommand{\calU}{\mathcal{U}}}
34 \CustomizeMathJax{\newcommand{\calV}{\mathcal{V}}}
35 \CustomizeMathJax{\newcommand{\calW}{\mathcal{W}}}
36 \CustomizeMathJax{\newcommand{\calX}{\mathcal{X}}}
37 \CustomizeMathJax{\newcommand{\calY}{\mathcal{Y}}}
38 \CustomizeMathJax{\newcommand{\calZ}{\mathcal{Z}}}
39
40 \LWR@mathjax@addlatin@u@bfit{m}% uppercase Latin, bold italic
41 \LWR@mathjax@addlatin@l@bfit{v}% lowercase Latin, bold italic
42
43 \LWR@mathjax@addgreek@l@bfit{v}{% lowercase Greek bold italic
44 \LWR@mathjax@addgreek@u@bfit*{m}{% uppercase Greek bold italic, capitalized macro names
45
46 \CustomizeMathJax{\newcommand{\rb}{\mathrm{b}}}
47 \CustomizeMathJax{\newcommand{\rB}{\mathrm{B}}}
48 \CustomizeMathJax{\newcommand{\rC}{\mathrm{C}}}
49 \CustomizeMathJax{\newcommand{\rD}{\mathrm{D}}}
50 \CustomizeMathJax{\newcommand{\rf}{\mathrm{f}}}
51 \CustomizeMathJax{\newcommand{\rF}{\mathrm{F}}}
52 \CustomizeMathJax{\newcommand{\rH}{\mathrm{H}}}
53 \CustomizeMathJax{\newcommand{\rL}{\mathrm{L}}}
54 \CustomizeMathJax{\newcommand{\rN}{\mathrm{N}}}
55 \CustomizeMathJax{\newcommand{\rt}{\mathrm{t}}}
56 \CustomizeMathJax{\newcommand{\rU}{\mathrm{U}}}
57 \CustomizeMathJax{\newcommand{\rGam}{\mathrm{Gam}}}
58 \CustomizeMathJax{\newcommand{\rBeta}{\mathrm{Beta}}}
59
60 \CustomizeMathJax{\newcommand{\Bin}{\mathrm{Bin}}}
61 \CustomizeMathJax{\newcommand{\eu}{\mathrm{e}}}
62 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
63 \CustomizeMathJax{\newcommand{\LN}{\mathrm{LN}}}
64 \CustomizeMathJax{\newcommand{\IN}{\mathrm{IN}}}

```



```

65
66 \CustomizeMathJax{\newcommand{\Poi}{\mathrm{Poi}}}
67
68 \CustomizeMathJax{\newcommand{\ped}[1]{_\mathrm{#1}}}
69 \CustomizeMathJax{\newcommand{\ap}[1]{^\mathrm{#1}}}
70 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\nolimits}}
71 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\nolimits}}
72
73 \CustomizeMathJax{\newcommand{\deriv}[3][\%
74 \frac{\mathrm{d}^{\#1}\#2}{\mathrm{d}\, \#3^{\#1}}\%
75]}
76 \CustomizeMathJax{\newcommand{\pderiv}[3][\%
77 \frac{\partial^{\#1}\#2}{\partial \#3^{\#1}}\%
78]}
79
80 \CustomizeMathJax{\newcommand{\bias}{\operatorname{bias}}}
81 \CustomizeMathJax{\newcommand{\col}{\operatorname{col}}}
82 \CustomizeMathJax{\newcommand{\corr}{\operatorname{corr}}}
83 \CustomizeMathJax{\newcommand{\cov}{\operatorname{cov}}}
84 \CustomizeMathJax{\newcommand{\dg}{\operatorname{dg}}}
85 \CustomizeMathJax{\newcommand{\diag}{\operatorname{diag}}}
86 \CustomizeMathJax{\newcommand{\E}{\operatorname{E}}}
87 \CustomizeMathJax{\newcommand{\etr}{\operatorname{etr}}}
88 \CustomizeMathJax{\newcommand{\ip}{\mathrm{int}}{\nolimits}}
89 \CustomizeMathJax{\newcommand{\kur}{\operatorname{kur}}}
90 \CustomizeMathJax{\newcommand{\MSE}{\operatorname{MSE}}}
91 \CustomizeMathJax{\newcommand{\MSFE}{\operatorname{MSFE}}}
92 \CustomizeMathJax{\newcommand{\OLS}{\operatorname{OLS}}}
93 \CustomizeMathJax{\newcommand{\plim}{\operatorname{plim}}}
94 \CustomizeMathJax{\newcommand{\resid}{\operatorname{resid}}}
95 \CustomizeMathJax{\newcommand{\rk}{\operatorname{rk}}}
96 \CustomizeMathJax{\newcommand{\SE}{\operatorname{SE}}}
97 \CustomizeMathJax{\newcommand{\sgn}{\operatorname{sgn}}}
98 \CustomizeMathJax{\newcommand{\tr}{\operatorname{tr}}}
99 \CustomizeMathJax{\newcommand{\var}{\operatorname{var}}}
100 \CustomizeMathJax{\renewcommand{\vec}{\operatorname{vec}}}
101 \CustomizeMathJax{\newcommand{\vech}{\operatorname{vech}}}
102
103 \CustomizeMathJax{\newcommand{\distr}{\sim}}
104 \CustomizeMathJax{\newcommand{\adistr}{\stackrel{a}{\distr}}}
105 \CustomizeMathJax{\newcommand{\diff}{\Delta}}
106 \CustomizeMathJax{\newcommand{\fdiff}{\diff_{\mathrm{rf}}}}
107 \CustomizeMathJax{\newcommand{\bdiff}{\diff_{\mathrm{rb}}}}
108
109 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
110 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
111
112 \CustomizeMathJax{\newcommand{\longto}{\longrightarrow}}
113 \CustomizeMathJax{\newcommand{\pto}{\stackrel{p}{\longrightarrow}}}
114 \CustomizeMathJax{\newcommand{\dto}{\stackrel{d}{\longrightarrow}}}
115 \CustomizeMathJax{\newcommand{\wto}{\stackrel{w}{\longrightarrow}}}
116
117 \CustomizeMathJax{\newcommand{\Infmat}{\bm{cal I}}}
118 \CustomizeMathJax{\newcommand{\Hesmat}{\bm{cal H}}}
119 \CustomizeMathJax{\newcommand{\bcdot}{\bullet}}

```

---

```

120
121 \CustomizeMathJax{\newcommand{\vones}{\bm\imath}}
122 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
123 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
124
125 \CustomizeMathJax{\newcommand{\e}{\eu}}
126 \CustomizeMathJax{\newcommand{\mply}{\cdot}}
127 \CustomizeMathJax{\newcommand{\rW}{\ensuremath{\mathrm{W}}}}
128 \end{warpMathJax}

```

---

File 118 **lwarp-ed.sty**

§ 225 Package **ed**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

Pkg ed **ed** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{ed}[2012/01/29]

Bugs:

1. todoclist fails with the hide option, as does \edexplanation.
2. \edstubURI is actually \edstuURI.

```

2 \RequirePackage{xcolor}
3
4 \renewenvironment{edstub}[2][The following blue text]
5 {%
6 \def\@test{#1}%
7 \begin{center}%
8 \huge%
9 \textcolor{red}{%
10 #1 is only a provisional stub\\Large
11 the Office document
12 \ifx\ed@stubURI\@empty{#2}\else\LWR@href{\ed@stubURI}{#2}\fi\
13 contains more text\\which will be merged for the final document%
14 }%
15 \end{center}%
16 \BlockClass[color:blue]{edstub}%
17 }
18 {\endBlockClass}

```

---

File 119 **lwarp-ellipsis.sty**

§ 226 Package **ellipsis**

*(Emulates or patches code by PETER J. HESLIN.)*

Pkg ellipsis ellipsis is emulated.

```

1 \LWR@ProvidesPackageDrop{ellipsis}[2004/09/28]
2
3 \newcommand{\ellipsisgap}{0.1em}
4
5 \newcommand*{\midwordellipsis}{\,\,\textellipsis\,}

```

File 120 **lwarp-embrac.sty**

§ 227 Package **embrac**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg embrac embrac is patched for HTML and used as-is for print.

for HTML output:

```

1 \LWR@ProvidesPackagePass{embrac}[2017/07/04]

2 \ExplSyntaxOn
3 \RenewDocumentCommand{\embrac_kern:n}{m}{\}
4 \ExplSyntaxOff

5 \LetLtxMacro\LWR@orig@HTML@emph\LWR@HTML@emph
6 \RenewDocumentCommand{\LWR@HTML@emph}{s m}{\LWR@orig@HTML@emph{#2}}
7
8 \LetLtxMacro\LWR@orig@HTML@textit\LWR@HTML@textit
9 \RenewDocumentCommand{\LWR@HTML@textit}{s m}{\LWR@orig@HTML@textit{#2}}
10
11 \LetLtxMacro\LWR@orig@HTML@textsl\LWR@HTML@textsl
12 \RenewDocumentCommand{\LWR@HTML@textsl}{s m}{\LWR@orig@HTML@textsl{#2}}
13
14 \ifxetexorluatex
15 \LetLtxMacro\LWR@orig@HTML@textsi\LWR@HTML@textsi
16 \RenewDocumentCommand{\LWR@HTML@textsi}{s m}{%
17 \LWR@orig@HTML@textsi{#2}}
18 \fi
19
20 \AtBeginDocument{
21 \LWR@formatted{emph}
22 \LWR@formatted{textit}
23 \LWR@formatted{textsl}
24 \ifxetexorluatex
25 \LWR@formatted{textsi}
26 \fi
27 }
28
29 \newcommand{\LWR@HTML@EmbracOff}{}
30 \LWR@formatted{EmbracOff}
31
32 \newcommand{\LWR@HTML@EmbracOn}{}
33 \LWR@formatted{EmbracOn}

```

---

File 121 **lwarp-emptypage.sty**

§ 228     Package **emptypage**

Pkg    emptypage    emptypage is ignored.

for HTML output:    Discard all options for lwarp-emptypage:

```
1 \LWR@ProvidesPackageDrop{emptypage}[2010/05/30]
```

---

File 122 **lwarp-endfloat.sty**

§ 229     Package **endfloat**

Pkg    endfloat    endfloat is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{endfloat}[2019/04/15]

```
2 \newcommand\figureplace{}
3 \newcommand\tableplace{}
4 \newcommand\floatplace[1]{}
5 \newcounter{posttable}
6 \newcounter{postfigure}
7 \newcommand*\theposttbl{}
8 \newcommand*\thepostfig{}
9 \newcommand{\AtBeginFigures}[1]{}
10 \newcommand{\AtBeginTables}[1]{}
11 \newcommand{\AtBeginDelayedFloats}[1]{}
12 \newcommand*\processdelayedfloats{}
13 \newcommand*\efloatseparator{}
14 \def\efloattype{}
15 \providecommand\efloatheading[1]{}
16 \providecommand\efloatpreamble{}
17 \providecommand\efloatpostamble{}
18 \NewDocumentCommand{\addtodelayedfloat}{s m m}{}
19 \providecommand{\efloatbegin}{}
20 \providecommand{\efloatend}{}
21 \providecommand{\efloatbeginlist}{}
22 \providecommand{\efloatendlist}{}

```

---

File 123 **lwarp-endheads.sty**

§ 230     Package **endheads**

Pkg    endheads    endheads is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{endheads}[2017/04/06]

---

```

2 \newcommand{\changesinglepageabbrev}[1]{}
3 \newcommand{\changemultiplepageabbrev}[1]{}
4 \newcommand{\changenotesname}[1]{}
5 \newcommand{\changenotesheader}[1]{}
6 \newcommand{\changenotescontentsname}[1]{}
7 \newcommand{\changechapternotesline}[1]{}
8 \newcommand{\checknoteheaders}{}
9 \newif\ifnotesincontentson \notesincontentsonfalse
10 \newcommand{\notesincontents}{\notesincontentsontrue}
11 \newif\ifendnoteheaderson \endnoteheadersonfalse
12 \newcommand{\setupendnoteheaders}{%
13 \endnoteheadersontrue%
14 }
15 \newif\iftitleinnotes \titleinnotesttrue
16 \newcommand{\styleforchapternotebegin}{}
17 \newcommand{\styleforchapternoteend}{}
18 \newcommand{\setstyleforchapternotebegin}[1]{%
19 \renewcommand{\styleforchapternotebegin}{#1}%
20 }
21 \newcommand{\setstyleforchapternoteend}[1]{%
22 \renewcommand{\styleforchapternoteend}{#1}%
23 }
24 \newcommand{\resetendnotes}{}
25 \newif\ifnotesbychapteron \notesbychapteronfalse
26 \newcommand{\notesbychapter}{\notesbychapterontrue}

```

---

File 124 **lwarp-endnotes.sty**

§ 231 Package **endnotes**

(Emulates or patches code by JOHN LAVAGNINO.)

Pkg endnotes Patched for HTML.

[table of contents](#) To place the endnotes in the TOC, use:

```

\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional

```

[HTML page](#) To additionally have the endnotes on their own HTML page, if FileDepth allows:

```

\ForceHTMLPage
\theendnotes

```

 [\endnotemark numbering](#) If using MATHJAX, see section 8.5.4 regarding the use of \endnotemark and \endnotetext.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{endnotes}

2 \def\enoteformat{%
3 \rightskip\z@ \leftskip\z@ \parindent=1.8em
4 \leavevmode
5 \% \llap{

```

```

6 \makeenmark
7 % }
8 }

9 \def\LWR@HTML@@makeenmark{\hbox{\LWR@htmlspan{sup}}{\normalfont\theenmark}}
10 \LWR@formatted{@makeenmark}
11
12 \def\makeenmark{\@makeenmark}

```

For MATHJAX:

```

13 \begin{warpMathJax}
14 \def\endnotename{endnote}
15 \appto\LWR@syncnotenumbers{\LWR@synconenotenum{\LWR@endnote}{\theendnote}}
16 \appto\LWR@syncnotenames{\LWR@synconenotename{\LWR@endnote}{\endnotename}}
17 \CustomizeMathJax{\def\LWR@endnote{1}}
18 \CustomizeMathJax{\newcommand{\endnote}[2][\LWR@endnote]{{}^{\mathrm{#1}}}}
19 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWR@endnote]{{}^{\mathrm{#1}}}}
20 \end{warpMathJax}

```

---

File 125 **lwarp-engt1c.sty**

§ 232 Package **engt1c**

(Emulates or patches code by CLAUDIO FIANDRINO.)

Pkg engt1c **engt1c** is patched for use by **lwarp**. MATHJAX is emulated.



For MATHJAX, `\sign`, `\signf`, `\signn`, and `\signz` do not force letter case as they do in SVG math.

for HTML output:

```

1 \LWR@ProvidesPackagePass{engt1c}[2012/12/18]

2 \newcommand{\LWR@HTML@finees}{%
3 \begin{BlockClass}[text-align:right]{exerend}%
4 \HTMLUnicode{220E}%
5 \end{BlockClass}%
6 }
7 \LWR@formatted{finees}
8
9 \newcommand{\LWR@HTML@exerend}{\finees}
10 \LWR@formatted{exerend}
11
12 \begin{warpMathJax}
13 \LWR@infoprocessingmathjax{engt1c}
14
15 \CustomizeMathJax{\newcommand{\unit}[1]{\,\mathrm{#1}}}
16 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
17 %
18 \CustomizeMathJax{\newcommand{\ho}{\unit{h}}}
19 \CustomizeMathJax{\newcommand{\s}{\unit{s}}}
20 \CustomizeMathJax{\newcommand{\ms}{\unit{ms}}}

```

```

21 \CustomizeMathJax{\newcommand{\us}{\unit{\micro s}}}
22 \CustomizeMathJax{\newcommand{\ns}{\unit{ns}}}
23 \CustomizeMathJax{\newcommand{\ps}{\unit{ps}}}
24 %
25 \CustomizeMathJax{\newcommand{\um}{\unit{\micro m}}}
26 \CustomizeMathJax{\newcommand{\mm}{\unit{mm}}}
27 \CustomizeMathJax{\newcommand{\cm}{\unit{cm}}}
28 \CustomizeMathJax{\newcommand{\dm}{\unit{dm}}}
29 \CustomizeMathJax{\newcommand{\m}{\unit{m}}}
30 \CustomizeMathJax{\newcommand{\km}{\unit{km}}}
31 %
32 \CustomizeMathJax{\newcommand{\MA}{\unit{MA}}}
33 \CustomizeMathJax{\newcommand{\kA}{\unit{kA}}}
34 \CustomizeMathJax{\newcommand{\A}{\unit{A}}}
35 \CustomizeMathJax{\newcommand{\mA}{\unit{mA}}}
36 \CustomizeMathJax{\newcommand{\uA}{\unit{\micro A}}}
37 \CustomizeMathJax{\newcommand{\nA}{\unit{nA}}}
38 %
39 \CustomizeMathJax{\newcommand{\MV}{\unit{MV}}}
40 \CustomizeMathJax{\newcommand{\kV}{\unit{kV }}}
41 \CustomizeMathJax{\newcommand{\V}{\unit{V}}}
42 \CustomizeMathJax{\newcommand{\mV}{\unit{mV}}}
43 \CustomizeMathJax{\newcommand{\uV}{\unit{\micro V}}}
44 %
45 \CustomizeMathJax{\newcommand{\mohm}{\unit{m\Omega}}}
46 \CustomizeMathJax{\newcommand{\ohm}{\unit{\Omega}}}
47 \CustomizeMathJax{\newcommand{\kohm}{\unit{k\Omega}}}
48 \CustomizeMathJax{\newcommand{\Mohm}{\unit{M\Omega}}}
49 %
50 \CustomizeMathJax{\newcommand{\pSi}{\unit{pS}}}
51 \CustomizeMathJax{\newcommand{\nSi}{\unit{nS}}}
52 \CustomizeMathJax{\newcommand{\uSi}{\unit{\micro S}}}
53 \CustomizeMathJax{\newcommand{\mSi}{\unit{mS}}}
54 \CustomizeMathJax{\newcommand{\Si}{\unit{S}}}
55 \CustomizeMathJax{\newcommand{\kSi}{\unit{kS}}}
56 \CustomizeMathJax{\newcommand{\MSi}{\unit{MS}}}
57 %
58 \CustomizeMathJax{\newcommand{\fFa}{\unit{fF}}}
59 \CustomizeMathJax{\newcommand{\pFa}{\unit{pF}}}
60 \CustomizeMathJax{\newcommand{\nFa}{\unit{nF}}}
61 \CustomizeMathJax{\newcommand{\uFa}{\unit{\micro F}}}
62 \CustomizeMathJax{\newcommand{\mFa}{\unit{mF}}}
63 \CustomizeMathJax{\newcommand{\Fa}{\unit{F}}}
64 %
65 \CustomizeMathJax{\newcommand{\fHe}{\unit{fH}}}
66 \CustomizeMathJax{\newcommand{\pHe}{\unit{pH}}}
67 \CustomizeMathJax{\newcommand{\nHe}{\unit{nH}}}
68 \CustomizeMathJax{\newcommand{\uHe}{\unit{\micro H}}}
69 \CustomizeMathJax{\newcommand{\mHe}{\unit{mH}}}
70 \CustomizeMathJax{\newcommand{\He}{\unit{H}}}
71 %
72 \CustomizeMathJax{\newcommand{\dB}{\unit{dB}}}
73 \CustomizeMathJax{\newcommand{\dBm}{\unit{dBm}}}
74 %
75 \CustomizeMathJax{\newcommand{\uW}{\unit{\micro W}}}

```

```

76 \CustomizeMathJax{\newcommand{\mW}{\unit{mW}}}
77 \CustomizeMathJax{\newcommand{\W}{\unit{W}}}
78 \CustomizeMathJax{\newcommand{\kW}{\unit{kW}}}
79 \CustomizeMathJax{\newcommand{\MW}{\unit{MW}}}
80 %
81 \CustomizeMathJax{\newcommand{\Hz}{\unit{Hz}}}
82 \CustomizeMathJax{\newcommand{\kHz}{\unit{kHz}}}
83 \CustomizeMathJax{\newcommand{\MHz}{\unit{MHz}}}
84 \CustomizeMathJax{\newcommand{\GHz}{\unit{GHz}}}
85 \CustomizeMathJax{\newcommand{\THz}{\unit{THz}}}
86 %
87 \CustomizeMathJax{\newcommand{\bit}{\unit{bit}}}
88 \CustomizeMathJax{\newcommand{\kbit}{\unit{Kib}}}
89 \CustomizeMathJax{\newcommand{\Mbit}{\unit{Mib}}}
90 \CustomizeMathJax{\newcommand{\Byte}{\unit{B}}}
91 \CustomizeMathJax{\newcommand{\kByte}{\unit{KiB}}}
92 \CustomizeMathJax{\newcommand{\MByte}{\unit{Mib}}}
93 \CustomizeMathJax{\newcommand{\GByte}{\unit{GiB}}}
94 \CustomizeMathJax{\newcommand{\TByte}{\unit{TiB}}}
95 \CustomizeMathJax{\newcommand{\bits}{\unit{bit/s}}}
96 \CustomizeMathJax{\newcommand{\kbits}{\unit{Kib/s}}}
97 \CustomizeMathJax{\newcommand{\Mbits}{\unit{Mib/s}}}
98 \CustomizeMathJax{\newcommand{\Bytes}{\unit{B/s}}}
99 \CustomizeMathJax{\newcommand{\kBytes}{\unit{KiB/s}}}
100 \CustomizeMathJax{\newcommand{\MBytes}{\unit{MiB/s}}}
101 \CustomizeMathJax{\newcommand{\GBytes}{\unit{GiB/s}}}
102 \CustomizeMathJax{\newcommand{\TBytes}{\unit{TiB/s}}}
103 \CustomizeMathJax{\newcommand{\chips}{\unit{chip/s}}}
104 \CustomizeMathJax{\newcommand{\kchips}{\unit{Ki\mkern2mu chip/s}}}
105 \CustomizeMathJax{\newcommand{\Mchips}{\unit{Mi\mkern2mu chip/s}}}
106 \CustomizeMathJax{\newcommand{\chipsunit}{\unit{chip/bit}}}
107 %
108 \CustomizeMathJax{\newcommand{\frecciadex}[1][0.5]{%
109 \hspace{.25cm}\Longrightarrow \hspace{.25cm}}%
110 }
111 \CustomizeMathJax{\newcommand{\varianzarumore}{\frac{N_0}{2}}}
112 %
113 \CustomizeMathJax{\newcommand{\etsymbolbracearg}[2]{%
114 #1\mathopen{}\left\lbrace#2\right\rbrace\mathclose{}}%
115 }
116 \CustomizeMathJax{\newcommand{\fourier}[1]{\etsymbolbracearg{\mathcal{F}}{#1}}}
117 \CustomizeMathJax{\newcommand{\invfourier}[1]{\etsymbolbracearg{\mathcal{F}}^{-1}{#1}}}
118 \CustomizeMathJax{\newcommand{\partereale}[1]{\etsymbolbracearg{\textbf{Re}}{#1}}}
119 \CustomizeMathJax{\newcommand{\parteimm}[1]{\etsymbolbracearg{\textbf{Im}}{#1}}}
120 \CustomizeMathJax{\newcommand{\Info}[1]{I\left(#1\right)}}
121 \CustomizeMathJax{\newcommand{\versore}[1]{\hat{#1}}}
122 \CustomizeMathJax{\newcommand{\vettore}[1]{\overrightarrow{#1}}}
123 \CustomizeMathJax{\newcommand{\coseno}[1]{\cos\left(2\pi\#1\right)}}
124 \CustomizeMathJax{\newcommand{\seno}[1]{\sin\left(2\pi\#1\right)}}
125 \CustomizeMathJax{\newcommand{\energia}[1]{\mathcal{E}_{#1}}}
126 \CustomizeMathJax{\newcommand{\moduloexp}[2]{\left\vert\right.\left.\right\vert^{\#2}}}
127 \CustomizeMathJax{\newcommand{\modulo}[1]{\left\vert\right.\left.\right\vert}}
128 \CustomizeMathJax{\newcommand{\indB}[1]{%
129 \mathopen{}\left.\right\vert\right.\left.\right\vert_{\mathrm{dB}}\mathclose{}}}%
130 \CustomizeMathJax{\newcommand{\for}[2]{\left.\right\vert\right.\left.\right\vert_{\#2}}}

```



```

131 \CustomizeMathJax{\newcommand{\massimo}[1]{\etsymbolbracearg{\max}{#1}}}
132 \CustomizeMathJax{\newcommand{\minimo}[1]{\etsymbolbracearg{\min}{#1}}}
133 \CustomizeMathJax{\newcommand{\valc}[3]{\cdot 10^8}}
134 \CustomizeMathJax{\newcommand{\loga}[2]{\log_{#1}#2}}
135 \CustomizeMathJax{\newcommand{\analitic}[1]{\mathring{#1}}}
136 \CustomizeMathJax{\newcommand{\diff}{\mathop{}\mathopen{\mathrm{d}}}}
137 \CustomizeMathJax{\newcommand{\intinf}[1]{\int_{-\infty}^{+\infty}{#1}}}
138 \CustomizeMathJax{\newcommand{\deltain}[1]{\delta\left(#1\right)}}
139 \CustomizeMathJax{\newcommand{\iu}{\mathrm{j}}}
140 \CustomizeMathJax{\newcommand{\ex}[1]{\mathrm{e}^{#1}}}
141 %
142 \CustomizeMathJax{\newcommand{\gammatens}{\{}^{\mathrm{V}}\Gamma}}
143 \CustomizeMathJax{\newcommand{\gammacorr}{\{}^{\mathrm{I}}\Gamma}}
144 \CustomizeMathJax{\newcommand{\gammatensin}[1]{\{}^{\mathrm{V}}\Gamma_{\mathrm{#1}}}}
145 \CustomizeMathJax{\newcommand{\gammacorrin}[1]{\{}^{\mathrm{I}}\Gamma_{\mathrm{#1}}}}
146 \CustomizeMathJax{\newcommand{\gammain}[1]{\Gamma_{\mathrm{#1}}}}
147 \CustomizeMathJax{\newcommand{\gammak}{\{}^{\mathrm{k}}\Gamma}}
148 %
149 \CustomizeMathJax{\newcommand{\lbvt}{\lambda_0}}
150 \CustomizeMathJax{\newcommand{\lbg}{\lambda_g}}
151 \CustomizeMathJax{\newcommand{\lbgvt}{\lambda_{g_0}}}
152 %
153 \CustomizeMathJax{\newcommand{\potin}[1]{P_{\mathrm{#1}}}}
154 \CustomizeMathJax{\newcommand{\potdisp}[1][P_{\mathrm{disp}}^{#1}}
155 \CustomizeMathJax{\newcommand{\potDC}[1][P_{\mathrm{DC}}^{#1}}
156 \CustomizeMathJax{\newcommand{\potCC}[1][P_{\mathrm{CC}}^{#1}}
157 \CustomizeMathJax{\newcommand{\potirr}[1][P_{\mathrm{irr}}^{#1}}
158 \CustomizeMathJax{\newcommand{\potdiss}[1][P_{\mathrm{diss}}^{#1}}
159 \CustomizeMathJax{\newcommand{\potinc}[1][P_{\mathrm{inc}}^{#1}}
160 %
161 \CustomizeMathJax{\newcommand{\z}[1]{Z_{\mathrm{#1}}}}
162 \CustomizeMathJax{\newcommand{\znorm}[1]{z_{\mathrm{#1}}}}
163 \CustomizeMathJax{\newcommand{\y}[1]{Y_{\mathrm{#1}}}}
164 \CustomizeMathJax{\newcommand{\ynorm}[1]{y_{\mathrm{#1}}}}
165 \CustomizeMathJax{\newcommand{\zinf}[1][Z_{\infty#1}}
166 \CustomizeMathJax{\newcommand{\zinfn}[1]{zinf[#1]}
167 \CustomizeMathJax{\newcommand{\yinf}[1][Y_{\infty#1}}
168 \CustomizeMathJax{\newcommand{\yinfn}[1]{yinf[#1]}
169 \CustomizeMathJax{\newcommand{\zvt}{Z_0}}
170 \CustomizeMathJax{\newcommand{\yvt}{Y_0}}
171 %
172 \CustomizeMathJax{\newcommand{\campoe}{\underline{\mathcal{E}}(\underline{r},t)}}
173 \CustomizeMathJax{\newcommand{\campoe fas}{\underline{E}(\underline{r})}}
174 \CustomizeMathJax{\newcommand{\campoh}{\underline{\mathcal{H}}(\underline{r},t)}}
175 \CustomizeMathJax{\newcommand{\campoh fas}{\underline{H}(\underline{r})}}
176 %
177 \CustomizeMathJax{\newcommand{\signt}[1]{(t)}}
178 \CustomizeMathJax{\newcommand{\signf}[1]{(f)}}
179 \CustomizeMathJax{\newcommand{\signn}[1]{(n)}}
180 \CustomizeMathJax{\newcommand{\signz}[1]{(z)}}
181 %
182 \CustomizeMathJax{\newcommand{\prob}[1]{\mathcal{P}\left(#1\right)}}
183 \CustomizeMathJax{\newcommand{\valatt}[1]{\mathbb{E}\left[#1\right]}}
184 \CustomizeMathJax{\newcommand{\var}[1]{\mathrm{Var}\left[#1\right]}}
185 \CustomizeMathJax{\newcommand{\comma}{\,,\,}}

```

---

```

186 \CustomizeMathJax{\newcommand{\dato}{\,|\,}}
187 %
188 \CustomizeMathJax{\let\bfRe\partereale}
189 \CustomizeMathJax{\let\bfIm\parteimm}
190 \CustomizeMathJax{\let\noisevar\varianzarumore}
191 % \CustomizeMathJax{\let\exerend\finees}
192 \CustomizeMathJax{\let\Spimplies\frecciadex}
193 \CustomizeMathJax{\let\Downimplies\frecciadown}
194 \CustomizeMathJax{\let\unitvec\versore}
195 \CustomizeMathJax{\let\vector\vettore}
196 \CustomizeMathJax{\let\cosine\coseno}
197 \CustomizeMathJax{\let\sine\seno}
198 \CustomizeMathJax{\let\energy\energia}
199 \CustomizeMathJax{\let\Abs\modulo}
200 \CustomizeMathJax{\let\AbsPow\moduloexp}
201 \CustomizeMathJax{\let\Max\massimo}
202 \CustomizeMathJax{\let\Min\minimo}
203 \CustomizeMathJax{\let\clight\valc}
204 \CustomizeMathJax{\let\Log\loga}
205 \CustomizeMathJax{\let\analytic\analitic}
206 \CustomizeMathJax{\let\infint\intinf}
207 \CustomizeMathJax{\let\deltaimp\deltain}
208 \CustomizeMathJax{\let\Vgamma\gammatens}
209 \CustomizeMathJax{\let\Cgamma\gammacorr}
210 \CustomizeMathJax{\let\Vgammain\gammatensin}
211 \CustomizeMathJax{\let\Cgammain\gammacorrin}
212 \CustomizeMathJax{\let\Kgamma\gammak}
213 \CustomizeMathJax{\let\powerin\potin}
214 \CustomizeMathJax{\let\availpow\potdisp}
215 \CustomizeMathJax{\let\irrpow\potirr}
216 \CustomizeMathJax{\let\disppow\potdiss}
217 \CustomizeMathJax{\let\incpow\potinc}
218 \CustomizeMathJax{\let\potalim\potCC}
219 \CustomizeMathJax{\let\potDC\potCC}
220 \CustomizeMathJax{\let\Efield\campoe}
221 \CustomizeMathJax{\let\Hfield\campoh}
222 \CustomizeMathJax{\let\phasorEfield\campoe fas}
223 \CustomizeMathJax{\let\phasorHfield\campoh fas}
224 \CustomizeMathJax{\let\given\dato}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\ex}
227 \end{warpMathJax}

```

---

File 126 **lwarp-enumerate.sty**

## § 233 Package **enumerate**

Pkg enumerate **enumerate** is supported with no changes.

This package is only required because it was used in the past to drop and then emulate the package. It cannot be removed because an older version which dropped the package may still remain, for example in a local vs. distribution directory, but it is now supported directly by **lwarp** and thus must no longer be dropped.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enumerate}[2015/07/23]

---

File 127 **lwarp-enumitem.sty**

§ 234 Package **enumitem**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg enumitem enumitem is supported with minor adjustments.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enumitem}[2018/11/30]

```
\newlist {<name>} {<type>} {<maxdepth>}
\renewlist {<name>} {<type>} {<maxdepth>}
```

For enumitem lists, new lists must have the start and end actions assigned to the new environment. Renewed lists already have their actions assigned, and thus need no changes.

```
2 \let\LWR@enumitem@orignewlist\newlist
3
4 \renewcommand*\newlist[3]{%
5 \LWR@enumitem@orignewlist{#1}{#2}{#3}%
6 \AtBeginEnvironment{#1}{\@nameuse{LWR@#2start}}%
7 \AtEndEnvironment{#1}{\@nameuse{LWR@#2end}}%
8 }
9
10 \def\DrawEnumitemLabel{}
```

---

File 128 **lwarp-epigraph.sty**

§ 235 Package **epigraph**

*(Emulates or patches code by PETER WILSON.)*

Pkg epigraph epigraph is emulated for HTML, and used as-is for print output.

Use css to format epigraphs.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epigraph}[2020/01/02]

```
2 \DeclareDocumentCommand{\LWR@HTML@qitem}{m m}
3 {%
4 \begin{BlockClass}{qitem}%
5 #1%
6 \LWR@stoppars%
7 \ifbool{FormatWP}%
8 {\begin{BlockClass}[border-top:1px solid gray]{epigraphsource}}%
9 {\begin{BlockClass}{epigraphsource}}%
10 #2%
11 \end{BlockClass}%
```

```

12 \end{BlockClass}%
13 }
14 \LWR@formatted{qitem}

15 \DeclareDocumentCommand{\LWR@HTML@epigraph}{m m}
16 {%
17 \begin{LWR@BlockClassWP}{\LWR@print@mbbox{text-align:right}}{}{epigraph}%
18 \qitem{#1}{#2}%
19 \end{LWR@BlockClassWP}%
20 }
21 \LWR@formatted{epigraph}
22
23 \DeclareDocumentEnvironment{LWR@HTML@epigraphs}{}
24 {\LWR@BlockClassWP{\LWR@print@mbbox{text-align:right}}{}{epigraph}}
25 {\endLWR@BlockClassWP}
26 \LWR@formattedenv{epigraphs}

```

The following cannot be used in print mode while generating HTML:

```

27 \renewcommand{\epigraphhead}[2][0]{#2}
28 \renewcommand{\dropchapter}[1]{}
29 \renewcommand*\undodrop{}

```

---

File 129 **lwarp-epsf.sty**

§ 236 Package **epsf**

(Emulates or patches code by TOM ROKICKI.)

Pkg epsf epsf is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{epsf}% not date given

2 \xpretocmd{\epsfsetgraph}
3 {\begin{lateximage}}
4 {}
5 {\LWR@patcherror{lwarp-epsf}{epsfsetgraph-begin}}
6
7 \xapptocmd{\epsfsetgraph}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{lwarp-epsf}{epsfsetgraph-end}}

```

---

File 130 **lwarp-epsfig.sty**

§ 237 Package **epsfig**

Pkg epsfig epsfig is emulated for use by lwarp.



Only the  $\text{\LaTeX}$ 2e syntax is emulated.

for HTML output: 1 \LWR@ProvidesPackagePass{epsfig}[2017/06/25]

A few additional keys to capture the filename:

```

2 \RequirePackage{graphics}
3
4 \define@key{igraph}{file}{%
5 \xdef\LWR@epsfig@filename{#1}%
6 }
7
8 \define@key{igraph}{figure}{%
9 \xdef\LWR@epsfig@filename{#1}%
10 }
11
12 \define@key{igraph}{prolog}{%}
13
14 \define@key{igraph}{silent}[]{}

```

The captured filename is used as the argument to \includegraphics:

```

15 \newcommand{\LWR@HTML@epsfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
16 \LWR@formatted{epsfig}
17
18 \newcommand{\LWR@HTML@psfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
19 \LWR@formatted{psfig}

```

---

File 131 **lwarp-epstopdf.sty**

§ 238 Package **epstopdf**

Pkg epstopdf Previous versions of lwarp had a nullified version, but now epstopdf-base is supported. lwarp-epstopdf becomes a placeholder to overwrite previous versions.

See package epstopdf-base for details.

for HTML output: 1 \LWR@ProvidesPackagePass{epstopdf}[2020-01-24]

---

File 132 **lwarp-epstopdf-base.sty**

§ 239 Package **epstopdf-base**

Pkg epstopdf-base

 convert to .svg

Images with an .eps extension will be converted to .pdf. The HTML output uses the .svg version, so use

Enter ⇒ **lwarpmk pdftosvg <listofPDFfiles>**

to generate .svg versions.

for HTML output: 1 \LWR@ProvidesPackagePass{epstopdf-base}[2020-01-24]

Redefine to remember the image filename, replacing .pdf with .svg. Use the `epstopdf` print version inside a `lateximage`.

```

2 \newcommand*{\LWR@HTML@ETE@OrgGin@setfile}[3]{%
3 \edef\LWR@tempone{#3}%
4 \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
5 \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
6 \xdef\LWR@parsedfilename{\LWR@tempone}%
7 }
8
9 \LWR@formatted{ETE@OrgGin@setfile}

```

`\includegraphics` in HTML mode redefines `\Gin@setfile` to be `\LWR@HTML@Gin@setfile`, which is now redirected to `epstopdf`'s version:

```

10 \renewcommand*{\LWR@HTML@Gin@setfile}[3]{%
11 \ETE@Gin@setfile{#1}{#2}{#3}%
12 }

```

Allow .eps images to be found if a suffix is not provided:

```

13 \AtBeginDocument{
14 \DeclareGraphicsExtensions{%
15 .eps,.EPS,.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
16 }
17 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
18 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
19 }

```

Likewise when inside a `lateximage`:

```

20 \appto\LWR@restoreorigformatting{%
21 \DeclareGraphicsExtensions{%
22 .eps,.EPS,.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
23 }%
24 }

```

---

File 133 **lwarp-eqlist.sty**

§ 240 Package **eqlist**

Pkg eqlist eqlist is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{eqlist}[2002/08/15]

```

2 \newenvironment{eqlist}[1][\description]{\enddescription}
3 \newenvironment{eqlist*}[1][\description]{\enddescription}
4 \newenvironment{EqList}[2][\description]{\enddescription}
5 \newenvironment{EqList*}[2][\description]{\enddescription}
6 \newcommand*\longitem[1][\item[#1]]
7 \newcommand*\eqlistinit{}
8 \newcommand*\eqliststarinit{}

```

---

```

9 \newcommand*{\eqlistinitpar}{}
10 \def\eqlistlabel#1{#1}
11 \newcommand{\eqlistauto}[1]{}
12 \newcommand{\eqlistnoauto}{}

```

---

File 134 **lwarp-eqparbox.sty**

§ 241 Package **eqparbox**

(Emulates or patches code by SCOTT PAKIN.)

Pkg eqparbox eqparbox is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{eqparbox}[2017/09/03]

2 \NewDocumentCommand{\LWR@HTML@eqparbox}{O{t} O{} O{t} m +m}{%
3 {%
4 \minipagefullwidth%
5 \parbox[#1][#2][#3]{\linewidth}{#5}%
6 }%
7 }
8 \LWR@formatted{eqparbox}
9
10 \NewDocumentCommand{\LWR@HTML@eqmakebox}{o o m}{%
11 \makebox[#2][#3]%
12 }
13 \LWR@formatted{eqmakebox}
14
15 \NewDocumentCommand{\LWR@HTML@eqframebox}{o o m}{%
16 \framebox[#2][#3]%
17 }
18 \LWR@formatted{eqframebox}
19
20 \NewDocumentEnvironment{\LWR@HTML@eqminipage}{O{t} O{} O{t} m}
21 {%
22 \begingroup%
23 \minipagefullwidth%
24 \minipage[#1][#2][#3]{\linewidth}%
25 }%
26 {%
27 \endminipage%
28 \endgroup%
29 }
30
31 \newcommand*{\LWR@HTML@eqboxwidth}[1]{.25\linewidth}
32 \LWR@formatted{eqboxwidth}
33
34 \newcommand*{\LWR@HTML@eqsetminwidth}[2]{}
35 \newcommand*{\LWR@HTML@eqsetmaxwidth}[2]{}
36
37 \newcommand*{\LWR@HTML@eqsetminwidthto}[2]{}
38 \newcommand*{\LWR@HTML@eqsetmaxwidthto}[2]{}

```

File 135 **lwarp-errata.sty**

§ 242 Package **errata**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

Pkg errata **errata** is patched for use by **lwarp**.

This is for v0.3 of **errata**. A newer version of **errata** with more features is under development, at which time the **lwarp** version will have to be updated.

**for HTML output:** Macros are being defined with the math dollar, so enable the HTML version during package loading:

```
1 \StartDefiningMath
```

Now load the package:

```
2 \LWR@ProvidesPackagePass{errata}[2006/11/12]
```

Patches for dynamic inline math:

```
3 \xpatchcmd{\erratumAdd}
4 {$_a^{\arabic{erratum}}}$}
5 % {\inlinemathother$_a^{\arabic{erratum}}$\inlinemathnormal}
6 {\textsubscript{a}\textsuperscript{\arabic{erratum}}}
7 {}
8 {\LWR@patcherror{erratum}{erratumAdd}}
9
10 \xpatchcmd{\erratumDelete}
11 {$_d^{\arabic{erratum}}}$}
12 % {\inlinemathother$_d^{\arabic{erratum}}$\inlinemathnormal}
13 {\textsubscript{d}\textsuperscript{\arabic{erratum}}}
14 {}
15 {\LWR@patcherror{erratum}{erratumDelete}}
16
17 \xpatchcmd{\erratumReplace}
18 {$_r^{\arabic{erratum}}}$}
19 % {\inlinemathother$_r^{\arabic{erratum}}$\inlinemathnormal}
20 {\textsubscript{r}\textsuperscript{\arabic{erratum}}}
21 {}
22 {\LWR@patcherror{erratum}{erratumReplace}}
23
24 \xpatchcmd{\erratum}
25 {$_a$}
26 % {\inlinemathother$_a$\inlinemathnormal}
27 {\textsubscript{a}}
28 {}
29 {\LWR@patcherror{erratum}{erratumDelete}}
30
31 \xpatchcmd{\erratum}
32 {$_d^{\@thefnmark}}$}
```



```

33 % {\inlinemathother$_d^{\@thefnmark}$\inlinemathnormal}
34 {\textsubscript{d}\@thefnmark}
35 {}
36 {\LWR@patcherror{erratum}{eDelete}}
37
38 \xpatchcmd{\erratum}
39 {$_r^{\@thefnmark}$}
40 % {\inlinemathother$_r^{\@thefnmark}$\inlinemathnormal}
41 {\textsubscript{r}\@thefnmark}
42 {}
43 {\LWR@patcherror{erratum}{eReplace}}

```

Finish the current page's errata before closing and reloading the list:

```
44 \preto\PrintErrata{\LWR@maybe@orignewpage}
```

No longer defining math macros with the HTML \$:

```
45 \StopDefiningMath
```

---

## File 136 **lwarp-eso-pic.sty**

### § 243 Package **eso-pic**

*(Emulates or patches code by ROLF NIEPRASCHK.)*

Pkg eso-pic **eso-pic** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{eso-pic}[2018/04/12]

```

2 \newcommand*{\LenToUnit}{}
3 \newcommand{\AtPageUpperLeft}[1]{}
4 \newcommand{\AtPageLowerLeft}[1]{}
5 \newcommand{\AtPageCenter}[1]{}
6 \newcommand{\AtStockLowerLeft}[1]{}
7 \newcommand{\AtStockUpperLeft}[1]{}
8 \newcommand{\AtStockCenter}[1]{}
9 \newcommand{\AtTextUpperLeft}[1]{}
10 \newcommand{\AtTextLowerLeft}[1]{}
11 \newcommand{\AtTextCenter}[1]{}
12 \NewDocumentCommand{\AddToShipoutPictureBG}{s +m}{}

13 \newcommand{\AddToShipoutPicture}{\AddToShipoutPictureBG}
14 \NewDocumentCommand{\AddToShipoutPictureFG}{s +m}{}
15 \newcommand*{\ClearShipoutPictureBG}{}
16 \newcommand*{\ClearShipoutPicture}{}
17 \newcommand*{\ClearShipoutPictureFG}{}
18 \newcommand{\gridSetup}[6][1]{}

```

---

## File 137 **lwarp-esvect.sty**

## § 244 Package **esvect**

(Emulates or patches code by EDDIE SAUDRAIS.)

Pkg esvect **esvect** is used as-is for SVG math, and emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{esvect}% no date given

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRResvectvv}[1]{\overrightarrow{#1}}}
4 \CustomizeMathJax{\newcommand{\LWRResvectvstar}[2]{\overrightarrow{#1}\!_{#2}}}
5 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWRResvectvstar\LWRResvectvv}}
6 \end{warpMathJax}
```

### File 138 **lwarp-etoc.sty**

## § 245 Package **etoc**

Pkg etoc **etoc** is ignored. All commands are nullified.

⚠ **\tableofcontents with \ref** The **etoc** package uses a non-standard syntax which looks ahead after a `\tableofcontents` for a following `\ref`. These `\refs` appear in the HTML result unless they are removed. Where a `\tableofcontents` is followed by `\ref`, and perhaps also `\label` as well, enclose all of them inside `\warpprintonly`:

```
\warpprintonly{\tableofcontents \ref{toc:abc} \label{toc:def}}
```

or place all code related to a local `\tableofcontents` inside a `warpprint` environment.

⚠ **home page** Be sure to keep the initial `\tableofcontents` on the home page, perhaps in its own `\warpHTMLonly` macro or `warpprint` environment.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{etoc}[2019/11/17]

2 \def\etocsetlevel#1#2{}
3 \def\etocskipfirstprefix{}
4 \let\etocthename \@empty
5 \let\etocthenumber \@empty
6 \let\etocthepage \@empty
7 \let\etocthelinkedname \@empty
8 \let\etocthelinkednumber \@empty
9 \let\etocthelinkedpage \@empty
10 \let\etocthelink \@firstofone % prior to 1.08j its was \let to \@empty
11 \DeclareRobustCommand*\etocname {}
12 \DeclareRobustCommand*\etocnumber {}
13 \DeclareRobustCommand*\etocpage {}
14 \DeclareRobustCommand*\etoclink {\@firstofone}
15 \DeclareRobustCommand*\etocifnumbered {\@firstoftwo}
16 \DeclareRobustCommand*\etociffirst {\@firstoftwo}
17 \DeclareRobustCommand*\etocifwasempty {\@firstoftwo}
18 \let\etocaftertitlehook \@empty
19 \let\etocaftercontentshook \@empty
```

```

20 \def\etocstableofcontents{}
21 \newcommand*\localtableofcontents{}
22 \newcommand*\localtableofcontentswithrelativedepth[1]{}
23 \newcommand\etocsettocstyle[2]{}
24 \long\def\etocsetstyle#1#2#3#4#5{}
25 \def\etocfontminustwo {\normalfont \LARGE \bfseries}
26 \def\etocfontminusone {\normalfont \large \bfseries}
27 \def\etocfontzero {\normalfont \large \bfseries}
28 \def\etocfontone {\normalfont \normalsize \bfseries}
29 \def\etocfonttwo {\normalfont \normalsize}
30 \def\etocfontthree {\normalfont \footnotesize}
31 \def\etocsepminustwo {4ex \@plus .5ex \@minus .5ex}
32 \def\etocsepminusone {4ex \@plus .5ex \@minus .5ex}
33 \def\etocsepzero {2.5ex \@plus .4ex \@minus .4ex}
34 \def\etocsepone {1.5ex \@plus .3ex \@minus .3ex}
35 \def\etocseptwo {.5ex \@plus .1ex \@minus .1ex}
36 \def\etocsepthree {.25ex \@plus .05ex \@minus .05ex}
37 \def\etocbaselinespreadminustwo {1}
38 \def\etocbaselinespreadminusone {1}
39 \def\etocbaselinespreadzero {1}
40 \def\etocbaselinespreadone {1}
41 \def\etocbaselinespreadtwo {1}
42 \def\etocbaselinespreadthree {.9}
43 \def\etocminustwoleftmargin {1.5em plus 0.5fil}
44 \def\etocminustworightmargin {1.5em plus -0.5fil}
45 \def\etocminusoneleftmargin {1em}
46 \def\etocminusonerightmargin {1em}
47 \def\etoclineleaders
48 {\hbox{\normalfont\normalsize\hbext@2ex {\hss.\hss}}}}
49 \def\etocabbrevpagename {p.~}
50 \def\etocpartname {Part}% modified 1.08b
51 \def\etocbookname {Book}
52 \def\etocdefaultlines{}
53 \def\etocabovetocskip{3.5ex \@plus 1ex \@minus .2ex}
54 \def\etocbelowntocskip{3.5ex \@plus 1ex \@minus .2ex}
55 \def\etoccolumnsep{2em}
56 \def\etocmulticolsep{0ex}
57 \def\etocmulticolpretolerance{-1}
58 \def\etocmulticoltolerance{200}
59 \def\etocdefaultnbcol{2}
60 \def\etocinnertopsep{2ex}
61 \newcommand\etocmulticolstyle[2][{}]{
62 \def\etocinnerbottomsep{3.5ex}
63 \def\etocinnerleftsep{2em}
64 \def\etocinnerrightsep{2em}
65 \def\etocoprul{\hrule}
66 \def\etocleftrule{\vrule}
67 \def\etocrightrule{\vrule}
68 \def\etocbottomrule{\hrule}
69 \def\etocoprulecolorcmd{\relax}
70 \def\etocbottomrulecolorcmd{\relax}
71 \def\etocleftrulecolorcmd{\relax}
72 \def\etocrightrulecolorcmd{\relax}
73 \newcommand*\etocruledstyle[2][{}]{
74 \def\etocframedmphook{\relax}

```

```

75 \long\def\etocbkgcolorcmd{\relax}
76 \newcommand*\etocframedstyle[2][{}]{
77 \def\etocmulticol{}
78 \def\etocruled{}
79 \def\etocframed{}
80 \def\etoclocalmulticol{}
81 \def\etoclocalruled{}
82 \def\etoclocalframed{}
83 \def\etocarticlestyle{}
84 \def\etocarticlestylenomarks{}
85 \def\etocbookstyle{}
86 \def\etocbookstylenomarks{}
87 \let\etocreportstyle\etocbookstyle
88 \let\etocreportstylenomarks\etocbookstylenomarks
89 \def\etocmemoirtocstofmt #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etocscrartclstyle{}
92 \let\etocscrbookstyle\etocscrartclstyle
93 \let\etocscrreprtstyle\etocscrartclstyle
94 \def\etocstandarddisplaystyle{\etocarticlestyle}
95 \newcommand*\etocmarkboth[1]{}
96 \newcommand*\etocmarkbothnouc[1]{}
97 \newcommand\etocstyle[3][section]{}
98 \newcommand\etocstylewithmarks[4][section]{}
99 \newcommand\etocstylewithmarksnouc[4][section]{}
100 \def\etocignoretoctocdepth{}
101 \def\etocsettocdepth[1]{}
102 \def\etocdepthtag #1#{\Etoc@depthtag }
103 \def\Etoc@depthtag #1{}
104 \def\etocignoredepthtags {}
105 \def\etocobeydepthtags {}
106 \def\etocsettagdepth #1#2{}
107 \def\invisibletableofcontents {}
108 \def\invisiblelocaltableofcontents{}
109 \def\etocsetnexttocdepth #1{}
110 \def\etocsetlocaltop #1#{\Etoc@set@localtop}
111 \def\Etoc@set@localtop #1{}
112 \def\etocstandardlines {}
113 \def\etoclines {}
114 \let\etocaftertohook \@empty
115 \let\etocbeforetitlehook \@empty
116 \appto\tableofcontents{\def\tableofcontents{}}

```

---

File 139 **lwarp-eurosym.sty**

§ 246 Package **eurosym**

*(Emulates or patches code by HENRIK THEILING.)*

Pkg eurosym **eurosym** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{eurosym}[1998/08/06]

---

```

2 \renewrobustcmd\officialegreek{\HTMLentity{greek}}
3 \let\greek\officialegreek
4 \let\greeknarrow\officialegreek
5 \let\greekwide\officialegreek
6 \let\greek\officialegreek
7 \renewrobustcmd\greekbars{}
8 \renewrobustcmd\greekbarsnarrow{}
9 \renewrobustcmd\greekbarswide{}

```

---

File 140 **lwarp-everypage.sty**

§ 247 Package **everypage**

(Emulates or patches code by SERGIO CALLEGARI.)

Pkg everypage **everypage** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{everypage}[2007/06/20]

```

2 \newcommand*\AddEverypageHook[1]{}
3 \newcommand*\AddThispageHook[1]{}

```

---

File 141 **lwarp-everyshi.sty**

§ 248 Package **everyshi**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg everyshi ignored.

**for HTML output:** Discard all options for lwarp-everyshi:

```

1 \LWR@ProvidesPackageDrop{everyshi}[2001/05/15]

2 \let\EveryShipout\relax
3 \newcommand*\EveryShipout[1]{}
4
5 \let\AtNextShipout\relax
6 \newcommand*\AtNextShipout[1]{}

```

---

File 142 **lwarp-extarrows.sty**

§ 249 Package **extarrows**

(Emulates or patches code by HUYNH KY ANH.)

Pkg extarrows **extarrows** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{extarrows}[2008/05/15]

---

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\Newextarrow\xLongleftarrow{10,10}{0x21D0}}
4 \CustomizeMathJax{\Newextarrow\xLongrightarrow{10,10}{0x21D2}}
5 \CustomizeMathJax{\Newextarrow\xLonglefttrightarrow{10,10}{0x21D4}}
6 \CustomizeMathJax{\Newextarrow\xLefttrightarrow{10,10}{0x21D4}}
7 \CustomizeMathJax{\Newextarrow\xlonglefttrightarrow{10,10}{0x2194}}
8 \CustomizeMathJax{\Newextarrow\xleftrightarrow{10,10}{0x2194}}
9 \CustomizeMathJax{\let\xlongleftarrow\xleftarrow}
10 \CustomizeMathJax{\let\xlongrightarrow\xrightarrow}
11 \end{warpMathJax}

```

---

File 143 **lwarp-extramarks.sty**

§ 250      Package **extramarks**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

Pkg    extramarks    **extramarks** is ignored.

**for HTML output:**    Discard all options for **lwarp-extramarks**:

```

1 \LWR@ProvidesPackageDrop{extramarks}[2019/01/31]

2 \newcommand*{\extramarks}[2]{}
3 \newcommand*{\firstleftxmark}{}
4 \newcommand*{\lastleftxmark}{}
5 \newcommand*{\firstrightxmark}{}
6 \newcommand*{\lastrightxmark}{}
7 \newcommand*{\firstxmark}{}
8 \newcommand*{\lastxmark}{}
9 \newcommand*{\topxmark}{}
10 \newcommand*{\topleftxmark}{}
11 \newcommand*{\toprightxmark}{}
12 \newcommand*{\firstleftmark}{}
13 \newcommand*{\lastrightmark}{}
14 \newcommand*{\firstrightmark}{}
15 \newcommand*{\lastleftmark}{}

```

---

File 144 **lwarp-fancybox.sty**

§ 251      Package **fancybox**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

Pkg    fancybox    **fancybox** is supported with some patches.

[framed equation example](#)    **fancybox**'s documentation has an example `FramedEqn` environment which combines `math`, `\Sbox`, a `minipage`, and an `\fbox`. This combination requires that the entire environment be enclosed inside a `lateximage`, which is done by adding `\lateximage` at the very start of `FramedEqn`'s beginning code, and `\endlateximage` at the very end of the ending code. Unfortunately, the `HTML alt` attribute is not used here.

```

\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
\[\fbox{\TheSbox}\]
\endlateximage% NEW
}

```

**framing alternatives** `\fbox` works with `fancybox`. Also see `lwarp`'s `\fboxBlock` macro and `fminipage` environment for alternatives to `\fbox` for framing environments.

**framed table example** The `fancybox` documentation's example of a framed table using an `\fbox` containing a `tabular` does not work with `lwarp`, but the `FramedTable` environment does work if `\fbox` is replaced by `\fboxBlock`. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a `fminipage` environment. The caption may be placed either inside or outside the `fminipage`:

```

\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}

```

 **framed verbatim** `lwarp` does not support the `verbatim` environment inside a `span`, `box`, or `fancybox`'s `\Sbox`, but a `verbatim` may be placed inside a `fminipage`. The `fancybox` documentation's example `FramedVerb` may be defined as:

```

\newenvironment{FramedVerb}[1] % width
{
\VerbatimEnvironment
\fminipage{#1}
\beginVerbatim
}{
\endVerbatim
\endfminipage
}

```

**framed \VerbBox** `fancybox`'s `\VerbBox` may be used inside `\fbox`.

**indented alignment** `LVerbatim`, `LVerbatimInput`, and `LUseVerbatim` indent with horizontal space which may not line up exactly with what *pdftotext* detects. Some lines may be off slightly in their left edge.

**fancybox, fancyvrb** If using `fancybox` or `fancyvrb` with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:

 **\VerbatimFootnotes**

 **sectioning or displaymath**

```

\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}

```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when `\VerbatimFootnotes` are selected. The browser usually compensates.

```
1 \LWR@ProvidesPackagePass{fancybox}[2010/05/15]
```

After the preamble is loaded, after any patches to `Verbatim`:

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching fancybox.}
```

`\VerbatimFootnotes`      Patched to use the new version.

```
4 \def\VerbatimFootnotes{%
5 \let\@footnotetext\@footnotetext%
6 \let\LWR@footnotetext\@footnotetext% lwarp
7 }
```

`\V@footnotetext`      Patches in a subset of `lwarp`'s `\LWR@footnotetext` to the `fancyvrb` version of `\V@footnotetext`.

```
8 \def\V@footnotetext{%
9 \LWR@traceinfo{V@footnotetext}%
10 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
11 \unvbox\LWR@footnotebox%
```

Remember the footnote number for `\ref`:

```
12 \protected@edef\@currentlabel{%
13 \csname p@footnote\endcsname\@thefnmark%
14 }% @currentlabel
```

Use `HTML` superscripts in the footnote even inside a `lateximage`:

```
15 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
16 \ifthenelse{%
17 \boolean{LWR@doingstartpars} \AND%
18 \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
19 }%
20 {}%
21 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%

```

Append the footnote to the list:

```
22 \@makefnmark{}%
```

The footnote text will follow after `\V@@@footnotetext` has completed.

```
23 \bgroup%
24 \aftergroup{\V@@@footnotetext}%
25 \ignorespaces%
26 }%
```

```
27 }% AfterEndPreamble
```



```

28 \renewcommand*\@shadowbox}[1]{%
29 \ifbool{FormatWP}%
30 {\InlineClass[border:1px solid black]{shadowbox}{#1}}%
31 {\InlineClass{shadowbox}{#1}}%
32 }
33
34 \renewcommand*\@doublebox}[1]{%
35 \ifbool{FormatWP}%
36 {\InlineClass[border:1px double black]{doublebox}{#1}}%
37 {\InlineClass{doublebox}{#1}}%
38 }
39
40 \renewcommand*\@ovalbox}[2]{%
41 \ifbool{FormatWP}%
42 {\InlineClass[border:1px solid black; border-radius:1ex]{ovalbox}{#2}}%
43 {%
44 \ifthenelse{\isequivalentto{#1}{\thinlines}}%
45 {\InlineClass{ovalbox}{#2}}%
46 {\InlineClass{Ovalbox}{#2}}%
47 }%
48 }

```

Convert minipages, parboxes, and lists into linear text using the LWR@nestspan environment:

```

49 \let\LWR@origSbox\Sbox
50
51 \def\Sbox{\LWR@origSbox\LWR@nestspan}
52
53
54 \let\LWR@origendSbox\endSbox
55
56 \def\endSbox{\endLWR@nestspan\LWR@origendSbox}

```

Beqnarray is adapted for MATHJAX or enclosed inside a lateximage:

```

57 \RenewEnviron{Beqnarray}
58 {\LWR@eqnarrayfactor}
59
60 \csgpreto{Beqnarray*}{\boolfalse{LWR@numbereqnarray}}

```

\GenericCaption is enclosed in an HTML block:

```

61 \renewcommand{\GenericCaption}[1]{%
62 \LWR@figcaption%
63 \LWR@isolate{#1}%
64 \endLWR@figcaption%
65 }

```

Btrivlist is enclosed in an HTML block. This is a tabular, and does not use \item.

```

\trivlist {\</c/r>}{\<t/c/b>}

66 \RenewDocumentEnvironment{Btrivlist}{m o}

```

```

67 {%
68 \LWR@stoppars%
69 \begin{BlockClass}{Btrivlist}%
70 \tabular{#1}%
71 }
72 {%
73 \endtabular%
74 \end{BlockClass}%
75 \LWR@startpars%
76 }

```

Btrivlist is also neutralized when used inside a span:

```

77 \AtBeginEnvironment{LWR@nestspan}{%
78 \RenewDocumentEnvironment{Btrivlist}{m o}{\}{\}%
79 }

```

lwarp's handling of \item is patched to accept fancybox's optional arguments:

```

80 \let\LWRFB@origitemizeitem\LWR@itemizeitem
81 \let\LWRFB@origdescitem\LWR@descitem
82
83 \RenewDocumentCommand{\LWR@itemizeitem}{d()o}{%
84 \IfValueTF{#2}{%
85 \LWRFB@origitemizeitem[#2]%
86 }{%
87 \LWRFB@origitemizeitem%
88 }%
89 }
90
91 \RenewDocumentCommand{\LWR@descitem}{d()o}{%
92 \IfValueTF{#2}{%
93 \LWRFB@origdescitem[#2]~%
94 }{%
95 \LWRFB@origdescitem%
96 }%
97 }
98
99 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
100 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
101 \LWR@origitem%
102 }

```

The various boxed lists become regular lists:

```

102 \renewenvironment{Bitemize}[1][\begin{itemize}]{\end{itemize}}
103 \renewenvironment{Benumerate}[1][\begin{enumerate}]{\end{enumerate}}
104 \renewenvironment{Bdescription}[1][\begin{description}]{\end{description}}

```

\boxput simply prints one then the other argument, side-by-side instead of above and behind:

```

105 \RenewDocumentCommand{\boxput}{s d() m m}{%

```

```

106 \IfBooleanTF{#1}{#3\quad#4}{#4\quad#3}%
107 }

```

Neutralized commands:

```

108 \RenewDocumentCommand{\fancyput}{s d() m}{}
109 \RenewDocumentCommand{\thisfancyput}{s d() m}{}
110
111 \RenewDocumentCommand{\fancypage}{m m}{}
112 \RenewDocumentCommand{\thisfancypage}{m m}{}
113
114 \def\LandScape#1{}
115 \def\endLandScape{}
116 \def\@LandScape#1#2#3{}
117 \def\endLandScape{}

```

Low-level patches for UseVerbatim and friends:

```

118 \let\LWRFB@UseVerbatim\UseVerbatim
119 \renewcommand*{\UseVerbatim}[1]{%
120 \LWR@atbeginverbatim{Verbatim}%
121 \LWRFB@UseVerbatim{#1}%
122 \LWR@afterendverbatim%
123 }
124
125 \let\LWRFB@LUseVerbatim\LUseVerbatim
126
127 \renewcommand*{\LUseVerbatim}[1]{%
128 \LWR@atbeginverbatim{LVerbatim}%
129 \noindent%
130 \LWRFB@LUseVerbatim{#1}%
131 \LWR@afterendverbatim%
132 }
133
134 \def\@BUseVerbatim[#1]#2{%
135 \LWR@atbeginverbatim{BVerbatim}%
136 \LWRFB@UseVerbatim{#2}%
137 \LWR@afterendverbatim%
138 }

```

---

File 145 **lwarp-fancyhdr.sty**

§ 252 Package **fancyhdr**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

Pkg fancyhdr fancyhdr is ignored.

for HTML output: Discard all options for lwarp-fancyhdr:

```

1 \LWR@ProvidesPackageDrop{fancyhdr}[2021/01/04]

```

```

2 \newcommand*{\fancyhead}[2][{}]{
3 \newcommand*{\fancyfoot}[2][{}]{
4 \newcommand*{\fancyhf}[2][{}]{
5
6 \newcommand*{\lhead}[2][{}]{
7 \newcommand*{\chead}[2][{}]{
8 \newcommand*{\rhead}[2][{}]{
9 \newcommand*{\lfoot}[2][{}]{
10 \newcommand*{\cfoot}[2][{}]{
11 \newcommand*{\rfoot}[2][{}]{
12 \newcommand*{\headrulewidth}{0pt}
13 \newcommand*{\footrulewidth}{0pt}
14 \providecommand{\headruleskip}{0pt}
15 \providecommand{\footruleskip}{0pt}
16 \newcommand{\plainheadrulewidth}{0pt}
17 \newcommand{\plainfootrulewidth}{0pt}
18 \def\fancyplain#1#2{#1}
19 \newcommand*{\headrule}{}
20 \newcommand*{\footrule}{}
21 \newlength{\headwidth}
22 \newcommand*{\fancycenter}[1][1em]{
23 \newcommand*{\fancyheadoffset}[2][{}]{
24 \newcommand*{\fancyfootoffset}[2][{}]{
25 \newcommand*{\fancyhfoffset}[2][{}]{
26 \newcommand{\fancyheadinit}[1]{
27 \newcommand{\fancyfootinit}[1]{
28 \newcommand{\fancyhfinit}[1]{
29 \newcommand*{\iffloatpage}[2]{#2}
30 \newcommand*{\ifftopfloat}[2]{#2}
31 \newcommand*{\iffbotfloat}[2]{#2}
32 \newcommand*{\iffootnote}[2]{#2}
33
34 \newcommand{\fancypagestyle}[1]{%
35 \@ifnextchar[{\f@nch@pagestyle{#1}}{\f@nch@pagestyle{#1}}{}%
36 }
37 \long\def\f@nch@pagestyle#1[#2]#3{

```

---

File 146 **lwarp-fancyref.sty**

## § 253 Package **fancyref**

(Emulates or patches code by AXEL REICHERT.)

Pkg fancyref **fancyref** is modified for HTML output.

for HTML output: 1 \LWR@ProvidesPackagePass{fancyref}[1999/02/03]

To remove the margin option, if \fancyrefhook is anything other than the paren option, then force it to the default instead. (Comparing to the margin option was not possible since **lwarp** has revised the meaning of \mbox so the comparison failed.)

```

2 \newcommand*{\LWRfref@parenfancyrefhook}[1]{(#1)}
3

```

---

```

4 \ifdefstrequal{\fancyrefhook}{\LWRfref@parenfancyrefhook}
5 {}{
6 \renewcommand*{\fancyrefhook}[1]{#1}%
7 }

```

---

File 147 **lwarp-fancytabs.sty**

§ 254 Package **fancytabs**

Pkg fancytabs fancytabs is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fancytabs}[2016/03/29]

```

2 \newcommand{\fancytab}[3][RIGHT]{ }
3 \newcommand{\fancytabsStyle}[1]{ }
4 \newcommand{\fancytabsHeight}[1]{ }
5 \newcommand{\fancytabsWidth}[1]{ }
6 \newcommand{\fancytabsCount}[1]{ }
7 \newcommand{\fancytabsLeftColor}[1]{ }
8 \newcommand{\fancytabsRightColor}[1]{ }
9 \newcommand{\fancytabsTop}[1]{ }
10 \newcommand{\fancytabsTextVPos}[1]{ }
11 \newcommand{\fancytabsTextHPos}[1]{ }
12 \newcommand{\fancytabsGap}[1]{ }
13 \newcommand{\fancytabsFloor}[1]{ }
14 \newcommand{\fancytabsRotate}[1]{ }

```

---

File 148 **lwarp-fancyvrb.sty**

§ 255 Package **fancyvrb**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

Pkg fancyvrb fancyvrb is supported with some patches.

HTML classes The fancy verbatim environment is placed inside a <div> of class fancyvrb. The label is placed inside a <div> of class fancyvrblabel. The verbatim text itself is placed inside a <div> of class verbatim.

fancybox, fancyvrb

If using fancybox or fancyvrb with \VerbatimFootnotes, and using footnotes in a sectioning command or display math, use \footnotemark and \footnotetext:

⚠ \VerbatimFootnotes  
⚠ sectioning or displaymath

```

\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}

```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when \VerbatimFootnotes are selected. The browser usually compensates.

```

1 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{fancyvrb}[2008/02/07]

```

Initial default patch for fancyvrb:

```
4 \fvset{frame=none}%
```

After the preamble is loaded, after any patches to Verbatim:

```

5 \AfterEndPreamble{
6 \LWR@traceinfo{Patching fancyvrb.}

```

\VerbatimFootnotes      Patched to use the new version.

```

7 \def\VerbatimFootnotes{%
8 \let\@footnotetext\@footnotetext%
9 \let\footnote\@footnote%
10 \let\LWR@footnotetext\@footnotetext% lwarp
11 }

```

\V@@footnotetext      Patches in a subset of lwarp's \LWR@footnotetext to the fancyvrb version of \V@@footnotetext.

```

12 \def\V@@footnotetext{%
13 \LWR@traceinfo{V@footnotetext}%
14 \global\setbox\LWR@footnotebox=\vbox\bgroup%

```

Add to any current footnotes:

```
15 \unvbox\LWR@footnotebox%
```

Remember the footnote number for \ref:

```

16 \protected@edef\@currentlabel{%
17 \csname p@footnote\endcsname\@thefnmark%
18 }% @currentlabel

```

Use HTML superscripts in the footnote even inside a lateximage:

```
19 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```

20 \ifthenelse{%
21 \boolean{LWR@doingstartpars} \AND%
22 \cnttest{\value{LWR@lateximagedepth}}{=}{0}}%
23 }%
24 {%}%
25 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%

```

Append the footnote mark to the list:

```
26 \@makefnmark{}%
```

The footnote text will follow after \V@@@footnotetext has completed.

```

27 \bgroup%
28 \aftergroup{\V@@@footnotetext}%
29 \ignorespaces%
30 }%

```

```

31 \preto\FVB@Verbatim{\LWR@forcenewpage}
32 \preto\FVB@LVerbatim{\LWR@forcenewpage}
33 % \preto\FVB@BVerbatim{\LWR@forcenewpage}% Fails, so done below.

```

Simplified to remove PDF formatting:

```

34 \def\FV@BeginListFrame@Single{%
35 \FV@SingleFrameLine{\z@}%
36 }
37
38 \def\FV@EndListFrame@Single{%
39 \FV@SingleFrameLine{@ne}%
40 }
41
42 \def\FV@BeginListFrame@Lines{%
43 \FV@SingleFrameLine{\z@}%
44 }
45
46 \def\FV@EndListFrame@Lines{%
47 \FV@SingleFrameLine{@ne}%
48 }
49
50 \renewcommand*{\FV@SingleFrameSep}{}

```

Adds HTML formatting:

```

51 \def\FV@BUseVerbatim#1{%
52 \FV@BVerbatimBegin#1\FV@BVerbatimEnd%
53 }

```

`\LWR@FVstyle` Holds the style of the verbatim.

```

54 \newcommand*{\LWR@FVstyle}{}

```

The following patches to Verbatim are executed at the start and end of the environment, depending on the choice of frame. Original code is from the `fancyvrb` package.

```

55 \newcommand*{\LWR@fvstartnone}{%
56 \LWR@traceinfo{fvstartnone}%
57 % \hbox to\z@{
58 \BlockClass[\LWR@FVstyle]{fancyvrb}
59 \LWR@stoppars
60 \ifx\FV@LabelPositionTopLine\relax\else
61 \ifx\FV@LabelBegin\relax\else
62 \FancyVerbRuleColor{\LWR@FVfindbordercolor}
63 \LWR@htmltagc{%
64 div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space
65 style=\textquotedbl{}color: \LWR@origpound\LWR@tempcolor\textquotedbl%
66 }
67 \LWR@print@textrm{\FV@LabelBegin}% \textrm preserves emdash
68 \LWR@htmltagc{/div}\LWR@orignewline%
69 \fi
70 \fi
71 \LWR@atbeginverbatim{verbatim}%

```

```

72 % }%
73 }
74
75 \newcommand*{\LWR@fvendnone}{%
76 \LWR@traceinfo{fvendnone}%
77 % \hbox to\z@{
78 \LWR@afterendverbatim%
79 \LWR@stoppars%
80 \ifx\FV@LabelPositionBottomLine\relax\else
81 \ifx\FV@LabelEnd\relax\else
82 \FancyVerbRuleColor{\LWR@FVfindbordercolor}
83 \LWR@htmltagc{%
84 div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space
85 style=\textquotedbl{}color: \LWR@origpound\LWR@tempcolor\textquotedbl%
86 }
87 \LWR@print@textrm{\FV@LabelEnd}
88 \LWR@htmltagc{/div}\LWR@orignewline%
89 \fi
90 \fi
91 \endBlockClass
92 }
93
94 \newcommand*{\LWR@fvstartsingle}{%
95 \LWR@traceinfo{fvstartsingle}%
96 \LWR@fvstartnone%
97 \FV@BeginListFrame@Single%
98 }
99
100 \newcommand*{\LWR@fvendsingle}{%
101 \LWR@traceinfo{fvendsingle}%
102 \FV@EndListFrame@Single%
103 \LWR@fvendnone%
104 }
105
106 \newcommand*{\LWR@fvstartline}{%
107 \LWR@traceinfo{fvstartline}%
108 \LWR@fvstartnone%
109 % \setlength{\LWR@templengthone}{\baselineskip}%
110 \FV@BeginListFrame@Lines%
111 % \setlength{\baselineskip}{\LWR@templengthone}%
112 % \setlength{\baselineskip}{5pt}%
113 }
114
115 \newcommand*{\LWR@fvendline}{%
116 \LWR@traceinfo{fvendline}%
117 \FV@EndListFrame@Lines%
118 \LWR@fvendnone%
119 }

```

The following patches select the start/left/right/end behaviors depending on frame. Original code is from the **fancyvrb** package.

```

120 \newcommand*{\LWR@FVfindbordercolor}{%
121 \FancyVerbRuleColor%
122 \LWR@findcurrenttextcolor%

```



```

123 \color{black}%
124 }
125
126 % border width of \FV@FrameRule
127 \newcommand*\LWR@FVborderstyle}[1]{%
128 padding#1: \strip@pt\dimexpr \FV@FrameSep\relax\relax pt ; % space
129 \LWR@FVfindbordercolor\LWR@indentHTMLtwo%
130 border#1: \strip@pt\dimexpr \FV@FrameRule\relax\relax pt % space
131 solid {\FancyVerbRuleColor{\LWR@origpound\LWR@tempcolor}} ; % space
132 }
133
134 \def\FV@Frame@none{%
135 \renewcommand*\LWR@FVstyle{\LWR@currenttextcolorstyle}%
136 \let\FV@BeginListFrame\LWR@fvstartnone%
137 \let\FV@LeftListFrame\relax%
138 \let\FV@RightListFrame\relax%
139 \let\FV@EndListFrame\LWR@fvendnone%
140
141 \FV@Frame@none% default values
142
143 \def\FV@Frame@single{%
144 \renewcommand*\LWR@FVstyle{%
145 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
146 \LWR@FVborderstyle}%
147 }%
148 \let\FV@BeginListFrame\LWR@fvstartsingle%
149 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
150 \let\FV@RightListFrame\FV@RightListFrame@Single%
151 \let\FV@EndListFrame\LWR@fvendsingle%
152
153 \def\FV@Frame@lines{%
154 \renewcommand*\LWR@FVstyle{%
155 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
156 \LWR@FVborderstyle{-top}%
157 \LWR@indentHTMLtwo%
158 \LWR@FVborderstyle{-bottom}%
159 }%
160 \let\FV@BeginListFrame\LWR@fvstartline%
161 \let\FV@LeftListFrame\relax%
162 \let\FV@RightListFrame\relax%
163 \let\FV@EndListFrame\LWR@fvendline%
164
165 \def\FV@Frame@topline{%
166 \renewcommand*\LWR@FVstyle{%
167 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
168 \LWR@FVborderstyle{-top}%
169 }%
170 \let\FV@BeginListFrame\LWR@fvstartline%
171 \let\FV@LeftListFrame\relax%
172 \let\FV@RightListFrame\relax%
173 \let\FV@EndListFrame\LWR@fvendnone%
174
175 \def\FV@Frame@bottomline{%
176 \renewcommand*\LWR@FVstyle{%
177 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%

```

```

178 \LWR@FVborderstyle{-bottom}%
179 }%
180 \let\FV@BeginListFrame\LWR@fvstartnone%
181 \let\FV@LeftListFrame\relax%
182 \let\FV@RightListFrame\relax%
183 \let\FV@EndListFrame\LWR@fvendline}

```

Seems to be required in some situations:

```

184 \def\FV@FrameFillLine{%

185 \def\FV@Frame@leftline{%
186 \renewcommand*\LWR@FVstyle{%
187 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
188 \LWR@FVborderstyle{-left}%
189 }%
190 % To define the \FV@FrameFillLine macro (from \FV@BeginListFrame)
191 \ifx\FancyVerbFillColor\relax%
192 \let\FV@FrameFillLine\relax%
193 \else%
194 \@tempdima\FV@FrameRule\relax%
195 \multiply\@tempdima-\tw@%
196 \edef\FV@FrameFillLine{%
197 {\noexpand\FancyVerbFillColor{\vrule\@width\number\@tempdima sp}%
198 \kern-\number\@tempdima sp}}%
199 \fi%
200 \let\FV@BeginListFrame\LWR@fvstartnone%
201 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
202 \let\FV@RightListFrame\relax%
203 \let\FV@EndListFrame\LWR@fvendnone}

```

Adds the optional label to the top and bottom edges. Original code is from the **fancyvrb** package.

```

204 \def\FV@SingleFrameLine#1{%
205 % \hbox to\z@{%
206 % \kern\leftmargin
207 \ifnum#1=\z@\relax
208 \let\FV@Label\FV@LabelBegin
209 \else
210 \let\FV@Label\FV@LabelEnd
211 \fi
212 \ifx\FV@Label\relax
213 % \FancyVerbRuleColor{\vrule \@width\linewidth \@height\FV@FrameRule}%
214 \else
215 \ifnum#1=\z@
216 % \setbox\z@\hbox{\strut\enspace\FV@LabelBegin\enspace\strut}%
217 \ifx\FV@LabelPositionTopLine\relax
218 \else
219 \fi
220 \else
221 % \setbox\z@\hbox{\strut\enspace\FV@LabelEnd\enspace\strut}%
222 \ifx\FV@LabelPositionBottomLine\relax
223 \else
224 \fi

```

```

225 \fi
226 \fi
227 % \hss
228 % }
229 }

```

Processes each line, adding optional line numbers. Original code is from the `fancyvrb` package.

```

230 \def\FV@ListProcessLine#1{%
231 \hbox to \hsize{%
232 \kern\leftmargin
233 \hbox to \VerbatimHTMLWidth {%
234 \ifcsvoid{FV@LeftListNumber}{}{\kern 2.5em}%
235 \FV@LeftListNumber%
236 % \FV@LeftListFrame
237 \FancyVerbFormatLine{#1}%
238 \hss%
239 % \FV@RightListFrame
240 \FV@RightListNumber%
241 }%
242 \hss% required to avoid underfull hboxes
243 }
244 }

245 \def\FV@ListProcessLine@i#1{%
246 % \hbox{%
247 \ifvoid\@labels\else
248 \hbox to \z@{\kern\@totalleftmargin\box\@labels\hss}%
249 \fi
250 \FV@ListProcessLine{#1}%
251 % }%
252 % \let\FV@ProcessLine\FV@ListProcessLine@ii%
253 }

254 \def\FV@ListProcessLastLine{}

```

Env BVerbatim

```

255
256 \xpretocmd{\FV@BeginVBox}
257 {%
258 \LWR@forcenewpage% instead of \preto
259 \LWR@atbeginverbatim{bverbatim}%
260 }
261 {}
262 {\LWR@patcherror{fancyvrb}{FV@BeginVBox}}
263
264 \xapptocmd{\FV@EndVBox}
265 {%
266 \LWR@afterendverbatim%
267 }
268 {}
269 {\LWR@patcherror{fancyvrb}{FV@EndVBox}}

```

End of the modifications to make at the end of the preamble:

```
270 } % \AfterEndPreamble
```

---

File 149 **lwarp-fbox.sty**

§ 256 Package **fbox**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg fbox **fbox** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{fbox}[2020/06/22]

This will be \LWR@formatted when \AtBeginDocument:

```
2 \LetLtxMacro\LWR@HTML@fbox\fbox
```

Instead of using the original, the new version is used with all borders:

```
3 \renewcommand*\orig@fbox{\FBox@i[tblr]}
```

\WR@fboxpkg@border {<1: top/bottom/left/right>} {<2: padding, or empty>}

Accumulates HTML styles for border, and padding if given:

```
4 \newcommand*\LWR@fboxpkg@border}[2]{%
5 \appto\LWR@tempone{%
6 border-#1: % space
7 \LWR@printlength{\LWR@atleastonept} % space
8 solid \LWR@origpound\LWR@tempcolor ;\LWR@indentHTML
9 }%
10 \ifblank{#2}{}%
11 \appto\LWR@tempone{%
12 padding-#1: \LWR@printlength{#2} ;\LWR@indentHTML
13 }%
14 }%
15 }
```

A hack to reuse the same code for inline and blocks:

```
16 \newbool{\LWR@fboxpkg@ispar}
17 \boolfalse{\LWR@fboxpkg@ispar}
```

Accumulate HTML styles for left and right padding, depending on \if@fbox@space@left, \if@fbox@space@right:

```
18 \newcommand{\LWR@fboxpkg@lrpadding}[1]{%
19 \csuse{if@fbox@space@#1}%
20 \appto\LWR@tempone{%
21 padding-#1: \LWR@printlength{\fbox@sep};\LWR@indentHTML
22 }
23 \else%
```

```

24 \appto\LWR@tempone{%
25 padding-#1: 0pt;\LWR@indentHTML
26 }
27 \fi%
28 }

```

The HTML version, modified to use HTML styles and either an \InlineClass or BlockClass:

```

29 \newcommand{\LWR@HTML@FBox@iii}[1]{%

```

Find and set the text color, rule width, margin:

```

30 \LWR@forceminwidth{\fbox@@rule}%
31 \LWR@findcurrenttextcolor%
32 \def\LWR@tempone{%
33 color: \LWR@origpound\LWR@tempcolor ; \LWR@indentHTML
34 margin: 1ex ; \LWR@indentHTML
35 }%

```

Add left/right padding:

```

36 \LWR@fboxpkg@lrpadding{left}%
37 \LWR@fboxpkg@lrpadding{right}%

```

Per the original to decode the borders, in a new way:

```

38 \ifnum\the\@tempcntb>8\relax
39 \advance\@tempcntb by -8
40 \LWR@fboxpkg@border{top}{\fbox@@sep}%
41 \fi
42 \ifnum\@tempcntb>3
43 \advance\@tempcntb by -4
44 \LWR@fboxpkg@border{left}{}%
45 \fi
46 \ifnum\@tempcntb>1
47 \LWR@fboxpkg@border{right}{}%
48 \fi
49 \ifodd\@tempcntb
50 \LWR@fboxpkg@border{bottom}{\fbox@@sep}%
51 \fi

```

Generate a BlockClass or \InlineClass with the contents:

```

52 \color@begingroup
53 \ifbool{\LWR@fboxpkg@ispar}%
54 {%
55 \begin{BlockClass}[\LWR@tempone]{fboxpkg}%
56 #1%
57 \end{BlockClass}%
58 }%
59 {%
60 \InlineClass[\LWR@tempone]{fboxpkg}{%
61 #1%
62 }%
63 }%

```

```

64 \color@endgroup
65 \boolfalse{LWR@fboxpkg@ispar}% globally
66 }
67 \LWR@formatted{FBox@iii}

```

For `\fparbox`, set the use of `BlockClass`, then reuse the above:

```

68 \long\def\LWR@HTML@FParBox@i[#1]#2{%
69 \booltrue{LWR@fboxpkg@ispar}%
70 \FBox@i[#1]{#2}
71 }
72 \LWR@formatted{FParBox@i}
73
74 \long\def\LWR@HTML@FParBox@ii#1{%
75 \booltrue{LWR@fboxpkg@ispar}%
76 \FBox@i[tblr]{#1}%
77 }
78 \LWR@formatted{FParBox@ii}

```

For `MATHJAX`, absorb and ignore star and optional arguments:

```

79 \CustomizeMathJax{\let\LWRorigfbox\fbox}
80 \CustomizeMathJax{\newcommand{\LWRfboxpkgtwo}[2][\LWRorigfbox{#2}]}
81 \CustomizeMathJax{\renewcommand{\fbox}{\ifstar\LWRfboxpkgtwo\LWRfboxpkgtwo}}
82 \CustomizeMathJax{\newcommand{\fparbox}{\fbox}}

```

---

## File 150 **lwarp-fewerfloatpages.sty**

### § 257 Package **fewerfloatpages**

Pkg fewerfloatpages fewerfloatpages is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fewerfloatpages}[2020/02/14]

2 \newcommand\floatpagekeepfraction{\textfraction}
3 \newcounter{floatpagedeferlimit}
4 \newcounter{floatpagekeeplimit}

```

---

## File 151 **lwarp-figcaps.sty**

### § 258 Package **figcaps**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg figcaps figcaps is ignored.

**for HTML output:** Discard all options for `lwarp-figcaps`:

```

1 \LWR@ProvidesPackageDrop{figcaps}[1999/02/23]

```

---

```

2 \newcommand*\figcapson{}
3 \newcommand*\figcapsoff{}
4 \newcommand*\printfigures{}
5 \newcommand*\figmarkon{}
6 \newcommand*\figmarkoff{}
7 \def\figurecapname{Figure Captions}
8 \def\tablepagename{Tables}
9 \def\figurepagename{Figures}

```

---

File 152 **lwarp-figsize.sty**

§ 259 Package **figsize**

*(Emulates or patches code by ANTHONY A. TANBAKUCHI.)*

Pkg figsize **figsize** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{figsize}[2002/03/18]

Emulates a virtual 6×9 inch textsize.

```

2 \newlength{\figwidth}
3 \newlength{\figheight}
4
5 \newcommand{\SetFigLayout}[3][0]{%
6 \setlength{\figheight}{8in}%
7 \setlength{\figheight}{\figheight / #2}%
8 %
9 \setlength{\figwidth}{5.5in}%
10 \setlength{\figwidth}{\figwidth / #3}%
11 }

```

---

File 153 **lwarp-fitbox.sty**

§ 260 Package **fitbox**

Pkg fitbox **fitbox** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fitbox}[2019/02/20]

```

2 \NewDocumentCommand{\fitbox}{s o m}{%
3 \begin{BlockClass}{fitbox}
4 #3
5 \end{BlockClass}
6 }
7
8 \newcommand*\fitboxset[1]{}
9
10 \newdimen\fitboxnatheight
11 \newdimen\fitboxnatwidth

```

```

12
13 \newcommand\SetFitboxLayout[3][{}]{}
```

---

### File 154 **lwarp-fix2col.sty**

#### § 261 Package **fix2col**

Pkg fix2col fix2col is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]

---

### File 155 **lwarp-fixmath.sty**

#### § 262 Package **fixmath**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg fixmath fixmath is used as-is for SVG math, and emulated for MATHJAX.

 **limitations** MATHJAX does not have full font support for bold italic Greek.

for HTML output: 1 \LWR@ProvidesPackagePass{fixmath}[2000/04/11]

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@mathjax@addgreek@u@it*{}{}
6 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\delta}{0394}
7 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\omega}{03A9}
8 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
9 \end{warpMathJax}
```

---

### File 156 **lwarp-fixme.sty**

#### § 263 Package **fixme**

*(Emulates or patches code by DIDIER VERNA.)*

Pkg fixme fixme is patched for use by lwarp.

 **external layouts** External layouts (`\fxloadlayouts`) are not supported.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after **fixme** is loaded:

```

\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```



for HTML output: 1 \LWR@ProvidesPackagePass{fixme}[2017/03/05]

Restore **lwarp**'s version of `\@wrindex`, ignoring the **fixme** package's target option:

```
2 \let\@wrindex\LWR@wrindex
```

Float-related macros required by **lwarp**:

```
3 \newcommand{\ext@fixme}{lox}
4
5 \renewcommand{\l@fixme}[2]{%
6 \hypertocfloat{1}{fixme}{lox}%
7 {\LWR@nameref{\BaseJobname-autopage-\arabic{LWR@nextautopage}} --- #1}
8 {#2}
9 }
```

Other modifications:

```
10 \def\FXFaceInlineHTMLStyle{font-weight:bold}
11
12 \renewcommand*{\FXLayoutInline}[3]{ %
13 \InlineClass[\FXFaceInlineHTMLStyle]{fixmeinline}%
14 {\@fxtextstd{#1}{#2}{#3}}%
15 }
16
17 \def\FXFaceEnvHTMLStyle{font-weight:bold}
18
19 \renewcommand*{\FXEnvLayoutPlainBegin}[2]{%
20 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
21 \ignorespaces#2 \fxnotename{#1}: \ignorespaces}
22
23 \renewcommand*{\FXEnvLayoutPlainEnd}[2]{\endBlockClass}
24
25 \renewcommand*{\FXEnvLayoutSignatureBegin}[2]{%
26 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
27 \fxnotename{#1}: \ignorespaces}
28
29 \renewcommand*{\FXEnvLayoutSignatureEnd}[2]{\@fxsignature{#2}\endBlockClass}
30
31 \def\FXFaceSignatureHTMLStyle{font-style:italic}
32
33 \DeclareRobustCommand*\@fxsignature[1]{%
34 \ifthenelse{\equal{#1}{}}{%
35 {}%
36 { -- {\InlineClass[\FXFaceSignatureHTMLStyle]{fixmesignature}{#1}}}%
37 }
38
39
40 \def\FXFaceTargetHTMLStyle{font-style:italic}
41
42 \renewcommand\FXTargetLayoutPlain[2]{%
43 \InlineClass[\FXFaceTargetHTMLStyle]{fixmetarget}{#2}%
44 }
```

---

File 157 **lwarp-fixmetodonotes.sty**

§ 264 Package **fixmetodonotes**

*(Emulates or patches code by GIOELE BARABUCCI.)*

Pkg fixmetodonotes **fixmetodonotes** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fixmetodonotes}[2013/04/28]

2 \renewcommand{\NOTES@addtolist}[2]{%
3 \refstepcounter{NOTES@note}%
4 % \phantomsection% REMOVED
5 \addcontentsline{notes}{NOTES@note}{%
6 \protect\numberline{\theNOTES@note}{\{#1\}: {#2}}%
7 }%
8 }
9
10 \renewcommand{\NOTES@marker}[2]{\fbox{%
11 \textcolor{#2}{% WAS \color
12 \textbf{#1}}}%
13 }}
14
15 \renewcommand{\NOTES@colorline}[2]{%
16 \bgroup%
17 \ULon{\LWR@backgroundcolor{#1}{#2}}%
18 }
```

---

File 158 **lwarp-flafter.sty**

§ 265 Package **flafter**

Pkg flafter **flafter** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]
2 \providecommand\fl@trace[1]{}
```

---

File 159 **lwarp-flippdf.sty**

§ 266 Package **flippdf**

Pkg flippdf **flippdf** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]

2 \newcommand\FlipPDF{}
3 \newcommand\UnFlipPDF{}
```

File 160 **lwarp-float.sty**

§ 267 Package **float**

(Emulates or patches code by ANSELM LINGNAU.)

Pkg float **float** is emulated.

Float styles boxed and ruled are emulated by css and a float class according to style.

The HTML <figure> class is set to the float type, so css may also be used to format the float and its caption, according to float type. Furthermore, an additional class is set to the float style: plain, plaintop, boxed, or ruled, so css may be used to format by float style as well. Default formatting by css is provided for ruled and boxed styles.

for HTML output: 1 \LWR@ProvidesPackageDrop{float}[2001/11/08]

\LWR@floatstyle The default float style:

```
2 \newcommand*\LWR@floatstyle{plain}
```

\newfloat {<1: type>} {<2: placement>} {<3: ext>} [ <4: within>]

Emulates the \newfloat command from the float package.

“placement” is ignored.

```
3 \NewDocumentCommand{\newfloat}{m m m o}{%
4 \IfValueTF{#4}%
5 {\DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}}%
6 {\DeclareFloatingEnvironment[fileext=#3]{#1}}%
```

Remember the float style:

```
7 \csdef\LWR@floatstyle@#1{\LWR@floatstyle}%
```

**newfloat** package automatically creates the \listof command for new floats, but **float** does not, so remove \listof here in case it is manually created later.

```
8 \cslet{listof#1s}\relax%
9 \cslet{listof#1es}\relax%
```

Likewise, **newfloat** also creates \l@<type>, but **float** does not, so remove it here:

```
10 \cslet{l@#1}\relax%
11 }
```

\floatname {<type>} {<name>}

Sets the text name of the float, such as “Figure”. Avoids trying to set a recursive name, from **trivfloat**.

```
12 \NewDocumentCommand{\floatname}{m +m}{%
13 \def\LWR@tempone{#2}%
```

```

14 \def\LWR@temptwo{\@nameuse{#1name}}%
15 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{\LWR@temptwo}{\LWR@temptwo}%
16 \SetupFloatingEnvironment{#1}{name=#2}%
17 }%
18 }

```

`\floatplacement`    `{<type>}{<placement>}`

Float placement is ignored.

```

19 \newcommand*\floatplacement[2]{%
20 \SetupFloatingEnvironment{#1}{placement=#2}%
21 }

```

`\floatstyle`    `{<style>}`

Remember the style for future floats:

```

22 \newcommand{\floatstyle}[1]{%
23 \def\LWR@floatstyle{#1}%
24 }

```

`\restylefloat`    `*{<type>}`

Remember the style for this float:

```

25 \NewDocumentCommand{\restylefloat}{s m}{%
26 \csedef{\LWR@floatstyle@#2}{\LWR@floatstyle}%
27 }

```

`\listof`    See section 77.2 for the `\listof` command in the **lwarp** core.

File 161    **lwarp-floatflt.sty**

§ 268    Package    **floatflt**

*(Emulates or patches code by MATS DAHLGREN.)*

Pkg floatflt    **floatflt** is emulated.

for HTML output:    Discard all options for **lwarp-floatflt**:

```

1 \LWR@ProvidesPackageDrop{floatflt}[1997/07/16]

```

Env    `[<>]`    `offset {<type>}{<width>}` Borrowed from the **lwarp** version of **keyfloat**:

```

2 \NewDocumentEnvironment{KFLTfloatflt@marginfloat}{0{-1.2ex} m m}
3 {%
4 \begin{LWR@setvirtualpage}*%
5 \ifblank{#3}{%
6 \LWR@BlockClassWP{%
7 float:right; %
8 width: 1.5in; % reasonable dummy width for word processor
9 margin:10pt%

```

```

10 {}%
11 {marginblock}%
12 }{%
13 \setlength{\LWR@templengthone}{#3}%
14 \LWR@BlockClassWP{%
15 float:right; %
16 width:\LWR@printlength{\LWR@templengthone}; % extra space
17 margin:10pt%
18 }{%
19 width:\LWR@printlength{\LWR@templengthone}%
20 }%
21 {marginblock}%
22 }%
23 \renewcommand*{\@capttype}{#2}%
24 }
25 {%
26 \endLWR@BlockClassWP%
27 \end{\LWR@setvirtualpage}%
28 }

```

```

Env floatingfigure [<placement>] [<width>]
29 \DeclareDocumentEnvironment{floatingfigure}{o m}
30 {\begin{KFLTfloatflt@marginfloat}{figure}{#2}}
31 {\end{KFLTfloatflt@marginfloat}}

```

```

Env floatingtable [<placement>]
32 \DeclareDocumentEnvironment{floatingtable}{o}
33 {\begin{KFLTfloatflt@marginfloat}{table}{}}
34 {\end{KFLTfloatflt@marginfloat}}

```

---

File 162 **lwarp-floatpag.sty**

§ 269    Package **floatpag**

*(Emulates or patches code by VYTAS STATULEVIČIUS AND SIGITAS TOLUŠIS.)*

Pkg floatpag **floatpag** is ignored.

**for HTML output:** Discard all options for lwarp-floatpag:

```

1 \LWR@ProvidesPackageDrop{floatpag}[2012/05/29]

2 \newcommand*{\floatpagestyle}[1]{}
3 \newcommand*{\rotfloatpagestyle}[1]{}
4 \newcommand*{\thisfloatpagestyle}[1]{}

```

---

File 163 **lwarp-floatrow.sty**

## § 270 Package **floatrow**

(Emulates or patches code by OLGA LAPKO.)

Pkg floatrow **floatrow** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{floatrow}[2008/08/02]

⚠ Misplaced alignment tab character & Use \StartDefiningTabulars and \StopDefiningTabulars before and after defining macros using \ttabbox with a tabular inside. See section 8.10.1.

⚠ subfig package When combined with the subfig package, while inside a subfloatrow \ffigbox and \ttabbox must have the caption in the first of the two of the mandatory arguments.

⚠ \FBwidth, \FBheight The emulation of floatrow does not support \FBwidth or \FBheight. These values are pre-set to .3\linewidth and 2in. Possible solutions include:

- Use fixed lengths. lwarp will scale the HTML lengths appropriately.
- Use warpprint and warpHTML environments to select appropriate values for each case.
- Inside a warpHTML environment, manually change \FBwidth or \FBheight before the \ffigbox or \ttabbox. Use \FBwidth or \FBheight normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

After everything has loaded, remember whether subcaption was loaded. If not, it is assumed that subfig is used instead:

```
2 \newbool{LWR@subcaptionloaded}
3
4 \AtBeginDocument{
5 \@ifpackageloaded{subcaption}
6 {\booltrue{LWR@subcaptionloaded}}
7 {\boolfalse{LWR@subcaptionloaded}}
8 }
```

\floatbox [*<1 preamble>*] [*<2 captype>*] [*<3 width>*] [*<4 height>*] [*<5 vert pos>*] [*<6 caption>*] [*<7 object>*]

Only parameters for captype, width, caption, and object are used.

LWR@insubfloatrow is true if inside a subfloatrow environment.

There are two actions, depending on the use of subcaption or subfig.

```
9 \NewDocumentCommand{\floatbox}{o m o o +m +m}{%
10 \ifbool{LWR@subcaptionloaded}%
11 {% subcaption
```

For subcaption:

```
12 \ifbool{LWR@insubfloatrow}%
13 {% subcaption in a subfloatrow
```

subfigure and subtable environments take width as an argument.

```

14 \IfValueTF{#3}%
15 {\@nameuse{sub#2}{#3}}%
16 {\@nameuse{sub#2}{\linewidth}}%
17 }% subcaption in a subfloatrow
18 {% subcaption not in subfloatrow

```

figure and table environments do not take a width argument.

```

19 \@nameuse{#2}%
20 }% subcaption not in subfloatrow
21 #6
22
23 #7

```

End the environments:

```

24 \ifbool{LWR@insubfloatrow}%
25 {\@nameuse{endsub#2}}%
26 {\@nameuse{end#2}}%
27 }% subcaption
28 {% assume subfig

```

For subfig:

```

29 \ifbool{LWR@insubfloatrow}%
30 {% subfig in a subfloatrow

```

\subfloat is a macro, not an environment.

Package subfig's \subfloat command takes an optional argument which is the caption, but \floatbox argument #6 contains commands to create the caption and label, not the caption itself. Thus, \caption is temporarily disabled to return its own argument without braces.

```

31 \begingroup
32 \let\caption\@firstofone
33 \subfloat[#6]{#7}
34 \endgroup
35 }% subfig in a subfloatrow
36 {% subfig package, but not a subfig

```

figure and table are environments:

```

37 \@nameuse{#2}
38 #6
39
40 #7
41 \@nameuse{end#2}
42 }% subfig package, but not a subfig
43 }% assume subfig
44 }

```

Not used:

```

45 \newcommand*{\nocapbeside}{}
46 \newcommand*{\capbeside}{}
47 \newcommand*{\captop}{}
48 \newlength{\FBwidth}
49 \setlength{\FBwidth}{.3\linewidth}

```

```

50 \newlength{\FBheight}
51 \setlength{\FBheight}{2in}
52 \newcommand*{\useFCwidth}{}
53 \newcommand{\floatsetup}[2]{}
54 \newcommand{\thisfloatsetup}[1]{}
55 \newcommand{\clearfloatsetup}[1]{}
56 \newcommand*{\killfloatstyle}{}

```

`\newfloatcommand`     $\{\langle 1 \text{ command} \rangle\} \{\langle 2 \text{ captype} \rangle\} [\langle 3 \text{ preamble} \rangle] [\langle 4 \text{ default width} \rangle]$

Preamble and default width are ignored.

```

57 \NewDocumentCommand{\newfloatcommand}{m m o o}{%
58 \@namedef{#1}{
59 \floatbox{#2}
60 }
61 }

```

`\renewfloatcommand`     $\{\langle 1 \text{ command} \rangle\} \{\langle 2 \text{ captype} \rangle\} [\langle 3 \text{ preamble} \rangle] [\langle 4 \text{ default width} \rangle]$

Preamble and default width are ignored.

```

62 \NewDocumentCommand{\renewfloatcommand}{m m o o}{%
63 \@namedef{#1}{%
64 \floatbox{#2}
65 }
66 }

```

`\ffigbox`     $[\langle width \rangle] [\langle height \rangle] [\langle vposn \rangle] \{\langle caption commands \rangle\} \{\langle contents \rangle\}$

```

67 \newfloatcommand{ffigbox}{figure}[\nocapbeside][]

```

`\ttabbox`     $[\langle width \rangle] [\langle height \rangle] [\langle vposn \rangle] \{\langle caption commands \rangle\} \{\langle contents \rangle\}$

```

68 \newfloatcommand{ttabbox}{table}[\capttop][\FBwidth]

```

`\fcapside`     $[\langle width \rangle] [\langle height \rangle] [\langle vposn \rangle] \{\langle caption commands \rangle\} \{\langle contents \rangle\}$

```

69 \newfloatcommand{fcapside}{figure}[\capbeside][]

```

Env    `floatrow`     $[\langle numfloats \rangle]$

The row of floats is placed into a <div> of class floatrow.

```

70 \newenvironment*{floatrow}[1][2]
71 {%
72 \begin{LWR@setvirtualpage}%
73 \BlockClass{floatrow}%
74 }
75 {
76 \endBlockClass%
77 \end{LWR@setvirtualpage}%
78 }

```

Keys for `\DeclareNewFloatType`:



```

79 \newcommand*{\LWR@frowkeyplacement}{}
80 \newcommand*{\LWR@frowkeyname}{}
81 \newcommand*{\LWR@frowkeyfileext}{}
82 \newcommand*{\LWR@frowkeywithin}{}
83 \newcommand*{\LWR@frowkeycapstyle}{}
84
85 \define@key{frowkeys}{placement}{}%
86 \define@key{frowkeys}{name}{\renewcommand{\LWR@frowkeyname}{#1}}%
87 \define@key{frowkeys}{fileext}{\renewcommand{\LWR@frowkeyfileext}{#1}}%
88 \define@key{frowkeys}{within}{\renewcommand{\LWR@frowkeywithin}{#1}}%
89 \define@key{frowkeys}{relatedcapstyle}{}%

```

`\DeclareNewFloatType`    *{<type>}* *{<options>}*

Use `\listof{type}{Title}` to print a list of the floats.

```

90 \newcommand*{\DeclareNewFloatType}[2]{%

```

Reset key values:

```

91 \renewcommand*{\LWR@frowkeyplacement}{}%
92 \renewcommand*{\LWR@frowkeyname}{}%
93 \renewcommand*{\LWR@frowkeyfileext}{}%
94 \renewcommand*{\LWR@frowkeywithin}{}%
95 \renewcommand*{\LWR@frowkeycapstyle}{}%

```

Read new key values:

```

96 \LWR@traceinfo{about to setkeys frowkeys}%
97 \setkeys{frowkeys}{#2}%
98 \LWR@traceinfo{finished setkeys frowkeys}%

```

Create a new float with optional [within]:

```

99 \ifthenelse{\equal{\LWR@frowkeywithin}{} }{%
100 {%
101 \DeclareFloatingEnvironment[
102 placement=\LWR@frowkeyplacement,
103 fileext=\LWR@frowkeyfileext
104]{#1}%
105 }%
106 {%
107 \DeclareFloatingEnvironment[
108 placement=\LWR@frowkeyplacement,
109 fileext=\LWR@frowkeyfileext,
110 within=\LWR@frowkeywithin
111]{#1}%
112 \LWR@traceinfo{finished newfloat #1}%
113 }%

```

Rename the float if a name was given:

```

114 \ifthenelse{\equal{\LWR@frowkeyname}{} }{%
115 {}%
116 {%
117 \SetupFloatingEnvironment{#1}{name={\LWR@frowkeyname}}%
118 }%
119 }

```

Not used:

```

120 \newcommand{\buildFBBBOX}[2]{}
121 \newcommand*\CenterFloatBoxes{}
122 \newcommand*\TopFloatBoxes{}
123 \newcommand*\BottomFloatBoxes{}
124 \newcommand*\PlainFloatBoxes{}
125
126 \newcommand{\capsubrowsettings}{}
127
128 \NewDocumentCommand{\RawFloats}{o o}{}

```

`\RawCaption`     $\{\langle text \rangle\}$

To be used inside a minipage or parbox.

```

129 \newcommand{\RawCaption}[1]{#1}

```

`\floatfoot`     $\{\langle text \rangle\}$

Places additional text inside a float, inside a css <div> of class floatfoot.

```

130 \NewDocumentCommand{\floatfoot}{s +m}{%
131 \begin{BlockClass}{floatfoot}
132 #2
133 \end{BlockClass}
134 }

```

Used to compute `\linewidth`.

```

135 \newbool{LWR@insubfloatrow}
136 \boolfalse{LWR@insubfloatrow}

```

Env    `subfloatrow`     $[\langle num\_floats \rangle]$

```

137 \newenvironment*{subfloatrow}[1][2]
138 {

```

The row of floats is placed into a <div> of class floatrow:

```

139 \LWR@forcenewpage
140 \BlockClass{floatrow}

```

While inside the floatrow, `LWR@insubfloatrow` is set true, which tells `\floatbox` to use `\subfigure` or `\subtable`.

```

141 \begingroup%
142 \booltrue{LWR@insubfloatrow}%
143 }
144 {%
145 \endgroup%
146 \endBlockClass%
147 \boolfalse{LWR@insubfloatrow}%
148 }

```

## § 271 Package **fltrace**

Pkg fltrace fltrace is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fltrace}[2018/01/08]

2 \def\tracefloats{}
3 \def\tracefloatsoff{}
4 \def\tracefloatvals{}

```

---

File 165 **lwarp-flushend.sty**

## § 272 Package **flushend**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg flushend flushend is ignored.

**for HTML output:** Discard all options for lwarp-flushend:

```

1 \LWR@ProvidesPackageDrop{flushend}[2017/03/27]

2 \newcommand*{\flushend}{}
3 \newcommand*{\raggedend}{}
4 \newcommand*{\flushcolsend}{}
5 \newcommand*{\raggedcolsend}{}
6 \newcommand*{\atColsBreak}[1]{}
7 \newcommand*{\atColsEnd}[1]{}
8 \newcommand*{\showcolsendrule}{}

```

---

File 166 **lwarp-fnbreak.sty**

## § 273 Package **fnbreak**

Pkg fnbreak fnbreak is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fnbreak}[2012/01/01]

2 \newcommand*{\fnbreakverbose}{}
3 \newcommand*{\fnbreaknonverbose}{}
4 \newcommand*{\fnbreaklabel}{}
5 \newcommand*{\fnbreaknolabel}{}

```

---

File 167 **lwarp-fncychap.sty**

## § 274 Package **fncychap**

*(Emulates or patches code by ULF A. LINDGREN.)*

Pkg fncychap fncychap is ignored.

for HTML output: Discard all options for lwarp-fncychap:

```

1 \LWR@ProvidesPackageDrop{fncychap}[2007/07/30]

2 \def\mghrulefill#1{}
3 \def\ChNameLowerCase{}
4 \def\ChNameUpperCase{}
5 \def\ChNameAsIs{}
6 \def\ChTitleLowerCase{}
7 \def\ChTitleUpperCase{}
8 \def\ChTitleAsIs{}
9 \newcommand{\ChRuleWidth}[1]{}
10 \newcommand{\ChNameVar}[1]{}
11 \newcommand{\ChNumVar}[1]{}
12 \newcommand{\ChTitleVar}[1]{}
13 \newcommand{\TheAlphaChapter}{}
14 \newcommand{\DOCH}{}
15 \newcommand{\DOTI}[1]{}
16 \newcommand{\DOTIS}[1]{}
17 \newlength{\mylen}
18 \newlength{\myhi}
19 \newlength{\px}
20 \newlength{\py}
21 \newlength{\pyy}
22 \newlength{\pxx}
23 \newlength{\RW}
24 \newcommand{\FmN}[1]{#1}
25 \newcommand{\FmTi}[1]{#1}

```

---

File 168 **lwarp-fnlineno.sty**

§ 275 Package **fnlineno**

Pkg fnlineno fnlineno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

---

File 169 **lwarp-fnpara.sty**

§ 276 Package **fnpara**

Pkg fnpara fnpara is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnpara}

---

File 170 **lwarp-fnpos.sty**

## § 277 Package **fnpos**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg fnpos **fnpos** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fnpos}[1999/07/14]

2 \newcommand*{\makeFNbottom}{}
3 \newcommand*{\makeFNmid}{}
4 \newcommand*{\makeFNbelow}{}
5 \newcommand*{\makeFNabove}{}

```

## File 171 **lwarp-fontawesome.sty**

## § 278 Package **fontawesome**

(Emulates or patches code by XAVIER DANAUX.)

Pkg fontawesome **fontawesome** is patched for use by **lwarp**.

Hashed inline images are used, as there may not be Unicode support for all icons.

 **poppler** syntax warning If using pdf<sub>La</sub>TeX, **poppler** may issue a syntax warning regarding parsing a ligature component. Xe<sub>La</sub>TeX or Lua<sub>La</sub>TeX may be used to avoid this warning.

In the following, the general strategy is to intercept `\symbol` and embed it inside a `lateximage`. These changes are done inside a local group.

For pdf<sub>La</sub>TeX, the `alt` tag includes the icon (symbol) number. For Xe<sub>La</sub>TeX and Lua<sub>La</sub>TeX, the `alt` tag is generic.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontawesome}[2016/05/15]

2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \ifxetexorluatex
5
6 \newfontfamily{\LWR@orig@FA}{FontAwesome}
7
8 \newcommand*{\LWR@fontawesome@xelatex@symbol}[1]{%
9 \LWR@findcurrenttextcolor%
10 \begin{lateximage}*[icon][fontawesomexetex#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
11 \csuse{\LWR@font@size}%
12 \LWR@orig@FA%
13 \LWR@orig@symbol{#1}%
14 \end{lateximage}%
15 }
16
17 \RenewDocumentCommand{\FA}{}{}{%
18 \LetLtxMacro\symbol\LWR@fontawesome@xelatex@symbol%
19 }
20

```

```

21 \else
22
23 \newcommand*{\LWR@fontawesome@symbolX}[2]{%
24 \LWR@findcurrenttextcolor%
25 \begin{lateximage}*[icon #1][fontawesome#2#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
26 \csuse{\LWR@font@size}%
27 \fontencoding{U}\fontfamily{fontawesome#2}\selectfont%
28 \LWR@orig@symbol{#1}%
29 \end{lateximage}%
30 }
31
32 \newcommand*{\LWR@fontawesome@symbolone}[1]{%
33 \LWR@fontawesome@symbolX{#1}{one}%
34 }
35
36 \newcommand*{\LWR@fontawesome@symboltwo}[1]{%
37 \LWR@fontawesome@symbolX{#1}{two}%
38 }
39
40 \newcommand*{\LWR@fontawesome@symbolthree}[1]{%
41 \LWR@fontawesome@symbolX{#1}{three}%
42 }
43
44 \renewrobustcmd\FAone{%
45 \LetLtxMacro\symbol\LWR@fontawesome@symbolone%
46 }
47
48 \renewrobustcmd\FAtwo{%
49 \LetLtxMacro\symbol\LWR@fontawesome@symboltwo%
50 }
51
52 \renewrobustcmd\FAthree{%
53 \LetLtxMacro\symbol\LWR@fontawesome@symbolthree%
54 }
55 \fi

```

---

File 172 **lwarp-fontawesome5.sty**

§ 279 Package **fontawesome5**

*(Emulates or patches code by MARCEL KRÜGER.)*

Pkg fontawesome5 fontawesome5 is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

The alt tag has the name of the icon.

for HTML output:

```

1 \LWR@ProvidesPackagePass{fontawesome5}[2018/07/27]
2 \ExplSyntaxOn
3 \cs_set:Nn\fontawesome_use_icon:nn{
4 \LWR@findcurrenttextcolor

```

---

```

5 \cs_if_exist:cTF{c__fontawesome_slot_#2_tl}{
6 \begin{lateximage}*[#2][fontawesome5#1SZ\LWR@font@size{}CL\LWR@tempcolor]
7 \csuse{\LWR@font@size}
8 \exp_last_unbraced:Nv
9 __fontawesome_icon_at:nnnn
10 {c__fontawesome_slot_#2_tl}
11 {#1}{#2}
12 \end{lateximage}
13 }{
14 \msg_error:nnxx{fontawesome5}{icon-not-found}{#2}{#1}
15 }
16 }
17 \ExplSyntaxOff

```

---

File 173 **lwarp-fontaxes.sty**

## § 280 Package **fontaxes**

(Emulates or patches code by ANDREAS BÜHMANN, MICHAEL UMMELS.)

Pkg fontaxes **fontaxes** is emulated for HTML, and used as-is for print output.

Functionality for small caps is in the **lwarp** core. Swashes and figure styles are ignored for HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontaxes}[2014/03/23]

2 \ifdef{\LWR@HTML@swshape}{% duplicated by nfssect-cfr
3 \newcommand{\LWR@HTML@swshape}{}
4 \LWR@formatted{swshape}
5
6 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
7 \LWR@formatted{textsw}
8
9 \FilenameNullify{%
10 \LetLtxMacro\swshape\empty%
11 \LetLtxMacro\textsw\firstofone%
12 }
13 }

```

---

File 174 **lwarp-fontenc.sty**

## § 281 Package **fontenc**

Pkg fontenc If using pdf<sub>La</sub>TeX, **lwarp** used to require **fontenc** be loaded before **lwarp**, but now **lwarp** itself loads **\fontenc** with T1 encoding, which **lwarp** requires. **fontenc** is now allowed to be loaded with another encoding after **lwarp**.

**lwarp-fontenc** is no longer necessary, but is still provided to overwrite older versions.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontenc}[2017/04/05]

```

File 175 **lwarp-footmisc.sty**

§ 282 Package **footmisc**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg footmisc **footmisc** is emulated.

**lwarp** incidentally happens to emulate the `stable` option.

```
1 \LWR@ProvidesPackageDrop{footmisc}[2011/06/06]
```

Some nullified commands:

```
2 \newcommand{\footnotelayout}{}
3 \newcommand{\setfnsymbol}[1]{}
4 \NewDocumentCommand{\DefineFNSymbols}{s m o m}{}
5
6 \newdimen\footnotemargin
7 \footnotemargin1.8em\relax
8
9 \newcommand*\hangfootparskip{0.5\baselineskip}
10 \newcommand*\hangfootparindent{0em}%
11
12 \let\pagefootnoterule\footnoterule
13 \let\mpfootnoterule\footnoterule
14 \def\splitfootnoterule{\kern-3\p@ \hrule \kern2.6\p@}
15
16 \providecommand*\multiplefootnotemarker{3sp}
17 \providecommand*\multfootsep{,}
```

Using **cleveref**. `\labelcref` only prints the number of the object, not its type.

```
18 \providecommand*\footref}[1]{\labelcref{#1}}
```

The following work as-is:

```
19 \newcommand\mpfootnotemark{%
20 \@ifnextchar[%
21 \xmpfootnotemark%
22 {%
23 \stepcounter\@mpfn%
24 \protected@xdef\@thefnmark{\thempfn}%
25 \@footnotemark%
26 }%
27 }
28 \def\xmpfootnotemark[#1]{%
29 \begingroup%
30 \csname c@\@mpfn\endcsname #1\relax%
31 \unrestored@protected@xdef\@thefnmark{\thempfn}%
32 \endgroup%
```



```

33 \footnotemark%
34 }

```

File 176 **lwarp-footnote.sty**

§ 283 Package **footnote**

*(Emulates or patches code by MARK WOODING.)*

Pkg footnote **footnote** is used with minor patches.

for HTML output: 1 \LWR@ProvidesPackagePass{footnote}[1997/01/28]

Removed print-version formatting:

```

2 \def\fn@startnote{%
3 % \parboxrestore%
4 \protected@edef\@currentlabel{\csname p@\@mpfn\endcsname\@thefnmark}%
5 % \color@begingroup% *** conflicts with lwarp
6 }
7
8 % \let\fn@endnote\color@endgroup% *** conflicts with lwarp
9 \def\fn@endnote{%
10 \LWR@htmltagc{/LWR@tagregularparagraph}%
11 \LWR@orignewline%
12 }

```

Removed print-version formatting:

```

13 \def\fn@startfntext{%
14 \setbox\z@\vbox\bgroup%
15 \fn@startnote%
16 \ignorespaces%
17 }

```

Removed print-version formatting, added closing paragraph tag:

```

18 \def\fn@endfntext{%
19 \LWR@htmltagc{/LWR@tagregularparagraph}%
20 \LWR@orignewline%
21 \egroup%
22 \begingroup%
23 \let\@makefntext\@empty%
24 \let\@finalstrut\@gobble%
25 \LetLtxMacro\rule\@gobbletwo% *8* also the optional argument?
26 \@footnotetext{\unvbox\z@}%
27 \endgroup%
28 }

```

These have been redefined, so re-\let them again:

```

29 \let\endfootnote\fn@endfntext
30 \let\endfootnotetext\endfootnote

```

---

File 177 **lwarp-footnotebackref.sty**

§ 284      Package **footnotebackref**

Pkg    footnotebackref    footnotebackref is ignored.

**for HTML output:**      1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

---

File 178 **lwarp-footnotehyper.sty**

§ 285      Package **footnotehyper**

Pkg    footnotehyper    footnotehyper is a hyperref-safe version of footnote. For lwarp, footnotehyper is emulated.

**for HTML output:**    Discard all options for lwarp-footnotehyper:

```
1 \RequirePackage{footnote}
2 \LWR@ProvidesPackageDrop{footnotehyper}[2018/01/23]
```

---

File 179 **lwarp-footnoterange.sty**

§ 286      Package **footnoterange**

*(Emulates or patches code by H.-MARTIN MÜNCH.)*

Pkg    footnoterange    footnoterange is patched for use by lwarp.

**for HTML output:**      1 \LWR@ProvidesPackagePass{footnoterange}[2012/02/17]

```
2 \csletcs{footnoterange}{footnoterange*}
3 \csletcs{endfootnoterange}{endfootnoterange*}
```

---

File 180 **lwarp-footnpag.sty**

§ 287      Package **footnpag**

Pkg    footnpag    footnpag is ignored.

**for HTML output:**      1 \LWR@ProvidesPackageDrop{footnpag}

---

File 181 **lwarp-foreign.sty**

## § 288 Package **foreign**

(Emulates or patches code by PHILIP G. RATCLIFFE.)

Pkg foreign **foreign** is patched for use by **lwarp**.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{foreign}[2012/09/25]
2 \renewcommand\foreignabbrfont{\emph}
```

---

### File 182 **lwarp-forest.sty**

## § 289 Package **forest**

(Emulates or patches code by SAŠO ŽIVANOVIĆ.)

Pkg forest **forest** is patched for use by **lwarp**.

 **\Forest\*** The starred version of the macro **\Forest\*** is not supported. **lwarp** encases each **lateximage** in an environment, so the global results of the starred **\Forest\*** are lost.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{forest}[2017/07/14]
2 \BeforeBeginEnvironment{forest}{%
3 \begin{lateximage}[-forest-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{forest}{\end{lateximage}}
7
8 \RenewDocumentCommand{\Forest}{s D(){} m}{%
9 \forest@config{#2}%
10 \IfBooleanTF{#1}{%
11 \PackageError{lwarp-forest}%
12 {\protect\Forest* is not supported}%
13 {Lwarp uses an environment for images,\MessageBreak
14 but \protect\Forest* cannot work in an environment.}%
15 \let\forest@next\forest@env%
16 }{\let\forest@next\forest@group@env}%
17 \begin{lateximage}[-forest-~\PackageDiagramAltText]% lwarp
18 \forest@next{#3}%
19 \end{lateximage}% lwarp
20 }
```

---

### File 183 **lwarp-fouridx.sty**

## § 290 Package **fouridx**

(Emulates or patches code by STEFAN KARRMANN.)

Pkg fouridx **fouridx** works as-is with **svg math**, and is emulated for **MATHJAX**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{fouridx}[2013/11/21]

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \newcommand{\fourIdx}[5]{%
5 \vphantom{#5}^{\hphantom{#2}#1}_{\hphantom{#1}#2}{#5}^{\#3}_{\#4}%
6 }%
7 }
8 \end{warpMathJax}

```

File 184 **lwarp-fourier.sty**

## § 291 Package **fourier**

(Emulates or patches code by MICHEL BOVANI.)

Pkg `fourier` `fourier` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `sloped` and `upright` are honored for Greek characters, but MATHJAX cannot yet honor these for Latin characters.

The dedicated macros for `upright` and `italic` Greek letters do work correctly.

svg math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{fourier}[2020/03/03]
2
3 \LWR@infoprocessingmathjax{fourier}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
7
8 \begin{warpMathJax}
9
10 \ifpackagewith{fourier}{sloped}
11 {
12 \LWR@mathjax@addgreek@l@up{other}{}
13 \LWR@mathjax@addgreek@u@it*{other}{}
14 }% sloped
15 {% not sloped
16 \ifpackagewith{fourier}{upright}
17 {% upright option
18 \LWR@mathjax@addgreek@l@up{}{}
19 \LWR@mathjax@addgreek@u@up*{}{}
20 \LWR@mathjax@addgreek@l@it{other}{}
21 \LWR@mathjax@addgreek@u@it*{other}{}
22 }
23 {% neither sloped nor upright
24 \LWR@mathjax@addgreek@l@up{other}{}
25 \LWR@mathjax@addgreek@u@it*{other}{}
26 }
27 }

```

```

28
29 \CustomizeMathJax{\newcommand{\othergreek}[1]{#1}}
30 \CustomizeMathJax{\let\varvarrho\varrho}
31 \CustomizeMathJax{\let\varvarpi\varpi}
32 \CustomizeMathJax{\let\othervarvarpi\othervarpi}
33 \CustomizeMathJax{\let\othervarvarrho\othervarrho}
34 \CustomizeMathJax{\let\varpartialdiff\partial}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

35 \CustomizeMathJax{\let\llbracket\lBrack}
36 \CustomizeMathJax{\let\rrbracket\rBrack}
37 \CustomizeMathJax{\let\dblbrackleft\lBrack}
38 \CustomizeMathJax{\let\dblbrackright\rBrack}
39
40 \CustomizeMathJax{\let\VERT|}
41
42 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
43 \CustomizeMathJax{\newcommand{\thething}{\mathord{\unicode{x1F60E}}}}
44 \CustomizeMathJax{\newcommand{\nparallelslant}{%
45 \mathrel{\LWOverlaysymbols{-}{\unicode{x02AFD}}}%
46 }}
47 \CustomizeMathJax{\newcommand{\xswordsup}{\mathord{\unicode{x2694}}}}
48 \CustomizeMathJax{\newcommand{\xswordsdwn}{\mathord{\unicode{x2694}}}% up
49 \CustomizeMathJax{\newcommand{\notowns}{\mathrel{\unicode{x220C}}}}
50
51 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
52 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
53 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
54 \CustomizeMathJax{\let\oiintop\oiint}
55 \CustomizeMathJax{\newcommand{\oiintint}{\mathop{\unicode{x2230}}\limits}}
56 \CustomizeMathJax{\let\oiintintop\oiintint}
57 \CustomizeMathJax{\newcommand{\slashint}{\mathop{\unicode{x2A0D}}\limits}}
58 \CustomizeMathJax{\let\slashintop\slashint}
59
60 \CustomizeMathJax{\let\overgroup\overparen}
61 \CustomizeMathJax{\let\wideparen\overparen}
62 \CustomizeMathJax{\let\widearc\overparen}
63 \CustomizeMathJax{\let\wide0arc\overrightarrow}
64 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\unicode{x2218}}{\overgroup{#1}}}}
65
66 \end{warpMathJax}

```

---

File 185 **lwarp-framed.sty**

§ 292 Package **framed**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg framed framed is supported and patched by lwarp.

for HTML output: Accept all options for lwarp-framed:

```

1 \LWR@ProvidesPackagePass{framed}[2011/10/22]
2 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec

3
4 \renewenvironment{framed}{%
5 \LWR@forcenewpage
6 \BlockClass{framed}%
7 }
8 {\endBlockClass}
9
10 \renewenvironment{oframed}{%
11 \LWR@forcenewpage
12 \BlockClass{framed}%
13 }
14 {\endBlockClass}
15
16
17 \renewenvironment{shaded}{%
18 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
19 \LWR@forcenewpage
20 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
21 }
22 {\endBlockClass}
23
24 \renewenvironment{shaded*}{%
25 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
26 \LWR@forcenewpage
27 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
28 }
29 {\endBlockClass}
30
31
32 \renewenvironment{leftbar}{%
33 \LWR@forcenewpage
34 \BlockClass{framedleftbar}
35 \def\FrameCommand{%
36 \MakeFramed {}
37 }%
38 {\endMakeFramed\endBlockClass}
39
40
41 \renewenvironment{snugshade}{%
42 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
43 \LWR@forcenewpage
44 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
45 }
46 {\endBlockClass}
47
48 \renewenvironment{snugshade*}{%
49 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
50 \LWR@forcenewpage
51 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
52 }
53 {\endBlockClass}
54

```

```

55 \let\oframed\framed
56 \let\endoframed\endframed
57
58
59 \RenewEnviron{titled-frame}[1]{%
60 \CustomFBox{#1}{0pt}{0pt}{0pt}{0pt}{\BODY}
61 }

\CustomFBox {<toptitle>}{<bottitle>}{<thicknessstop>}{<bottom>}{<left>}{<right>}{<text
contents>}}

62 \renewcommand{\CustomFBox}[7]{%
63 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
64 \LWR@forcenewpage
65 \begin{BlockClass}[border: 3px solid \LWR@origpound\LWR@tempcolor]{framed}%
66 \ifthenelse{\isempty{#1}}{0pt}{% not empty
67 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
68 \textcolor{TFTitleColor}{\textbf{#1}}%
69 \end{BlockClass}
70 }% not empty
71
72 #7
73
74 \ifthenelse{\isempty{#2}}{0pt}{% not empty
75 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
76 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
77 \textcolor{TFTitleColor}{\textbf{#2}}%
78 \end{BlockClass}
79 }% not empty
80 \end{BlockClass}
81 }

\TitleBarFrame [<marker>] {<title>}{<contents>}

82 \renewcommand\TitleBarFrame[3][1]{
83 \CustomFBox
84 {#2}{0pt}
85 \fboxrule\fboxrule\fboxrule\fboxrule
86 {#3}%
87 }

88 \renewcommand{\TF@Title}[1]{#1}

MakeFramed {<settings>}

89 \let\MakeFramed\relax
90 \let\endMakeFramed\relax
91
92 \NewEnviron{MakeFramed}[1]{%
93 \FrameCommand{\begin{minipage}{\linewidth}\BODY\end{minipage}}%
94 }

\fb@put@frame {<frame cmd no split>}{<frame cmd split>}

```

---

```

95 \renewcommand*{\fb@put@frame}[2]{%
96 \relax%
97 \@tempboxa%
98 }

```

---

File 186 **lwarp-ftcap.sty**

§ 293 Package **ftcap**

Pkg ftcap ftcap is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ftcap}

---

File 187 **lwarp-ftnright.sty**

§ 294 Package **ftnright**

Pkg ftnright ftnright is ignored.

for HTML output: Discard all options for lwarp-ftnright:

```
1 \LWR@ProvidesPackageDrop{ftnright}[2014/10/28]
```

---

File 188 **lwarp-fullminipage.sty**

§ 295 Package **fullminipage**

Pkg fullminipage fullminipage is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]

```
2 \newenvironment{fullminipage}[1][{}]{}
```

---

File 189 **lwarp-fullpage.sty**

§ 296 Package **fullpage**

Pkg fullpage fullpage is ignored.

for HTML output: Discard all options for lwarp-fullpage:

```
1 \LWR@ProvidesPackageDrop{fullpage}[1994/06/01]
```



---

File 190 **lwarp-fullwidth.sty**

§ 297 Package **fullwidth**

*(Emulates or patches code by MARCO DANIEL.)*

Pkg fullwidth **fullwidth** is emulated.

A minipage is used, of no HTML width.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fullwidth}[2011/11/18]

2 \newenvironment*{fullwidth}[1][{}]{%
3 \minipagefullwidth%
4 \minipage{\linewidth}%
5 }
6 {%
7 \endminipage%
8 }
```

---

File 191 **lwarp-fvextra.sty**

§ 298 Package **fvextra**

*(Emulates or patches code by GEOFFREY M. POORE.)*

Pkg fvextra **fvextra** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fvextra}[2019/02/04]
```

Ignored are highlight, showtabs, obeytabs, tab, tabcolor. Also ignored are all options regarding line breaking except breaklines, which is emulated as true.

tabsize is honored.

If line numbers on the right side are used along with breaklines, the line numbers will not be aligned.

```

2
3 \define@booleankey{FV}{obeytabs}%
4 % {\let\FV@ObeyTabsInit\FV@ObeyTabsInit}%
5 {\let\FV@ObeyTabsInit\relax}
6 {\let\FV@ObeyTabsInit\relax}
7
8 \define@key{FV}{tabcolor}%
9 {}
10
11 \define@key{FV}{tab}{%}
12
```

```

13 \define@booleankey{FV}{showtabs}%
14 % {\def\FV@TabChar{\FV@TabColor{\FancyVerbTab}}}%
15 {\let\FV@TabChar\relax}
16 {\let\FV@TabChar\relax}
17
18 \newbool{LWR@FV@breaklines}
19
20 \define@booleankey{FV}{breaklines}%
21 {\FV@BreakLinesfalse
22 \booltrue{LWR@FV@breaklines}
23 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
24 {\FV@BreakLinesfalse
25 \boolfalse{LWR@FV@breaklines}
26 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
27 % \fvset{breaklines}
28
29 \define@key{FV}{breakanywheresymbolpre}{\def\FancyVerbBreakAnywhereSymbolPre{}}
30 \fvset{breakanywheresymbolpre={}}
31
32 \define@key{FV}{breakanywheresymbolpost}{\def\FancyVerbBreakAnywhereSymbolPost{}}
33 \fvset{breakanywheresymbolpost={}}
34
35 \define@key{FV}{breakbeforesymbolpre}{\def\FancyVerbBreakBeforeSymbolPre{}}
36 \fvset{breakbeforesymbolpre={}}
37
38 \define@key{FV}{breakbeforesymbolpost}{\def\FancyVerbBreakBeforeSymbolPost{}}
39 \fvset{breakbeforesymbolpost={}}
40
41 \define@key{FV}{breakaftersymbolpre}{\def\FancyVerbBreakAfterSymbolPre{}}
42 \fvset{breakaftersymbolpre={}}
43
44 \define@key{FV}{breakaftersymbolpost}{\def\FancyVerbBreakAfterSymbolPost{}}
45 \fvset{breakaftersymbolpost={}}
46
47 \define@key{FV}{breaksymbolleft}{\def\FancyVerbBreakSymbolLeft{}}
48
49 \define@key{FV}{breaksymbol}{\fvset{breaksymbolleft={}}}
50
51 \fvset{breaksymbolleft={}}
52
53 \define@key{FV}{breaksymbolright}{\def\FancyVerbBreakSymbolRight{}}
54 \fvset{breaksymbolright={}}
55
56 \def\FV@ListProcessLine@NoBreak#1{%
57 % \hbox to \hsize{%
58 % \kern\leftmargin
59 % \hbox to \linewidth{%
60 % \FV@LeftListNumber%
61 % \FV@LeftListFrame%
62 % \FancyVerbFormatLine{%
63 % \FancyVerbHighlightLine{%
64 % \FV@ObeyTabs{\FancyVerbFormatText{#1}}}%\hss
65 % \FV@RightListFrame%
66 % \FV@RightListNumber%
67 % }%

```

```

68 % \hss}%
69 \null\par% lwarp
70 }
71
72
73 \newcommand*\LWR@FV@linethensep{%
74 \ifbool{LWR@FV@breaklines}%
75 {\theFancyVerbLine\kern\FV@NumberSep}%
76 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}%
77 }
78
79 \newcommand*\LWR@FV@septhenline{%
80 \ifbool{LWR@FV@breaklines}%
81 {\kern\FV@NumberSep\theFancyVerbLine}%
82 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}%
83 }
84
85 \xpatchcmd{\FV@Numbers@left}
86 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
87 {\LWR@FV@linethensep}
88 {}
89 {\LWR@patcherror{fvextra}{FV@Numbers@left A}}
90
91 \xpatchcmd{\FV@Numbers@left}
92 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
93 {\LWR@FV@linethensep}
94 {}
95 {\LWR@patcherror{fvextra}{FV@Numbers@left B}}
96
97 \xpatchcmd{\FV@Numbers@left}
98 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
99 {\LWR@FV@linethensep}
100 {}
101 {\LWR@patcherror{fvextra}{FV@Numbers@left C}}
102
103 \xpatchcmd{\FV@Numbers@right}
104 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
105 {\LWR@FV@septhenline}
106 {}
107 {\LWR@patcherror{fvextra}{FV@Numbers@right A}}
108
109 \xpatchcmd{\FV@Numbers@right}
110 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
111 {\LWR@FV@septhenline}
112 {}
113 {\LWR@patcherror{fvextra}{FV@Numbers@right B}}
114
115 \xpatchcmd{\FV@Numbers@right}
116 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
117 {\LWR@FV@linethensep}
118 {}
119 {\LWR@patcherror{fvextra}{FV@Numbers@right C}}
120
121 \xpatchcmd{\FV@Numbers@both}
122 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}

```

```

123 {\LWR@FV@linethensep}
124 {}
125 {\LWR@patcherror{fvextra}{FV@Numbers@both A}}
126
127 \xpatchcmd{\FV@Numbers@both}
128 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
129 {\LWR@FV@linethensep}
130 {}
131 {\LWR@patcherror{fvextra}{FV@Numbers@both B}}
132
133 \xpatchcmd{\FV@Numbers@both}
134 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
135 {\LWR@FV@linethensep}
136 {}
137 {\LWR@patcherror{fvextra}{FV@Numbers@both C}}
138
139 \xpatchcmd{\FV@Numbers@both}
140 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
141 {\LWR@FV@sephenline}
142 {}
143 {\LWR@patcherror{fvextra}{FV@Numbers@both D}}
144
145 \xpatchcmd{\FV@Numbers@both}
146 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
147 {\LWR@FV@sephenline}
148 {}
149 {\LWR@patcherror{fvextra}{FV@Numbers@both E}}
150
151 \xpatchcmd{\FV@Numbers@both}
152 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
153 {\LWR@FV@linethensep}
154 {}
155 {\LWR@patcherror{fvextra}{FV@Numbers@both F}}

```

---

File 192 **lwarp-fwlw.sty**

§ 299    Package **fwlw**

Pkg    fwlw    **fwlw** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fwlw}

2 \newbox\FirstWordBox \global\setbox\FirstWordBox\hbox{}
3 \newbox\NextWordBox \global\setbox\NextWordBox\hbox{}
4 \newbox\LastWordBox \global\setbox\LastWordBox\hbox{}
5 \def\ps@fwlwhead{}
6 \def\ps@NextWordFoot{}

```

---

File 193 **lwarp-gensymb.sty**

## § 300 Package **gensymb**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg gensymb **gensymb** works as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{gensymb}[2003/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
4 \CustomizeMathJax{\newcommand{\celsius}{\unicode{x2103}}}
5 \CustomizeMathJax{\newcommand{\perthousand}{\unicode{x2030}}}
6 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
7 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
8 \end{warpMathJax}
```

---

File 194 **lwarp-gentombow.sty**

## § 301 Package **gentombow**

Pkg gentombow **gentombow** is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{gentombow}[2018/05/17]

2 \newcommand{\settombowbanner}[1]{}
3 \newcommand{\settombowbannerfont}[1]{}
4 \newcommand{\settombowwidth}[1]{}
5 \newcommand{\settombowbleed}[1]{}
6 \newcommand{\settombowcolor}[1]{}

```

---

File 195 **lwarp-geometry.sty**

## § 302 Package **geometry**

(Emulates or patches code by HIDEO UMEKI.)

Pkg geometry **geometry** is preloaded by **lwarp**, but must be nullified as seen by the user's source code.

for HTML output: Discard all options for **lwarp-geometry**:

```

1 \LWR@ProvidesPackageDropA{geometry}{2018/04/16}
```

If **geometry** is never loaded by the user, it will be loaded by **lwarp** `\AtBeginDocument`. If this is the case, the page layout should not be changed but the user macros should still be nullified.

```

2 \ifbool{LWR@allowanothergeometry}{%
```

Assign and set the selected geometry with `reset` prepended. `\AtEndPreamble lwarp` will save this, then set its own geometry.

```
3 \edef\LWR@tempone{reset,\@ptionlist{\@currname.\@currentt}}%
4 \expandafter\LWR@origgeometry\expandafter{\LWR@tempone}%
5 }{}% LWR@allowanothergeometry
```

The user-level commands are nullified:

```
6 \renewcommand*{\geometry}[1]{}
7 \renewcommand*{\newgeometry}[1]{}
8 \renewcommand*{\restoregeometry}{}
9 \renewcommand*{\savegeometry}[1]{}
10 \renewcommand*{\loadgeometry}[1]{}

```

---

File 196 **lwarp-ghsystem.sty**

§ 303 Package **ghsystem**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg ghsystem **ghsystem** is patched for use by **lwarp**.

 **\ghspic images** Images must be provided in SVG format, unless JPG is specified. It is recommended to create a local images directory, copy into it the relevant PDF **ghsystem** images, and then convert them with

Enter ⇒ **lwarpmk pdftosvg images/\*.pdf**

for HTML output:

```
1 \LWR@ProvidesPackagePass{ghsystem}[2020/02/17]
2 \ExplSyntaxOn
3
4 \cs_set_protected:Npn \ghsystem_filler:n #1
5 { \emph { \textless #1 \textgreater } }
6
7 \cs_set_protected:Npn \ghsystem_pic:n #1
8 {
9 __ghsystem_includegraphics:xn
10 {
11 % scale = \fp_to_tl:N \l__ghsystem_picture_scale_fp
12 width = 1.25cm
13 \exp_not:V \l__ghsystem_picture_includegraphics_tl
14 }
15 { ghsystem_ #1 . \l__ghsystem_picture_type_tl }
16 }
17
18 \ExplSyntaxOff
```

---

File 197 **lwarp-gindex.sty**

## § 304 Package **gindex**

(Emulates or patches code by JAVIER BEZOS.)

Pkg gindex **gindex** is patched for use by **lwarp**.

See section 8.6.15.

for HTML output: 1 \LWR@ProvidesPackagePass{gindex}[2019/10/07]

Set the index page and range separators. These are set \AtBeginDocument to allow the user to change them. They are then protected so that the **lwarp** core looks for the tokens instead of their expanded contents, since the \*.ind files will contain \indexpagessep and \indexrangesep instead of their literal contents. Finally, **lwarp** is told of the **gindex** macros.

```
2 \AtBeginDocument{
3 \robustify{\indexpagessep}
4 \robustify{\indexrangesep}
5 \renewcommand*\IndexPageSeparator{\indexpagessep}
6 \renewcommand*\IndexRangeSeparator{\indexrangesep}
7 }
```

\hyperindexref is added:

```
8 \def\addindexitem#1#2{%
9 \indexflushitem
10 \gix@getspecial#1\indexspecial\indexspecial\@@\indexitem{\hyperindexref{#2}}
11
12 \def\addindexsubitem#1#2{%
13 \stepcounter{indexsubitems}%
14 \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubitem{\hyperindexref{#2}}
15
16 \def\addindexsubsubitem#1#2{%
17 \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubsubitem{\hyperindexref{#2}}
18 }
```

Uses a <div> of class indexheading:

```
18 \renewcommand\indexheading[1]{%
19 \begin{BlockClass}{indexheading}
20 \MakeUppercase{#1}%
21 \end{BlockClass}
22 }
```

---

File 198 **lwarp-gloss.sty**

## § 305 Package **gloss**

(Emulates or patches code by JOSE LUIS DÍAZ, JAVIER BEZOS.)

Pkg gloss **gloss** is patched for use by **lwarp**.

To process the HTML glossary:

```
bibtex <projectname>_html.gls
```

for HTML output: 1 \LWR@ProvidesPackagePass{gloss}[2002/07/26]

\BaseJobname is added to the label in case `xr` or `xr-hyper` are used.

```
2 \xpatchcmd{\gls@gloss@iii}
3 {\thepage}
4 {\theLWR@previousautopagelabel}
5 {}
6 {\LWR@patcherror{gloss}{\gls@gloss@iii}}
7
8 \def\gls@page@i#1#2{%
9 \endgroup%
10 \global\@namedef{glsp@#1}{\nameref{\BaseJobname-autopage-#2}}}%
```

File 199 **lwarp-glossaries.sty**

§ 306 Package **glossaries**

(Emulates or patches code by NICOLA L.C. TALBOT.)

Pkg glossaries  
processing glossaries  
Opt GlossaryCmd

*lwarpmk* has the commands **lwarpmk printglossary** and **lwarpmk htmlglossary**, which process the glossaries created by the **glossaries** package using that package's *makeglossaries* program.

Default: *makeglossaries*

Opt [lwarpmk] printglossary  
Opt [lwarpmk] htmlglossary

The shell command to execute is set by the **lwarp** option `GlossaryCmd`, which defaults to **makeglossaries**. The print or HTML glossary filename is appended to this command.

In some situations it may be required to modify the default command, such as to add the **perl** command in front:

```
\usepackage[
 GlossaryCmd={perl makeglossaries},
] {lwarp}
```

*xindy* language

To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
 GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for *makeglossaries* may be set as well.

placement and toc options

The glossaries may be placed in a numbered or unnumbered section, given a TOC entry, and placed inline or on their own HTML page:

**Numbered section, on its own HTML page:**

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

**Unnumbered section, inline with the current HTML page:**



```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

**Unnumbered section, on its own HTML page:**

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ **glossary style** The default `style=item` option for `glossaries` conflicts with `lwarp`, so the style is forced to `index` instead.

⚠ **number list** The page number list in the printed form would become `\namerefs` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

**print/HTML versions** The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

**for HTML output:**

```
1 \PassOptionsToPackage{xindy}{glossaries}
2
3 \LWR@ProvidesPackagePass{glossaries}[2018/07/23]
4
5 \setupglossaries{nonumberlist}
6 \setglossarystyle{index}
```

Patched to fix TOC pointing to the previous page:

```
7 \renewcommand*{\@p@glossarysection}[2]{%
8 \glsclearpage
9 \LWR@phantomsection
10 \ifdefempty\@@glossarysecstar
11 {%
12 \csname\@@glossarysec\endcsname{#2}%
13 }%
14 {%
```

In the original, the TOC entry was made before the section, thus linking to the phantomsection in the printed version, but for HTML, this caused the link to point to the page before the glossaries, which could be a different HTML file. Here, the TOC entry is made after the section is created:

```
15 \csname\@@glossarysec\endcsname*{#2}%
16 \@gls@toc{#1}{\@@glossarysec}% Moved after the previous line.
17 }%
18 \@@glossaryseclabel
19 }
```

`lwarp`'s sectioning commands cannot handle robust macros when splitting HTML into named filenames. `glossaries` uses `\translate` in sectioning names, and `\translate` is robust and cannot be expanded. The following pre-expands the translations at this moment, making use of `\translatelet`.

---

```

20 \newcommand*{\LWR@comp@glossaryname}{\translate{Glossary}}
21
22 \ifdefstrequal{\glossaryname}{\LWR@comp@glossaryname}{
23 \translatelet\LWR@translatetemp{Glossary}
24 \edef\glossaryname{\LWR@translatetemp}
25 }{}
26
27 \newcommand*{\LWR@comp@acronymname}{\translate{Acronym}}
28
29 \ifdefstrequal{\acronymname}{\LWR@comp@acronymname}{
30 \translatelet\LWR@translatetemp{Acronym}
31 \edef\acronymname{\LWR@translatetemp}
32 }{}
33
34 \newcommand*{\LWR@comp@glssymbolsgroupname}{\translate{Symbols (glossaries)}}
35
36 \ifdefstrequal{\glssymbolsgroupname}{\LWR@comp@glssymbolsgroupname}{
37 \translatelet\LWR@translatetemp{Symbols (glossaries)}
38 \edef\glssymbolsgroupname{\LWR@translatetemp}
39 }{}
40
41 \newcommand*{\LWR@comp@glnumbersgroupname}{\translate{Numbers (glossaries)}}
42
43 \ifdefstrequal{\glnumbersgroupname}{\LWR@comp@glnumbersgroupname}{
44 \translatelet\LWR@translatetemp{Numbers (glossaries)}
45 \edef\glnumbersgroupname{\LWR@translatetemp}
46 }{}

```

---

File 200 **lwarp-gmeometric.sty**

§ 307     Package **gmeometric**

Pkg   gmeometric   gmeometric is ignored.

**for HTML output:**     1 \LWR@ProvidesPackageDrop{gmeometric}[2008/11/22]  
                          2 \RequirePackageWithOptions{geometry}

---

File 201 **lwarp-graphics.sty**

§ 308     Package **graphics**

*(Emulates or patches code by D. P. CARLISLE.)*

Pkg   graphics   graphics is emulated.

**for HTML output:**     1 \LWR@ProvidesPackagePass{graphics}[2020/08/30]

### § 308.1 Graphics extensions

`\DeclareGraphicsExtensions`  $\{\langle list \rangle\}$

`\AtBeginDocument` allow SVG files instead of PDF:

```
2 \AtBeginDocument{
3 \DeclareGraphicsExtensions{.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}
4 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
5 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
6 }
```

Inside a `lateximage`, allow PDF instead of SVG:

```
7 \ifpdf
8 \appto\LWR@restoreorigformatting{%
9 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
10 }
11 \else% \ifpdf
12 \ifXeTeX
13 \appto\LWR@restoreorigformatting{%
14 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
15 }
16 \else
17 \appto\LWR@restoreorigformatting{%
18 \DeclareGraphicsExtensions{.eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
19 }
20 \fi
21 \fi
```

### § 308.2 Length conversions and graphics options



**whitespace**

A scaled image in  $\text{\LaTeX}$  by default takes only as much space on the page as it requires, but HTML browsers use as much space as the original unscaled image would have taken, with the scaled image over- or under-flowing the area.

Used to store the user's selected dimensions and HTML class.

The class defaults to “`inlineimage`” unless changed by a `class=xyx` option.

```
22 \newlength{\LWR@igwidth}
23 \newlength{\LWR@igheight}
24 \newcommand*{\LWR@igwidthstyle}{}
25 \newcommand*{\LWR@igheightstyle}{}
26 \newcommand*{\LWR@igorigin}{}
27 \newcommand*{\LWR@igangle}{}
28 \newcommand*{\LWR@igxscale}{1}
29 \newcommand*{\LWR@igyscale}{1}
30 \newcommand*{\LWR@igclass}{inlineimage}

31 \newcommand*{\LWR@igalt}{\ImageAltText}
```

Set the actions of each of the key/value combinations for `\includegraphics`. Many are ignored.

If an optional width was given, set an HTML style:

```
32 \define@key{igraph}{width}{%
33 \setlength{\LWR@igwidth}{#1}%
34 \ifthenelse{\lengthtest{\LWR@igwidth > 0pt}}%
35 {%
```

Default to use the converted fixed length given:

```
36 \renewcommand*{\LWR@igwidthstyle}{width:\LWR@printlength{\LWR@igwidth}}%
```

If ex or em dimensions were given, use those instead:

```
37 \IfEndWith{#1}{ex}%
38 {\renewcommand*{\LWR@igwidthstyle}{width:#1}}% yes ex
39 {}% not ex
40 \IfEndWith{#1}{em}%
41 {\renewcommand*{\LWR@igwidthstyle}{width:#1}}% yes em
42 {}% not em
43 \IfEndWith{#1}{\}%
44 {\renewcommand*{\LWR@igwidthstyle}{width:#1}}% yes percent
45 {}% not percent
46 \IfEndWith{#1}{px}%
47 {\renewcommand*{\LWR@igwidthstyle}{width:#1}}% yes px
48 {}% not px
49 }{}% end of length > 0pt
50 }
```

If an optional height was given, set an HTML style:

```
51 \define@key{igraph}{height}{%
52 \setlength{\LWR@igheight}{#1}%
53 \ifthenelse{\lengthtest{\LWR@igheight > 0pt}}%
54 {%
```

Default to use the converted fixed length given:

```
55 \renewcommand*{\LWR@igheightstyle}{%
56 height:\LWR@printlength{\LWR@igheight} % extra space
57 }%
```

If ex or em dimensions were given, use those instead:

```
58 \IfEndWith{#1}{ex}%
59 {\renewcommand*{\LWR@igheightstyle}{height:#1}}% yes ex
60 {}% not ex
61 \IfEndWith{#1}{em}%
62 {\renewcommand*{\LWR@igheightstyle}{height:#1}}% yes em
63 {}% not em
64 \IfEndWith{#1}{\}%
65 {\renewcommand*{\LWR@igheightstyle}{height:#1}}% yes percent
66 {}% not percent
67 \IfEndWith{#1}{px}%
68 {\renewcommand*{\LWR@igheightstyle}{height:#1}}% yes px
69 {}% not px
```

```
70 }{}% end of length > 0pt
71 }
```

Handle origin key:

```
72 \define@key{igraph}{origin}[c]{%
73 \renewcommand*\LWR@igorigin}{#1}%
74 }
```

Handle angle key:

```
75 \define@key{igraph}{angle}{\renewcommand*\LWR@igangle}{#1}}
```

Handle class key:

```
76 \define@key{igraph}{class}{\renewcommand*\LWR@igclass}{#1}}
```

Handle alt key:

```
77 \define@key{igraph}{alt}{\renewcommand*\LWR@igalt}{#1}}
```

It appears that **graphicx** does not have separate keys for `xscale` and `yscale`. `scale` adjusts both at the same time.

```
78 \define@key{igraph}{scale}{%
79 \ifthenelse{\equal{#1}{1}}{}{% must expand #1
80 \PackageWarning{lwarp}{%
81 It is recommended to use “[width=xx\protect\linewidth]”\MessageBreak
82 instead of “[scale=yy]”,%
83 }%
84 }%
85 \renewcommand*\LWR@igxscale}{#1}%
86 \renewcommand*\LWR@igyscale}{#1}%
87 }
```

Numerous ignored keys:

```
88 \define@key{igraph}{bb}{}
89 \define@key{igraph}{bblx}{}
90 \define@key{igraph}{bblly}{}
91 \define@key{igraph}{bburx}{}
92 \define@key{igraph}{bbury}{}
93 \define@key{igraph}{natwidth}{}
94 \define@key{igraph}{natheight}{}
95 \define@key{igraph}{hiresbb}[true]{}
96 \define@key{igraph}{viewport}{}
97 \define@key{igraph}{trim}{}
98 \define@key{igraph}{totalheight}{}
99 \define@key{igraph}{keepaspectratio}[true]{}
100 \define@key{igraph}{clip}[true]{}
101 \define@key{igraph}{draft}[true]{}
102 \define@key{igraph}{type}{}
103 \define@key{igraph}{ext}{}
104 \define@key{igraph}{read}{}
105 \define@key{igraph}{command}{}

```

New in v1.1a:

```
106 \define@key{igraph}{quite}{}
107 \define@key{igraph}{page}{}
108 \define@key{igraph}{pagebox}{}
109 \define@key{igraph}{interpolate}[true]{}

```

New in v1.1b:

```
110 \define@key{igraph}{decodearray}{}

```

### § 308.3 Printing HTML styles

`\LWR@rotstyle`     $\{\langle prefix \rangle\} \{\langle degrees \rangle\}$

Prints the rotate style with the given prefix.

prefix is -ms- or -webkit- or nothing, and is used to generate three versions of the transform:rotate style.

```
111 \newcommand*{\LWR@rotstyle}[2]{%
112 \edef\LWR@tempone{#2}%
113 \setcounter{LWR@tempcountone}{-1*\real{\LWR@tempone}} % space
114 #1transform:rotate(\arabic{LWR@tempcountone}deg); % space
115 }

```

`\LWR@scalestyle`     $\{\langle prefix \rangle\} \{\langle xscale \rangle\} \{\langle yscale \rangle\}$

Prints the scale style with the given prefix.

prefix is -ms- or -webkit- or nothing, and is used to generate three versions of the transform:scale style.

```
116 \newcommand*{\LWR@scalestyle}[3]{%
117 #1transform:scale(#2,#3);
118 }

```

### § 308.4 \includegraphics

`\LWR@opacity`    For HTML, used only for `\includegraphics`.

`\LWR@opacity` may be set by the transparent package.

```
119 \def\LWR@opacity{1}

```

`\LWR@imagesizebox`    Used to determine the actual image size if needed.

```
120 \newsavebox{\LWR@imagesizebox}

```

`\LWR@HTML@Gin@setfile`     $\{\langle w \rangle\} \{\langle h \rangle\} \{\langle filename \rangle\}$  Sets the parsed filename for HTML output.

```
121 \newcommand*{\LWR@HTML@Gin@setfile}[3]{%
122 \xdef\LWR@parsedfilename{#3}%
123 }

```

Key [Gin]    class    css class for the image.

Define the new class key for the print-mode version of `\includegraphics`, which is enabled inside a `lateximage`.

```

124 \AtBeginDocument{
125 \define@key{Gin}{class}{}
126 \define@key{Gin}{alt}{}
127 }

```

#### \LWR@replaceEPSSVG

Usually, references to EPS files become SVG files, but if the **epstopdf** package is being used, it automatically converts EPS to PDF, and the following must NOT be done.

```

128 \AtBeginDocument{
129 \ifpackageloaded{epstopdf}
130 {
131 \newcommand*\LWR@replaceEPSSVG{}
132 }{%
133 \newcommand*\LWR@replaceEPSSVG{%
134 \StrSubstitute{\LWR@tempone}{.eps}{.svg}[\LWR@tempone]%
135 \StrSubstitute{\LWR@tempone}{.EPS}{.SVG}[\LWR@tempone]%
136 }
137 }%
138 }

```

#### \LWR@ig@wpimagesizes \* [*<2: options>*] [*<3: options>*] [*<4: filename>*]

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

139 \newcommand*\LWR@ig@wpimagesizes[4]{%
140 \ifbool{FormatWP}{%
141 \begingroup%
142 \LWR@restoreorigformatting%
143 \ifpdf%
144 \appto\LWR@restoreorigformatting{%
145 \DeclareGraphicsExtensions{%
146 .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
147 }%
148 }%
149 \else% \ifpdf
150 \ifXeTeX%
151 \appto\LWR@restoreorigformatting{%
152 \DeclareGraphicsExtensions{%
153 .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
154 }%
155 }%
156 \else%
157 \appto\LWR@restoreorigformatting{%
158 \DeclareGraphicsExtensions{%
159 .eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
160 }%
161 }%
162 \fi%
163 \fi% \ifpdf
164 \define@key{Gin}{angle}{}%
165 \IfBooleanTF{#1}%
166 {% starred
167 \IfValueTF{#3}%

```

```

168 {%
169 \global\sbox{\LWR@imagesizebox}{%
170 \LWR@originincludegraphics*[#2][#3]{#4}%
171 }%
172 }%
173 {%
174 \IfValueTF{#2}%
175 {%
176 \global\sbox{\LWR@imagesizebox}{%
177 \LWR@originincludegraphics*[#2]{#4}%
178 }%
179 }{%
180 \global\sbox{\LWR@imagesizebox}{%
181 \LWR@originincludegraphics*{#4}%
182 }%
183 }%
184 }%
185 }% starred
186 {% not starred
187 \IfValueTF{#3}%
188 {%
189 \global\sbox{\LWR@imagesizebox}{%
190 \LWR@originincludegraphics[#2][#3]{#4}%
191 }%
192 }%
193 {%
194 \IfValueTF{#2}%
195 {%
196 \global\sbox{\LWR@imagesizebox}{%
197 \LWR@originincludegraphics[#2]{#4}%
198 }%
199 }{%
200 \global\sbox{\LWR@imagesizebox}{%
201 \LWR@originincludegraphics{#4}%
202 }%
203 }%
204 }%
205 }% not starred
206 \endgroup%
207 \settowidth{\LWR@igwidth}{\usebox{\LWR@imagesizebox}}%
208 \global\renewcommand*\LWR@igwidthstyle{%
209 width:\LWR@printlength{\LWR@igwidth}%
210 }%
211 \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
212 \global\renewcommand*\LWR@igheightstyle{%
213 height:\LWR@printlength{\LWR@igheight}%
214 }%
215 }{% FormatWP
216 }

```

`\LWR@ig@htmltag` For the HTML reference, add the graphicspath, filename, extension, alt tag, style, and class.

```

217 \newcommand*\LWR@ig@htmltag{%
218 img\LWR@indentHTML%

```



```

219 src=\textquotedbl%
220 \detokenize\expandafter{\LWR@parsedfilename}%
221 \textquotedbl\LWR@indentHTML%

```

Only include a style tag if a width, height, angle, or scale was given:

```

222 \ifthenelse{
223 \NOT\equal{\LWR@igwidthstyle}{ } \OR
224 \NOT\equal{\LWR@igheightstyle}{ } \OR
225 \NOT\equal{\LWR@igorigin}{ } \OR
226 \NOT\equal{\LWR@igangle}{ } \OR
227 \NOT\equal{\LWR@igxscale}{1} \OR
228 \NOT\equal{\LWR@igyscale}{1}
229 }%
230 {%
231 style=\textquotedbl\LWR@indentHTML
232 \ifthenelse{\NOT\equal{\LWR@igwidthstyle}{ }}%
233 {\LWR@igwidthstyle;\LWR@indentHTML}{ }%
234 \ifthenelse{\NOT\equal{\LWR@igheightstyle}{ }}%
235 {\LWR@igheightstyle;\LWR@indentHTML}{ }%
236 \ifthenelse{\NOT\equal{\LWR@igorigin}{ }}%
237 {%
238 transform-origin: \LWR@originnames{\LWR@igorigin};%
239 \LWR@indentHTML%
240 }{% }%
241 \ifthenelse{\NOT\equal{\LWR@igangle}{ }}%
242 {%
243 \LWR@rotstyle{-ms-}{\LWR@igangle}\LWR@indentHTML
244 \LWR@rotstyle{-webkit-}{\LWR@igangle}\LWR@indentHTML
245 \LWR@rotstyle{}{\LWR@igangle } \LWR@indentHTML
246 }{% }%
247 \ifthenelse{%
248 \NOT\equal{\LWR@igxscale}{1}\OR%
249 \NOT\equal{\LWR@igyscale}{1}%
250 }%
251 {%
252 \LWR@scalestyle{-ms-}{\LWR@igxscale}{\LWR@igyscale}%
253 \LWR@indentHTML
254 \LWR@scalestyle{-webkit-}{\LWR@igxscale}{\LWR@igyscale}%
255 \LWR@indentHTML
256 \LWR@scalestyle{}{\LWR@igxscale}{\LWR@igyscale}%
257 \LWR@indentHTML
258 }{% }%
259 %
260 \ifthenelse{\NOT\equal{\LWR@opacity}{1}}%
261 {opacity:\LWR@opacity;\LWR@indentHTML}{ }%
262 %
263 \textquotedbl\LWR@indentHTML%
264 }{% }%

```

Set the class and alt tag:

```

265 class=\textquotedbl\LWR@igclass\textquotedbl\LWR@indentHTML%
266 alt=\textquotedbl\AltTextOpen\LWR@igalt\AltTextClose\textquotedbl \LWR@orignewline%
267 }% end of image tags

```

`\LWR@includegraphicsb` \* [*<2: options>*] [*<3: options>*] [*<4: filename>*]

**graphics** syntax is `\includegraphics` \* [*<llx,lly>*] [*<urx,ury>*] [*<file>*]

**graphicx** syntax is `\includegraphics` [*<key values>*] [*<file>*]

If #3 is empty, only one optional argument was given, thus **graphicx** syntax.

If using `\epsfig` or `\psfig` from the **epsfig** package, #4 will be `\LWR@epsfig@filename`, which will have been set by the file or figure keys. Therefore, #4 must not be used until after the keys have been processed.

```
268 \NewDocumentCommand{\LWR@includegraphicsb}{s o o m}
269 {%
```

Start the image tag on a new line, allow PDF output word wrap:

```
270 \LWR@origtilde \LWR@orignewline%
```

Temporarily compute `\linewidth`, `\textwidth`, `\textheight` arguments with a 6x9 inch size until the next `\endgroup`.

```
271 \begin{\LWR@setvirtualpage}%
```

For correct em sizing during the width and height conversions:

```
272 \large%
```

Reset some defaults, possibly will be changed below if options were given:

```
273 \setlength{\LWR@igwidth}{0pt}%
274 \setlength{\LWR@igheight}{0pt}%
275 \renewcommand*{\LWR@igwidthstyle}{}%
276 \renewcommand*{\LWR@igheightstyle}{}%
277 \renewcommand*{\LWR@igorigin}{}%
278 \renewcommand*{\LWR@igangle}{}%
279 \renewcommand*{\LWR@igxscale}{1}%
280 \renewcommand*{\LWR@igyscale}{1}%
281 \renewcommand*{\LWR@igclass}{inlineimage}%

282 \ifdefvoid{\LWR@ThisAltText}{%
283 \edef\LWR@igalt{\ImageAltText}%
284 }{%
285 \edef\LWR@igalt{\LWR@ThisAltText}%
286 }%
```

If #3 is empty, only one optional argument was given, thus **graphicx** syntax:

```
287 \IfValueF{#3}{%
288 \IfValueTF{#2}%
289 {\setkeys{igraph}{#2}}%
290 {\setkeys{igraph}{}}%
291 }%
```

Fully expand and detokenize the filename, changing the file extension to `.svg` if necessary.

```
292 \begingroup%
293 \LetLtxMacro\Gin@setfile\LWR@HTML@Gin@setfile%
294 \edef\LWR@tempone{#4}%
295 \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
296 \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
```

```

297 \LWR@replaceEPSSVG%
298 \xdef\LWR@parsedfilename{\LWR@tempone}%
299 \Ginclude@graphics{\detokenize\expandafter{\LWR@tempone}}%
300 \endgroup%
301 \filename@parse{\LWR@parsedfilename}%

```

Remove doubled // in the directory path, from the 2020/10/01 L<sup>A</sup>T<sub>E</sub>X kernel change.

```

302 \StrSubstitute{\LWR@parsedfilename}{//}{/}[\LWR@parsedfilename]%
303 \LWR@traceinfo{\LWR@parsedfilename is \LWR@parsedfilename}%

```

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

304 \LWR@ig@wpimagesizes{#1}{#2}{#3}{#4}%

```

Create the HTML reference with the graphicspath, filename, extension, alt tag, style, and class:

```

305 \LWR@traceinfo{\LWR@includegraphicsb: about to create href}%
306 \LWR@href{\LWR@parsedfilename}%
307 {% start of href
308 \LWR@traceinfo{\LWR@includegraphicsb: about to LWR@htmltag}%
309 \LWR@htmltag{\LWR@ig@htmltag}%
310 }% end of href

```

Return to original page size and font size:

```

311 \end{\LWR@setvirtualpage}%

```

Clear the single-use alt text:

```

312 \gdef\LWR@ThisAltText{}%
313 \LWR@traceinfo{\LWR@includegraphicsb done}%
314 }

```

`\includegraphics` [*key=val*] {*filename*}

Handles width and height, converted to fixed width and heights.

The user should always use no file suffix in the document source.

```

315 \AtBeginDocument{
316
317 \LWR@traceinfo{Patching includegraphics.}
318
319 \let\ltxMacro\LWR@originincludegraphics\includegraphics

320 \renewrobustcmd*{\includegraphics}
321 {%

```

This graphic should trigger an HTML paragraph even if alone, so ensure that are doing paragraph handling:

```

322 \LWR@traceinfo{includegraphics}%
323 \LWR@ensuredoingapar%
324 \LWR@includegraphicsb%
325 }% includegraphics
326 }% AtBeginDocument

```

§ 308.5 **Boxes**

`\LWR@rotboxorigin` Holds the origin key letters.

```
327 \newcommand*\LWR@rotboxorigin{}
```

`\LWR@originname`  $\{\langle letter \rangle\}$

Given one  $\LaTeX$  origin key value, translate into an HTML origin word:

```
328 \newcommand*\LWR@originname[1]{%
329 \ifthenelse{\equal{#1}{t}}{top}{}%
330 \ifthenelse{\equal{#1}{b}}{bottom}{}%
331 \ifthenelse{\equal{#1}{c}}{center}{}%
332 \ifthenelse{\equal{#1}{l}}{left}{}%
333 \ifthenelse{\equal{#1}{r}}{right}{}%
334 }
```

`\LWR@originnames`  $\{\langle letters \rangle\}$

Given one- or two-letter  $\LaTeX$  origin key values, translate into HTML origin words:

```
335 \newcommand*\LWR@originnames[1]{%
336 \StrChar{#1}{1}[\LWR@strresult]%
337 \LWR@originname{\LWR@strresult}
338 \StrChar{#1}{2}[\LWR@strresult]%
339 \LWR@originname{\LWR@strresult}
340 }
```

Handle the origin key for `\rotatebox`:

```
341 \define@key{krotbox}{origin}{%
342 \renewcommand*\LWR@rotboxorigin{#1}%
343 }
```

These keys are ignored:

```
344 \define@key{krotbox}{x}{}
345 \define@key{krotbox}{y}{}
346 \define@key{krotbox}{units}{}

```

`\rotatebox`  $[\langle keyval list \rangle] \{\langle angle \rangle\} \{\langle text \rangle\}$

```
347 \AtBeginDocument{
```

The HTML version:

```
348 \NewDocumentCommand{\LWR@HTML@rotatebox}{0{} m +m}{%
```

Reset the origin to “none-given”:

```
349 \renewcommand*\LWR@rotboxorigin{}
```

Process the optional keys, which may set `\LWR@rotateboxorigin`:

```
350 \setkeys{krotbox}{#1}%

```

Select inline-block so that HTML will transform this span:

```
351 \LWR@htmltagc{%
352 span\LWR@indentHTML
353 style=\textquotedbl\LWR@indentHTML
354 display: inline-block;\LWR@indentHTML
```

If an origin was given, translate and print the origin information:

```
355 \ifthenelse{\NOT\equal{\LWR@rotboxorigin}}{}%
356 {transform-origin: \LWR@originnames{\LWR@rotboxorigin};\LWR@indentHTML}%
357 {}%
```

Print the rotation information:

```
358 \LWR@rotstyle{-ms-}{#2}\LWR@indentHTML
359 \LWR@rotstyle{-webkit-}{#2}\LWR@indentHTML
360 \LWR@rotstyle{}{#2}\textquotedbl\LWR@orignewLine%
361 }\LWR@orignewLine%
```

Print the text to be rotated:

```
362 \begin{LWR@nestspan}%
363 #3%
```

Close the span:

```
364 \LWR@htmltagc{/span}%
365 \end{LWR@nestspan}%
366 }
```

The high-level interface:

```
367 \LWR@formatted{rotatebox}
368
369}% AtBeginDocument
```

`\scalebox`  $\{\langle h\text{-}scale\rangle\} [\langle v\text{-}scale\rangle] \{\langle text\rangle\}$

```
370 \AtBeginDocument{
```

The HTML version:

```
371 \NewDocumentCommand{\LWR@HTML@scalebox}{m o m}{%
```

Select inline-block so that HTML will transform this span:

```
372 \LWR@htmltagc{%
373 span\LWR@indentHTML
374 style=\textquotedbl\LWR@indentHTML
375 display: inline-block;\LWR@indentHTML
```

Print the scaling information:

```

376 \LWR@scaletstyle{-ms-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
377 \LWR@scaletstyle{-webkit-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
378 \LWR@scaletstyle{}{#1}{\IfNoValueTF{#2}{#1}{#2}}
379 \textquotedbl\LWR@orignewline
380 }\LWR@orignewline%

```

Print the text to be scaled:

```

381 \begin{LWR@nestspan}%
382 #3%

```

Close the span:

```

383 \LWR@htmltagc{/span}%
384 \end{LWR@nestspan}%
385 }

```

The high-level interface:

```

386 \LWR@formatted{scalebox}
387
388 }% AtBeginDocument

```

`\reflectbox`  $\{\langle text \rangle\}$

```

389 \AtBeginDocument{
390
391 \newcommand{\LWR@HTML@reflectbox}[1]{%
392 \scalebox{-1}[1]{#1}%
393 }% \reflectbox
394
395 \LWR@formatted{reflectbox}
396
397 }% AtBeginDocument

```

`\resizebox`  $\{\langle h-length \rangle\} \{\langle v-length \rangle\} \{\langle text \rangle\}$

Simply prints its text argument.

```

398 \AtBeginDocument{
399
400 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m m}{%
401 #4%
402 }
403
404 \LWR@formatted{resizebox}
405
406 }% AtBeginDocument

```

## § 309 Package **graphicx**

Pkg `graphicx` `graphicx` is emulated.

`graphicx` loads `graphics`, which also loads `lwarp-graphics`, which remembers the original `graphics` definitions for use inside a `lateximage`, and then patches them `\AtBeginDocument` for HTML output.

`lwarp-graphics` handles the syntax of either `graphics` or `graphicx`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{graphicx}[2020/09/09]`

## File 203 **lwarp-grffile.sty**

## § 310 Package **grffile**

Pkg `grffile` `grffile` is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.



**matching PDF and SVG**

`lwarp-grffile` now exists as a placeholder since `grffile` used to be emulated by `lwarp`, and thus older versions of `lwarp-grffile` may exist and should be overwritten by this newer version.

**for HTML output:** `1 \LWR@ProvidesPackagePass{grffile}[2017/06/30]`

## File 204 **lwarp-grid.sty**

## § 311 Package **grid**

Pkg `grid` `grid` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]`

`2 \newenvironment*{gridenv}{}{}`

## File 205 **lwarp-grid-system.sty**

## § 312 Package **grid-system**

*(Emulates or patches code by MARCUS BITZL.)*

Pkg `grid-system` `grid-system` is patched for use by `lwarp`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{grid-system}[2014/02/16]`

(\ifdef is in case the older syntax is removed.)

```

2 \AtBeginEnvironment{Row}{\setlength{\linewidth}{6in}}
3
4 \ifdef{\endrow}{
5 \AtBeginEnvironment{row}{\setlength{\linewidth}{6in}}
6 }{}
7
8 \renewcommand{\gridsystem@finishcell}{\hspace{\gridsystem@cellsep}}
```

---

File 206 **lwarp-gridset.sty**

§ 313     Package **gridset**

Pkg    gridset    **gridset** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{gridset}[2020-02-12]

2 \newcommand*{\gridbase}{}
3 \newcommand*{\gridinterval}{}
4 \newcommand*{\SavePos}[1]{}
5 \ifLuaTeX
6 \else
7 \let\savepos\SavePos
8 \fi
9 \newcommand*{\vskipnextgrid}{}
10 \newcommand*{\thegridinfo}[1]{(thegridinfo)}
11 \newcommand*{\theposinfo}[1]{(theposinfo)}
12 \newcommand*{\theypos}[1]{(theypos)}
```

---

File 207 **lwarp-hang.sty**

§ 314     Package **hang**

*(Emulates or patches code by ANDREAS NOLDA.)*

Pkg    hang     **hang** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{hang}[2017/02/18]

2 \newlength{\hangingindent}
3 \setlength{\hangingindent}{1em}
4 \newlength{\hangingleftmargin}
5 \setlength{\hangingleftmargin}{0em}
6
7 \newcommand*{\LWR@findhangingleftmargin}{%
8 \setlength{\LWR@templengthone}{\hangingleftmargin}%
9 \addtolength{\LWR@templengthone}{\hangingindent}%
10 }
11
```



```

12 \newenvironment{hangingpar}
13 {
14 \LWR@findhangingleftmargin%
15 \BlockClass[%
16 \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
17 \LWR@print@mbox{text-indent:-\LWR@printlength{\hangingindent}}%
18]%
19 {hangingpar}%
20 }
21 {\endBlockClass}
22
23 \newenvironment{hanginglist}
24 {%
25 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}%
26 \renewcommand*{\LWR@printopenlist}{%
27 \LWR@findhangingleftmargin%
28 ul style=\textquotedbl%
29 \LWR@print@mbox{list-style-type:none;} % extra space
30 \LWR@print@mbox{%
31 margin-left:\LWR@printlength{\LWR@templengthone}%
32 } ; % extra space
33 \LWR@print@mbox{%
34 text-indent:-\LWR@printlength{\hangingindent}%
35 }%
36 \textquotedbl%
37 }%
38 \let\item\LWR@itemizeitem%
39 \list{}{}%
40 }
41 {\endlist}
42
43 \newenvironment{compacthang}
44 {\hanginglist}
45 {\endhanginglist}
46
47 \newlength{\labeledleftmargin}
48 \setlength{\labeledleftmargin}{0em}
49
50 \newenvironment{labeledpar}[2]
51 {%
52 \BlockClass[%
53 \LWR@findhangingleftmargin%
54 \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
55 \LWR@print@mbox{text-indent:-\LWR@printlength{\hangingindent}}%
56][labeledpar]#2%
57 }
58 {\endBlockClass}
59
60 \newenvironment{labeledlist}[1]
61 {\hanginglist}
62 {\endhanginglist}
63
64 \newenvironment{compactlabel}[1]
65 {\hanginglist}
66 {\endhanginglist}

```

---

File 208 **lwarp-hanging.sty**

§ 315     Package **hanging**

Pkg    hanging    hanging is emulated.

for HTML output:    1 \LWR@ProvidesPackageDrop{hanging}[2009/09/02]

```
2 \@ifclassloaded{memoir}{
3 \let\hangpara\relax
4 \let\hangparas\relax
5 \let\endhangparas\relax
6 \let\hangpunct\relax
7 \let\endhangpunct\relax
8 }{}
```

\hangpara    {<indent>} {<afternum>}

Use hangparas instead.

```
9 \newcommand*{\hangpara}[2]{}

```

Env    hangparas    {<indent>} {<afternum>}

```
10 \newenvironment*{hangparas}[2]
11 {%
12 \BlockClass[%
13 \LWR@print@mbox{margin-left:\LWR@printlength{#1}} ; %
14 \LWR@print@mbox{text-indent:-\LWR@printlength{#1}}%
15]%
16 {hangingpar}%
17 }
18 {\endBlockClass}
```

Env    hangpunct

```
19 \newenvironment*{hangpunct}
20 {\BlockClass{hangpunct}}
21 {\endBlockClass}

22 \newcommand{\nhpt}{.}
23 \newcommand{\nhlq}{‘}
24 \newcommand{\nhrq}{’}
```

---

File 209 **lwarp-hepunits.sty**

§ 316     Package **hepunits**

(Emulates or patches code by ANDY BUCKLEY.)

Pkg hepunits hepunits is used as-is, and emulated for MATHJAX.

```

for HTML output: 1 \LWR@ProvidesPackagePass{hepunits}[2020/04/10]

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{hepunits}
4
5 \ifx\@HEPopt@sicmds\@yes
6 \CustomizeMathJax{\newcommand{\micron}{\micro\metre}}
7 \CustomizeMathJax{\newcommand{\mrad}{\milli\radian}}
8 \fi
9
10 \CustomizeMathJax{\newcommand{\gauss}{\mathrm{G}}}
11
12 \CustomizeMathJax{\newcommand{\invcmsq}{\centi\metre\tothe{-2}}}
13 \CustomizeMathJax{\newcommand{\invcmsqpersecond}{\invcmsq\second\tothe{-1}}}
14 \CustomizeMathJax{\newcommand{\invcmsqpersec}{\invcmsqpersecond}}
15
16 %% (Inverse) cross-sections
17 \CustomizeMathJax{\newcommand{\invbarn}{\barn\tothe{-1}}}
18
19 \ifx\@HEPopt@noprefixcmds\@empty
20 \CustomizeMathJax{\newcommand{\millibarn}{\milli\barn}}
21 \CustomizeMathJax{\newcommand{\microbarn}{\micro\barn}}
22 \CustomizeMathJax{\newcommand{\nanobarn}{\nano\barn}}
23 \CustomizeMathJax{\newcommand{\picobarn}{\pico\barn}}
24 \CustomizeMathJax{\newcommand{\femtobarn}{\femto\barn}}
25 \CustomizeMathJax{\newcommand{\attobarn}{\atto\barn}}
26 \CustomizeMathJax{\newcommand{\zeptobarn}{\zepto\barn}}
27 \CustomizeMathJax{\newcommand{\yoctobarn}{\yocto\barn}}
28 \CustomizeMathJax{\newcommand{\invnanobarn}{\nano\invbarn}}
29 \CustomizeMathJax{\newcommand{\invpicobarn}{\pico\invbarn}}
30 \CustomizeMathJax{\newcommand{\invfemtobarn}{\femto\invbarn}}
31 \CustomizeMathJax{\newcommand{\invattobarn}{\atto\invbarn}}
32 \CustomizeMathJax{\newcommand{\invzeptobarn}{\zepto\invbarn}}
33 \CustomizeMathJax{\newcommand{\invyoctobarn}{\yocto\invbarn}}
34 \CustomizeMathJax{\newcommand{\invnb}{\invnanobarn}}
35 \CustomizeMathJax{\newcommand{\invpb}{\invpicobarn}}
36 \CustomizeMathJax{\newcommand{\invfb}{\invfemtobarn}}
37 \CustomizeMathJax{\newcommand{\invab}{\invattobarn}}
38 \CustomizeMathJax{\newcommand{\invzb}{\invzeptobarn}}
39 \CustomizeMathJax{\newcommand{\invyb}{\invyoctobarn}}
40 \fi
41
42 \CustomizeMathJax{\newcommand{\electronvoltc}{\electronvolt\per\mathit{c}}}
43 \CustomizeMathJax{\newcommand{\electronvoltcsq}{\electronvolt\per\mathit{c}\squared}}
44 \CustomizeMathJax{\let\evc\electronvoltc}
45 \CustomizeMathJax{\let\evcsq\electronvoltcsq}
46
47 \ifx\@HEPopt@noprefixcmds\@empty
48 \CustomizeMathJax{\newcommand{\meV}{\milli\ev}}
49 \CustomizeMathJax{\newcommand{\keV}{\kilo\ev}}
50 \CustomizeMathJax{\newcommand{\MeV}{\mega\ev}}
51 \CustomizeMathJax{\newcommand{\GeV}{\giga\ev}}
52 \CustomizeMathJax{\newcommand{\TeV}{\tera\ev}}
53 \CustomizeMathJax{\newcommand{\meVc}{\milli\evc}}

```

---

```

54 \CustomizeMathJax{\newcommand{\keVc}{\kilo\eVc}}
55 \CustomizeMathJax{\newcommand{\MeVc}{\mega\eVc}}
56 \CustomizeMathJax{\newcommand{\GeVc}{\giga\eVc}}
57 \CustomizeMathJax{\newcommand{\TeVc}{\tera\eVc}}
58 \CustomizeMathJax{\newcommand{\meVcsq}{\milli\eVcsq}}
59 \CustomizeMathJax{\newcommand{\keVcsq}{\kilo\eVcsq}}
60 \CustomizeMathJax{\newcommand{\MeVcsq}{\mega\eVcsq}}
61 \CustomizeMathJax{\newcommand{\GeVcsq}{\giga\eVcsq}}
62 \CustomizeMathJax{\newcommand{\TeVcsq}{\tera\eVcsq}}
63 \fi
64 \end{warpMathJax}

```

---

File 210 **lwarp-hhline.sty**

§ 317     Package **hhline**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg    hhline    **hhline** is patched for use by **lwarp**.

Only a rudimentary emulation is provided so far. If the argument contains any = characters, the result is a double \hline. If none, the result is a single \hline.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hhline}[2014/10/28]

2 \newrobustcmd*{\LWR@HTML@hhline}[1]{%
3 \edef\LWR@tempone{\detokenize\expandafter{#1}}%
4 \IfSubStr[1]{\LWR@tempone}{=}{\hline\hline}{\hline}%
5 }
6 % ^^A or:
7 % ^^A \newrobustcmd*{\LWR@HTML@hhline}[1]{\LWR@getmynexttoken}
8
9 \AtBeginDocument{\LWR@expandableformatted{hhline}}

```

For **MATHJAX**. A simple \hline is used.

```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\hhline}[1]{\hline}}
12 \end{warpMathJax}

```

---

File 211 **lwarp-hhtensor.sty**

§ 318     Package **hhtensor**

*(Emulates or patches code by HARALD HARDERS.)*

Pkg    hhtensor    **hhtensor** is used as-is, and emulated for **MATHJAX**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hhtensor}[2011/12/29]

```

---

```

2 \begin{warpMathJax}
3 \iftensor@bold
4 \CustomizeMathJax{\newcommand{\vec}[1]{\boldsymbol{#1}}}
5 \CustomizeMathJax{\newcommand{\matr}[1]{\boldsymbol{#1}}}
6 \CustomizeMathJax{\newcommand{\tens}[2]{\boldsymbol{#1}}}
7 \else
8 \iftensor@uuline
9 \CustomizeMathJax{\newcommand{\vec}[1]{\ushort{#1}}}
10 \CustomizeMathJax{\newcommand{\matr}[1]{\ushortd{#1}}}
11 \CustomizeMathJax{\newcommand{\tens}[2]{
12 \underset{
13 \raise{.5ex}{\underset{#2}{\sim}}}
14 }{#1}
15 }}
16 \else
17 \CustomizeMathJax{\newcommand{\matr}[1]{\vec{\vec{#1}}}}
18 \CustomizeMathJax{\newcommand{\tens}[2]{
19 \underset{
20 \raise{.5ex}{\underset{#2}{\sim}}}
21 }{#1}
22 }}
23 \fi
24 \fi
25 \CustomizeMathJax{\newcommand{\dcdot}{\mathrel{\cdot\mkern 0.0mu \cdot}}}
26 \CustomizeMathJax{\newcommand{\trans}{{}^{\mathrm{T}}}}
27 \end{warpMathJax}

```

---

File 212 **lwarp-hypbmsec.sty**

## § 319 Package **hypbmsec**

Pkg hypbmsec hypbmsec is emulated by the lwarp core.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

---

File 213 **lwarp-hypcap.sty**

## § 320 Package **hypcap**

Pkg hypcap hypcap is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypcap}[2016/05/16]

---

```

2 \newcommand*{\capstart}{}
3 \newcommand*{\hypcapspace}{}
4 \newcommand*{\hypcapredef}[1]{}
5 \newcommand*{\capstartfalse}{}
6 \newcommand*{\capstarttrue}{}

```

---

File 214 **lwarp-hypdestopt.sty**

§ 321 Package **hypdestopt**

Pkg hypdestopt hypdestopt is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

---

File 215 **lwarp-hypernat.sty**

§ 322 Package **hypernat**

Pkg hypernat hypernat is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

---

File 216 **lwarp-hyperref.sty**

§ 323 Package **hyperref**

(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK, THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

Pkg hyperref hyperref is emulated.

for HTML output:

```

1 % \LWR@ProvidesPackageDrop{hyperref}% not allowed
2 % \ProvidesPackage{lwarp-#1-#2}% not allowed
3 \PackageInfo{lwarp}{%
4 Using the lwarp HTML version of package ‘hyperref’,\MessageBreak
5 and discarding options except backref, pagebackref.\MessageBreak
6 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
7 do not attempt to patch lwarp’s version of ‘hyperref’.)\MessageBreak}

8 \SetupKeyvalOptions{family=LWR@hyperref,prefix=LWR@hyperref@}
9
10 \newcommand{\hypersetup}[1]{\setkeys{LWR@hyperref}{#1}}
11
12 \define@key{LWR@hyperref}{a4paper}[]{\setkeys{LWR@hyperref}{a4paper}}
13 \define@key{LWR@hyperref}{a5paper}[]{\setkeys{LWR@hyperref}{a5paper}}
14 \define@key{LWR@hyperref}{b5paper}[]{\setkeys{LWR@hyperref}{b5paper}}
15 \define@key{LWR@hyperref}{letterpaper}[]{\setkeys{LWR@hyperref}{letterpaper}}
16 \define@key{LWR@hyperref}{legalpaper}[]{\setkeys{LWR@hyperref}{legalpaper}}
17 \define@key{LWR@hyperref}{executivepaper}[]{\setkeys{LWR@hyperref}{executivepaper}}
18 \define@key{LWR@hyperref}{implicit}[]{\setkeys{LWR@hyperref}{implicit}}
19 \define@key{LWR@hyperref}{draft}[]{\setkeys{LWR@hyperref}{draft}}
20 \define@key{LWR@hyperref}{final}[]{\setkeys{LWR@hyperref}{final}}
21 \define@key{LWR@hyperref}{setpagesize}[]{\setkeys{LWR@hyperref}{setpagesize}}
```

```
22 \define@key{LWR@hyperref}{debug}[]{}
23 \define@key{LWR@hyperref}{linktocpage}[]{}
24 \define@key{LWR@hyperref}{linktoc}[]{}
25 \define@key{LWR@hyperref}{extension}[]{}
26 \define@key{LWR@hyperref}{verbose}[]{}
27 \define@key{LWR@hyperref}{typexml}[]{}
28 \define@key{LWR@hyperref}{raiselinks}[]{}
29 \define@key{LWR@hyperref}{breaklinks}[]{}
30 \define@key{LWR@hyperref}{localanchorname}[]{}
31 \define@key{LWR@hyperref}{pageanchor}[]{}
32 \define@key{LWR@hyperref}{plainpages}[]{}
33 \define@key{LWR@hyperref}{naturalnames}[]{}
34 \define@key{LWR@hyperref}{hypertextnames}[]{}
35 \define@key{LWR@hyperref}{nesting}[]{}
36 \define@key{LWR@hyperref}{destlabel}[]{}
37 \define@key{LWR@hyperref}{unicode}[]{}
38 \define@key{LWR@hyperref}{pdfencoding}[]{}
39 \define@key{LWR@hyperref}{psdextra}[]{}
40 \define@key{LWR@hyperref}{pdfversion}[]{}
41 \define@key{LWR@hyperref}{dvipdfmx-outline-open}[]{}
42 \define@key{LWR@hyperref}{driverfallback}[]{}
43 \define@key{LWR@hyperref}{customdriver}[]{}
44 \define@key{LWR@hyperref}{hyperfigures}[]{}
45 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
46 \define@key{LWR@hyperref}{hyperindex}[]{}
47 \define@key{LWR@hyperref}{encap}[]{}
48 \define@key{LWR@hyperref}{colorlinks}[]{}
49 \define@key{LWR@hyperref}{ocgcolorlinks}[]{}
50 \define@key{LWR@hyperref}{frenchlinks}[]{}
51 \define@key{LWR@hyperref}{bookmarks}[]{}
52 \define@key{LWR@hyperref}{bookmarksopen}[]{}
53 \define@key{LWR@hyperref}{bookmarksdepth}[]{}
54 \define@key{LWR@hyperref}{bookmarksopenlevel}[]{}
55 \define@key{LWR@hyperref}{bookmarkstype}[]{}
56 \define@key{LWR@hyperref}{bookmarksnumbered}[]{}
57 \define@key{LWR@hyperref}{CJKbookmarks}[]{}
58 \define@key{LWR@hyperref}{link}[]{}
59 \define@key{LWR@hyperref}{anchor}[]{}
60 \define@key{LWR@hyperref}{cite}[]{}
61 \define@key{LWR@hyperref}{file}[]{}
62 \define@key{LWR@hyperref}{url}[]{}
63 \define@key{LWR@hyperref}{menu}[]{}
64 \define@key{LWR@hyperref}{run}[]{}
65 \define@key{LWR@hyperref}{linkbordercolor}[]{}
66 \define@key{LWR@hyperref}{anchorbordercolor}[]{}
67 \define@key{LWR@hyperref}{citebordercolor}[]{}
68 \define@key{LWR@hyperref}{filebordercolor}[]{}
69 \define@key{LWR@hyperref}{urlbordercolor}[]{}
70 \define@key{LWR@hyperref}{menubordercolor}[]{}
71 \define@key{LWR@hyperref}{runbordercolor}[]{}
72 \define@key{LWR@hyperref}{pagecolor}[]{}
73 \define@key{LWR@hyperref}{baseurl}[]{}
74 \define@key{LWR@hyperref}{linkfileprefix}[]{}
75 \define@key{LWR@hyperref}{pdfpagetransition}[]{}
76 \define@key{LWR@hyperref}{pdfpageduration}[]{}

```

```
77 \define@key{LWR@hyperref}{pdfpagehidden}[]{}
78 \define@key{LWR@hyperref}{pagebordercolor}[]{}
79 \define@key{LWR@hyperref}{allbordercolors}[]{}
80 \define@key{LWR@hyperref}{pdfhighlight}[]{}
81 \define@key{LWR@hyperref}{pdfborder}[]{}
82 \define@key{LWR@hyperref}{pdfborderstyle}[]{}
83 \define@key{LWR@hyperref}{pdfprintpagerange}[]{}
84 \define@key{LWR@hyperref}{pdfusetitle}[]{}
85 \define@key{LWR@hyperref}{pdftitle}[]{}
86 \define@key{LWR@hyperref}{pdfauthor}[]{}
87 \define@key{LWR@hyperref}{pdfproducer}[]{}
88 \define@key{LWR@hyperref}{pdfcreator}[]{}
89 \define@key{LWR@hyperref}{addtopdfcreator}[]{}
90 \define@key{LWR@hyperref}{pdfcreationdate}[]{}
91 \define@key{LWR@hyperref}{pdfmoddate}[]{}
92 \define@key{LWR@hyperref}{pdfsubject}[]{}
93 \define@key{LWR@hyperref}{pdfkeywords}[]{}
94 \define@key{LWR@hyperref}{pdftrapped}[]{}
95 \define@key{LWR@hyperref}{pdfinfo}[]{}
96 \define@key{LWR@hyperref}{pdfview}[]{}
97 \define@key{LWR@hyperref}{pdflinkmargin}[]{}
98 \define@key{LWR@hyperref}{pdfstartpage}[]{}
99 \define@key{LWR@hyperref}{pdfstartview}[]{}
100 \define@key{LWR@hyperref}{pdfremotestartview}[]{}
101 \define@key{LWR@hyperref}{pdfpagescrop}[]{}
102 \define@key{LWR@hyperref}{pdftoolbar}[]{}
103 \define@key{LWR@hyperref}{pdfmenubar}[]{}
104 \define@key{LWR@hyperref}{pdfwindowui}[]{}
105 \define@key{LWR@hyperref}{pdffitwindow}[]{}
106 \define@key{LWR@hyperref}{pdfcenterwindow}[]{}
107 \define@key{LWR@hyperref}{pdfdisplaydoctitle}[]{}
108 \define@key{LWR@hyperref}{pdfa}[]{}
109 \define@key{LWR@hyperref}{pdfnewwindow}[]{}
110 \define@key{LWR@hyperref}{pdflang}[]{}
111 \define@key{LWR@hyperref}{pdfpagelabels}[]{}
112 \define@key{LWR@hyperref}{pdfescapeform}[]{}
113 \define@key{LWR@hyperref}{english}[]{}
114 \define@key{LWR@hyperref}{UKenglish}[]{}
115 \define@key{LWR@hyperref}{british}[]{}
116 \define@key{LWR@hyperref}{USenglish}[]{}
117 \define@key{LWR@hyperref}{american}[]{}
118 \define@key{LWR@hyperref}{german}[]{}
119 \define@key{LWR@hyperref}{austrian}[]{}
120 \define@key{LWR@hyperref}{ngerman}[]{}
121 \define@key{LWR@hyperref}{naustrian}[]{}
122 \define@key{LWR@hyperref}{russian}[]{}
123 \define@key{LWR@hyperref}{brazil}[]{}
124 \define@key{LWR@hyperref}{brazilian}[]{}
125 \define@key{LWR@hyperref}{portuguese}[]{}
126 \define@key{LWR@hyperref}{spanish}[]{}
127 \define@key{LWR@hyperref}{catalan}[]{}
128 \define@key{LWR@hyperref}{afrikaans}[]{}
129 \define@key{LWR@hyperref}{french}[]{}
130 \define@key{LWR@hyperref}{frenchb}[]{}
131 \define@key{LWR@hyperref}{francais}[]{}

```



```
132 \define@key{LWR@hyperref}{acadian}[]{}
133 \define@key{LWR@hyperref}{canadien}[]{}
134 \define@key{LWR@hyperref}{italian}[]{}
135 \define@key{LWR@hyperref}{magyar}[]{}
136 \define@key{LWR@hyperref}{hungarian}[]{}
137 \define@key{LWR@hyperref}{greek}[]{}
138 \define@key{LWR@hyperref}{dutch}[]{}
139 \define@key{LWR@hyperref}{tex4ht}[]{}
140 \define@key{LWR@hyperref}{pdftex}[]{}
141 \define@key{LWR@hyperref}{luatex}[]{}
142 \define@key{LWR@hyperref}{nativepdf}[]{}
143 \define@key{LWR@hyperref}{dvipdfm}[]{}
144 \define@key{LWR@hyperref}{dvipdfmx}[]{}
145 \define@key{LWR@hyperref}{xetex}[]{}
146 \define@key{LWR@hyperref}{pdfmark}[]{}
147 \define@key{LWR@hyperref}{dvips}[]{}
148 \define@key{LWR@hyperref}{hypertex}[]{}
149 \define@key{LWR@hyperref}{vtex}[]{}
150 \define@key{LWR@hyperref}{vtexpdfmark}[]{}
151 \define@key{LWR@hyperref}{dviwindo}[]{}
152 \define@key{LWR@hyperref}{dvipsone}[]{}
153 \define@key{LWR@hyperref}{textures}[]{}
154 \define@key{LWR@hyperref}{latex2html}[]{}
155 \define@key{LWR@hyperref}{ps2pdf}[]{}
156 \define@key{LWR@hyperref}{vietnamese}[]{}
157 \define@key{LWR@hyperref}{vietnam}[]{}
158 \define@key{LWR@hyperref}{arabic}[]{}
159 \define@key{LWR@hyperref}{hidelinks}[]{}
160 \define@key{LWR@hyperref}{draft}[]{}
161 \define@key{LWR@hyperref}{nolinks}[]{}
162 \define@key{LWR@hyperref}{final}[]{}
163 \define@key{LWR@hyperref}{pdfa}[]{}
164 \define@key{LWR@hyperref}{pdfversion}[]{}
165 \define@key{LWR@hyperref}{typexml}[]{}
166 \define@key{LWR@hyperref}{tex4ht}[]{}
167 \define@key{LWR@hyperref}{pdftex}[]{}
168 \define@key{LWR@hyperref}{nativepdf}[]{}
169 \define@key{LWR@hyperref}{dvipdfm}[]{}
170 \define@key{LWR@hyperref}{dvipdfmx}[]{}
171 \define@key{LWR@hyperref}{dvipdfmx-outline-open}[]{}
172 \define@key{LWR@hyperref}{pdfmark}[]{}
173 \define@key{LWR@hyperref}{dvips}[]{}
174 \define@key{LWR@hyperref}{hypertex}[]{}
175 \define@key{LWR@hyperref}{vtex}[]{}
176 \define@key{LWR@hyperref}{vtexpdfmark}[]{}
177 \define@key{LWR@hyperref}{dviwindo}[]{}
178 \define@key{LWR@hyperref}{dvipsone}[]{}
179 \define@key{LWR@hyperref}{textures}[]{}
180 \define@key{LWR@hyperref}{latex2html}[]{}
181 \define@key{LWR@hyperref}{ps2pdf}[]{}
182 \define@key{LWR@hyperref}{xetex}[]{}
183 \define@key{LWR@hyperref}{driverfallback}[]{}
184 \define@key{LWR@hyperref}{customdriver}[]{}
185 \define@key{LWR@hyperref}{pdfversion}[]{}
186 \define@key{LWR@hyperref}{bookmarks}[]{}

```

```

187 \define@key{LWR@hyperref}{ocgcolorlinks}[]{}
188 \define@key{LWR@hyperref}{colorlinks}[]{}
189 \define@key{LWR@hyperref}{frenchlinks}[]{}
190 \define@key{LWR@hyperref}{backref}[]{}
191 \define@key{LWR@hyperref}{pagebackref}[]{}
192 \define@key{LWR@hyperref}{destlabel}[]{}
193 \define@key{LWR@hyperref}{pdfpagescrop}[]{}
194 \define@key{LWR@hyperref}{pdfpagemode}[]{}
195 \define@key{LWR@hyperref}{pdfnonfullscreenpagemode}[]{}
196 \define@key{LWR@hyperref}{pdfdirection}[]{}
197 \define@key{LWR@hyperref}{pdfviewarea}[]{}
198 \define@key{LWR@hyperref}{pdfviewclip}[]{}
199 \define@key{LWR@hyperref}{pdfprintarea}[]{}
200 \define@key{LWR@hyperref}{pdfprintclip}[]{}
201 \define@key{LWR@hyperref}{pdfprintsclaling}[]{}
202 \define@key{LWR@hyperref}{pdfduplex}[]{}
203 \define@key{LWR@hyperref}{pdfpicktraybypdfsize}[]{}
204 \define@key{LWR@hyperref}{pdfprintpagerange}[]{}
205 \define@key{LWR@hyperref}{pdfnumcopies}[]{}
206 \define@key{LWR@hyperref}{pdfstartview}[]{}
207 \define@key{LWR@hyperref}{pdfstartpage}[]{}
208 \define@key{LWR@hyperref}{pdftoolbar}[]{}
209 \define@key{LWR@hyperref}{pdfmenubar}[]{}
210 \define@key{LWR@hyperref}{pdfwindowui}[]{}
211 \define@key{LWR@hyperref}{pdffitwindow}[]{}
212 \define@key{LWR@hyperref}{pdfcenterwindow}[]{}
213 \define@key{LWR@hyperref}{pdfdisplaydoctitle}[]{}
214 \define@key{LWR@hyperref}{pdfpagelayout}[]{}
215 \define@key{LWR@hyperref}{pdflang}[]{}
216 \define@key{LWR@hyperref}{baseurl}[]{}
217 \define@key{LWR@hyperref}{pdfusetitle}[]{}
218 \define@key{LWR@hyperref}{pdfpagelabels}[]{}
219 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
220 \define@key{LWR@hyperref}{hyperfigures}[]{}
221 \define@key{LWR@hyperref}{hyperindex}[]{}
222 \define@key{LWR@hyperref}{encap}[]{}
223 \define@key{LWR@hyperref}{linkcolor}[]{}
224 \define@key{LWR@hyperref}{anchorcolor}[]{}
225 \define@key{LWR@hyperref}{citecolor}[]{}
226 \define@key{LWR@hyperref}{filecolor}[]{}
227 \define@key{LWR@hyperref}{urlcolor}[]{}
228 \define@key{LWR@hyperref}{menucolor}[]{}
229 \define@key{LWR@hyperref}{runcolor}[]{}
230 \define@key{LWR@hyperref}{allcolors}[]{}
231
232 \DeclareStringOption[false]{backref}[section]
233
234 \DeclareBoolOption{pagebackref}
235
236 \DeclareDefaultOption{}
237
238 \ProcessKeyvalOptions*\relax

```

Maybe load **backref**:

```

239 \ifdefstring{\LWR@hyperref@backref}{section}
240 {\RequirePackage{backref}}
241 {}
242
243 \ifdefstring{\LWR@hyperref@backref}{slide}
244 {\RequirePackage{backref}}
245 {}
246
247 \ifdefstring{\LWR@hyperref@backref}{page}
248 {\RequirePackage{backref}}
249 {}
250
251 \ifLWR@hyperref@pagebackref
252 \RequirePackage{backref}
253 \fi

254 \LetLtxMacro\href\LWR@href
255 \LetLtxMacro\nolinkurl\LWR@nolinkurl
256 \LetLtxMacro\url\LWR@url
257 \LetLtxMacro\phantomsection\LWR@phantomsection

258 \newcommand*{\hyperbaseurl}[1]{}

```

`\hyperimage`     $\{\langle URL \rangle\} \{\langle alt \text{ text} \rangle\}$

Insert an image with alt text:

```

259 \NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
260 \LWR@ensuredoingapar%
261 \def\LWR@templink{#1}%
262 \@onelevel@sanitize\LWR@templink%
263 \LWR@htmltag{%
264 img src=\textquotedbl\LWR@templink\textquotedbl\ %
265 alt=\textquotedbl#2\textquotedbl\ %
266 class=\textquotedbl{}\hyperimage\textquotedbl%
267 }%
268 \LWR@ensuredoingapar%
269 \endgroup%
270 }
271
272 \newrobustcmd*{\hyperimage}{%
273 \begingroup%
274 \LWR@linkcatcodes%
275 \LWR@hyperimageb%
276 }
277

```

`\hyperdef`     $\{\langle 1: category \rangle\} \{\langle 2: name \rangle\} \{\langle 3: text \rangle\}$

Creates an HTML anchor to category.name with the given text.

```

278 \NewDocumentCommand{\LWR@hyperdefb}{m m +m}{%
279 \LWR@ensuredoingapar%
280 \LWR@label@createtag{#1.#2}%
281 #3%

```

```

282 \endgroup%
283 }
284
285 \newcommand*\hyperdef}{%
286 \begingroup%
287 \LWR@linkcatcodes%
288 \LWR@hyperdefb%
289 }
290

```

`\LWR@hyperrefb`     $\{\langle 1: URL \rangle\} \{\langle 2: category \rangle\} \{\langle 3: name \rangle\} \{\langle 4: text \rangle\}$

Creates an HTML link to URL#category.name with the given text.

To avoid nested links, `\ref` is temporarily redefined to the print version.

```

291 \newcommand{\LWR@hyperreffinish}[1]{%
292 \begingroup%
293 \RenewDocumentCommand{\ref}{s m}{\LWR@print@ref{##2}}%
294 #1%
295 \endgroup%
296 \LWR@htmltag{/a}%
297 }
298
299 \newcommand*\LWR@hyperrefbb[3]{%
300 \LWR@htmltag{%
301 a href=\textquotedbl%
302 \detokenize\expandafter{#1}\LWR@hashmark%
303 \detokenize\expandafter{#2}.\detokenize\expandafter{#3}%
304 \textquotedbl%
305 \LWR@addlinktitle%
306 }%
307 \endgroup%
308 \LWR@hyperreffinish%
309 }
310
311 \newrobustcmd*\LWR@hyperrefb}{%
312 \begingroup%
313 \LWR@linkcatcodes%
314 \LWR@hyperrefbb%
315 }

```

`\LWR@hyperrefc`     $[\langle label \rangle] \{\langle text \rangle\}$

Creates text as an HTML link to the  $\LaTeX$  label.

```

316
317 \NewDocumentCommand{\LWR@hyperrefcb}{0{label}}{%
318 \LWR@startref{#1}%
319 \endgroup%
320 \LWR@hyperreffinish%
321 }
322
323 \newcommand*\LWR@hyperrefc}{%
324 \begingroup%
325 \LWR@linkcatcodes%
326 \LWR@hyperrefcb%

```

327 }

`\hyperref`     $\{\langle 1: URL \rangle\} \{\langle 2: category \rangle\} \{\langle 3: name \rangle\} \{\langle 4: text \rangle\}$     — or —  
 $[\langle 1: label \rangle] \{\langle 2: text \rangle\}$

```
328 \DeclareRobustCommand*\hyperref{%
329 \LWR@ensuredoingapar%
330 \ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%
331 }
```

`\hypertarget`     $\{\langle name \rangle\} \{\langle text \rangle\}$

Creates an anchor to name with the given text.

```
332 \NewDocumentCommand{\LWR@hypertargetb}{m +m}{%
333 \label{\LWR-ht-#1}%
334 #2%
335 \endgroup%
336 }
337
338 \newcommand*\hypertarget{%
339 \begingroup%
340 \LWR@linkcatcodes%
341 \LWR@hypertargetb%
342 }
```

`\hyperlink`     $\{\langle name \rangle\} \{\langle text \rangle\}$

Creates a link to the anchor created by `hypertarget`, with the given link text.

Declared because also defined by `memoir`.

```
343 \DeclareDocumentCommand{\LWR@hyperlinkb}{m}{%
344 \LWR@hyperrefcb[\LWR-ht-#1]%
345 }
346
347 \DeclareDocumentCommand{\hyperlink}{s m}{%
348 \LWR@ensuredoingapar%
349 \begingroup%
350 \LWR@linkcatcodes%
351 \LWR@hyperlinkb%
352 }
```

`\autoref`     $* \{\langle label \rangle\}$

For HTML, `\cleveref` is used instead.

```
353 \NewDocumentCommand{\autoref}{s m}{%
354 \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
355 }
```

`\autopageref`     $\{\langle label \rangle\}$

For HTML, `\cleveref` is used instead.

```
356 \NewDocumentCommand{\autopageref}{s m}{%
357 \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
```

358 }

\pdfstringdef    {<macroname>} {<TeXstring>}

359 \newcommand{\pdfstringdef}[2]{}

\pdfbookmark    [<level>] {<text>} {<name>}

360 \newcommand{\pdfbookmark}[3][{}]

\currentpdfbookmark    {<text>} {<name>}

361 \newcommand{\currentpdfbookmark}[2]{}

\subpdfbookmark    {<text>} {<name>}

362 \newcommand{\subpdfbookmark}[2]{}

\belowpdfbookmark    {<text>} {<name>}

363 \newcommand{\belowpdfbookmark}[2]{}

\texorpdfstring    {<TeXstring>} {<PDFstring>}

364 \let\texorpdfstring\relax

365 \newcommand{\texorpdfstring}[2]{#1}

{<commands>}

\pdfstringdefDisableCommands

366 \newcommand{\pdfstringdefDisableCommands}[1]{}

\hypercalcbp    {<dimen>}    From hyperref.

367 \def\hypercalcbp#1{%

368    \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax

369 }%

\Acrobatmenu    {<menuoption>} {<text>}

370 \newcommand{\Acrobatmenu}[2]{}

\TextField    [<parameters>] {<label>}

371 \DeclareRobustCommand{\TextField}[2][{}]

\CheckBox    [<parameters>] {<label>}

372 \DeclareRobustCommand{\CheckBox}[2][{}]

\ChoiceMenu    [<parameters>] {<label>} {<choices>}

373 \DeclareRobustCommand{\ChoiceMenu}[3][{}]

`\PushButton`    [ $\langle parameters \rangle$ ] { $\langle label \rangle$ }  
 374 \DeclareRobustCommand{\PushButton}[2][]{}

`\Submit`    [ $\langle parameters \rangle$ ] { $\langle label \rangle$ }  
 375 \DeclareRobustCommand{\Submit}[2][]{}

`\Reset`    [ $\langle parameters \rangle$ ] { $\langle label \rangle$ }  
 376 \DeclareRobustCommand{\Reset}[2][]{}

`\Gauge`    [ $\langle parameters \rangle$ ] { $\langle label \rangle$ }  
 377 \DeclareRobustCommand{\Gauge}[2][]{}

`\LayoutTextField`    { $\langle label \rangle$ } { $\langle field \rangle$ }  
 378 \newcommand\*{\LayoutTextField}[2]{}

`\LayoutChoiceField`    { $\langle label \rangle$ } { $\langle field \rangle$ }  
 379 \newcommand\*{\LayoutChoiceField}[2]{}

`\LayoutCheckField`    { $\langle label \rangle$ } { $\langle field \rangle$ }  
 380 \newcommand\*{\LayoutCheckField}[2]{}

`\MakeRadioField`    { $\langle width \rangle$ } { $\langle height \rangle$ }  
 381 \newcommand\*{\MakeRadioField}[2]{}

`\MakeCheckField`    { $\langle width \rangle$ } { $\langle height \rangle$ }  
 382 \newcommand\*{\MakeCheckField}[2]{}

`\MakeTextField`    { $\langle width \rangle$ } { $\langle height \rangle$ }  
 383 \newcommand\*{\MakeTextField}[2]{}

`\MakeChoiceField`    { $\langle width \rangle$ } { $\langle height \rangle$ }  
 384 \newcommand\*{\MakeChoiceField}[2]{}

`\MakeFieldButton`    { $\langle text \rangle$ }  
 385 \newcommand{\MakeFieldButton}[1]{}

## § 324 Package **hyperxmp**

Pkg hyperxmp hyperxmp is ignored.

for HTML output: Discard all options for lwarp-hyperxmp:

```
1 \LWR@ProvidesPackageDrop{hyperxmp}[2018/11/27]
```

---

File 218 **lwarp-hyphenat.sty**

## § 325 Package **hyphenat**

Pkg hyphenat hyphenat is emulated during HTML output, while the print-mode version is used inside a lateximage.

for HTML output: 1 \LWR@ProvidesPackagePass{hyphenat}[2009/09/02]

```
2 \LetLtxMacro\LWRHYNAT@origtextnhtt\textnhtt
3 \LetLtxMacro\LWRHYNAT@orignhttfamily\nhttfamily
4 \LetLtxMacro\LWRHYNAT@orignohyphens\nohyphens
5 \LetLtxMacro\LWRHYNAT@origbshyp\bshyp
6 \LetLtxMacro\LWRHYNAT@origfshyp\fshyp
7 \LetLtxMacro\LWRHYNAT@origdothyp\dothyp
8 \LetLtxMacro\LWRHYNAT@origcolonhyp\colonhyp
9 \LetLtxMacro\LWRHYNAT@orighyp\hyp
10
11 \LetLtxMacro\textnhtt\texttt
12 \LetLtxMacro\nhttfamily\ttfamily
13
14 \renewcommand{\nohyphens}[1]{#1}
15 \renewrobustcmd{\bshyp}{%
16 \ifmmode\backslash\else\textbackslash\fi%
17 }
18 \renewrobustcmd{\fshyp}{/}
19 \renewrobustcmd{\dothyp}{.}
20 \renewrobustcmd{\colonhyp}{:}
21 \renewrobustcmd{\hyp}{-}
22
23 \appto\LWR@restoreorigformatting{%
24 \LetLtxMacro\textnhtt\LWRHYNAT@origtextnhtt%
25 \LetLtxMacro\nhttfamily\LWRHYNAT@orignhttfamily%
26 \LetLtxMacro\nohyphens\LWRHYNAT@orignohyphens%
27 \LetLtxMacro\bshyp\LWRHYNAT@origbshyp%
28 \LetLtxMacro\fshyp\LWRHYNAT@origfshyp%
29 \LetLtxMacro\dothyp\LWRHYNAT@origdothyp%
30 \LetLtxMacro\colonhyp\LWRHYNAT@origcolonhyp%
31 \LetLtxMacro\hyp\LWRHYNAT@orighyp%
32 }
```

---

File 219 **lwarp-idxlayout.sty**



## § 326 Package **idxlayout**

(Emulates or patches code by THOMAS TITZ.)

Pkg idxlayout **idxlayout** is emulated.

for HTML output: Discard all options for **lwarp-idxlayout**:

```

1 \LWR@ProvidesPackageDrop{idxlayout}[2012/03/30]

2 \newcommand{\LWR@indexprenote}{}

\AtBeginDocument to help with package load order.

3 \AtBeginDocument{
4 \preto\printindex{
5
6 \LWR@maybe@orignewpage
7 \LWR@startpars
8
9 \LWR@indexprenote
10
11 }
12 }

13 \newcommand{\setindexprenote}[1]{\renewcommand{\LWR@indexprenote}{#1}}
14 \newcommand*{\noindexprenote}{\renewcommand{\LWR@indexprenote}{} }
15
16 \newcommand{idxlayout}[1]{}
17 \newcommand*{\indexfont}{}
18 \newcommand*{\indexjustific}{}
19 \newcommand*{\indexsubsdelim}{}
20 \newcommand*{\indexstheadcase}{}

```

---

## File 220 **lwarp-ifoddpag.e.sty**

## § 327 Package **ifoddpag.e**

(Emulates or patches code by MARTIN SCHARRER.)

Pkg ifoddpag.e **ifoddpag.e** is emulated.

for HTML output: Discard all options for **lwarp-ifoddpag.e**:

```

1 \LWR@ProvidesPackageDrop{ifoddpag.e}[2016/04/23]

2 \newif\ifoddpag.e
3
4 \newif\ifoddpag.eoroneside
5
6 \DeclareRobustCommand{\checkoddpag.e}{\oddpag.e true \oddpag.e oroneside true}
7

```

---

```

8 \def\oddpag@page{1}
9
10 \def\@ifoddpag{%
11 \expandafter\@firstoftwo
12 }
13
14 \def\@ifoddpagoroneside{%
15 \expandafter\@firstoftwo
16 }

```

---

File 221 **lwarp-imakeidx.sty**

§ 328     Package **imakeidx**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg   imakeidx   imakeidx is patched for use by lwarp.

**letter headings**   When using *makeindex*, to match the print and HTML output's display of index letter headings, specify the `lwarp.ist` style:

```
\makeindex[options={-s lwarp.ist}]
```

(For HTML the `lwarp.ist` style is used automatically, which displays letter headings. When using *xindy* the default style also displays letter headings.)

**index setup**   See section 8.6.18 for how to setup *lwarpmk* to process the indexes with imakeidx, both with and without shell escape.

**for HTML output:**   1 \LWR@ProvidesPackagePass{imakeidx}[2016/10/15]

Use the new HTML suffix:

```

2 \catcode'_ =12%
3 \define@key{imki}{name}{\def\imki@name{#1_html}}
4 \catcode'_ =8%

```

`\printindex`   The HTML version of `\printindex`:

```

5 \catcode'_ =12%
6
7 \renewcommand*\printindex[1][\imki@jobname]{%
8 \LWR@maybe@orignewpage%
9 \LWR@startpars%
10 \ifstrequal{#1}{\imki@jobname}{%
11 \@ifundefined{#1_idxfile}{%
12 \imki@error{#1}%
13 }{%
14 \imki@putindex{#1}%
15 }%
16 }{%
17 \@ifundefined{#1_html_idxfile}{\imki@error{#1_html}}{\imki@putindex{#1_html}}%
18 }%

```

```

19 }
20
21 \catcode'_ =8%

```

\@index    The HTML version of \@index:

```

22 \catcode'_ =12%
23
24 \def\@index[#1]{%
25 \ifstrequal{#1}{\imki@jobname}%
26 {%
27 \@ifundefined{#1@idxfile}%
28 {%
29 \PackageWarning{lwarp-imakeidx}{Undefined index file '#1'}%
30 \begingroup
31 \@sanitize
32 \imki@nowrindex%
33 }%
34 {%
35 \edef\@idxfile{#1}%
36 \begingroup
37 \@sanitize
38 \@wrindex\@idxfile%
39 }%
40 }%
41 {%
42 \@ifundefined{#1_html@idxfile}%
43 {%
44 \PackageWarning{lwarp-imakeidx}{Undefined index file '#1_html'}%
45 \begingroup
46 \@sanitize
47 \imki@nowrindex%
48 }%
49 {%
50 \edef\@idxfile{#1_html}%
51 \begingroup
52 \@sanitize
53 \@wrindex\@idxfile%
54 }%
55 }%
56 }
57
58 \catcode'_ =8%

```

\item

\subitem

\subsubitem    HTML versions of \item, etc.:

```

59 \appto\theindex{%
60 \let\item\LWR@indexitem%
61 \let\subitem\LWR@indexsubitem%
62 \let\subsubitem\LWR@indexsubsubitem%
63 }

```

`\imki@wrindexentrysplit`     $\{\langle file \rangle\} \{\langle entry \rangle\} \{\langle page \rangle\}$

`\imki@wrindexentryunique`     $\{\langle file \rangle\} \{\langle entry \rangle\} \{\langle page \rangle\}$

While writing index entries, adds an HTML label, and writes the label's index instead of the page number:

```

64 \renewcommand\imki@wrindexentrysplit[3]{%
65 \addtocounter{LWR@autoindex}{1}%
66 \label{LWRindex-\arabic{LWR@autoindex}}%
67 \expandafter\protected@write\csname#1@idxfile\endcsname{%
68 {\string\indexentry{#2}\arabic{LWR@autoindex}}}%
69 }
70
71 \renewcommand\imki@wrindexentryunique[3]{%
72 \addtocounter{LWR@autoindex}{1}%
73 \label{LWRindex-\arabic{LWR@autoindex}}%
74 \protected@write\@indexfile{%
75 {\string\indexentry[#1]{#2}\arabic{LWR@autoindex}}}%
76 }
77
78 \def\imki@wrindexsplit#1#2{%
79 \imki@wrindexentrysplit{#1}{#2}{\thepage}%
80 \endgroup\imki@showidxentry{#1}{#2}%
81 \@esphack%
82 }
83
84 \def\imki@wrindexunique#1#2{%
85 \imki@wrindexentryunique{#1}{#2}{\thepage}%
86 \endgroup\imki@showidxentry{#1}{#2}%
87 \@esphack%
88 }
89

```

`\LWR@imki@setxdydefopts`

Sets the *xindy* HTML options, ignoring the user's settings.

```

90 \newcommand*\LWR@imki@setxdydefopts{%
91 \edef\imki@options{ \space %
92 -M \space \LWR@xindyStyle\space %
93 -L \space \LWR@xindyLanguage\space %
94 -C \space \LWR@xindyCodepage\space %
95 }%
96 }

```

`\LWR@imki@setdefopts`     $\{\langle user options \rangle\}$

Sets the HTML options, added to the user's settings, depending on whether *makeindex* or *xindy* are used.

For *makeindex*, the user's choice is ignored, and only the *lwarp* version is used. (Only one style at a time is possible.)

For *xindy*, multiple modules may be specified, and the *lwarp* version is appended.

```

97 \newcommand*\LWR@imki@setdefopts[1]{%
98 \ifblank{#1}%
99 \edef\imki@options{\space -s \space \LWR@makeindexStyle \space}%

```

```

100 \ifdefstring{\imki@progdefault}{xindy}{\LWR@imki@setxdydefopts}{}%
101 \ifdefstring{\imki@progdefault}{texindy}{\LWR@imki@setxdydefopts}{}%
102 \ifdefstring{\imki@progdefault}{trueindy}{\LWR@imki@setxdydefopts}{}%
103 }{%
104 \edef\imki@options{\space #1 \space}%
105 }%
106 }

```

`\imki@makeindex` Use the new HTML options:

```

107 \xpatchcmd{\imki@makeindex}
108 {\let\imki@options\space}
109 {\LWR@imki@setdefopts{}}%
110 {}
111 {\LWR@patcherror{imakeidx}{makeindex}}

```

Use the new HTML options.

```

112 \define@key{imki}{options}{\LWR@imki@setdefopts{#1}}

```

`\imki@resetdefaults` Use the new HTML options:

```

113 \xpatchcmd{\imki@resetdefaults}
114 {\def\imki@options{ }}
115 {\LWR@imki@setdefopts{}}
116 {}
117 {\LWR@patcherror{imakeidx}{resetdefaults}}

```

`theindex` was already defined `\AtBeginDocument` by the `lwarp` core, so it must be redefined here similarly, but patched for `imakeidx`:

Env `theindex`

```

118 \AtBeginDocument{
119 \renewenvironment*{theindex}{%
120 \imki@maybeaddtotoc
121 \imki@indexlevel{\indexname}
122 \let\item\LWR@indexitem%
123 \let\subitem\LWR@indexsubitem%
124 \let\subsubitem\LWR@indexsubsubitem%
125 }{}
126 }% AtBeginDocument

```

Update to the new defaults:

```

127 \imki@resetdefaults

```

Update to the new patches:

`\AtBeginDocument` is because `\@wrindex` is previously defined as `\AtBeginDocument` in the `lwarp` core.

```

128 \ifimki@splitindex
129 \let\imki@startidx\imki@startidxunique
130 \AtBeginDocument{\let\@wrindex\imki@wrindexunique}
131 \let\imki@putindex\imki@putindexunique

```

```

132 \let\imki@wrindexentry\imki@wrindexentryunique
133 \let\imki@startidxsplit\@undefined
134 \let\imki@wrindexsplit\@undefined
135 \let\imki@putindexsplit\@undefined
136 \else
137 \let\imki@startidx\imki@startidxsplit
138 \AtBeginDocument{\let\@wrindex\imki@wrindexsplit}
139 \let\imki@putindex\imki@putindexsplit
140 \let\imki@wrindexentry\imki@wrindexentrysplit
141 \let\imki@startidxunique\@undefined
142 \let\imki@wrindexunique\@undefined
143 \let\imki@putindexunique\@undefined
144 \fi

```

---

File 222 **lwarp-impnatty.sty**

§ 329 Package **impnatty**

Pkg impnatty impnatty is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{impnatty}[2019/03/04]

---

File 223 **lwarp-index.sty**

§ 330 Package **index**

*(Emulates or patches code by DAVID M. JONES.)*

Pkg index index is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{index}[2004/01/20]

Use \theLWR@autoindex instead of \thepage. \@tempwattrue is used to force an immediate write to the index file instead of waiting until the end of the page.

```

2 \xpatchcmd{\newindex}
3 {\x@newindex[thepage]}
4 {%
5 \@tempwattrue%
6 \x@newindex[theLWR@autoindex]%
7 }
8 {}
9 {\LWR@patcherror{index}{newindex}}
10
11 \xpatchcmd{\renewindex}
12 {\x@renewindex[thepage]}
13 {%
14 \@tempwattrue%
15 \x@renewindex[theLWR@autoindex]%
16 }

```

```

17 {}
18 {\LWR@patcherror{index}{renewindex}}

```

Patched to set a new autoindex:

```

19 \xpatchcmd{\@wrindex}
20 {\begingroup}
21 {%
22 \addtocounter{LWR@autoindex}{1}%
23 \label{LWRindex-\arabic{LWR@autoindex}}%
24 \begingroup%
25 }
26 {}
27 {\LWR@patcherror{index}{@wrindex}}

```

\AtBeginDocument **lwarp** core \lets \@wrindex to \LWR@wrindex. Since the **index** package has been loaded, \let to its version instead:

```

28 \let\LWR@index@wrindex\@wrindex
29
30 \AtBeginDocument{
31 \let\@wrindex\LWR@index@wrindex
32 }

```

Modified to add \index@prologue:

```

33 \AtBeginDocument{
34 \renewenvironment*{theindex}{%
35 \LWR@indexsection{\indexname}%
36 \ifx\index@prologue\@empty\else
37 \index@prologue
38 \bigskip
39 \fi
40 \let\item\LWR@indexitem%
41 \let\subitem\LWR@indexsubitem%
42 \let\subsubitem\LWR@indexsubsubitem%
43 }{}
44 }% AtBeginDocument

```

Disabled:

```

45 \def\@showidx#1{}
46 \let\@texttop\relax
47 \renewcommand*{\raggedbottom}{}
48 \renewcommand*{\flushbottom}{}
49 \renewcommand*{\markboth}[2]{}
50 \renewcommand*{\markright}[1]{}

```

---

File 224 **lwarp-inputtrc.sty**

§ 331 Package **inputtrc**

(Emulates or patches code by UWE LÜCK.)

Pkg inputtrc inputtrc is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass[inputtrc][2012/10/10]

Patched to remove extraneous spaces, which sometimes showed up in logos inside a lateximage.

```

2 \renewcommand*{\IT@prim@input}[1]{%
3 \typeout{\IT@indent\IT@currfile INPUTTING #1}%
4 % ... TODO: option to write to '.log' only.
5 \xdef\IT@filestack{\IT@currfile\IT@filestack}%
6 \xdef\IT@currfile{#1}%
7 \expandafter \gdef\expandafter \IT@indent\expandafter{%
8 \IT@indent \IT@indent@unit}% lwarp
9 \@input#1% lwarp
10 \expandafter\IT@pop@indent\IT@indent \@nil% lwarp
11 \expandafter\IT@pop@file \IT@filestack\@nil% lwarp
12 \IT@maybe@returnmessage% v0.2 lwarp
13 }
```

---

File 225 **lwarp-intopdf.sty**

§ 332 Package **intopdf**

Pkg intopdf intopdf is emulated.

The filespec, MIME type, and description are ignored for now.

for HTML output: 1 \LWR@ProvidesPackageDrop[intopdf][2019/05/28]

```

2 \NewDocumentCommand{\attachandlink}{o m o m m}{%
3 \LWR@href{#2}{#5}%
4 }
```

---

File 226 **lwarp-isomath.sty**

§ 333 Package **isomath**

(Emulates or patches code by GÜNTER MILDE.)

Pkg isomath isomath is used as-is for SVG math, and emulated for MATHJAX.

 **MATHJAX sans** MATHJAX does not provide a sans math font, so sans is typeset as roman.

for HTML output: 1 \LWR@ProvidesPackagePass[isomath][2012/09/04]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\mathbfit\boldsymbol}
4 \CustomizeMathJax{\let\mathsfbfit\mathbfit}% not sans
5 \CustomizeMathJax{\let\mathsfhit\mathhit}% not sans
```



---

```

6 \CustomizeMathJax{\let\vectorsym\mathbfit}
7 \CustomizeMathJax{\let\matrixsym\mathbfit}
8 \CustomizeMathJax{\let\tensorsym\mathsfbfit}
9 \CustomizeMathJax{\let\mathboldsans\mathsfbfit}
10 \CustomizeMathJax{\let\mathbold\mathbfit}
11 \CustomizeMathJax{\let\mathsans\mathrm}% not sans
12 \end{warpMathJax}

```

---

File 227 **lwarp-isotope.sty**

## § 334 Package **isotope**

*(Emulates or patches code by HEIKO BAUKE.)*

Pkg isotope isotope is patched for use by lwarp with svg math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{isotope}[2011/08/26]

2 \newcommand{\LWR@HTML@isotope@two}[2][{}]{%
3 \renewcommand{\isotope@atomicnumber}{#1}%
4 \edef\LWR@isotope@alttag{%
5 \textbackslash(
6 \textbackslash{}isotope
7 [\isotope@nucleonnumber]%
8 [\isotope@atomicnumber]%
9 \{#2\}
10 \textbackslash)%
11 }%
12 \ifbool{mathjax}%
13 {\LWR@isotope@alttag}%
14 {% SVG
15 \m@th%
16 \LWR@subsingledollar*%
17 {% alt tag
18 \LWR@isotope@alttag%
19 }%
20 {isotope}% add'l hashing
21 {% contents
22 \settowidth\@tempdimb{%
23 \ensuremath{\scriptstyle\isotope@nucleonnumber}%
24 }%
25 \settowidth\@tempdimc{%
26 \ensuremath{\scriptstyle\isotope@atomicnumber}%
27 }%
28 \ifdim\@tempdimb<\@tempdimc\@tempdimb=\@tempdimc\fi%
29 \ensuremath{
30 {%
31 ^{\makebox[\@tempdimb][r]{%
32 \ensuremath{%
33 \scriptstyle\isotope@nucleonnumber%
34 }% ensuremath
35 }}%
36 _{\makebox[\@tempdimb][r]{%

```

---

```

37 \ensuremath{%
38 \scriptstyle\isotope@atomicnumber%
39 }% ensuremath
40 }}%
41 \isotopestyle{#2}%
42 }% ensuremath
43 }% contents
44 }% SVG
45 \endgroup%
46 }%
47 \LWR@formatted{isotope@two}
48
49 \begin{warpMathJax}
50 \CustomizeMathJax{%
51 \newcommand{\LWRisotopetwo}[2][{}]{%
52 {%
53 \vphantom{\mathrm{#2}}}%
54 {}^{\LWRisotopenucleonnumber}_{#1}%
55 \mathrm{#2}%
56 }%
57 }%
58 }
59
60 \CustomizeMathJax{%
61 \newcommand{\isotope}[1][{}]{%
62 \def\LWRisotopenucleonnumber{#1}%
63 \LWRisotopetwo%
64 }%
65 }
66 \end{warpMathJax}

```

---

File 228 **lwarp-jurabib.sty**

§ 335 Package **jurabib**

*(Emulates or patches code by JENS BERGER.)*

Pkg jurabib **jurabib** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{jurabib}[2004/01/25]
2 \renewrobustcmd{\jblangle}{\textless}
3
4 \renewrobustcmd{\jbrangle}{\textgreater}
5
6 \renewcommand*{\jb@biblaw@item}{%
7 \hspace{0.5em}%
8 $\triangleright$
9 \HTMLUnicode{25B7}% lwarp
10 \hspace{0.5em}%
11 }
12
13 \renewrobustcmd{\jbarchsig}[2]{%

```

```

14 \ifjbweareinbib
15 \settowidth{\jb@subarchitemwidth}{\jbsamesubarchindent+#1}%
16 \setlength{\jb@subarchentrywidth}{\textwidth-\jb@subarchitemwidth-4em}%
17 % \begin{tabular}{@{}p{\jb@subarchitemwidth}@{}j{\jb@subarchentrywidth}@{}}%
18 #1\ifjb@dot\unskip\unskip\unskip.\fi
19 % &
20 \quad% lwarp
21 \ifthenelse{\equal{#2}{}}{\jbarchnameformat{#2}}%
22 % \end{tabular}
23 \fi
24 }%
25
26
27 \xpatchcmd{\jb@do@post@item}
28 {\begin{tabular}{p{\jb@biblaw@item@width}j{\jb@biblaw@entry@width}}}
29 {}
30 {}
31 {\LWR@patcherror{jurabib}{jb@do@post@item 1}}
32
33 \xpatchcmd{\jb@do@post@item}
34 {\multicolumn{2}{p{\columnwidth}}{\jb@name}}
35 {\jb@name}
36 {}
37 {\LWR@patcherror{jurabib}{jb@do@post@item 2}}
38
39 \xpatchcmd{\jb@do@post@item}
40 {\jb@biblaw@item & \jb@fulltitle}
41 {\jb@biblaw@item \quad \jb@fulltitle}
42 {}
43 {\LWR@patcherror{jurabib}{jb@do@post@item 3}}
44
45 \xpatchcmd{\jb@do@post@item}
46 {\end{tabular}}
47 {}
48 {}
49 {\LWR@patcherror{jurabib}{jb@do@post@item 4}}
50
51 \xpatchcmd{\jb@do@post@item}
52 {\begin{minipage}[t]{\bibnumberwidth}}
53 {}
54 {}
55 {\LWR@patcherror{jurabib}{jb@do@post@item 5}}
56
57 \xpatchcmd{\jb@do@post@item}
58 {\end{minipage}}
59 {\quad}
60 {}
61 {\LWR@patcherror{jurabib}{jb@do@post@item 6}}

```

## § 336 Package **karnaugh-map**

(Emulates or patches code by MATTIAS JACOBSSON.)

Pkg karnaugh-map **karnaugh-map** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{karnaugh-map}[2017/02/20]

This patch is needed only because **lwarp** changes the definition of `\&`, and the original uses `\ifnum` to compare 0 with `\&`. It is hard to patch this environment, so the entire thing is redefined here, with the **lwarp** modifications identified in comments.

```

2 \RenewDocumentEnvironment{karnaugh-map}{s O{4} O{4} O{1} O{X_1X_0} O{X_3X_2} O{X_5X_4}} {%
3 \begin{group}
4 % store map size {[START]
5 \renewcommand{\@karnaughmap@var@mapsize@}{#2}%
6 \renewcommand{\@karnaughmap@var@mapsizey@}{#3}%
7 \renewcommand{\@karnaughmap@var@mapsizez@}{#4}%
8 % [END]}
9 % determinate if markings should be color or black and white
10 \IfBooleanTF{#1}{%
11 % should be black and white
12 \renewcommand{\@karnaughmap@var@bw@}{1}%
13 }{%
14 % should be color
15 \renewcommand{\@karnaughmap@var@bw@}{0}%
16 }%
17 %
18 % find matching matrix template and alignment parameters {[START]
19 \newcommand{\@karnaughmap@local@matrixtemplate@}{0}% '0' is considered as missing matrix template
20 \newcommand{\@karnaughmap@local@maprealignmentx@}{0}%
21 \newcommand{\@karnaughmap@local@maprealignmenty@}{0}%
22 \ifnum\@karnaughmap@var@mapsize@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizez@=221
23 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
24 \& 0 \& 1 \& \&
25 0 \& |(000000)| \& |(000001)| \& \&
26 1 \& |(000010)| \& |(000011)| \& \&
27 \& \& \& \&
28 }%
29 \fi
30 \ifnum\@karnaughmap@var@mapsize@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizez@=241
31 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
32 \& 0 \& 1 \& \&
33 00 \& |(000000)| \& |(000001)| \& \&
34 01 \& |(000010)| \& |(000011)| \& \&
35 11 \& |(000110)| \& |(000111)| \& \&
36 10 \& |(000100)| \& |(000101)| \& \&
37 \& \& \& \&
38 }%
39 \fi
40 \ifnum\@karnaughmap@var@mapsize@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizez@=421
41 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
42 \& 00 \& 01 \& 11 \& 10 \&
43 0 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)|
44 1 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)|

```

```

45 \& \& \& \& \&
46 }%
47 \fi
48 \ifnum\@karnaughmap@var@mapsize@x\@karnaughmap@var@mapsize@y\@karnaughmap@var@mapsize@z=441
49 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
50 \& 00 \& 01 \& 11 \& 10 \&
51 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)|
52 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)|
53 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(001110)|
54 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(001010)|
55 \& \& \& \& \&
56 }%
57 \fi
58 \ifnum\@karnaughmap@var@mapsize@x\@karnaughmap@var@mapsize@y\@karnaughmap@var@mapsize@z=442
59 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
60 \& 00 \& 01 \& 11 \& 10 \&
61 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)|
62 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)|
63 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(001110)|
64 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(001010)|
65 \& \& \& \& \&
66 }%
67 \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
68 \fi
69 \ifnum\@karnaughmap@var@mapsize@x\@karnaughmap@var@mapsize@y\@karnaughmap@var@mapsize@z=444
70 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
71 \& 00 \& 01 \& 11 \& 10 \&
72 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)|
73 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)|
74 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(001110)|
75 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(001010)|
76 \& \& \& \& \&
77 00 \& |(100000)| \& |(100001)| \& |(100011)| \& |(100010)|
78 01 \& |(100100)| \& |(100101)| \& |(100111)| \& |(100110)|
79 11 \& |(101100)| \& |(101101)| \& |(101111)| \& |(101110)|
80 10 \& |(101000)| \& |(101001)| \& |(101011)| \& |(101010)|
81 \& \& \& \& \&
82 }%
83 \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
84 \renewcommand{\@karnaughmap@local@maprealignmenty@}{-2.5}%
85 \fi
86 % [END]}
87 % test if a matrix template is found or not(aka "\@karnaughmap@local@matrixtemplate@" equals to '0')
88 \ifdefstring{\@karnaughmap@local@matrixtemplate@}{0}{% lwarp
89 % \ifnum0=\@karnaughmap@local@matrixtemplate@% original
90 % print error if no template could be found
91 \PackageError{lwarp-karnaugh-map}{%
92 Can not find a template fitting your specification
93 (\@karnaughmap@var@mapsize@x\space x \@karnaughmap@var@mapsize@y\space x
94 \@karnaughmap@var@mapsize@z)%
95 }{%
96 Existing templates have the following dimensions:
97 2x2x1, 2x4x1, 4x2x1, 4x4x1, 4x4x2, and 4x4x4.
98 }%
99 % \fi original

```

```

100 }{\relax}% lwarp
101 \begin{tikzpicture}
102 % grid
103 % for all dimensions
104 \draw[color=black, ultra thin] (0,0) grid (\@karnaughmap@var@mapsizex,\@karnaughmap@var@mapsizex);
105 % when there are 2 sub maps
106 \ifnum\@karnaughmap@var@mapsizex=2
107 \draw[color=black, ultra thin] (5,0) grid (9,4);
108 \fi
109 % when there are 4 sub maps
110 \ifnum\@karnaughmap@var@mapsizex=4
111 \draw[color=black, ultra thin] (5,0) grid (9,4);
112 \draw[color=black, ultra thin] (0,-5) grid (4,-1);
113 \draw[color=black, ultra thin] (5,-5) grid (9,-1);
114 \fi
115 % labels
116 % for all dimensions
117 \node[above] at (\@karnaughmap@var@mapsizex*0.5,\@karnaughmap@var@mapsizex*0.9) {\small{#5}};
118 \node[left] at (-0.9,\@karnaughmap@var@mapsizex*0.5) {\small{#6}};
119 % when there are 2 sub maps
120 \ifnum\@karnaughmap@var@mapsizex=2
121 \node[above] at (7,4.9) {\small{#5}};
122 % extra sub maps labels
123 \node[below] at (2,-0.1) {\small{#7$=0$}};
124 \node[below] at (7,-0.1) {\small{#7$=1$}};
125 \fi
126 % when there are 4 sub maps
127 \ifnum\@karnaughmap@var@mapsizex=4
128 \node[above] at (7,4.9) {\small{#5}};
129 \node[left] at (-0.9,-3) {\small{#6}};
130 % extra sub maps labels
131 \node[below] at (2,-0.1) {\small{#7$=00$}};
132 \node[below] at (7,-0.1) {\small{#7$=01$}};
133 \node[below] at (2,-5.1) {\small{#7$=10$}};
134 \node[below] at (7,-5.1) {\small{#7$=11$}};
135 \fi
136 % data
137 \matrix[
138 matrix of nodes,
139 ampersand replacement=\&,
140 column sep={1cm,between origins},
141 row sep={1cm,between origins},
142] at (\@karnaughmap@var@mapsizex*0.5+\@karnaughmap@local@maprealignmentx,\@karnaughmap@var@mapsizex*0.5+\@karnaughmap@local@matrixtemplatey)
143 {\@karnaughmap@local@matrixtemplate%
144 };
145 }{
146 \end{tikzpicture}
147 \endgroup
148 }

```

## § 337 Package **keyfloat**

(Emulates or patches code by BRIAN DUNN.)

**Pkg** **keyfloat** **keyfloat** is supported with a considerable amount of hacking. (It's a mashup of **lwarp**, **keyfloat**, and **tocdata**.)

 **keywrap** If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the `lw` option.)

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{keyfloat}[2019/09/23]
2
3 \@ifpackagelater{keyfloat}{2019/09/23}{\relax}{
4 \PackageError{lwarp-keyfloat}
5 {%
6 The keyfloat package is out of date.\MessageBreak
7 Update to keyfloat v2.01 2019/09/23 or later%
8 }
9 {%
10 Please update the keyfloat package. It's worth it!%
11 }
12 }
```

After **keyfloat** has loaded:

```
13 \AtBeginDocument{

14 \providecommand*\KFLT@LWR@hook@boxouter}{%
15 \renewcommand*\KFLT@LWR@hook@boxouter}{%
16 \ifbool{KFLT@keywrap}{%
17 }{%
18 \ifnumequal{\value{KFLT@keyfloatdepth}}{0}{%
19 \setlength{\linewidth}{6in}%
20 \setlength{\textwidth}{6in}%
21 \setlength{\textheight}{9in}%
22 }{%
23 }%
24 \normalcolor%
25 }

26 \LetLtxMacro\KFLT@LWR@hook@keysubfloats\KFLT@LWR@hook@boxouter
27
28 \let\KFLT@LWR@hook@keyfloatsminipage\relax
29 \let\endKFLT@LWR@hook@keyfloatsminipage\relax
30 \newenvironment{KFLT@LWR@hook@keyfloatsminipage}[1]{}{}

31 \LetLtxMacro\KFLT@LWR@hook@keyfloats\KFLT@LWR@hook@boxouter
32
33 \renewcommand*\KFLT@maybeendfloatrow{%
34 \ifnumless{\value{KFLT@thiscol}}{\value{KFLT@numcols}}%
35 }{% thiscol < numcols
36 }% >=
```

```

37 \defcounter{KFLT@thiscol}{0}%
38 }%
39 }%
40
41 \renewcommand{\KFLT@trackrows}%
42 {%

```

If are nested inside a keyfloats or a subfloat:

```

43 \ifboolexpr{%
44 test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or%
45 bool{KFLT@inkeysubfloats}%
46 }%
47 {% nested

```

Tracks row start and end:

```

48 \KFLT@maybestartfloatrow%

```

Possibly fill space between columns:

```

49 \ifnumgreater{\value{KFLT@thiscol}}{1}%
50 {%
51 \hfill%
52 }%
53 }%
54 }% nested
55 {% not nested
56 }

57 \RenewDocumentCommand{\KFLT@onefigureimage}{m}
58 {%
59 \LWR@traceinfo{KFLT@onefigureimage}%
60 % \begin{lrbox}{\KFLT@envbox}%
61 \ifthenelse{\NOT\equal{\KFLT@lw}{}}%
62 {%
63 \KFLT@frame{\includegraphics%
64 [scale=\KFLT@es,width=\KFLT@imagewidth]{#1}}%
65 }%
66 {% not linewidth
67 \ifthenelse{\dimtest{\KFLT@w}{>}{0pt}}%
68 {% width is given
69 \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
70 {% w and h
71 \KFLT@frame{\includegraphics%
72 [scale=\KFLT@es,%
73 width=\KFLT@imagewidth,height=\KFLT@h]{#1}}%
74 }% w and h
75 {% only w
76 \KFLT@frame{\includegraphics%
77 [scale=\KFLT@es,width=\KFLT@imagewidth]{#1}}%
78 }% only w
79 }% width is given
80 {% width is not given
81 \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%

```



```

82 {%
83 \KFLT@frame{\includegraphics%
84 [scale=\KFLT@es,height=\KFLT@h]{#1}}%
85 }%
86 {%
87 \KFLT@frame{\includegraphics%
88 [scale=\KFLT@es]{#1}}%
89 }%
90 }% width is not given
91 }% not linewidth
92 % \end{lrbox}%
93 % \unskip%
94 % \KFLT@findenvboxwidth%
95 % \begin{turn}{\KFLT@r}%
96 % \KFLT@frame{\usebox{\KFLT@envbox}}%
97 % \unskip%
98 % \end{turn}%
99 \LWR@traceinfo{KFLT@onefigureimage: done}%
100 }

101 \RenewDocumentEnvironment{KFLT@boxinner}{%
102 {%
103 \LWR@traceinfo{KFLT@boxinner}%
104 \LWR@stoppars%
105 \minipagefullwidth%
106 \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
107 \fminipage{\KFLT@imagewidth}%
108 }{%
109 \minipage{\KFLT@imagewidth}%
110 }%
111 }
112 {%
113 \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
114 \endfminipage%
115 }{%
116 \endminipage%
117 }%
118 \LWR@startpars%
119 \LWR@traceinfo{KFLT@boxinner: done}%
120 }

121 \newcommand*{\LWR@KFLT@settextalign}[1]{%
122 \def\LWR@KFLT@textalign{justify}%
123 \ifcsstring{KFLT@#1textalign}{\centering}%
124 {\def\LWR@KFLT@textalign{center}}%
125 {}%
126 \ifcsstring{KFLT@#1textalign}{\raggedleft}%
127 {\def\LWR@KFLT@textalign{right}}%
128 {}%
129 \ifcsstring{KFLT@#1textalign}{\raggedright}%
130 {\def\LWR@KFLT@textalign{left}}%
131 {}%
132 }
133
134 \renewcommand{\KFLT@addtext}[1]

```

135 {%

Is there text to add?

```
136 \ifcempty{KFLT@#1t}%
137 {}% no text
138 {% text to add
139 {% local
```

Add some space, then create a <div> to contain the text:

```
140 \addvspace{\smallskipamount}%
141 \LWR@KFLT@settextalign{#1}%
142 \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%
```

Set the alignment and some text parameters:

```
143 % \csuse{KFLT@#1textalign}%
144 % \footnotesize%
145 \setlength{\parskip}{1.5ex}%
146 \setlength{\parindent}{0em}%
```

Typeset the actual text:

```
147 \csuse{KFLT@#1t}%
```

Close it all out with a little more space:

```
148 \end{BlockClass}%
149 % \par\addvspace{2ex}%
150 }% local
151 }% text to add
152 }
153
154 \@ifpackageloaded{tocdata}
155 {}
156 {% tocdata not loaded
157
158 \newcommand*{\LWR@KFLT@setnamealign}[1]{%
159 \def\LWR@KFLT@textalign{justify}%
160 \ifstrequal{#1}{\centering}%
161 {\def\LWR@KFLT@textalign{center}}%
162 {}%
163 \ifstrequal{#1}{\raggedleft}%
164 {\def\LWR@KFLT@textalign{right}}%
165 {}%
166 \ifstrequal{#1}{\raggedright}%
167 {\def\LWR@KFLT@textalign{left}}%
168 {}%
169 }
170
171 \renewcommand*{\KFLT@addartisttext}[3]{%
172
```

Add space and create the name inside a <div>:

```

173 % \addvspace{\medskipamount}%
174 % \begin{minipage}{\linewidth}%
175 \LWR@KFLT@setnamealign{#3}%
176 \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%
177

```

Text alignment is #3, and depends on artist or author:

```

178 % #3%
179

```

#1 is empty or 'subgrp'

#2 is empty for artist, 'u' for author:

```

180 \footnotesize\textsc{%
181 \KFLT@optionalname{\csuse{KFLT@#1a#2p}}}%
182 \KFLT@optionalname{\csuse{KFLT@#1a#2f}}}%
183 \csuse{KFLT@#1a#2l}%
184 \csuse{KFLT@#1a#2s}%
185 }%
186 % \end{minipage}%
187 \end{BlockClass}
188 % \par\addvspace{2ex}%
189 }
190
191}% tocd data not loaded

```

Env KFLT@marginfloat [*<offset>*] [*<type>*]

```

192 \DeclareDocumentEnvironment{KFLT@marginfloat}{0{-1.2ex} m}
193 {%
194 \uselengthunit{PT}%
195 \LWR@BlockClassWP%
196 {float:right; width:2in; margin:10pt}%
197 {}%
198 {marginblock}%
199 \renewcommand*{\@capttype}{#2}%
200 \minipage{\LWR@usersmarginparwidth}%
201 \setlength{\marginparwidth}{.95\LWR@usersmarginparwidth}%
202 }
203 {%
204 \endminipage%
205 \endLWR@BlockClassWP%
206 }

207 \DeclareDocumentEnvironment{marginfigure}{o}
208 {\begin{KFLT@marginfloat}{figure}}
209 {\end{KFLT@marginfloat}}
210
211 \DeclareDocumentEnvironment{margintable}{o}
212 {\begin{KFLT@marginfloat}{table}}
213 {\end{KFLT@marginfloat}}

```

```

Env keywrap {\<width>} {\<keyfloat>}}

214 \DeclareDocumentEnvironment{keywrap}{m +m}
215 {%
216 \begin{LWR@setvirtualpage}*
217 \setlength{\LWR@templengthone}{#1}%
218 \begin{LWR@BlockClassWP}%
219 {%
220 float:right; width:\LWR@printlength{\LWR@templengthone}; % extra space
221 margin:10pt%
222 }%
223 {%}
224 {marginblock}%
225 \setlength{\linewidth}{.95\LWR@templengthone}%
226 \booltrue{KFLT@keywrap}%
227 #2%
228 \end{LWR@BlockClassWP}%
229 \end{LWR@setvirtualpage}%
230 }
231 {}

232 }% AtBeginDocument

```

---

File 231 **lwarp-keystroke.sty**

§ 338     Package **keystroke**

*(Emulates or patches code by WERNER FINK.)*

Pkg    keystroke    **keystroke** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{keystroke}[2010/04/23]

2 \newcommand*{\LWR@HTML@keystroke}[1]{
3 \InlineClass{keystroke}{#1}
4 }
5 \LWR@formatted{keystroke}
6
7
8 \newcommand*{\LWR@HTML@Return}{\keystroke{\HTMLUnicode{021A9}}}
9 \LWR@formatted{Return}
10
11 \newcommand*{\LWR@HTML@BSpace}{\keystroke{\HTMLUnicode{027FB}}}
12 \LWR@formatted{BSpace}
13
14 \newcommand*{\LWR@HTML@Tab}{\keystroke{\HTMLUnicode{021C6}|}}
15 \LWR@formatted{Tab}
16
17 \newcommand*{\LWR@HTML@UArrow}{\keystroke{\HTMLUnicode{02191}}}
18 \LWR@formatted{UArrow}
19
20 \newcommand*{\LWR@HTML@DArrow}{\keystroke{\HTMLUnicode{02193}}}

```

---

```

21 \LWR@formatted{DArrow}
22
23 \newcommand*{\LWR@HTML@LArrow}{\keystroke{\HTMLUnicode{02190}}}
24 \LWR@formatted{LArrow}
25
26 \newcommand*{\LWR@HTML@RArrow}{\keystroke{\HTMLUnicode{02192}}}
27 \LWR@formatted{RArrow}
28
29 % Preserves the language options:
30 \LetLtxMacro\LWR@HTML@Shift\Shift
31 \xpatchcmd{\LWR@HTML@Shift}
32 {\Upward$}
33 {\HTMLUnicode{21D1}}
34 {}
35 {}
36 \LWR@formatted{Shift}
37
38 \LetLtxMacro\LWR@HTML@PgUp\PgUp
39 \xpatchcmd{\LWR@HTML@PgUp}
40 {\Upward$}
41 {\HTMLUnicode{2191}}
42 {}
43 {}
44 \LWR@formatted{PgUp}
45
46 \LetLtxMacro\LWR@HTML@PgDown\PgDown
47 \xpatchcmd{\LWR@HTML@PgDown}
48 {\Downward$}
49 {\HTMLUnicode{2193}}
50 {}
51 {}
52 \LWR@formatted{PgDown}

```

---

File 232 **lwarp-kpfonts.sty**

§ 339 Package **kpfonts**

(Emulates or patches code by CHRISTOPHE CAIGNAERT.)

Pkg kpfonts **kpfonts** is used as-is for svg math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options `uprightRoman` for `\D` only, `classicReIm`, `frenchstyle` for Greek only, `upright` for Greek only, `uprightgreeks`, `slantedGreeks`, and `mathcalasscript`.

The dedicated macros for Greek work correctly.

svg math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass[kpfonts][2010/08/20]
2
3 \LWR@infoprocessingmathjax[kpfonts]
4

```

```

5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12 \CustomizeMathJax{\let\LWRorigmathscr\mathscr}
13 \CustomizeMathJax{\let\LWRorigmathcal\mathcal}
14 \CustomizeMathJax{\let\mathscr\LWRorigmathcal}
15 \CustomizeMathJax{\let\mathcal\LWRorigmathscr}
16 \fi
17
18 \ifkp@upgrk % lowercase
19 \LWR@mathjax@addgreek@l@up{}{}
20 \LWR@mathjax@addgreek@l@it{other}{}
21 \else
22 \LWR@mathjax@addgreek@l@up{other}{}
23 \fi
24
25 \ifkp@slGrk
26 \LWR@mathjax@addgreek@u@it*{}{}
27 \LWR@mathjax@addgreek@u@up*{other}{}
28 \LWR@mathjax@addgreek@u@up*{var}{}
29 \else
30 \LWR@mathjax@addgreek@u@it*{other}{}
31 \LWR@mathjax@addgreek@u@it*{var}{}
32 \fi
33
34 \LWR@mathjax@addgreek@u@up*{}{up}
35 \LWR@mathjax@addgreek@l@up{}{up}
36
37 \LWR@mathjax@addgreek@u@it*{}{sl}
38 \LWR@mathjax@addgreek@l@it*{}{sl}
39
40 \CustomizeMathJax{\newcommand{\partialsl}{\mathord{\unicode{x1D715}}}}
41 \CustomizeMathJax{\let\partialup\uppartial}% not upright
42
43 \ifkp@oldReIm
44 \else
45 \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
46 \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
47 \fi
48
49 \ifkp@Dcommand
50 \ifkp@upRm%
51 \CustomizeMathJax{
52 \def\D#1{\mathclose{\,\,\mathrm{d}}\#1}
53 }
54 \else
55 \CustomizeMathJax{
56 \def\D#1{\mathclose{\,\,\mathit{d}}\#1}
57 }
58 \fi
59 \fi

```

---

```

60
61 \CustomizeMathJax{\let\pounds\mathsterling}
62 \CustomizeMathJax{\let\kppounds\mathsterling}
63
64 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}% never sans
65 \CustomizeMathJax{\let\mathupright\mathup}
66
67 \end{warpMathJax}

```

---

File 233 **lwarp-kpfonts-otf.sty**

§ 340 Package **kpfonts-otf**

*(Emulates or patches code by DANIEL FLIPO.)*

Pkg kpfonts-otf **kpfonts-otf** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options fancyReIm, mathcal, frenchstyle for Greek only, and mathcalasscript.

Also see the options for **unicode-math**, which is loaded by **kpfonts-otf**.

The **unicode-math** dedicated macros for Greek work correctly.

 **\mathversion** The MATHJAX emulation does not change with the use of **\mathversion**. Whatever emulation is established at the begin of the document will remain.

svg math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{kpfonts-otf}[2020/06/20]
2
3 \LWR@infoprocessingmathjax{kpfonts-otf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12 \CustomizeMathJax{\let\mathscr\mathcal}
13 \else
14 \CustomizeMathJax{\let\mathcal\mathscr}
15 \fi
16
17 \ifkp@frenchstyle
18 \LWR@mathjax@addgreek@l@up{}{}
19 \LWR@mathjax@addgreek@u@up*{}{}
20 \fi
21
22 \ifkp@oldReIm
23 \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
24 \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
25 \else

```

```

26 \fi
27
28 \ifkp@Dcommand
29 \CustomizeMathJax{
30 \def\D#1{\mathclose{\,\,\mathrm{d}}\#1}
31 }
32 \fi
33
34 \CustomizeMathJax{\let\varint\int}
35 \CustomizeMathJax{\let\variint\int}
36 \CustomizeMathJax{\let\variiint\int}
37 \CustomizeMathJax{\let\variiiiint\int}
38 \CustomizeMathJax{\let\varidotsint\int}
39
40 \CustomizeMathJax{\newcommand{\varointctrclockwise}{\mathop{\unicode{x2939}}\!\!\!\unicode{x0222E}}}}
41 \CustomizeMathJax{\newcommand{\oiintclockwise}{\mathop{\unicode{x0222F}}\!\!\!\unicode{x2938}}}}
42 \CustomizeMathJax{\newcommand{\oiintctrclockwise}{\mathop{\unicode{x2939}}\!\!\!\unicode{x0222F}}}}
43 \CustomizeMathJax{\newcommand{\varoiintclockwise}{\mathop{\unicode{x0222F}}\!\!\!\unicode{x2938}}}}
44 \CustomizeMathJax{\newcommand{\varoiintctrclockwise}{\mathop{\unicode{x2939}}\!\!\!\unicode{x0222F}}}}
45 \CustomizeMathJax{\newcommand{\oiintclockwise}{\mathop{\unicode{x02230}}\!\!\!\unicode{x2938}}}}
46 \CustomizeMathJax{\newcommand{\oiintctrclockwise}{\mathop{\unicode{x2939}}\!\!\!\unicode{x02230}}}}
47 \CustomizeMathJax{\newcommand{\varoiintclockwise}{\mathop{\unicode{x02230}}\!\!\!\unicode{x2938}}}}
48 \CustomizeMathJax{\newcommand{\varoiintctrclockwise}{\mathop{\unicode{x2939}}\!\!\!\unicode{x02230}}}}
49 \CustomizeMathJax{\newcommand{\sqiint}{\mathop{\unicode{x2A16}}\!\!\!\unicode{x2A16}}}}
50 \CustomizeMathJax{\newcommand{\sqiint}{\mathop{\unicode{x2A16}}\!\!\!\unicode{x2A16}}\!\!\!\unicode{x2A16}}}}
51
52 \CustomizeMathJax{\let\widearc\overparen}
53 \CustomizeMathJax{\let\widearcarrow\overrightarrow}
54 \CustomizeMathJax{\let\overrightarc\overrightarrow}
55
56 \end{warpMathJax}

```

File 234 **lwarp-layaureo.sty**

§ 341 Package **layaureo**

```
Pkg layaureo layaureo is ignored.
```

for HTML output: 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

File 235 **lwarp-layout.sty**

## § 342 Package layout

Pkg layout layout is ignored.

**for HTML output:** Discard all options for lwrap-layout:

```
1 \LWR@ProvidesPackageDrop{layout}[2014/10/28]
```

$$2 \backslash \text{NewDocumentCommand}\{\backslash \text{layout}\}\{s\}\{\}$$



File 236 **lwarp-layouts.sty**

§ 343 Package **layouts**

Pkg layouts layouts is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{layouts}[2009/09/02]

```

2 \newif\ifoddpagelayout
3 \oddpagelayouttrue
4 \newif\iftwocolumnlayout
5 \twocolumnlayoutfalse
6 \newif\ifdrawmarginpars
7 \drawmarginparstrue
8 \newif\ifdrawparameters
9 \drawparameterstrue
10 \newif\iflistaspara
11 \listasparatrue
12 \newif\ifruninhead
13 \runinheadfalse
14 \newif\ifprintparameters
15 \printparameterstrue
16 \newif\ifdrawdimensions
17 \drawdimensionsfalse
18 \newif\ifprintheadings
19 \printheadingstrue
20 \newcommand{\testdrawdimensions}{}
21 \newcommand{\testprintparameters}{}
22 \newcommand{\setLabelfont}[1]{}
23 \newcommand{\setParametertextfont}[1]{}
24 \newcommand{\setvaluestextsize}[1]{}
25 \newcommand{\setLayoutscale}[1]{}
26 \newcommand{\setuplayouts}{}
27 \newcommand{\printinunitsof}[1]{}
28 \newcommand{\prntlen}[1]{}
29 \newcommand{\trypaperwidth}[1]{}
30 \newcommand{\trypaperheight}[1]{}
31 \newcommand{\tryhoffset}[1]{}
32 \newcommand{\tryvoffset}[1]{}
33 \newcommand{\trytopmargin}[1]{}
34 \newcommand{\tryheadheight}[1]{}
35 \newcommand{\tryheadsep}[1]{}
36 \newcommand{\trytextheight}[1]{}
37 \newcommand{\tryfootskip}[1]{}
38 \newcommand{\tryoddsidemargin}[1]{}
39 \newcommand{\tryevensidemargin}[1]{}
40 \newcommand{\trytextwidth}[1]{}
41 \newcommand{\trymarginparsep}[1]{}
42 \newcommand{\trymarginparwidth}[1]{}
43 \newcommand{\trymarginparpush}[1]{}
44 \newcommand{\trycolumnsep}[1]{}

```

```
45 \newcommand{\trycolumnseprule}[1]{}
46 \newcommand{\setfootbox}[2]{}
47 \newcommand{\currentpage}{}
48 \newcommand{\drawpage}{(draw page)}
49 \newcommand{\pagediagram}{(page diagram)}
50 \newcommand{\pagedesign}{(page design)}
51 \newcommand{\pagevalues}{(page values)}
52 \newcommand{\trystockwidth}[1]{}
53 \newcommand{\trystockheight}[1]{}
54 \newcommand{\trytrimedge}[1]{}
55 \newcommand{\trytrimtop}[1]{}
56 \newcommand{\tryuppermargin}[1]{}
57 \newcommand{\tryspinemargin}[1]{}
58 \newcommand{\currentstock}{}
59 \newcommand{\drawstock}{(draw stock)}
60 \newcommand{\stockdiagram}{(stock diagram)}
61 \newcommand{\stockdesign}{(stock design)}
62 \newcommand{\stockvalues}{(stock values)}
63 \newcommand{\tryitemindent}[1]{}
64 \newcommand{\trylabelwidth}[1]{}
65 \newcommand{\trylabelsep}[1]{}
66 \newcommand{\tryleftmargin}[1]{}
67 \newcommand{\tryrightmargin}[1]{}
68 \newcommand{\trylistparindent}[1]{}
69 \newcommand{\trytopsep}[1]{}
70 \newcommand{\tryparskip}[1]{}
71 \newcommand{\trypartopsep}[1]{}
72 \newcommand{\tryparsep}[1]{}
73 \newcommand{\tryitemsep}[1]{}
74 \newcommand{\currentlist}{}
75 \newcommand{\drawlist}{(draw list)}
76 \newcommand{\listdiagram}{(list diagram)}
77 \newcommand{\listdesign}{(list design)}
78 \newcommand{\listvalues}{(list values)}
79 \newcommand{\tryfootins}[1]{}
80 \newcommand{\tryfootnotesep}[1]{}
81 \newcommand{\tryfootnotebaseline}[1]{}
82 \newcommand{\tryfootruleheight}[1]{}
83 \newcommand{\tryfootrulefrac}[1]{}
84 \newcommand{\currentfootnote}{}
85 \newcommand{\drawfootnote}{(draw footnote)}
86 \newcommand{\footnotediagram}{(footnote diagram)}
87 \newcommand{\footnotedesign}{(footnote design)}
88 \newcommand{\footnotevalues}{(footnote values)}
89 \newcommand{\tryparindent}[1]{}
90 \newcommand{\tryparlinewidth}[1]{}
91 \newcommand{\tryparbaselineskip}[1]{}
92 \newcommand{\currentparagraph}{}
93 \newcommand{\drawparagraph}{(draw paragraph)}
94 \newcommand{\paragraphdiagram}{(paragraph diagram)}
95 \newcommand{\paragraphdesign}{(paragraph design)}
96 \newcommand{\paragraphvalues}{(paragraph values)}
97 \newcommand{\trybeforeskip}[1]{}
98 \newcommand{\tryafterskip}[1]{}
99 \newcommand{\tryindent}[1]{}

```

```

100 \newcommand{\currentheading}{}
101 \newcommand{\drawheading}[1]{(draw heading)}
102 \newcommand{\headingdiagram}[1]{(heading diagram)}
103 \newcommand{\headingdesign}[1]{(heading design)}
104 \newcommand{\headingvalues}{(heading values)}
105 \newcommand{\trytextfloatsep}[1]{ }
106 \newcommand{\tryfloatsep}[1]{ }
107 \newcommand{\tryintextsep}[1]{ }
108 \newcommand{\trytopfigrule}[1]{ }
109 \newcommand{\trybotfigrule}[1]{ }
110 \newcommand{\currentfloat}{}
111 \newcommand{\drawfloat}{(draw float)}
112 \newcommand{\floatdiagram}{(float diagram)}
113 \newcommand{\floatdesign}{(float design)}
114 \newcommand{\floatvalues}{(float values)}
115 \newcommand{\trytotalnumber}[1]{ }
116 \newcommand{\trytopnumber}[1]{ }
117 \newcommand{\trybottomnumber}[1]{ }
118 \newcommand{\trytopfraction}[1]{ }
119 \newcommand{\trytextfraction}[1]{ }
120 \newcommand{\trybottomfraction}[1]{ }
121 \newcommand{\currentfloatpage}{}
122 \newcommand{\drawfloatpage}{(draw floatpage)}
123 \newcommand{\floatpagediagram}{(floatpage diagram)}
124 \newcommand{\floatpagedesign}{(floatpage design)}
125 \newcommand{\floatpagevalues}{(floatpage values)}
126 \newcommand{\trytocindent}[1]{ }
127 \newcommand{\trytocnumwidth}[1]{ }
128 \newcommand{\trytoclinewidth}[1]{ }
129 \newcommand{\trytocrmarg}[1]{ }
130 \newcommand{\trytocpnumwidth}[1]{ }
131 \newcommand{\trytocdotsep}[1]{ }
132 \newcommand{\currenttoc}{}
133 \newcommand{\drawtoc}{(draw toc)}
134 \newcommand{\tocdiagram}{(toc diagram)}
135 \newcommand{\tocdesign}{(toc design)}
136 \newcommand{\tocvalues}{(toc values)}
137 \newcommand{\drawspread}[8][0]{(a spread)}
138 \newcommand{\drawfontframe}[1]{(font frame)}
139 \newcommand{\drawfontframeLabel}[1]{ }

```

---

File 237 **lwarp-leading.sty**

§ 344    Package **leading**

Pkg    leading    leading is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]

                      2 \newcommand\leading[1]{ }

---

File 238 **lwarp-leftidx.sty**

## § 345 Package **leftidx**

(Emulates or patches code by HARALD HARDERS.)

Pkg leftidx **leftidx** works as-is with SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{leftidx}[2003/09/24]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\leftidx}[3]{\vphantom{#2}}#1#2#3}}
4 \CustomizeMathJax{\newcommand{\ltrans}[1]{\leftidx{^\mathrm{t}}{!\#1}}}
5 \end{warpMathJax}
```

## File 239 **lwarp-letterspace.sty**

## § 346 Package **letterspace**

(Emulates or patches code by R SCHLICHT.)

Pkg letterspace **letterspace** is a subset of microtype, which is pre-loaded by **lwarp**. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for **lwarp-letterspace**:

```

1 \LWR@ProvidesPackageDrop{letterspace}[2018/01/14]

2 \newcommand*\lsstyle{}
3 \newcommand\textls[2][{}]{
4 \def\textls#1#{}
5 \newcommand*\slig[1]{#1}
```

## File 240 **lwarp-lettrine.sty**

## § 347 Package **lettrine**

(Emulates or patches code by DANIEL FLIPO.)

Pkg lettrine **lettrine** is emulated.

**for HTML output:** Discard all options for **lwarp-lettrine**:

```

1 \LWR@ProvidesPackageDrop{lettrine}[2018-08-28]
```

The initial letter is in a <span> of class **lettrine**, and the following text is in a <span> of class **lettrinetext**. `\lettrine [keys] {letter} {additional text}`

```

2 \DeclareDocumentCommand{\lettrine}{o m m}{%
3 \InlineClass{lettrine}{#2}\InlineClass{lettrinetext}{#3} % extra space
4 }
5
```

---

```

6 \newcounter{DefaultLines}
7 \setcounter{DefaultLines}{2}
8 \newcounter{DefaultDepth}
9 \newcommand*{\DefaultOptionsFile}{\relax}
10 \newcommand*{\DefaultLoversize}{0}
11 \newcommand*{\DefaultLraise}{0}
12 \newcommand*{\DefaultLhang}{0}
13 \newdimen\DefaultFindent
14 \setlength{\DefaultFindent}{\z@}
15 \newdimen\DefaultNindent
16 \setlength{\DefaultNindent}{0.5em}
17 \newdimen\DefaultSlope
18 \setlength{\DefaultSlope}{\z@}
19 \newdimen\DiscardVskip
20 \setlength{\DiscardVskip}{0.2\p@}
21 \newif\ifLettrineImage
22 \newif\ifLettrineOnGrid
23 \newif\ifLettrineRealHeight
24
25 \newcommand*{\LettrineTextFont}{\scshape}
26 \newcommand*{\LettrineFontHook}{}
27 \newcommand*{\LettrineFont}[1]{\InlineClass{lettrine}{#1}}
28 \newcommand*{\LettrineFontEPS}[1]{\includegraphics[height=1.5ex]{#1}}

```

---

File 241 **lwarp-libertinust1math.sty**

§ 348      Package **libertinust1math**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg    libertinust1math    **libertinust1math** is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors frenchmath for Greek but not Latin characters, and slantedGreek, uprightGreek, and ISO also adjust Greek characters. MATHJAX cannot yet honor options for adjusting Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

Some of the symbol font macros such as \mathsfbf do not use a sans font because MATHJAX does not yet have sans Greek.

svg math honors all font choices, and should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{libertinust1math}[2020/06/10]
2
3 \LWR@infoprocessingmathjax{libertinust1math}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \iflibus@slantedG
9 \LWR@mathjax@addgreek@u@it*{}{}

```

```

10 \else
11 \LWR@mathjax@addgreek@u@up*{}{}
12 \fi
13
14 \LWR@mathjax@addgreek@u@it*{}{it}
15 \LWR@mathjax@addgreek@u@up*{}{up}
16 \LWR@mathjax@addgreek@u@up*{}{up}
17
18 \iflibus@frenchm
19 \LWR@mathjax@addgreek@l@up*{}{}
20 \else
21 \LWR@mathjax@addgreek@l@it*{}{}
22 \fi
23
24 \LWR@mathjax@addgreek@l@it*{}{it}
25 \LWR@mathjax@addgreek@l@up*{}{up}
26 \LWR@mathjax@addgreek@l@up*{}{up}
27
28 \CustomizeMathJax{\let\uppartial\partial}% not upright

29 \CustomizeMathJax{\let\mathsfbf\mathbf}% not sans
30 % \CustomizeMathJax{\newcommand{\mathsfbf}[1]{%
31 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}% not greek
32 % }}% not sans
33
34 % \CustomizeMathJax{\newcommand{\mathbfit}[1]{\boldsymbol{#1}}}
35 \CustomizeMathJax{\let\mathbfit\boldsymbol}

36 % \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{\boldsymbol{#1}}}% not sans
37 \CustomizeMathJax{\let\mathsfbfit\mathbfit}% not sans
38 % \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{%
39 % \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}% not greek
40 % }}%

41 \CustomizeMathJax{\let\mathsfit\mathit}% not sans
42 % \CustomizeMathJax{\newcommand{\mathsfit}[1]{%
43 % \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}% not greek
44 % }}
45
46 \CustomizeMathJax{\let\vector\mathbfit}
47 \CustomizeMathJax{\let\matrix\mathbfit}
48 \CustomizeMathJax{\let\tensor\mathsfbfit}
49 \CustomizeMathJax{\let\mathbolsans\mathsfbfit}
50 \CustomizeMathJax{\let\mathbold\mathbfit}

lwarp_mathjax.txt adds \left/\right support for delimiters.

51 \CustomizeMathJax{\let\dlb\lBrack}
52 \CustomizeMathJax{\let\drb\rBrack}
53
54 \CustomizeMathJax{\let\sqrtsign\sqrt}
55
56 \CustomizeMathJax{\let\smallint\smallint}

```

```

57 \CustomizeMathJax{\newcommand{\smallliintsl}{\mathop{\unicode{x222C}}\limits}}
58 \CustomizeMathJax{\newcommand{\smallliintsl}{\mathop{\unicode{x222D}}\limits}}
59 \CustomizeMathJax{\newcommand{\smallliiintsl}{\mathop{\unicode{x2A0C}}\limits}}
60 \CustomizeMathJax{\newcommand{\smalllointsl}{\mathop{\unicode{x222E}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalllointsl}{\mathop{\unicode{x222F}}\limits}}
62
63 \CustomizeMathJax{\let\smallintup\smallint}
64 \CustomizeMathJax{\newcommand{\smallliintup}{\mathop{\unicode{x222C}}\limits}}
65 \CustomizeMathJax{\newcommand{\smallliiintup}{\mathop{\unicode{x222D}}\limits}}
66 \CustomizeMathJax{\newcommand{\smallliiintup}{\mathop{\unicode{x2A0C}}\limits}}
67 \CustomizeMathJax{\newcommand{\smalllointup}{\mathop{\unicode{x222E}}\limits}}
68 \CustomizeMathJax{\newcommand{\smalllointup}{\mathop{\unicode{x222F}}\limits}}
69
70 \CustomizeMathJax{\let\intslop\int}
71 \CustomizeMathJax{\newcommand{\iintsllop}{\mathop{\unicode{x222C}}\limits}}
72 \CustomizeMathJax{\newcommand{\iintsllop}{\mathop{\unicode{x222D}}\limits}}
73 \CustomizeMathJax{\newcommand{\iiintsllop}{\mathop{\unicode{x2A0C}}\limits}}
74 \CustomizeMathJax{\let\ointsllop\oint}
75 \CustomizeMathJax{\newcommand{\ointsllop}{\mathop{\unicode{x222F}}\limits}}
76 \CustomizeMathJax{\newcommand{\ointsllop}{\mathop{\unicode{x2230}}\limits}}
77
78 \CustomizeMathJax{\let\intupop\int}
79 \CustomizeMathJax{\newcommand{\iintupop}{\mathop{\unicode{x222C}}\limits}}
80 \CustomizeMathJax{\newcommand{\iintupop}{\mathop{\unicode{x222D}}\limits}}
81 \CustomizeMathJax{\newcommand{\iiintupop}{\mathop{\unicode{x2A0C}}\limits}}
82 \CustomizeMathJax{\let\ointupop\oint}
83 \CustomizeMathJax{\newcommand{\ointupop}{\mathop{\unicode{x222F}}\limits}}
84 \CustomizeMathJax{\newcommand{\ointupop}{\mathop{\unicode{x2230}}\limits}}
85
86 \CustomizeMathJax{\newcommand{\smallliint}{\mathop{\unicode{x222C}}\limits}}
87 \CustomizeMathJax{\newcommand{\smallliint}{\mathop{\unicode{x222D}}\limits}}
88 \CustomizeMathJax{\newcommand{\smallliiint}{\mathop{\unicode{x2A0C}}\limits}}
89 \CustomizeMathJax{\newcommand{\smallloint}{\mathop{\unicode{x222E}}\limits}}
90 \CustomizeMathJax{\newcommand{\smallloint}{\mathop{\unicode{x222F}}\limits}}
91
92 \CustomizeMathJax{\let\intop\int}
93 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
94 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222D}}\limits}}
95 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x2A0C}}\limits}}
96 \CustomizeMathJax{\let\ointop\oint}
97 \CustomizeMathJax{\newcommand{\ointop}{\mathop{\unicode{x222F}}\limits}}
98 \CustomizeMathJax{\newcommand{\ointop}{\mathop{\unicode{x2230}}\limits}}
99
100 \CustomizeMathJax{\newcommand{\oint}{\mathop{\unicode{x222F}}\limits}}
101
102 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
103 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
104 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}}}
105 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}}}
106 \CustomizeMathJax{\let\prodop\prod}
107 \CustomizeMathJax{\let\coprodop\coprod}
108 \CustomizeMathJax{\let\sumop\sum}
109 \CustomizeMathJax{\let\bigwedgeop\bigwedge}
110 \CustomizeMathJax{\let\bigveeop\bigvee}
111 \CustomizeMathJax{\let\bigcapop\bigcap}

```

```

112 \CustomizeMathJax{\let\bigcupop\bigcup}
113 \CustomizeMathJax{\let\xsolop\xsol}
114 \CustomizeMathJax{\let\xlsolop\xsol}
115 \CustomizeMathJax{\let\bigodotop\bigodot}
116 \CustomizeMathJax{\let\bigoplusop\bigoplus}
117 \CustomizeMathJax{\let\bigotimesop\bigotimes}
118 \CustomizeMathJax{\let\bigcupdotop\bigcupdot}
119 \CustomizeMathJax{\let\biguplusop\biguplus}
120 \CustomizeMathJax{\let\bigsqcapop\bigsqcap}
121 \CustomizeMathJax{\let\bigsqcupop\bigsqcup}
122
123 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{\#1\unicode{x00309}}}}
124 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{\#1\unicode{x00310}}}}
125 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{\#1\unicode{x00312}}}}
126 \CustomizeMathJax{\newcommand{\ocommatoprigh}[1]{\mathord{\#1\unicode{x00315}}}}
127 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{\#1\unicode{x0031A}}}}
128 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{\#1\unicode{x020D0}}}}
129 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{\#1\unicode{x020D1}}}}
130 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{\#1\unicode{x020D0}}}}
131 \CustomizeMathJax{\let\rightarrowaccent\vec}
132
133 \CustomizeMathJax{\newcommand{\leftrightharpoonaccent}[1]{\mathord{\#1\unicode{x020E1}}}}
134 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{\#1\unicode{x020E7}}}}
135 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{\#1\unicode{x020E9}}}}
136 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{\#1\unicode{x020F0}}}}
137
138 % neutralized:
139 \CustomizeMathJax{\newcommand{\braceld}{}}
140 \CustomizeMathJax{\newcommand{\bracerd}{}}
141 \CustomizeMathJax{\newcommand{\bracelu}{}}
142 \CustomizeMathJax{\newcommand{\braceru}{}}
143 \CustomizeMathJax{\newcommand{\braceex}{}}
144 \CustomizeMathJax{\newcommand{\bracemu}{}}
145 \CustomizeMathJax{\newcommand{\bracemd}{}}
146 \CustomizeMathJax{\newcommand{\parenld}{}}
147 \CustomizeMathJax{\newcommand{\parenrd}{}}
148 \CustomizeMathJax{\newcommand{\parenlu}{}}
149 \CustomizeMathJax{\newcommand{\parenru}{}}
150 \CustomizeMathJax{\newcommand{\bracketld}{}}
151 \CustomizeMathJax{\newcommand{\bracketrd}{}}
152 \CustomizeMathJax{\newcommand{\bracketlu}{}}
153 \CustomizeMathJax{\newcommand{\bracketru}{}}
154 \CustomizeMathJax{\newcommand{\bracketex}{}}
155 \CustomizeMathJax{\newcommand{\parenex}{}}
156
157 \CustomizeMathJax{\newcommand{\lhook}{~}}
158 \CustomizeMathJax{\newcommand{\rhook}{~}}
159 \CustomizeMathJax{\newcommand{\relbar}{-}}
160 \CustomizeMathJax{\newcommand{\Relbar}{=}}
161
162 \CustomizeMathJax{\newcommand{\mapstochar}{\mathrel{\unicode{x21A6}}}}
163
164 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x0001B5}}}}
165 \CustomizeMathJax{\newcommand{\notchar}{\mathrel{\unicode{x000AC}}}}
166 \CustomizeMathJax{\newcommand{\upbackepsilon}{\mathord{\unicode{x03F6}}}}

```



```

167 \CustomizeMathJax{\newcommand{\smbllkcicle}{\mathbin{\unicode{x02022}}}}
168 \CustomizeMathJax{\newcommand{\enleadertwodots}{\mathord{\unicode{x02025}}}}
169 \CustomizeMathJax{\newcommand{\unicodeellipsis}{\mathord{\unicode{x02026}}}}
170 \CustomizeMathJax{\newcommand{\matheellipsis}{\mathinner{\unicode{x02026}}}}
171 \CustomizeMathJax{\newcommand{\dprime}{\mathord{\unicode{x02033}}}}
172 \CustomizeMathJax{\newcommand{\trprime}{\mathord{\unicode{x02034}}}}
173 \CustomizeMathJax{\newcommand{\backdprime}{\mathord{\unicode{x02036}}}}
174 \CustomizeMathJax{\newcommand{\backtrprime}{\mathord{\unicode{x02037}}}}
175 \CustomizeMathJax{\newcommand{\caretinsert}{\mathord{\unicode{x02038}}}}
176 \CustomizeMathJax{\newcommand{\Exclam}{\mathord{\unicode{x0203C}}}}
177
178 \CustomizeMathJax{\newcommand{\hyphenbullet}{\mathord{\unicode{x02043}}}}
179 \CustomizeMathJax{\newcommand{\fracslash}{\mathbin{\unicode{x02044}}}}
180 \CustomizeMathJax{\newcommand{\Question}{\mathord{\unicode{x02047}}}}
181 \CustomizeMathJax{\newcommand{\closure}{\mathrel{\unicode{x02050}}}}
182 \CustomizeMathJax{\newcommand{\qprime}{\mathord{\unicode{x02057}}}}
183 \CustomizeMathJax{\newcommand{\vertoverlay}{\mathrel{\unicode{x020D2}}}}
184 \CustomizeMathJax{\newcommand{\enclosecircle}{\mathord{\unicode{x020DD}}}}
185 \CustomizeMathJax{\newcommand{\enclosesquare}{\mathord{\unicode{x020DE}}}}
186 \CustomizeMathJax{\newcommand{\enclosetriangle}{\mathord{\unicode{x020E4}}}}
187 \CustomizeMathJax{\newcommand{\Eulerconst}{\mathord{\unicode{x02107}}}}
188 \CustomizeMathJax{\newcommand{\turnediota}{\mathord{\unicode{x02129}}}}
189 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x0212B}}}}
190
191 \CustomizeMathJax{\newcommand{\sansLturned}{\mathord{\unicode{x02142}}}}
192 \CustomizeMathJax{\newcommand{\sansLmirrored}{\mathord{\unicode{x02143}}}}
193 \CustomizeMathJax{\newcommand{\Yup}{\mathord{\unicode{x02144}}}}
194 \CustomizeMathJax{\newcommand{\upand}{\mathbin{\unicode{x0214B}}}}
195 \CustomizeMathJax{\newcommand{\increment}{\mathord{\unicode{x02206}}}}
196 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x0220A}}}}
197 \CustomizeMathJax{\newcommand{\nni}{\mathrel{\unicode{x0220C}}}}
198
199 \CustomizeMathJax{\newcommand{\smallni}{\mathrel{\unicode{x0220D}}}}
200 \CustomizeMathJax{\newcommand{\QED}{\mathord{\unicode{x0220E}}}}
201 \CustomizeMathJax{\newcommand{\vysmwhtcircle}{\mathbin{\unicode{x02218}}}}
202 \CustomizeMathJax{\newcommand{\vysmbllkcicle}{\mathbin{\unicode{x02219}}}}
203 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x0221F}}}}
204
205 \CustomizeMathJax{\newcommand{\Colon}{\mathrel{\unicode{x02237}}}}
206 \CustomizeMathJax{\newcommand{\dotminus}{\mathbin{\unicode{x02238}}}}
207 \CustomizeMathJax{\newcommand{\dashcolon}{\mathrel{\unicode{x02239}}}}
208 \CustomizeMathJax{\newcommand{\dotsmiusdots}{\mathrel{\unicode{x0223A}}}}
209 \CustomizeMathJax{\newcommand{\kernelcontraction}{\mathrel{\unicode{x0223B}}}}
210 \CustomizeMathJax{\newcommand{\invlazys}{\mathbin{\unicode{x0223E}}}}
211
212 \CustomizeMathJax{\newcommand{\sinewave}{\mathord{\unicode{x0223F}}}}
213 \CustomizeMathJax{\newcommand{\nsime}{\mathrel{\unicode{x02244}}}}
214 \CustomizeMathJax{\newcommand{\simneqq}{\mathrel{\unicode{x02246}}}}
215 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x02249}}}}
216 \CustomizeMathJax{\newcommand{\approxident}{\mathrel{\unicode{x0224B}}}}
217 \CustomizeMathJax{\newcommand{\backcong}{\mathrel{\unicode{x0224C}}}}
218
219 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x0226D}}}}
220 \CustomizeMathJax{\newcommand{\nlessim}{\mathrel{\unicode{x02274}}}}
221 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}

```

```

222 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x02278}}}}
223 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
224
225 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
226 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
227
228 \CustomizeMathJax{\newcommand{\cupleftarrow}{\mathbin{\unicode{x0228C}}}}
229 \CustomizeMathJax{\newcommand{\cupdot}{\mathbin{\unicode{x0228D}}}}
230 \CustomizeMathJax{\newcommand{\circledequal}{\mathbin{\unicode{x0229C}}}}
231
232 \CustomizeMathJax{\newcommand{\assert}{\mathrel{\unicode{x022A6}}}}
233 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x022AB}}}}
234 \CustomizeMathJax{\newcommand{\prurel}{\mathrel{\unicode{x022B0}}}}
235
236 \CustomizeMathJax{\newcommand{\origof}{\mathrel{\unicode{x022B6}}}}
237 \CustomizeMathJax{\newcommand{\smallprod}{\mathop{\unicode{x0220F}}}}% not small
238 \CustomizeMathJax{\newcommand{\smallcoprod}{\mathop{\unicode{x02210}}}}% not small
239 \CustomizeMathJax{\newcommand{\smallsum}{\mathop{\unicode{x02211}}}}% not small
240 \CustomizeMathJax{\newcommand{\Hfraktur}{\mathord{\unicode{x1D525}}}}
241 \CustomizeMathJax{\newcommand{\dsol}{\mathbin{\unicode{x029F6}}}}
242 \CustomizeMathJax{\newcommand{\rsolbar}{\mathbin{\unicode{x029F7}}}}
243
244 \CustomizeMathJax{\newcommand{\eqless}{\mathrel{\unicode{x022DC}}}}
245 \CustomizeMathJax{\newcommand{\eqgtr}{\mathrel{\unicode{x022DD}}}}
246 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\unicode{x022E0}}}}
247 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\unicode{x022E1}}}}
248 \CustomizeMathJax{\newcommand{\nsqsubseteq}{\mathrel{\unicode{x022E2}}}}
249 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\mathrel{\unicode{x022E3}}}}
250 \CustomizeMathJax{\newcommand{\sqsubsetneq}{\mathrel{\unicode{x022E4}}}}
251 \CustomizeMathJax{\newcommand{\sqsupsetneq}{\mathrel{\unicode{x022E5}}}}
252 \CustomizeMathJax{\newcommand{\nvartriangleleft}{\mathrel{\unicode{x022EA}}}}
253 \CustomizeMathJax{\newcommand{\nvartriangleright}{\mathrel{\unicode{x022EB}}}}
254
255 \CustomizeMathJax{\newcommand{\vdotsmath}{\mathrel{\unicode{x022EE}}}}
256 \CustomizeMathJax{\newcommand{\unicodecdots}{\mathord{\unicode{x022EF}}}}
257 \CustomizeMathJax{\newcommand{\adots}{\mathrel{\unicode{x022F0}}}}
258 \CustomizeMathJax{\newcommand{\succneq}{\mathrel{\unicode{x02AB2}}}}
259 \CustomizeMathJax{\newcommand{\preceq}{\mathrel{\unicode{x02AB3}}}}
260 \CustomizeMathJax{\newcommand{\succeq}{\mathrel{\unicode{x02AB4}}}}
261 \CustomizeMathJax{\newcommand{\precneq}{\mathrel{\unicode{x02AB1}}}}
262
263 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
264
265 \CustomizeMathJax{\newcommand{\longmapsfrom}{\mathrel{\unicode{x027FB}}}}
266
267 \CustomizeMathJax{\newcommand{\diameter}{\mathord{\unicode{x02300}}}}
268 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
269 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
270 \CustomizeMathJax{\newcommand{\arceq}{\mathrel{\unicode{x02258}}}}
271 \CustomizeMathJax{\newcommand{\wedg}{\mathrel{\unicode{x02259}}}}
272 \CustomizeMathJax{\newcommand{\veeeq}{\mathrel{\unicode{x0225A}}}}
273
274 \CustomizeMathJax{\newcommand{\stareq}{\mathrel{\unicode{x0225B}}}}
275 \CustomizeMathJax{\newcommand{\eqdef}{\mathrel{\unicode{x0225D}}}}
276 \CustomizeMathJax{\newcommand{\measeq}{\mathrel{\unicode{x0225E}}}}

```

```

277 \CustomizeMathJax{\newcommand{\questeq}{\mathrel{\unicode{x0225F}}}}
278 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x02262}}}}
279 \CustomizeMathJax{\newcommand{\Equiv}{\mathrel{\unicode{x02263}}}}
280
281 \CustomizeMathJax{\newcommand{\house}{\mathord{\unicode{x02302}}}}
282
283 \CustomizeMathJax{\newcommand{\musicalnote}{\mathord{\unicode{x0266A}}}}
284 \CustomizeMathJax{\newcommand{\degree}{\mathord{\unicode{x000B0}}}}
285 \CustomizeMathJax{\newcommand{\mathsection}{\mathord{\unicode{x000A7}}}}
286 \CustomizeMathJax{\newcommand{\mathparagraph}{\mathord{\unicode{x000B6}}}}
287 \CustomizeMathJax{\newcommand{\checkmarkmath}{\mathord{\unicode{x02713}}}}
288 \CustomizeMathJax{\newcommand{\invnot}{\mathord{\unicode{x02310}}}}
289
290 \CustomizeMathJax{\newcommand{\mathvisiblespace}{\mathord{\unicode{x02423}}}}
291 \CustomizeMathJax{\newcommand{\mdlgblksquare}{\mathord{\unicode{x025A0}}}}
292 \CustomizeMathJax{\newcommand{\mdlgwhtsquare}{\mathord{\unicode{x025A1}}}}
293
294 \CustomizeMathJax{\newcommand{\bigblacktriangleup}{\mathord{\unicode{x025B2}}}}
295 \CustomizeMathJax{\newcommand{\varbigtriangleup}{\mathord{\unicode{x025B3}}}}
296
297 \CustomizeMathJax{\newcommand{\bigblacktriangledown}{\mathord{\unicode{x025BC}}}}
298 \CustomizeMathJax{\newcommand{\varbigtriangledown}{\mathord{\unicode{x025BD}}}}
299 \CustomizeMathJax{\newcommand{\Longmapsfrom}{\mathrel{\unicode{x027FD}}}}
300
301 % bug in print font:
302 \CustomizeMathJax{\newcommand{\mdlgblkdiamond}{\mathord{\unicode{x025C6}}}}
303
304 \CustomizeMathJax{\newcommand{\mdlgwhtdiamond}{\mathord{\unicode{x025C7}}}}
305 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
306 \CustomizeMathJax{\newcommand{\fisheye}{\mathord{\unicode{x025C9}}}}
307 \CustomizeMathJax{\newcommand{\mdlgwhtlozenge}{\mathord{\unicode{x025CA}}}}
308 \CustomizeMathJax{\newcommand{\mdlgwhtcircle}{\mathbin{\unicode{x025CB}}}}
309 \CustomizeMathJax{\newcommand{\bullseye}{\mathord{\unicode{x025CE}}}}
310 \CustomizeMathJax{\newcommand{\mdlgblkcircle}{\mathord{\unicode{x025CF}}}}
311
312 \CustomizeMathJax{\newcommand{\Narrow}{\mathrel{\unicode{x021D6}}}}
313 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
315 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
316
317 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathord{\unicode{x02906}}}}
318 \CustomizeMathJax{\newcommand{\smwhtcircle}{\mathord{\unicode{x025E6}}}}
319 \CustomizeMathJax{\newcommand{\smwhtdiamond}{\mathbin{\unicode{x022C4}}}}
320 \CustomizeMathJax{\newcommand{\Mapsto}{\mathord{\unicode{x02907}}}}
321
322 \CustomizeMathJax{\let\ngets\leftarrow}
323 \CustomizeMathJax{\let\nsimeq\sim}
324 \CustomizeMathJax{\let\le\leq}
325 \CustomizeMathJax{\let\ge\geq}
326
327 \end{warpMathJax}

```

§ 349 Package **lineno**

(Emulates or patches code by STEPHAN I. BÖTTCHER.)

Pkg lineno **lineno** is partly emulated, but mostly ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{lineno}[2005/11/02]

2 \newcommand*\resetlinenumber[1][\@ne]{%
3
4 \def\linenumbers{%
5 \@ifnextchar[{\resetlinenumber}%]
6 {\@ifstar{\resetlinenumber}{}}%
7 }
8
9 \newcommand*\nolinenumbers{}
10
11 \@namedef{linenumbers*}{\par\linenumbers*}
12 \@namedef{runninglinenumbers*}{\par\runninglinenumbers*}
13
14 \def\endlinenumbers{\par}
15 \let\endrunninglinenumbers\endlinenumbers
16 \let\endpagewiselinenumbers\endlinenumbers
17 \expandafter\let\csname endlinenumbers*\endcsname\endlinenumbers
18 \expandafter\let\csname endrunninglinenumbers*\endcsname\endlinenumbers
19 \let\endnolinenumbers\endlinenumbers
20
21 \def\pagewiselinenumbers{\linenumbers\setpagewiselinenumbers}
22
23 \def\runninglinenumbers{\setrunninglinenumbers\linenumbers}
24
25 \def\setpagewiselinenumbers{}
26
27 \def\setrunninglinenumbers{}
28
29 \def\linenomath{}%
30 \@namedef{linenomath*}{}%
31 \def\endlinenomath{}
32 \expandafter\let\csname endlinenomath*\endcsname\endlinenomath
33
34 \let\line\label
35
36 \def\switchlinenumbers{\@ifstar{}{}}
37 \def\setmakelinenumbers#1{\@ifstar{}{}}
38
39 \def\leftlinenumbers{\@ifstar{}{}}
40 \def\rightlinenumbers{\@ifstar{}{}}
41
42 \newcounter{linenumber}
43 \newcount\c@pagewiselinenumber
44 \let\c@runninglinenumber\c@linenumber
45
46 \def\runningpagewiselinenumbers{}
47 \def\realpagewiselinenumbers{}
48

```

```

49
50 \NewDocumentCommand\modulolinenumbers{s o}{}
51
52 \chardef\c@linenumbermodulo=5
53 \modulolinenumbers[1]
54
55 \newcommand*\firstlinenumber[1]{}
56
57 \newcommand\internallinenumbers{}
58 \let\endinternallinenumbers\endlinenumbers
59 \@namedef{internallinenumbers*}{\internallinenumbers}
60 \expandafter\let\csname endinternallinenumbers*\endcsname\endlinenumbers
61
62 \newcommand*\linenoplaceholder[1]{% redefine per language
63 (line number reference for \detokenize\expandafter{#1})
64 }
65
66 \newcommand*\lineref}[2][\linenoplaceholder{#2}]{}
67 \newcommand*\linerefp}[2][\linenoplaceholder{#2}]{}
68 \newcommand*\linerefr}[2][\linenoplaceholder{#2}]{}
69
70 \newcommand\quotelinenumbers
71 {\@ifstar\linenumbers{\@ifnextchar[\linenumbers{\linenumbers*}}}
72
73 \newdimen\linenumbersep
74 \newdimen\linenumberwidth
75 \newdimen\quotelinenumbersep
76
77 \quotelinenumbersep=\linenumbersep
78 \let\quotelinenumberfont\linenumberfont
79
80 \def\linenumberfont{\normalfont\tiny\sffamily}
81
82
83 \linenumberwidth=10pt
84 \linenumbersep=10pt
85
86 \def\thelinenumber{}
87
88 \def\LineNumber{}
89 \def\makeLineNumber{}
90 \def\makeLineNumberLeft{}
91 \def\makeLineNumberRight{}
92 \def\makeLineNumberOdd{}
93 \def\makeLineNumberEven{}
94 \def\makeLineNumberRunning{}
95
96
97 \newenvironment{numquote} {\quote}{\endquote}
98 \newenvironment{numquotation} {\quotation}{\endquotation}
99 \newenvironment{numquote*} {\quote}{\endquote}
100 \newenvironment{numquotation*}{\quotation}{\endquotation}
101
102 \newdimen\bframerule
103 \bframerule=\fbboxrule

```

---

```

104
105 \newdimen\bframesep
106 \bframesep=\fboxsep
107
108 \newenvironment{bframe}
109 {%
110 \LWR@forceminwidth{\bframerule}%
111 \BlockClass[
112 border:\LWR@printlength{\LWR@atleastonept} solid black ; %
113 padding:\LWR@printlength{\bframesep}%
114]{bframe}
115 }
116 {\endBlockClass}

```

---

File 243 **lwarp-lips.sty**

§ 350 Package **lips**

*(Emulates or patches code by MATT SWIFT.)*

Pkg lips **lips** is emulated.

```

1 % \LWR@ProvidesPackageDrop{lips}
2 \PackageInfo{lwarp}{Using the lwarp version of package ‘lips’.%}
3 \ProvidesPackage{lwarp-lips}[2001/08/31]
4
5 \NewDocumentCommand{\Lips}{}{\textellipsis}
6
7 \NewDocumentCommand{\BracketedLips}{}{[\textellipsis]}
8
9 \let\lips\Lips
10 \let\olips\lips
11
12 \DeclareOption*{}
13 \DeclareOption{mla}{
14 \let\lips\BracketedLips
15 }
16 \ProcessOptions\relax
17
18 \newcommand \LPNobreakList {}

```

---

File 244 **lwarp-listings.sty**

§ 351 Package **listings**

*(Emulates or patches code by CARSTEN HEINZ, BROOKS MOSES, JOBST HOFFMANN.)*

Pkg listings **listings** is supported with some limitations. Text formatting is not yet supported.

```

1 \LWR@ProvidesPackagePass{listings}[2018/09/02]

```

Force flexible columns. Fixed columns inserts spaces in the PDF output.

```
2 \lst@column@flexible
```

Patches to embed listings inside pre tags:

```
3 \let\LWR@origlst@Init\lst@Init
4 \let\LWR@origlst@DeInit\lst@DeInit
5
6 \let\LWR@origlsthkEveryPar\lsthk@EveryPar
7
8 \renewcommand{\@lstlisting}[2]{\hypertocfloat{1}{\lstlisting}{lol}{#1}{#2}}
```

`\lstset`    `{\options}`

Use the `listings` `literate` option to replace HTML entities:

```
9 \def\lstset@#1{\endgroup%
10 % \ifx\@empty#1%
11 % \@empty%
12 % \else%
13 \setkeys{lst}{%
14 #1%
15 ,literate=%
16 {<}{\HTMLentity{lt}}{4}%
17 {>}{\HTMLentity{gt}}{4}%
18 {'}{\HTMLentity{apos}}{6}%
19 {'}{\HTMLentity{grave}}{7}%
```

The ampersand is not treated here, as the result is inconsistent spacing. It is nevertheless converted to `&amp;` elsewhere. Sanitizing the double quote interferes with `listings`' conversion of visible spaces inside strings.

```
20 }%
21 % \fi%
22 }
```

`\lst@Init`    `{\backslash-processing}`    Done at the start of a listing.

```
23 \renewcommand{\lst@Init}[1]{%
```

Perform the `listings` initialization:

```
24 \LWR@traceinfo{\lst@Init}%
```

`\LWR@forcenewpage` is moved to the start to avoid a spurious bug with paragraph handling and conditionals.

```
25 \lst@ifdisplaystyle%
26 \LWR@forcenewpage%
27 \fi%
28 \renewcommand*{\@capttype}{\lstlisting}%
29 \let\lst@aboveskip\z@\let\lst@belowskip\z@%
30 \gdef\lst@boxpos{t}%
31 \let\lst@frame\@empty
32 \let\lst@frametshape\@empty
33 \let\lst@framershape\@empty
```

```

34 \let\lst@framebshape\@empty
35 \let\lst@framelshape\@empty
36 \lstframe@lst@frameround ffff\relax%
37 \lst@multicols\@empty%
38 \LWR@origlst@Init{#1}\relax%

```

Avoids extra horizontal space:

```

39 \def\lst@framelr{}%

40 \LWR@traceinfo{finished origlst@Init}%
41 \lst@ifdisplaystyle%

```

Creating a display.

Disable line numbers, produce the <pre>, then reenable line numbers.

```

42 \LWR@traceinfo{About to create verbatim.}%
43 \let\lsthk@EveryPar\relax%

44 \LWR@atbeginverbatim{programlisting}%
45
46 \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
47 \else%

```

Inline, so open a <span>:

```

48 \ifbool{LWR@verbtags}{\LWR@htmltag{%
49 span class=\textquotedbl{}inlineprogramlisting\textquotedbl{}
50 }}{}%
51 \fi%
52 \LWR@traceinfo{lst@Init done}%
53 }
54

```

`\lst@DeInit` Done at the end of a listing.

```

55 \renewcommand*{\lst@DeInit}{%
56 \lst@ifdisplaystyle%

```

Creating a display.

Disable line numbers, produce the </pre>, then reenable line numbers:

```

57 \let\lsthk@EveryPar\relax%
58 \LWR@afterendverbatim%
59 \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
60 \else%

```

Inline, so create the closing </span>:

```

61 \ifbool{LWR@verbtags}{\noindent\LWR@htmltag{/span}}{}%
62 \fi%

```

Final listings deinit:

```

63 \LWR@origlst@DeInit%
64 }

```

`\lst@MakeCaption` {<t/b>}

This is called BOTH at the top and at the bottom of each listing.



Patched for lwarp.

```

65
66 \def\lst@MakeCaption#1{%
67 \LWR@traceinfo{MAKING CAPTION at #1}%
68 \lst@ifdisplaystyle
69 \LWR@traceinfo{making a listings display caption}%
70 \ifx #1t%
71 \ifx\lst@caption\@empty\expandafter\lst@HRefStepCounter \else
72 \expandafter\refstepcounter
73 \fi {\lstlisting}%
74 \LWR@traceinfo{About to assign label: !\lst@label!}%
75 % \ifx\lst@label\@empty\else
76 % \label{\lst@label}\fi
77 \LWR@traceinfo{Finished assigning the label.}%
78 \let\lst@arg\lst@iname \lst@ReplaceIn\lst@arg\lst@filenamerpl
79 \global\let\lst@name\lst@arg \global\let\lstname\lst@name
80 \lst@ifnolol\else
81 \ifx\lst@caption\@empty
82 \ifx\lst@caption\@empty
83 \ifx\lst@iname\@empty
84 \else
85 \def\lst@temp{ }%
86 \ifx\lst@iname\lst@temp \else

```

This code places a contents entry for a non-float. This would have to be modified for lwarp:

```

87 \LWR@traceinfo{addcontents lst@name: -\lst@name-}%
88 % \addcontentsline{lol}{\lstlisting}{\lst@name}
89 \fi
90 \fi
91 \fi
92 \else

```

This would have to be modified for lwarp:

```

93 \LWR@traceinfo{addcontents lst@caption: -\lst@caption-}%
94 \addcontentsline{lol}{\lstlisting}%
95 {\protect\numberline{\thelstlisting}%
96 {\protect\ignorespaces \LWR@isolate{\lst@caption} \protect\relax}}%
97 \fi
98 \fi
99 \fi
100 \ifx\lst@caption\@empty\else
101 \LWR@traceinfo{\lst@caption not empty-}%
102 \lst@ifsubstring #1\lst@captionpos
103 {\begingroup
104 \LWR@traceinfo{at the selected position}%

```

These space and box commands are not needed for HTML output:

```

105 % \let@@vskip\vskip
106 % \def\vskip{\afterassignment\lst@vskip \@tempskipa}%
107 % \def\lst@vskip{\nobreak@@vskip\@tempskipa\nobreak}%
108 % \par\@parboxrestore\normalsize\normalfont % \noindent (AS)
109 % \ifx #1t\allowbreak \fi
110 \ifx\lst@title\@empty

```

New lwarp code to create a caption:

```

111 \LWR@stoppars%
112 \lst@makecaption\fnum@lstlisting{\ignorespaces \lst@caption}
113 \else

```

New **lwarp** code to create a title:

```

114 % \lst@maketitle\lst@title % (AS)
115 \LWR@traceinfo{Making title: \lst@title}%
116 \begin{BlockClass}{\lstlistingtitle}% lwarp
117 \lst@maketitle\lst@title% lwarp
118 \end{BlockClass}% lwarp
119 \fi
120 \LWR@traceinfo{About to assign label: !\lst@label!}%
121 \ifx\lst@label\@empty\else
122 \leavevmode% gets rid of bad space factor error
123 \GetTitleStringExpand{\lst@caption}%
124 \edef\LWR@lntemp{\GetTitleStringResult}%
125 \edef\@currentlabelname{\detokenize\expandafter{\LWR@lntemp}}%
126 \label{\lst@label}\fi
127 \LWR@traceinfo{Finished assigning the label.}%

```

Not needed for **lwarp**:

```

128 % \ifx #1b\allowbreak \fi
129 \endgroup}{}%
130 \fi
131 \LWR@traceinfo{end of making a listings display caption}%
132 \else
133 \LWR@traceinfo{INLINE}%
134 \fi
135 \LWR@traceinfo{DONE WITH CAPTION at #1}%
136 }
137
138 \renewcommand{\lst@maketitle}[1]{%
139 \LWR@isolate{#1}%
140 }%
141

```

[line numbers](#) Patched to keep left line numbers outside of the left margin, and place right line numbers in a field `\VerbatimHTMLWidth` wide.

```

142 \lst@Key{numbers}{none}{%
143 \let\lst@PlaceNumber\@empty
144 \lstKV@SwitchCases{#1}%
145 {none:}%
146 left:\def\lst@PlaceNumber{%

```

For now, **lwarp** places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```

147 % \LWR@origllap{
148 \LWR@orignormalfont%
149 \lst@numberstyle{\thelstnumber}\kern\lst@numbersep%
150 % }
151 }%%
152 right:\def\lst@PlaceNumber{\LWR@origrlap{\LWR@orignormalfont
153 \kern 6in \kern\lst@numbersep

```

---

```

154 \lst@numberstyle{\thelstnumber}}}%
155 }\PackageError{lwarp-listings}{Numbers #1 unknown}\@ehc}

```

---

File 245 **lwarp-listliketab.sty**

§ 352 Package **listliketab**

Pkg listliketab listliketab is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{listliketab}[2005/01/09]

```

2 \newcommand*{\storestyleof}[1]{}
3 \newcommand*{\storeliststyle}{}
4 \newenvironment{listliketab}{}{}

```

---

File 246 **lwarp-lltjext.sty**

§ 353 Package **lltjext**

(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X-JA PROJECT TEAM.)

Pkg lltjext lltjext is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{lltjext}[2018/10/07]

```

2 \protected\def\yoko{%
3 \directlua{luatexja.direction.set_list_direction(4, 'yoko')}%
4 }
5 \protected\def\tate{\yoko}
6 \protected\def\dtou{\yoko}
7 \protected\def\utod{\yoko}
8
9 \define@key[ltj]{japaram}{direction}{}
10
11 \yoko
12
13 \DeclareExpandableDocumentCommand{\rensuji}{s o m}{#3}
14
15 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
16
17 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}
18
19 \LetLtxMacro\pccaption\caption
20
21 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}
22
23 \let\captiondir\relax
24 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{} O{t} m}
25 {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
26 {\endLWR@HTML@sub@minipage}

```

```

27
28 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> O{t} O{} O{t} m +m}
29 {
30 \LWR@traceinfo{parbox of width #4}%
31 \begin{minipage}[#2][#3][#4]{#5}%
32 #6
33 \end{minipage}%
34 }
35
36 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{%
37 \global\booltrue{LWR@minipagefullwidth}%
38 \parbox{#2}{#4}%
39 }

```

File 247 **lwarp-longtable.sty**

## § 354 Package **longtable**

(Emulates or patches code by DAVID CARLISLE.)

Pkg Longtable **longtable** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{longtable}[2014/10/28]

Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```

\begin{longtable}{ [column specifiers] }
[. . .] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[. . .] \endhead % or \endfirsthead
[. . .] \endfoot
[<lastfoot macros>] \endlastfoot
}
. . . table contents . . .
\warppHTMLonly{
[<lastfoot macros>] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}

```

⚠ Misplaced `\noalign` Use the `\warpprintonly` macro instead of the `\warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ `\kill` `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ `lateximage` **longtable** is not supported inside a `lateximage`.

See:

<http://tex.stackexchange.com/questions/43006/why-is-input-not-expandable>

Used to detect more than one of `\endhead` and `\endfirsthead` in use for HTML at the same time.

```
2 \newbool{LWR@longtable@havehead}
3 \boolfalse{LWR@longtable@havehead}
```

Env `longtable` \* [*horizontalalignment*] [*colspec*] Emulates the `longtable` environment.

Per the `caption` package, the starred version steps the counter per caption. The unstarred version steps the counter once at the beginning, but not at each caption.

Options `[c]`, `[l]`, and `[r]` are ignored.

```
4 \newenvironment{longtable*}[2][{}]{%
5 \LWR@floatbegin{table}%
6 \ifdef{\setcaptiontype}{% caption package:
7 \setcaptiontype{LTcaption}%
8 \caption@setoptions{longtable}%
9 \caption@setoptions{@longtable}%
10 \caption@LT@setup%
11 }{% w/o caption package:
12 \renewcommand*{\@caption}{\LTcaption}%
13 }%
14 \booltrue{LWR@starredlongtable}%
15 \boolfalse{LWR@longtable@havehead}%
16 \let\captionlistentry\LWR@LTcaptionlistentry%
17 \tabular{#2}%
18 }
19 {\endtabular\LWR@floatend}
20
21 \newenvironment{longtable}[2][{}]{%
22 \LWR@floatbegin{table}%
23 \ifdef{\setcaptiontype}{% caption package:
24 \setcaptiontype{LTcaption}%
25 \caption@setoptions{longtable}%
26 \caption@setoptions{@longtable}%
27 \caption@LT@setup%
28 }{% w/o caption package:
29 \renewcommand*{\@caption}{\LTcaption}%
30 }%
31 \refstepcounter{\LTcaption}%
32 \boolfalse{LWR@longtable@havehead}%
33 \let\captionlistentry\LWR@LTcaptionlistentry%
34 \tabular{#2}%
35 }
36 {\endtabular\LWR@floatend}
```

Provided for compatibility, but ignored:

```
37 \newcounter{LTchunksize}
```

Error for heads which should have been in \warpprintonly:

```

38 \newcommand*{\LWR@longtable@headerror}{%
39 \PackageError{lwarp-longtable}
40 {For longtable:\MessageBreak
41 1: Keep either one of an \protect\endhead\space or
42 \protect\endfirsthead\space\MessageBreak
43 \space phrase as-is, to be used by both print and HTML.\MessageBreak
44 2: Place any other \protect\end... phrases inside a\MessageBreak
45 \space\protect\warpprintonly\space macro,
46 to be ignored by HTML.\MessageBreak
47 3: Add a final footer for HTML at the end of the table\MessageBreak
48 \space inside a \protect\warpprintonly\space macro.
49 This can be\MessageBreak
50 \space a copy of an \protect\endfoot\space or
51 \protect\endfirstfoot\space phrase,\MessageBreak
52 \space but without the actual \protect\endfoot\space
53 or \protect\endfirstfoot\MessageBreak
54 \space macros. If using threeparttablex, add\MessageBreak
55 \space \protect\insertTableNotes\space here,
56 optionally with\MessageBreak
57 \space \protect\UseMinipageWidths\space in front.\MessageBreak
58 See the Lwarp documentation regarding longtables\MessageBreak
59 and threeparttablex}
60 {See the Lwarp documentation regarding longtables and threeparttablex.}
61 }

```

Error if more than one of \endhead or \endfirsthead is outside of warpprintonly.

```

62 \newcommand*{\LWR@longtable@maybeheaderror}{%
63 \ifbool{\LWR@longtable@havehead}%
64 {\LWR@longtable@headerror}%
65 {%
66 \booltrue{\LWR@longtable@havehead}
67 \LWR@tabularendoffline% throws away options //[dim] and //*
68 }%
69 }

```

Error if more than one of these is outside of warpprint.

```

70 \def\endhead{\LWR@longtable@maybeheaderror}
71 \def\endfirsthead{\LWR@longtable@maybeheaderror}

```

Error if ANY of these is outside of warpprint.

```

72 \def\endfoot{\LWR@longtable@headerror}
73 \def\endlastfoot{\LWR@longtable@headerror}

74 \providecommand*{\LWR@HTML@tabularnewline}{\LWR@tabularendoffline}
75 \LWR@formatted{tabularnewline}

76 \newcommand{\setlongtables}{}% Obsolete command, does nothing.
77 \newlength{\LTleft}
78 \newlength{\LTright}
79 \newlength{\LTpre}

```

---

```

80 \newlength{\LTpost}
81 \newlength{\LTcapwidth}

82 \LetLtxMacro\LWR@origkill\kill
83 \renewcommand*\kill{\LWR@tabularendofline}
84 \appto\LWR@restoreorigformatting{%
85 \LetLtxMacro\kill\LWR@origkill%
86 }

```

---

File 248 **lwarp-lpic.sty**

§ 355    Package **lpic**

*(Emulates or patches code by R. MATVEYEV.)*

Pkg    lpic    lpic is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{lpic}[2010/12/23]

2 \BeforeBeginEnvironment{lpic}{%
3 \begin{lateximage}[-lpic~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{lpic}{\end{lateximage}}

```

---

File 249 **lwarp-lscape.sty**

§ 356    Package **lscape**

*(Emulates or patches code by D. P. CARLISLE.)*

Pkg    lscape    lscape is ignored.

**for HTML output:**    Discard all options for lwarp-lscape.

```

1 \LWR@ProvidesPackageDrop{lscape}[2000/10/22]

2 \newenvironment*{landscape}{}{}

```

---

File 250 **lwarp-ltablex.sty**

§ 357    Package **ltablex**

*(Emulates or patches code by ANIL K. GOEL.)*

Pkg    ltablex    ltablex is emulated by lwarp.

**for HTML output:**

Relies on `tabularx`.

```

1 \RequirePackage{longtable}
2 \RequirePackage{tabularx}
3
4 \LWR@ProvidesPackageDrop{ltablex}[2014/08/13]
5
6 \DeclareDocumentEnvironment{tabularx}{m o m}
7 {\longtable{#3}}
8 {\endlongtable}
9
10 \DeclareDocumentEnvironment{tabularx*}{m o m}
11 {\longtable{#3}}
12 {\endlongtable}
13
14 \newcommand*{\keepXColumns}{}
15 \newcommand*{\convertXColumns}{}

```

---

File 251 **lwarp-ltcaption.sty**

§ 358     Package **ltcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg    `ltcaption`    `ltcaption` is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{ltcaption}[2018/08/26]

`\LTcaptype` is already defined by `lwarp`.

`longtable*` is already defined by `lwarp-longtable`.

```

2 \newlength{\LTcapskip}
3 \newlength{\LTcapleft}
4 \newlength{\LTcapright}
5 \newcommand*{\LTcapmarginsfalse}{}

```

---

File 252 **lwarp-ltxgrid.sty**

§ 359     Package **ltxgrid**

Pkg    `ltxgrid`    `ltxgrid` is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{ltxgrid}[2010/07/25]

```

2 \newcommand*{\onecolumngrid}{}
3 \newcommand*{\twocolumngrid}{}
4 \newcommand*{\removestuff}{}
5 \newcommand*{\addstuff}[2]{}
6 \newcommand*{\replacestuff}[2]{}

```



---

File 253 **lwarp-ltxtable.sty**

§ 360 Package **ltxtable**

Pkg ltxtable ltxtable is emulated.

 **table numbering** The print version does not seem to honor longtable\* from the caption package, while lwarp does.

**for HTML output:**

```
1 \RequirePackage{tabularx,longtable}
2 \LWR@ProvidesPackageDrop{ltxtable}[1995/12/11]
```

```
\LTxtable {\width}\{file}

3 \newcommand*\LTxtable[2]{%
4 \input{#2}%
5 }
```

---

File 254 **lwarp-lua-check-hyphen.sty**

§ 361 Package **lua-check-hyphen**

Pkg lua-check-hyphen lua-check-hyphen is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{lua-check-hyphen}[2018/04/19]

2 \newcommand*\LuaCheckHyphen[1]{}
```

---

File 255 **lwarp-lua-visual-debug.sty**

§ 362 Package **lua-visual-debug**

Pkg lua-visual-debug lua-visual-debug is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{lua-visual-debug}[2016/05/30]
```

---

File 256 **lwarp-luacolor.sty**

§ 363 Package **luacolor**

Pkg luacolor luacolor is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{luacolor}[2016/05/16]
```

---

```
2 \newcommand{\luacolorProcessBox}[1]{}
```

---

File 257 **lwarp-luamplib.sty**

## § 364 Package **luamplib**

(Emulates or patches code by HANS HAGEN, TACO HOEKWATER, ELIE ROUX, PHILIPP GESANG, KIM DOHYUN.)

Pkg luamplib **luamplib** is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{luamplib}[2020/02/24]

2 \BeforeBeginEnvironment{mplibcode}{%
3 \begin{lateximage}[-mplibcode~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{mplibcode}{\end{lateximage}}
```

---

File 258 **lwarp-luatexko.sty**

## § 365 Package **luatexko**

(Emulates or patches code by DOHYUN KIM, SOOJIN NAM.)

Pkg luatexko **luatexko** is patched for use by lwarp.

Modern HTML is used for \dotemph, \ruby, and offset and thickness control for \uline, etc.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{luatexko}[2020/03/20]

2 \newcommand{\LWR@HTML@dotemph}[1]{%
3 \uline{#1}%
4 \InlineClass[text-emphasis-style: dot]{dotemph}{#1}%
5 }
6 \LWR@formatted{dotemph}
7
8 \newcommand{\LWR@HTML@ruby}[2]{%
9 \LWR@htmltagc{ruby}%
10 \LWR@htmltagc{rb}#1\LWR@htmltagc{/rb}%
11 \LWR@htmltagc{rp}(\LWR@htmltagc{/rp}%
12 \LWR@htmltagc{rt}#2\LWR@htmltagc{/rt}%
13 \LWR@htmltagc{rp})\LWR@htmltagc{/rp}%
14 \LWR@htmltagc{/ruby}%
15 }
16 \LWR@formatted{ruby}
```

The following is modified from lwarp-ulem:

```
17 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
18 \InlineClass%
```

```

19 (text-decoration:underline; text-decoration-skip: auto)%
20 [%
21 text-underline-offset: \ulinedown ;
22 text-decoration-thickness: \ulinewidth%
23]%
24 {uline}{\LWR@isolate{#1}}}%
25 }
26 \LWR@formatted{uline}
27
28 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
29 \InlineClass%
30 (%
31 text-decoration:underline; text-decoration-skip: auto;%
32 text-decoration-style:double%
33)%
34 [%
35 text-underline-offset: \ulinedown ;
36 text-decoration-thickness: \ulinewidth%
37]%
38 {uuline}{\LWR@isolate{#1}}}%
39 }
40 \LWR@formatted{uuline}
41
42 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
43 \InlineClass%
44 (%
45 text-decoration:underline; text-decoration-skip: auto;%
46 text-decoration-style:wavy%
47)%
48 [%
49 text-underline-offset: \ulinedown ;
50 text-decoration-thickness: \ulinewidth%
51]%
52 {uwave}{\LWR@isolate{#1}}}%
53 }
54 \LWR@formatted{uwave}
55
56 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
57 \InlineClass%
58 (text-decoration:line-through)%
59 [text-decoration-thickness: \ulinewidth]%
60 {sout}{\LWR@isolate{#1}}}%
61 }
62 \LWR@formatted{sout}
63
64 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
65 \InlineClass%
66 (text-decoration:line-through)%
67 [text-decoration-thickness: \ulinewidth]%
68 {xout}{\LWR@isolate{#1}}}%
69 }
70 \LWR@formatted{xout}
71
72 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
73 \InlineClass%

```

```

74 (%)
75 text-decoration:underline;%
76 text-decoration-skip: auto;%
77 text-decoration-style:dashed%
78)%
79 [%
80 text-underline-offset: \ulinedown ;
81 text-decoration-thickness: \ulinewidth%
82]%
83 {dashuline}{\LWR@isolate{#1}}%
84 }
85 \LWR@formatted{dashuline}
86
87 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
88 \InlineClass%
89 (%)
90 text-decoration:underline;%
91 text-decoration-skip: auto;%
92 text-decoration-style: dotted%
93)%
94 [%
95 text-underline-offset: \ulinedown ;
96 text-decoration-thickness: \ulinewidth%
97]%
98 {dotuline}{\LWR@isolate{#1}}%
99 }
100 \LWR@formatted{dotuline}

```

---

File 259 **lwarp-luatodonotes.sty**

§ 366      Package **luatodonotes**

*(Emulates or patches code by FABIAN LIPP.)*

Pkg    luatodonotes    **luatodonotes** is emulated.

The documentation for **todonotes** and **luatodonotes** have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

**for HTML output:**    1 \LWR@ProvidesPackagePass{luatodonotes}[2017/09/30]

Nullify options:

```

2 \@todonotes@additionalMarginEnabledfalse

3 \if@todonotes@disabled
4 \else
5
6 \newcommand{\ext@todo}{\todo}
7
8 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\todo}{\ldo}{#1}{#2}}

```

```

9 \let\LWRTODONOTES@orig@todototoc\todototoc
10
11 \renewcommand*{\todototoc}{%
12 \LWR@phantomsection%
13 \LWRTODONOTES@orig@todototoc%
14 }
15
16
17 \renewcommand{\@todonotes@drawMarginNoteWithLine}{%
18 \fcolorbox
19 {\@todonotes@currentbordercolor}
20 {\@todonotes@currentbackgroundcolor}
21 {\arabic{\@todonotes@numberoftodonotes}}
22 \marginpar{\@todonotes@drawMarginNote}
23 }
24
25 \renewcommand{\@todonotes@drawInlineNote}{%
26 \fcolorboxBlock%
27 {\@todonotes@currentbordercolor}%
28 {\@todonotes@currentbackgroundcolor}%
29 {%
30 \if@todonotes@authorgiven%
31 {\@todonotes@author:\,%}
32 \fi%
33 \@todonotes@text%
34 }%
35 }
36
37 \newcommand{\@todonotes@drawMarginNote}{%
38 \if@todonotes@authorgiven%
39 \@todonotes@author\par%
40 \fi%
41 \arabic{\@todonotes@numberoftodonotes}: %
42 \fcolorbox%
43 {\@todonotes@currentbordercolor}%
44 {\@todonotes@currentbackgroundcolor}%
45 {%
46 \@todonotes@sizecommand%
47 \@todonotes@text %
48 }%
49 }%
50
51 \renewcommand{\missingfigure}[2][]{%
52 \setkeys{todonotes}{#1}%
53 \addcontentsline{tdo}{\todo}{\@todonotes@MissingFigureText: #2}%
54 \fcolorboxBlock%
55 {\@todonotes@currentbordercolor}%
56 {\@todonotes@currentfigcolor}%
57 {%
58 \setlength{\fboxrule}{4pt}%
59 \fcolorbox{red}{white}{Missing figure} \quad #2%
60 }
61 }
62
63 \LetLtxMacro\LWRTODONOTES@orig@todocommon\@todocommon

```

---

```

64
65 \RenewDocumentCommand{\@todocommon}{m m}{%
66 \begingroup%
67 \renewcommand*\phantomsection{}%
68 \LWRTODONOTES@orig@todocommon{#1}{#2}%
69 \endgroup%
70 }
71
72 \renewcommand{\@todoarea}[3][]{%
73 \@todonotes@areaselectedtrue%
74 \@todocommon{#1}{#2}%
75 \@todonotes@textmark@highlight{#3}%
76 \zref@label{\@todonotes@arabic{\@todonotes@numberoftodonotes}@end}%
77 }%
78
79
80 \DeclareDocumentCommand{\todonotes@textmark@highlight}{m}{%
81 \InlineClass[background:\LWR@origpound{ }B3FFB3]{highlight}{#1}%
82 }
83
84 \fi% \if@todonotes@disabled

```

---

File 260 **lwarp-luavlna.sty**

§ 367    Package **luavlna**

*(Emulates or patches code by MICHAL HOFTICH, MIRO HRONČOK.)*

Pkg    luavlna    **luavlna** is patched for use by **lwarp**.

The package is disabled for HTML output, due to incompatibilities with **lwarp**'s handling of math SVG images.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{luavlna}[2019/10/30]

2 \preventsingloff
3 \LetLtxMacro\preventsingleon\preventsingloff

```

---

File 261 **lwarp-lyluatex.sty**

§ 368    Package **lyluatex**

*(Emulates or patches code by FR. JACQUES PERON, URS LISKA, BR. SAMUEL SPRINGUEL.)*

Pkg    lyluatex    **lyluatex** is patched for use by **lwarp**.

For the first compile, to set **lwarpmk**'s configuration, use:

```
lualatex --shell-escape <filename>
```

 **images** After compiling the document with **lwarpmk html**, use **lwarpmk limages** to convert the Lilypond images for HTML.

The option `insert=systems` results in an image per system. Each music image “system” is placed inside a `<span>` of class `lyluatex`, which defaults to `display: inline-block`.

 **insert=fullpage** The option `insert=fullpage` results in a single image per page of printed output. Each music “fullpage” image is placed inside a `<div>` of class `lyluatex`. To match the number of measures per line with the printed version, use the **geometry** package to select the page geometry, or use the **lyluatex** options for page and staff sizes.

 **options** To use `\linewidth` or `\textwidth` inside the package options for **lyluatex**, use the **kvoptions-patch** package first:

```
\usepackage{kvoptions-patch}
\usepackage[... ,line-width=0.8\linewidth,...]{lyluatex}
```

 **raw-pdf** If using `raw-pdf`, the resulting PDF images must be converted to SVG:

Enter  $\Rightarrow$  **lwarpmk pdftosvg tmp-ly/\*.pdf**

**for HTML output:**

```
1 \LWR@origRequirePackage{luacode}
2
3 \LWR@ProvidesPackagePass{lyluatex}[2019/05/27]
```

User-redefinable ALT tag:

```
4 \newcommand*{\LyluatexImageAltText}{~lilypond~\PackageDiagramAltText}
```

```
\ly@compilescore {(Lilypond object)}
5 \let\ltxMacro\LWR@orig@ly@compilescore\ly@compilescore
6
7 \renewcommand*{\ly@compilescore}[1]{%
```

A local group holds a number of changes:

```
8 \begingroup%
```

The user’s original geometry and font size are restored to match the print version. This allows for correct spacing in the musical score.

```
9 \LWR@maybe@orignewpage%
10 \LWR@origloadgeometry{\LWR@usergeometry}%
11 \LWR@print@normalsize%
```

A local group holds a redefined `\includegraphics` which is used by *lyluatex.lua* to insert the *Lilypond* score if `insert=systems` is used. This is now placed inside a `lateximage`, which itself is placed inside a `<span>` of class `lyluatex`.

`\LWR@addbaselinemarker` preserves the left margins.

```
12 \renewcommand{\includegraphics}[2][{}]{%
13 \InlineClass{lyluatex}{%
14 \begin{lateximage}[\LyluatexImageAltText]%
15 \LWR@addbaselinemarker%
16 \LWR@originincludegraphics{##2}%
```

```

17 \end{lateximage}%
18 }%
19 }%

```

From the original:

```

20 \ly@setunits%
21 \directlua{
22 ly_opts:set_option('currfiledir', [[\currfiledir]])
23 ly_opts:set_option('twoside', '\ly@istwosided')
24 #1
25 }%
26 \ly@resetunits%
27 \ly@currentfonts%

```

The fullpage version is set inside an HTML <div>:

```

28 \directlua{
29 if (ly.score.insert == 'fullpage') then
30 tex.print{[[\string\begin{BlockClass}{lyluatex}]]}
31 end
32 }%

```

Generate the score:

```

33 \directlua{ly.score:process()}%

```

Close the <div>:

```

34 \directlua{
35 if (ly.score.insert == 'fullpage') then
36 tex.print{[[\string\end{BlockClass}]]}
37 end
38 }%

```

Move to a new page and renew the regular page geometry:

```

39 \LWR@maybe@orignewpage%
40 \LWR@origrestoregeometry%

```

End of the local group.

```

41 \endgroup%
42 }

```

In HTML the following generates an error, so is removed:

```

43 \xpatchcmd{\endly@bufferenv}
44 {\hspace{0pt}\}
45 {}
46 {}
47 {\LWR@patcherror{lyluatex}{endly@bufferenv}}

```

---

File 262 **lwarp-magaz.sty**

§ 369 Package **magaz**

Pkg magaz magaz is emulated.



for HTML output:

```

1 \LWR@ProvidesPackageDrop{magaz}[2011/11/24]

2 \newcommand\FirstLine[1]{%
3 \begingroup%
4 \FirstLineFont{%
5 \LWR@textcurrentcolor{%
6 \LWR@textcurrentfont{%
7 #1%
8 }%
9 }%
10 }%
11 \endgroup%
12 }
13
14 \providecommand\FirstLineFont{\scshape}

```

---

File 263 **lwarp-makeidx.sty**

§ 370    Package **makeidx**

*(Emulates or patches code by L<sup>A</sup>T<sub>E</sub>X PROJECT TEAM.)*

Pkg    makeidx    **makeidx** is patched for use by **lwarp**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{makeidx}[2014/09/29]

```

`\@wrindex` is redefined `\AtBeginDocument` by the **lwarp** core.

`\printindex`

```

2 \preto\printindex{%
3 \LWR@maybe@orignewpage%
4 \LWR@startpars%
5 }

```

---

File 264 **lwarp-manyfoot.sty**

§ 371    Package **manyfoot**

Pkg    manyfoot    **manyfoot** is emulated.

**bigfoot**, **manyfoot**    Verbatim footnotes are not yet supported.

 **verbatim**

If using the **bigfoot** package, and possibly also **manyfoot**, problems may occur with counter allocation because **lwarp** uses many counters, and there is a difference in how counters numbered 256 and up are handled in pdfL<sup>A</sup>T<sub>E</sub>X. With **bigfoot** this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining **bigfoot** or **manyfoot** footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use  $\text{Xe}_{\text{L}}\text{TeX}$  or  $\text{Lua}_{\text{L}}\text{TeX}$  instead of  $\text{pdf}_{\text{L}}\text{TeX}$ .

**lwarp**'s emulation of **bigfoot** uses **manyfoot**, so some of the **bigfoot** enhancements are included here.

The **bigfoot** “default” footnote is ignored, using the **lwarp** version instead.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{manyfoot}[2005/09/11]

2 \RequirePackage{nccfootcs}
3
4 \newcommand{\extrafootnoterule}{}
5
6 \let\defaultfootnoterule\footnoterule
7
8 \newcommand*\SelectFootnoteRule}[2][0]{}
9
10 \newcommand{\footnoterulepriority}{1}
11
12 \newcommand{\SetFootnoteHook}[1]{}
13 \@onlypreamble\SetFootnoteHook
14
15 \newcommand{\SplitNote}{}
16
17 \newcommand*\ExtraParaSkip[1]{}
18
19 \newcommand*\newfootnote}[2][plain]{%
20 \ifstrequal{#2}{default}{}{}% not "default"
21 \expandafter\newbox\csname LWR@footnote#2box\endcsname%
22 \appto{\LWR@printpendingfootnotes}{%
23 \LWR@@printpendingfootnotes{footnote#2}%
24 }
25 \long\csdef{Footnotetext#2}##1##2{%
26 \NCC@makefnmark{##1}%
27 \LWR@@footnotetext{##2}{LWR@footnote#2box}%
28 }%
29 \long\csdef{Footnotetext#2+}##1##2{%
30 \NCC@makefnmark{##1}%
31 \LWR@@footnotetext{##2}{LWR@footnote#2box}%
32 }%
33 }% not "default"
34 }
35 \@onlypreamble\newfootnote
36
37 \newcommand*\DeclareNewFootnote}[2][plain]{%
38 \ifnextchar[%
39 {\LWR@manyfoot@declare{#1}{#2}}%
40 {\LWR@manyfoot@declare{#1}{#2}[arabic]}%
41 }
42
43 \def\LWR@manyfoot@declare#1#2[#3]{%
44 \ifstrequal{#2}{default}{}{}% not "default"
45 \newfootnote[#1]{#2}%

```

```

46 \newcounter{footnote#2}%
47 \newcounter{footnote#2Reset}%
48 \setcounter{footnote#2Reset}{0}%
49 \csdef{thefootnote#2}{%
50 \expandafter\noexpand\csname @#3\endcsname%
51 \expandafter\noexpand\csname c@footnote#2\endcsname%
52 }%

```

For **bigfoot**, the footnote commands may be appended with one or two plusses or one or two minuses, which are ignored in HTML.

```

53 \expandafter\NewDocumentCommand\csname footnote#2\endcsname{t{+}t{+}t{-}t{-}}{%
54 \stepcounter{footnote#2}%
55 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
56 \@footnotemark%
57 \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
58 }%
59 \csdef{footnotemark#2}{%
60 \stepcounter{footnote#2}%
61 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
62 \@footnotemark%
63 }%
64 \expandafter\NewDocumentCommand\csname footnotetext#2\endcsname{t{+}t{+}t{-}t{-}}{%
65 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
66 \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
67 }%
68 \csdef{Footnotemark#2}{%
69 \Footnotemark%
70 }%
71 \csdef{Footnote#2}##1{%
72 \Footnotemark{##1}%
73 \csuse{Footnotetext#2}{##1}%
74 }%
75 }% not "default"
76 }
77 \@onlypreamble\DeclareNewFootnote

```

---

File 265 **lwarp-marginal.sty**

§ 372     Package **marginal**

Pkg    marginal    marginal is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand*{\showlostmarginals}{}
3 \newcommand*{\enlargefreelist}{}
4 \newcommand*{\onesidemarginals}{}

```

---

File 266 **lwarp-marginfit.sty**

## § 373 Package **marginfit**

Pkg marginfit marginfit is ignored.

for HTML output: Discard all options for lwarp-marginfit:

```
1 \LWR@ProvidesPackageDrop{marginfit}[2018/06/08]
```

---

### File 267 **lwarp-marginfix.sty**

## § 374 Package **marginfix**

*(Emulates or patches code by STEPHEN HICKS.)*

Pkg marginfix marginfix is ignored.

for HTML output: Discard all options for lwarp-marginfix:

```
1 \LWR@ProvidesPackageDrop{marginfix}[2013/09/08]
```

```
2 \newcommand*{\marginfix}[1]{}
3 \newcommand*{\clearmargin}{}
4 \newcommand*{\softclearmargin}{}
5 \newcommand*{\extendmargin}[1]{}
6 \newcommand*{\mparshift}[1]{}
7 \newdimen\marginheightadjustment
8 \newdimen\marginposadjustment
9 \newcommand*{\blockmargin}[1][{}]{
10 \newcommand*{\unblockmargin}[1][{}]{
11 \newcommand*{\marginphantom}[2][{}]{
```

---

### File 268 **lwarp-marginnote.sty**

## § 375 Package **marginnote**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg marginnote marginnote is emulated.

for HTML output: Discard all options for lwarp-marginnote:

```
1 \LWR@ProvidesPackageDrop{marginnote}[2018/08/09]

2 \NewDocumentCommand{\marginnote}{+o +m o}{\marginpar{#2}}

3 \newcommand*{\marginnoteleftadjust}{}
4 \newcommand*{\marginnoterightadjust}{}
5 \newcommand*{\marginnotetextwidth}{}
6 \let\marginnotetextwidth\textwidth
7 \newcommand*{\marginnotevadjust}{}

```

```

8 \newcommand*{\marginfont}{}
9 \newcommand*{\raggedleftmarginnote}{}
10 \newcommand*{\raggedrightmarginnote}{}

11 \appto\LWR@restoreorigformatting{%
12 \RenewDocumentCommand{\marginnote}{+o +m o}{}
13 }

```

For MATHJAX:

```

14 \begin{warpMathJax}
15 \CustomizeMathJax{\newcommand{\LWRmarginnote}[1][]{}}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][]{\quad\small\textrm{#2}}\LWRmarginnote}}
17 \end{warpMathJax}

```

---

File 269 **lwarp-marvosym.sty**

§ 376 Package **marvosym**

(Emulates or patches code by THOMAS HENLICH, MOJCA MIKLAVEC.)

Pkg marvosym marvosym is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

for HTML output:

```

1 \LWR@ProvidesPackagePass{marvosym}[2011/07/20]

2 \renewcommand{\mvchr}[1]{%
3 \begin{lateximage}*{symbol #1}[marvosym #1]%
4 \mvs\char#1%
5 \end{lateximage}%
6 }
7
8 \renewcommand{\textmvs}[1]{%
9 \begin{lateximage}%
10 \mvs #1%
11 \end{lateximage}%
12 }

```

---

File 270 **lwarp-mathalpha.sty**

§ 377 Package **mathalpha**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg mathalpha mathalpha is used as-is for SVG math, and is emulated for MATHJAX.



#### limitations

The MATHJAX emulation ignores all package options, and some bold fonts may not be not supported by MATHJAX.

for HTML output:

---

```

1 \LWR@ProvidesPackagePass{mathalpha}[2019/10/05]
2
3 \begin{warpMathJax}
4 \CustomizeMathJax{\newcommand{\mathbbb}[1]{\boldsymbol{\mathbb{#1}}}}% not bold
5 \CustomizeMathJax{\newcommand{\mathbcal}[1]{\boldsymbol{\mathcal{#1}}}}
6 \CustomizeMathJax{\newcommand{\mathbfrac}[1]{\boldsymbol{\mathfrak{#1}}}}
7 \CustomizeMathJax{\newcommand{\mathbscr}[1]{\boldsymbol{\mathscr{#1}}}}% not bold
8 \end{warpMathJax}

```

---

File 271 **lwarp-mathastext.sty**

## § 378 Package **mathastext**

(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)

Pkg mathastext **mathastext** is used as-is for SVG math, and emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{mathastext}[2019/11/16]
2
3 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
4
5 \begin{warpMathJax}
6 \ifmst@itgreek
7 % \LWR@mathjax@addgreek@l@it{}{}
8 \else
9 \ifmst@upgreek
10 % \LWR@mathjax@addgreek@l@up{}{}
11 \else
12 \ifmst@frenchmath
13 % \LWR@mathjax@addgreek@l@up{}{}
14 \else
15 \ifmst@italic
16 % \LWR@mathjax@addgreek@l@it{}{}
17 \else
18 % \LWR@mathjax@addgreek@l@up{}{}
19 \fi
20 \fi
21 \fi
22
23 \ifcase\mst@greek@select
24 \or{\LWR@mathjax@addgreek@u@it*{}{}}
25 % \or{\LWR@mathjax@addgreek@u@up*{}{}}
26 \fi
27
28 \CustomizeMathJax{\newcommand{\mathnormalbold}[1]{\boldsymbol{#1}}}
29 \CustomizeMathJax{\newcommand{\MathEulerBold}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\newcommand{\MathEuler}[1]{#1}}
31 \CustomizeMathJax{\newcommand{\MathPSymbol}[1]{#1}}
32 \CustomizeMathJax{\let\fouriervec\vec}
33 \CustomizeMathJax{\let\pmvec\vec}
34 \CustomizeMathJax{\let\inodot\imath}
35 \CustomizeMathJax{\let\jnodot\jmath}

```

---

```

36 \CustomizeMathJax{\let\shortiff\iff}
37 \CustomizeMathJax{\let\longto\longrightarrow}
38 \CustomizeMathJax{\newcommand{\infotypsy}{\mathord{\unicode{x221E}}}}
39 \CustomizeMathJax{\newcommand{\proptopsy}{\mathrel{\unicode{x221D}}}}
40 \CustomizeMathJax{\let\prodpsy\prod}
41 \CustomizeMathJax{\let\sumpsy\sum}
42 \CustomizeMathJax{\let\MToriginalprod\prod}
43 \CustomizeMathJax{\let\MToriginalsum\sum}
44 \CustomizeMathJax{\newcommand{\DotTriangle}{\mathord{\unicode{x2234}}}}
45 \end{warpMathJax}

```

---

File 272 **lwarp-mathcomp.sty**

## § 379 Package **mathcomp**

(Emulates or patches code by TILMANN BÖß.)

Pkg mathcomp **mathcomp** is supported as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathcomp}[2001/01/07]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\tcohm}{\mathrm{\Omega}}}
4 \CustomizeMathJax{\newcommand{\tccelsius}{\unicode{x2103}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{\unicode{x00B5}}}}
6 \CustomizeMathJax{\newcommand{\tcperthousand}{\unicode{x2030}}}
7 \CustomizeMathJax{\newcommand{\tcpertenthousand}{\unicode{x2031}}}
8 \CustomizeMathJax{\newcommand{\tcdegree}{\mathrm{^{\circ}}}}
9 \CustomizeMathJax{\newcommand{\tcdigitoldstyle}[1]{\oldstyle{#1}}}
10 \end{warpMathJax}

```

---

File 273 **lwarp-mathdesign.sty**

## § 380 Package **mathdesign**

(Emulates or patches code by PAUL PICHAREAU.)

Pkg mathdesign **mathdesign** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options except greekuppercase and greeklowercase. The dedicated macros for upright and italic greek letters work correctly, although the user may wish to swap the definitions for epsilon and phi.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathdesign}[2013/08/29]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}

```

```

3
4 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
5
6 \begin{warpMathJax}
7 \LWR@infoprocessingmathjax{mathdesign}

```

Default greek upright or italicized:

```

8 \ifMD@grupright
9 \LWR@mathjax@addgreek@l@up{}{}
10 \fi
11
12 \ifMD@GRupright
13 \else
14 \LWR@mathjax@addgreek@u@it*{}{}
15 \fi

```

Upright:

```

16 \LWR@mathjax@addgreek@l@up{}{up}
17 \LWR@mathjax@addgreek@u@up*{}{up}

```

Italicized:

```

18 \LWR@mathjax@addgreek@l@it{}{it}
19 \LWR@mathjax@addgreek@u@it*{}{it}

```

Adapt to `mathdesign` inconsistency:

```

20 \CustomizeMathJax{\let\digammaup\Digammaup}
21 \CustomizeMathJax{\renewcommand{\digammait}{\mathit{\digammaup}}}

```

Extra symbols:

```

22 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x220A}}}}
23 \CustomizeMathJax{\newcommand{\smallowns}{\mathrel{\unicode{x220D}}}}
24 \CustomizeMathJax{\newcommand{\notsmallin}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x220A}}}}}
25 \CustomizeMathJax{\newcommand{\notsmallowns}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x220D}}}}}
26 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x221F}}}}

```

Integrals:

```

27 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
28 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
29 \CustomizeMathJax{\newcommand{\ointctrclockwise}{\mathop{\unicode{x2233}}\limits}}
30 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
31 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}

```

Math and text mode:

```

32 \CustomizeMathJax{\newcommand{\ddag}{\unicode{x2021}}}
33 \CustomizeMathJax{\newcommand{\P}{\unicode{x00B6}}}
34 \CustomizeMathJax{\newcommand{\copyright}{\unicode{x00A9}}}
35 \CustomizeMathJax{\newcommand{\dag}{\unicode{x2020}}}
36 \CustomizeMathJax{\newcommand{\pounds}{\unicode{x00A3}}}

```



Extra symbols:

```

37 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}
38 \CustomizeMathJax{\newcommand{\utimes}{\mathbin{\overline{\times}}}}
39 \CustomizeMathJax{\newcommand{\dtimes}{\mathbin{\underline{\times}}}}
40 \CustomizeMathJax{\newcommand{\udtimes}{\mathbin{\overline{\underline{\times}}}}}
41 \CustomizeMathJax{\newcommand{\leftwave}{\left\{}
42 \CustomizeMathJax{\newcommand{\rightwave}{\right\}}}
43
44 \end{warpMathJax}

```

---

File 274 **lwarp-mathdots.sty**

§ 381 Package **mathdots**

(Emulates or patches code by DAN LUECKING.)

Pkg mathdots mathdots is used as-is for SVG math, and emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{mathdots}[2014/06/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}
4 \CustomizeMathJax{\let\fixedddots\ddots}
5 \CustomizeMathJax{\let\fixedvdots\vdots}
6 \CustomizeMathJax{\let\fixediddots\iddots}
7 \CustomizeMathJax{\let\originalddots\ddots}
8 \CustomizeMathJax{\let\originalvdots\vdots}
9 \CustomizeMathJax{\let\originaliddots\iddots}
10 \CustomizeMathJax{\let\originaldddot\dddot}
11 \CustomizeMathJax{\let\originaldddot\dddot}
12 \end{warpMathJax}

```

---

File 275 **lwarp-mathfixs.sty**

§ 382 Package **mathfixs**

(Emulates or patches code by NIKLAS BEISERT.)

Pkg mathfixs mathfixs is used as-is for SVG math, and is emulated for MATHJAX.



Greek letters are unchanged.

for HTML output:

```

1 \LWR@ProvidesPackagePass{mathfixs}[2018/12/30]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\rfrac}[2]{\tfrac{#1}{#2}}}
4 \CustomizeMathJax{\newcommand{\vfrac}[2]{\mathinner{{}^{\#1}\!/_{\#2}}}}
5 \CustomizeMathJax{\newcommand{\ProvideMathFix}[1]{}}
6 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
7 \CustomizeMathJax{\newcommand{\.}{\,}}
8 \end{warpMathJax}

```

---

File 276 **lwarp-mathpazo.sty**

§ 383    Package **mathpazo**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg    mathpazo    **mathpazo** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations**    The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**    1 \LWR@ProvidesPackagePass{mathpazo}[2020/03/25]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoProcessingmathjax{mathpazo}
6
7 \ifpazo@slGreek
8 \LWR@mathjax@addgreek@u@it*{}{}
9 \fi
10
11 \LWR@mathjax@addgreek@u@up*{}{}
12
13 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
14 \end{warpMathJax}

```

---

File 277 **lwarp-mathptmx.sty**

§ 384    Package **mathptmx**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg    mathptmx    **mathptmx** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations**    The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**    1 \LWR@ProvidesPackagePass{mathptmx}[2020/03/25]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}

```

---

```

3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathptmx}
6
7 \@ifpackagewith{mathptmx}{slantedGreek}
8 {\LWR@mathjax@addgreek@u@it*{}}{}
9 {}
10
11 \LWR@mathjax@addgreek@u@up*{up}{}
12 \end{warpMathJax}

```

---

File 278 **lwarp-mathspec.sty**

## § 385 Package **mathspec**

(Emulates or patches code by ANDREW GILBERT MOSCHOU.)

Pkg mathspec **mathspec** is used as-is with SVG math, and is emulated for MATHJAX.

 **quotes** Double quotes (" and the " character) are removed during MATHJAX emulation, but this also includes inside \text.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathspec}[2016/12/22]
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}

```

Neutralize double quotes (" and \"):

```
5 \booltrue{LWR@MathJax@silentquotes}
```

Sort options for out Greek emulation:

```

6 \AtBeginDocument{
7 \ifcase\eu@GreekUppercase@@value %% If Greek Uppercase Regular
8 \LWR@mathjax@addgreek@u@up*{}{}
9 \or %% If Greek Uppercase Italic
10 \LWR@mathjax@addgreek@u@it*{}{}
11 \or %% If Greek Uppercase Plain
12 \LWR@mathjax@addgreek@u@up*{}{}
13 \fi
14 \ifcase\eu@GreekLowercase@@value %% If Greek Lowercase Regular
15 \LWR@mathjax@addgreek@l@up{}{}
16 \or %% If Greek Lowercase Italic
17 \LWR@mathjax@addgreek@l@it{}{}
18 \or %% If Greek Lowercase Plain
19 \LWR@mathjax@addgreek@l@it{}{}
20 \fi
21 }

```

Swap definitions according the **mathspec** conditionals:

```

22 \newcommand*{\LWR@mathspec@varforms}{%
23 \eu@ifbooltrue{GreekLowercase}{
24 \eu@ifbooltrue{exchangebetaforms}{
25 \CustomizeMathJax{\let\LWRorigbeta\beta}
26 \CustomizeMathJax{\let\beta\varbeta}
27 \CustomizeMathJax{\let\varbeta\LWRorigbeta}
28 }
29 \eu@ifbooltrue{exchangeepsilonforms}{
30 \CustomizeMathJax{\let\LWRorigepsilon\epsilon}
31 \CustomizeMathJax{\let\epsilon\varepsilon}
32 \CustomizeMathJax{\let\varepsilon\LWRorigepsilon}
33 }
34 \eu@ifbooltrue{exchangethetaforms}{
35 \CustomizeMathJax{\let\LWRorigtheta\theta}
36 \CustomizeMathJax{\let\theta\vartheta}
37 \CustomizeMathJax{\let\vartheta\LWRorigtheta}
38 }
39 \eu@ifbooltrue{exchangekappaforms}{
40 \CustomizeMathJax{\let\LWRorigkappa\kappa}
41 \CustomizeMathJax{\let\kappa\varkappa}
42 \CustomizeMathJax{\let\varkappa\LWRorigkappa}
43 }
44 \eu@ifbooltrue{exchangepiforms}{
45 \CustomizeMathJax{\let\LWRorigpi\pi}
46 \CustomizeMathJax{\let\pi\varpi}
47 \CustomizeMathJax{\let\varpi\LWRorigpi}
48 }
49 \eu@ifbooltrue{exchangerhoforms}{
50 \CustomizeMathJax{\let\LWRorigrho\rho}
51 \CustomizeMathJax{\let\rho\varrho}
52 \CustomizeMathJax{\let\varrho\LWRorigrho}
53 }
54 \eu@ifbooltrue{exchangephiforms}{
55 \CustomizeMathJax{\let\LWRorigphi\phi}
56 \CustomizeMathJax{\let\phi\varphi}
57 \CustomizeMathJax{\let\varphi\LWRorigphi}
58 }
59 }
60 \eu@ifbooltrue{GreekUppercase}{
61 \eu@ifbooltrue{exchangeThetaforms}{
62 \CustomizeMathJax{\let\LWRorigTheta\Theta}
63 \CustomizeMathJax{\let\Theta\varTheta}
64 \CustomizeMathJax{\let\varTheta\LWRorigTheta}
65 }
66 }
67 }

```

Append new action to `mathspec`'s `\AtBeginDocument` code:

```

68 \xapptocmd{\exchangeforms}
69 {\AtBeginDocument{\LWR@mathspec@varforms}}
70 {}
71 {\LWR@patcherror{mathspec}{exchangeforms}}
72
73 \end{warpMathJax}

```

File 279 **lwarp-mathtools.sty**

§ 386 Package **mathtools**

(Emulates or patches code by MORTEN HØGHOLM, LARS MADSEN.)

Pkg mathtools **mathtools** is patched for use by **lwarp**. Emulation macros are provided for MATHJAX.

⚠ equation numbering **showonlyrefs** is disabled, as it conflicts with **cleveref**, which is used by **lwarp**. Equation numbers may not match the print version.

⚠ italic correction **mathic** is not emulated for HTML.

⚠ MATHJAX If using MATHJAX:

- **mathtools disallowspace** does not work for MATHJAX. Protect brackets which are not optional arguments, such as:

```
\begin{gathered}{}
[p]=1 . . .
\end{gathered}
```

- **showonlyrefs** does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
- Due to MATHJAX limitations, the following do not render well: `\overbracket`, `\underbracket`, `\overbrace`, `\underbrace`, `rcases`, `drcases`, `\Aboxed`, and `\ArrowBetweenLines`.
- For the new cases-like environments, `\text` must be used to set the normal roman font if desired.
- `alignat` in MATHJAX requires math mode, but in L<sup>A</sup>T<sub>E</sub>X it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.

for HTML output: 1 \LWR@ProvidesPackagePass{mathtools}[2018/01/08]

2 \RequirePackage{graphicx}

3 \MHInternalSyntaxOn

Forces **showonlyrefs** off because **lwarp** uses **cleveref**, which is not compatible with **showonlyrefs**.

```
4 \renewcommand*{\MT_showonlyrefs_true}{%
5 \PackageWarningNoLine{lwarp}
6 {%
7 Mathtools \space showonlyrefs \space conflicts \space
```

```

8 with \space cleveref,\MessageBreak
9 which \space is \space used \space by \space lwarp, \space
10 so \space showonlyrefs \space is\MessageBreak
11 forced \space off. \space\space
12 Equation \space numbers \space may \space not \space match%
13 }
14 \MT_showonlyrefs_false:
15 }
16 \mathtoolsset{showonlyrefs=false}

```

Forces math italic correction off. Not patched for lwarp.

```

17 \renewcommand*{\MT_mathic_true:}{\MT_mathic_false:}
18 \mathtoolsset{mathic=false}

19 \MHInternalSyntaxOff

```

For MATHJAX:

```

20 \begin{warpMathJax}
21 \LWR@infoprocessingmathjax{mathtools}
22
23 \CustomizeMathJax{\newcommand{\mathllap}[2][\{\#1\#2\}}
24 \CustomizeMathJax{\newcommand{\mathrlap}[2][\{\#1\#2\}}
25 \CustomizeMathJax{\newcommand{\mathclap}[2][\{\#1\#2\}}
26 \CustomizeMathJax{\newcommand{\mathmbox}[1]{\#1}}
27 \CustomizeMathJax{\newcommand{\clap}[1]{\#1}}
28 \CustomizeMathJax{\newcommand{\LWRmathmakebox}[2][\{\#2\}}
29 \CustomizeMathJax{\newcommand{\mathmakebox}[1][\{\LWRmathmakebox\}}
30 \CustomizeMathJax{\newcommand{\cramped}[2][\{\#1\#2\}}
31 \CustomizeMathJax{\newcommand{\crampedllap}[2][\{\#1\#2\}}
32 \CustomizeMathJax{\newcommand{\crampedrlap}[2][\{\#1\#2\}}
33 \CustomizeMathJax{\newcommand{\crampedclap}[2][\{\#1\#2\}}
34 \CustomizeMathJax{\newenvironment{crampedsubarray}[1]{\{\}}
35 \CustomizeMathJax{\newcommand{\crampedsubstack}{\}}

36 \CustomizeMathJax{\newcommand{\smashoperator}[2][\{\#2\limits\}}

37 \CustomizeMathJax{\newcommand{\adjustlimits}{\}}

38 \CustomizeMathJax{\newcommand{\SwapAboveDisplaySkip}{\}}
39
40 \CustomizeMathJax{\require{extpfeil}}
41 \CustomizeMathJax{\Newextarrow\xLefttrightharpoon{10,10}{0x2194}}
42 \CustomizeMathJax{\Newextarrow\xLeftarrow{10,10}{0x21d0}}
43 \CustomizeMathJax{\Newextarrow\xhookrightarrow{10,10}{0x21a9}}
44 \CustomizeMathJax{\Newextarrow\xmapsto{10,10}{0x21a6}}
45 \CustomizeMathJax{\Newextarrow\xrightarrow{10,10}{0x21d2}}
46 \CustomizeMathJax{\Newextarrow\xLefttrightharpoon{10,10}{0x21d4}}
47 \CustomizeMathJax{\Newextarrow\xhookrightarrow{10,10}{0x21aa}}
48 \CustomizeMathJax{\Newextarrow\xrightharpoon{10,10}{0x21c1}}
49 \CustomizeMathJax{\Newextarrow\xleftharpoon{10,10}{0x21bd}}
50 \CustomizeMathJax{\Newextarrow\xrightleftharpoons{10,10}{0x21cc}}

```

```

51 \CustomizeMathJax{\Newextarrow\xrightharpoonup{10,10}{0x21c0}}
52 \CustomizeMathJax{\Newextarrow\xleftharpoonup{10,10}{0x21bc}}
53 \CustomizeMathJax{\Newextarrow\xleftrightharpoons{10,10}{0x21cb}}
54
55 \CustomizeMathJax{\newcommand{\LWRdunderbracket}[3]{%
56 \mathinner{\underset{#3}{\underline{\llcorner{#1}\lrcorner}}}}%
57 }}
58 \CustomizeMathJax{\newcommand{\LWRunderbracket}[2][\LWRdunderbracket{#2}}
59 \CustomizeMathJax{\newcommand{\underbracket}[1][\LWRunderbracket]}
60 \CustomizeMathJax{\newcommand{\LWRdooverbracket}[3]{%
61 \mathinner{\overset{#3}{\overline{\ulcorner{#1}\urcorner}}}}%
62 }}
63 \CustomizeMathJax{\newcommand{\LWROverbracket}[2][\LWRdooverbracket{#2}}
64 \CustomizeMathJax{\newcommand{\overbracket}[1][\LWROverbracket]}
65
66 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{#1}}}
67 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{#1}}}
68
69 \CustomizeMathJax{\newenvironment{matrix*}[1][\begin{matrix}]{\end{matrix}}}
70 \CustomizeMathJax{\newenvironment{pmatrix*}[1][\begin{pmatrix}]{\end{pmatrix}}}
71 \CustomizeMathJax{\newenvironment{bmatrix*}[1][\begin{bmatrix}]{\end{bmatrix}}}
72 \CustomizeMathJax{\newenvironment{Bmatrix*}[1][\begin{Bmatrix}]{\end{Bmatrix}}}
73 \CustomizeMathJax{\newenvironment{vmatrix*}[1][\begin{vmatrix}]{\end{vmatrix}}}
74 \CustomizeMathJax{\newenvironment{Vmatrix*}[1][\begin{Vmatrix}]{\end{Vmatrix}}}
75 \CustomizeMathJax{\newenvironment{smallmatrix*}[1][\begin{matrix}]{\end{matrix}}}
76 \CustomizeMathJax{\newenvironment{psmallmatrix*}[1][\begin{pmatrix}]{\end{pmatrix}}}
77 \CustomizeMathJax{\newenvironment{bsmallmatrix*}[1][\begin{bmatrix}]{\end{bmatrix}}}
78 \CustomizeMathJax{\newenvironment{Bsmallmatrix*}[1][\begin{Bmatrix}]{\end{Bmatrix}}}
79 \CustomizeMathJax{\newenvironment{vsmallmatrix*}[1][\begin{vmatrix}]{\end{vmatrix}}}
80 \CustomizeMathJax{\newenvironment{Vsmallmatrix*}[1][\begin{Vmatrix}]{\end{Vmatrix}}}
81 \CustomizeMathJax{\newenvironment{psmallmatrix}[1][\begin{pmatrix}]{\end{pmatrix}}}
82 \CustomizeMathJax{\newenvironment{bsmallmatrix}[1][\begin{bmatrix}]{\end{bmatrix}}}
83 \CustomizeMathJax{\newenvironment{Bsmallmatrix}[1][\begin{Bmatrix}]{\end{Bmatrix}}}
84 \CustomizeMathJax{\newenvironment{vsmallmatrix}[1][\begin{vmatrix}]{\end{vmatrix}}}
85 \CustomizeMathJax{\newenvironment{Vsmallmatrix}[1][\begin{Vmatrix}]{\end{Vmatrix}}}
86
87
88 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][\begin{multline*}]}
89 \CustomizeMathJax{\newenvironment{multlined}[1][\LWRmultlined]{\end{multline*}}}
90
91 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
92 \CustomizeMathJax{\renewcommand{\shoveleft}[1][\LWRorigshoveleft]}
93 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
94 \CustomizeMathJax{\renewcommand{\shoveright}[1][\LWRorigshoveright]}
95
96 \CustomizeMathJax{\newenvironment{dcases}{\begin{cases}]{\end{cases}}}
97 \CustomizeMathJax{\newenvironment{dcases*}{\begin{cases}]{\end{cases}}}
98 \CustomizeMathJax{\newenvironment{rcases}{\begin{cases}]{\end{cases}}}
99 \CustomizeMathJax{\newenvironment{rcases*}{\begin{cases}]{\end{cases}}}
100 \CustomizeMathJax{\newenvironment{drcases}{\begin{cases}]{\end{cases}}}
101 \CustomizeMathJax{\newenvironment{drcases*}{\begin{cases}]{\end{cases}}}
102 \CustomizeMathJax{\newenvironment{cases*}{\begin{cases}]{\end{cases}}}
103
104 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1][{}]}
105

```

```

106 \CustomizeMathJax{% special parsing to handle '&' in argument
107 \def\LWRboxed#1!!{\fbox{\(#1\)}&\fbox{\(#2\)}}
108 \newcommand{\Aboxed}[1]{\LWRboxed#1&&!!}
109 }

110 \CustomizeMathJax{
111 \newcommand{\LWRABLines}[1][\Updownarrow]{#1 \notag \\\}% star/nostar the same
112 \newcommand{\ArrowBetweenLines}{\ifstar\LWRABLines\LWRABLines}
113 }

114 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{#1}\notag \\\}}
115
116 \CustomizeMathJax{\newcommand{\vdotswithin}[1]{\hspace{.5em}\vdots}}

117 \CustomizeMathJax{\newcommand{\LWRshortvdotswithinstar}[1]{\vdots \hspace{.5em} & \\\}}
118 \CustomizeMathJax{\newcommand{\LWRshortvdotswithinnostar}[1]{& \hspace{.5em}\vdots \\\}}
119 \CustomizeMathJax{%
120 \newcommand{\shortvdotswithin}%
121 {\ifstar\LWRshortvdotswithinstar\LWRshortvdotswithinnostar}%
122 }
123
124 \CustomizeMathJax{\newcommand{\MTFlushSpaceAbove}}{}
125 \CustomizeMathJax{\newcommand{\MTFlushSpaceBelow}}{\\\}}
126
127 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiter\DeclarePairedDelimiter
128 \renewcommand{\DeclarePairedDelimiter}[3]{
129 \LWR@mathtools@orig@DeclarePairedDelimiter{#1}{#2}{#3}
130 % starred:
131 \appto\LWR@customizedMathJax{\LWRbackslash{}}
132 \appto\LWR@customizedMathJax{%
133 \LWRbackslash{ }newcommand{\LWRbackslash\macrotocname{#1}LWRsubstar\}%
134 }%
135 \appto\LWR@customizedMathJax{[2][]}%
136 \appto\LWR@customizedMathJax{\{\}%
137 \LWR@subcustomizedmathjax{##1\left##2##1\right##3}%
138 \appto\LWR@customizedMathJax{\}\}%
139 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
140 % not starred:
141 \appto\LWR@customizedMathJax{\LWRbackslash{}}
142 \appto\LWR@customizedMathJax{%
143 \LWRbackslash{ }newcommand{\LWRbackslash\macrotocname{#1}LWRsubnostar\}%
144 }%
145 \appto\LWR@customizedMathJax{[2][]}%
146 \appto\LWR@customizedMathJax{\{\}%
147 \LWR@subcustomizedmathjax{##1##2##1##3}%
148 \appto\LWR@customizedMathJax{\}\}%
149 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
150 % user macro:
151 \appto\LWR@customizedMathJax{\LWRbackslash{}}
152 \appto\LWR@customizedMathJax{%
153 \LWRbackslash{ }newcommand{\LWRbackslash\macrotocname{#1}\}%
154 {\LWRbackslash{ }\ifstar%
155 \LWRbackslash\macrotocname{#1}LWRsubstar%
156 \LWRbackslash\macrotocname{#1}LWRsubnostar%

```



```

157 \}%
158 }%
159 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
160 }
161 \@onlypreamble\DeclarePairedDelimiter
162
163 % (DeclarePairedDelimiterX is already defined to use \DeclarePairedDelimiterXPP.)
164
165 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiterXPP\DeclarePairedDelimiterXPP
166 \DeclareDocumentCommand{\DeclarePairedDelimiterXPP}{m O{1} m m m m m}{
167 \LWR@mathtools@orig@DeclarePairedDelimiterXPP{#1}[#2]{#3}{#4}{#5}{#6}{#7}
168 % subsubstar, second opt arg
169 \appto\LWR@customizedMathJax{\LWRbackslash}%
170 \appto\LWR@customizedMathJax{%
171 \LWRbackslash{}newcommand{\LWRbackslash\macrotoctocname{#1}LWRsubsubstar}%
172 }%
173 \appto\LWR@customizedMathJax{[#2]}%
174 \appto\LWR@customizedMathJax{\{\LWRbackslash{}left}%
175 \LWR@subcustomizedmathjax{#3#4#7}%
176 \appto\LWR@customizedMathJax{\LWRbackslash{}right}%
177 \LWR@subcustomizedmathjax{#5#6}%
178 \appto\LWR@customizedMathJax{\}\}%
179 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
180 % substar, first opt arg
181 \appto\LWR@customizedMathJax{\LWRbackslash}%
182 \appto\LWR@customizedMathJax{%
183 \LWRbackslash{}newcommand{\LWRbackslash\macrotoctocname{#1}LWRsubstar}[1][]%
184 }%
185 \appto\LWR@customizedMathJax{%
186 \{
187 \LWRbackslash{}def\LWRbackslash{}delimsizes{\#1\}
188 \LWRbackslash\macrotoctocname{#1}LWRsubsubstar
189 }%
190 }%
191 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
192 % subsubnostar, second opt arg
193 \appto\LWR@customizedMathJax{\LWRbackslash}%
194 \appto\LWR@customizedMathJax{%
195 \LWRbackslash{}newcommand{\LWRbackslash\macrotoctocname{#1}LWRsubsubnostar}%
196 }%
197 \appto\LWR@customizedMathJax{[#2]}%
198 \appto\LWR@customizedMathJax{\{\LWRbackslash{}delimsizes}%
199 \LWR@subcustomizedmathjax{#3#4#7}%
200 \appto\LWR@customizedMathJax{\LWRbackslash{}delimsizes}%
201 \LWR@subcustomizedmathjax{#5#6}%
202 \appto\LWR@customizedMathJax{\}\}%
203 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
204 % subnostar, first opt arg
205 \appto\LWR@customizedMathJax{\LWRbackslash}%
206 \appto\LWR@customizedMathJax{%
207 \LWRbackslash{}newcommand{\LWRbackslash\macrotoctocname{#1}LWRsubnostar}[1][]%
208 }%
209 \appto\LWR@customizedMathJax{%
210 \{
211 \LWRbackslash{}def\LWRbackslash{}delimsizes{\#1\}

```

```

212 \LWRbackslash\macroto{name{#1}LWRsubsubnstar
213 \}%
214 }%
215 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
216 % user macro:
217 \appto\LWR@customizedMathJax{\LWRbackslash{
218 \appto\LWR@customizedMathJax{
219 \LWRbackslash{ }newcommand\{
220 \LWRbackslash{ }\macroto{name{#1}%
221 \}%
222 \{\LWRbackslash{ }ifstar%
223 \LWRbackslash{ }\macroto{name{#1}LWRsubstar%
224 \LWRbackslash{ }\macroto{name{#1}LWRsubnstar%
225 \}%
226 }%
227 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
228 }
229 \@onlypreamble\DeclareParedDelimiterXPP
230 \@onlypreamble\DeclareParedDelimiterX
231
232 \CustomizeMathJax{\newcommand\lparen{ }}
233 \CustomizeMathJax{\newcommand\rparen{ }}
234 \CustomizeMathJax{\newcommand\ordinarycolon{: }}

235 \CustomizeMathJax{\newcommand\vcntcolon{\mathrel{\unicode{x2236}}}}
236
237 \CustomizeMathJax{\newcommand\dblcolon{\mathrel{\unicode{x2237}}}}
238 \CustomizeMathJax{\newcommand\coloneqq{\mathrel{\unicode{x2236}!=}}}
239 \CustomizeMathJax{\newcommand\Coloneqq{\mathrel{\unicode{x2237}!=}}}
240 \CustomizeMathJax{\newcommand\coloneq{\mathrel{\unicode{x2236}-}}}
241 \CustomizeMathJax{\newcommand\Coloneq{\mathrel{\unicode{x2237}-}}}
242
243 \CustomizeMathJax{\newcommand\eqqcolon{\mathrel{=!\unicode{x2236}}}}
244 \CustomizeMathJax{\newcommand\Eqqcolon{\mathrel{=!\unicode{x2237}}}}
245 \CustomizeMathJax{\newcommand\eqcolon{\mathrel{-\unicode{x2236}}}}
246 \CustomizeMathJax{\newcommand\Eqcolon{\mathrel{-\unicode{x2237}}}}
247
248 \CustomizeMathJax{\newcommand\colonapprox{\mathrel{\unicode{x2236}!\approx}}}
249 \CustomizeMathJax{\newcommand\Colonapprox{\mathrel{\unicode{x2237}!\approx}}}
250 \CustomizeMathJax{\newcommand\colonsim{\mathrel{\unicode{x2236}!\sim}}}
251 \CustomizeMathJax{\newcommand\Colonsim{\mathrel{\unicode{x2237}!\sim}}}
252
253 \CustomizeMathJax{\newcommand\nuparrow{\mathrel{\cancel{\uparrow}}}}
254 \CustomizeMathJax{\newcommand\ndownarrow{\mathrel{\cancel{\downarrow}}}}
255 \CustomizeMathJax{\newcommand\bigtimes{\mathop{\Large\times}\limits}}
256
257 \CustomizeMathJax{\newcommand\prescript[3]{\{ }^{\{ }_{\{ }#1}_{\{ }#2\}#3}}
258
259
260 \CustomizeMathJax{\newenvironment{lgathered}{\begin{gathered}}{\end{gathered}}}
261 \CustomizeMathJax{\newenvironment{rgathered}{\begin{gathered}}{\end{gathered}}}
262
263 \LetLtxMacro\LWR@mathtools@orig@newgathered\newgathered
264 \renewcommand\newgathered[4]{%

```

---

```

265 \LWR@mathtools@orig@newgathered{#1}{#2}{#3}{#4}%
266 \appto\LWR@customizedMathJax{\LWRbackslash{}}%
267 \LWR@subcustomizedmathjax{%
268 \newenvironment{#1}{\begin{gathered}}{\end{gathered}}%
269 }%
270 \appto\LWR@customizedMathJax{\LWRbackslash{}}%
271 }
272 \@onlypreamble\newgathered
273
274 \CustomizeMathJax{\newcommand{\splitfrac}[2]{\{^{\#1}_{\#2}\}}
275 \CustomizeMathJax{\let\splitdffrac\splitfrac}
276 \end{warpMathJax}

```

---

File 280 **lwarp-mattens.sty**

§ 387 Package **mattens**

(Emulates or patches code by DANIE ELS.)

Pkg mattens **mattens** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{mattens}[2010/03/26]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRmattensnull}{}}
4
5 \CustomizeMathJax{\newcommand{\LWRmattensnostar}[2][{}%
6 {#1{\LWRmattensundercmd{\LWRmattensovercmd{\LWRmattenscross{\boldsymbol{#2}}}}}}}%
7 }}
8
9 \CustomizeMathJax{\newcommand{\LWRmattensstar}[2][{}%
10 {#1{\LWRmattensundercmd{\LWRmattensovercmd{\LWRmattenscross{#2}}}}}}%
11 }}
12
13 \CustomizeMathJax{\newcommand{\LWRmattens}{
14 \ifstar\LWRmattensstar\LWRmattensnostar%
15 }}
16
17 \CustomizeMathJax{\newcommand{\aS}{%
18 \let\LWRmattenscross\LWRmattensnull%
19 \let\LWRmattensovercmd\overrightarrow%
20 \let\LWRmattensundercmd\LWRmattensnull%
21 \LWRmattens%
22 }}
23
24 \CustomizeMathJax{\newcommand{\Sa}{%
25 \let\LWRmattenscross\LWRmattensnull%
26 \let\LWRmattensovercmd\underrightarrow%
27 \let\LWRmattensundercmd\LWRmattensnull%
28 \LWRmattens%
29 }}
30
31 \CustomizeMathJax{\newcommand{\bS}{%

```

```

32 \let\LWRmattenscross\LWRmattensnull%
33 \let\LWRmattensovercmd\overline%
34 \let\LWRmattensundercmd\LWRmattensnull%
35 \LWRmattens%
36 }}
37
38 \CustomizeMathJax{\newcommand{\Sb}{%
39 \let\LWRmattenscross\LWRmattensnull%
40 \let\LWRmattensovercmd\overline%
41 \let\LWRmattensundercmd\LWRmattensnull%
42 \LWRmattens%
43 }}
44
45 \CustomizeMathJax{\newcommand{\aSa}{%
46 \let\LWRmattenscross\LWRmattensnull%
47 \let\LWRmattensovercmd\overrightarrow%
48 \let\LWRmattensundercmd\underrightarrow%
49 \LWRmattens%
50 }}
51
52 \CustomizeMathJax{\newcommand{\aSb}{%
53 \let\LWRmattenscross\LWRmattensnull%
54 \let\LWRmattensovercmd\overrightarrow%
55 \let\LWRmattensundercmd\overline%
56 \LWRmattens%
57 }}
58
59 \CustomizeMathJax{\newcommand{\bSa}{%
60 \let\LWRmattenscross\LWRmattensnull%
61 \let\LWRmattensovercmd\overline%
62 \let\LWRmattensundercmd\underrightarrow%
63 \LWRmattens%
64 }}
65
66 \CustomizeMathJax{\newcommand{\bSb}{%
67 \let\LWRmattenscross\LWRmattensnull%
68 \let\LWRmattensovercmd\overline%
69 \let\LWRmattensundercmd\overline%
70 \LWRmattens%
71 }}
72
73 \CustomizeMathJax{\newcommand{\aCSa}{%
74 \let\LWRmattenscross\tilde%
75 \let\LWRmattensovercmd\overrightarrow%
76 \let\LWRmattensundercmd\underrightarrow%
77 \LWRmattens%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bCSb}{%
81 \let\LWRmattenscross\tilde%
82 \let\LWRmattensovercmd\overline%
83 \let\LWRmattensundercmd\overline%
84 \LWRmattens%
85 }}
86 \end{warpMathJax}

```

---

File 281 **lwarp-maybemath.sty**

§ 388 Package **maybemath**

*(Emulates or patches code by ANDY BUCKLEY.)*

Pkg maybemath **maybemath** is used as-is for SVG math, and is emulated for MATHJAX.

 **no effect** MATHJAX is not able to detect the surrounding text font, so all **maybemath** macros are ignored.

**for HTML output:** 1 \LWR@ProvidesPackagePass{maybemath}[2005/2/22]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mayberm}[1]{\{#1\}}}
4 \CustomizeMathJax{\let\maybebm\mayberm}
5 \CustomizeMathJax{\let\maybeit\mayberm}
6 \CustomizeMathJax{\let\maybeitrm\mayberm}
7 \CustomizeMathJax{\let\maybeitsubscript\mayberm}
8 \CustomizeMathJax{\let\maybesf\mayberm}
9 \CustomizeMathJax{\let\maybebmsf\mayberm}
10 \end{warpMathJax}
```

---

File 282 **lwarp-mcaption.sty**

§ 389 Package **mcaption**

*(Emulates or patches code by STEPHAN HENNIG.)*

Pkg mcaption **mcaption** is ignored.

**for HTML output:** Discard all options for **lwarp-mcaption**:

```
1 \LWR@ProvidesPackageDrop{mcaption}[2009/03/13]

2 \newenvironment{margincap}{}{}
3 \newcommand*{\margincapalign}{}
4 \newlength{\margincapsep}
```

---

File 283 **lwarp-mdframed.sty**

§ 390 Package **mdframed**

*(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)*

Pkg mdframed **mdframed** is loaded with options forced to framemethod=none.

### § 390.1 Limitations

**support** Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for **mdframed** environments and frame titles.

 **loading** When used, **lwarp** loads **mdframed** in HTML with `framemethod=none`.

**font** For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the **mdframed** source). Since **lwarp** does not support `\bfseries` and friends, only one font selection may be made at a time.

**theoremtitlefont** `theoremtitlefont` is not supported, since the following text is not in braces in the **mdframed** source.

**ignored options** `userdefinedwidth` and `align` are currently ignored.

**css classes** Environments created or encapsulated by **mdframed** are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `|mdframedtitle|`. Subtitles are in a `<div>` of class `|mdframedsubtitle|`, and likewise for subsubtitles.

Pre-existing hooks are used to patch extra functions before and after the frames.

### § 390.2 Package loading

**for HTML output:**

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require `Tikz` or `pstricks`:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

### § 390.3 Patches

Patch to remove PDF formatting and add HTML tags:

```
5 \AtBeginDocument{
6 \def\mdf@trivlist#1{%
7 \edef\mdf@temp{%
8 \topsep=\the\topsep\relax%
9 \partopsep=\the\partopsep\relax%
10 \parsep=\the\parsep\relax%
11 }%
12 \setlength{\topsep}{#1}%
```

```

13 % \topskip\z@%
14 % \partopsep\z@%
15 % \parsep\z@%
16 % \@nmbbrlistfalse%
17 % \@trivlist%
18 % \labelwidth\z@%
19 % \leftmargin\z@%
20 % \itemindent\z@%
21 \let\@itemlabel\@empty%
22 \def\makelabel##1{##1}%
23 % \item\relax\mdf@temp\relax%
24 }
25
26 \renewcommand*{\endmdf@trivlist}{%
27 \LWR@traceinfo{\endmdf@trivlist}%
28 % \endtrivlist%
29 \LWR@listend%
30 }
31 }% AtBeginDocument

```

#### § 390.4 Initial setup

To handle css and paragraphs, patch code at start and end of environment and contents. `\LWR@print@raggedright` helps avoid hyphenation.

```

32 \mdfsetup{
33 startcode={\LWR@mdframedstart\LWR@print@raggedright},
34 endcode={\LWR@mdframedend},
35 startinnercode={\LWR@startpars\LWR@print@raggedright},
36 endinnercode={\LWR@stoppars},
37 }

```

#### § 390.5 Color and length HTML conversion

`\LWR@mdfprintcolor`    `{\mdfcolorkey}`

Given the `mdframed` key, print the color.

```

38 \newcommand*{\LWR@mdfprintcolor}[1]{%
39 \convertcolorspec{named}{\@nameuse{mdf@#1}}{HTML}\LWR@tempcolor%
40 \LWR@origpound\LWR@tempcolor
41 }

```

`\LWR@mdfprintlength`    `{\mdflengthkey}`

Given the `mdframed` key, print the length.

```

42 \newcommand*{\LWR@mdfprintlength}[1]{%
43 \LWR@forceminwidth{\@nameuse{mdf@#1@length}}%
44 \LWR@printlength{\LWR@atleastonept}%
45 }

```

## § 390.6 Environment encapsulation

`\LWR@mdframedstart`    Actions before an mdframe starts.

Encapsulate a frame inside a `<div>` of the desired class.

```
46 \newcommand*{\LWR@mdframedstart}{%
47 \LWR@traceinfo{\LWR@mdframedstart start}%
```

Warn if starting a frame inside a `<span>`:

```
48 \LWR@spanwarninvalid{mdframe}%
```

Turn off paragraph handling during the generation of the encapsulating tags:

```
49 \LWR@stoppars%
```

Open a `<div>` and with custom class and custom style. A `BlockClass` environment is not used because this `<div>` is created by the `mdframed` startcode and endcode settings, which do not properly nest the `<div>` inside the `mdframed` environment.

```
50 \LWR@htmltagc{div class=\textquotedbl%
51 mdframed%
52 \ifdefstring{\LWR@mdthisenv}{mdframed}}{\LWR@mdthisenv}%
53 \textquotedbl \LWR@orignewline
54 style=\textquotedbl\LWR@orignewline
```

Convert and print the background color:

```
55 background: \LWR@mdfprintcolor{backgroundcolor} ; \LWR@orignewline
```

Convert and print the border color and width:

```
56 border: \LWR@mdfprintlength{linewidth} solid
57 \LWR@mdfprintcolor{linecolor} ; \LWR@orignewline
```

Convert and print the border radius:

```
58 border-radius: \LWR@mdfprintlength{roundcorner} ; \LWR@orignewline
```

Convert and print the shadow:

```
59 \ifbool{mdf@shadow}{%
60 box-shadow:
61 \LWR@mdfprintlength{shadowsize}
62 \LWR@mdfprintlength{shadowsize}
63 \LWR@mdfprintlength{shadowsize}
64 \LWR@mdfprintcolor{shadowcolor} ;
65 }
66 {box-shadow: none ;}
67 \LWR@orignewline
```

```
68 \textquotedbl}
69 % \LWR@htmldivclass{\LWR@mdthisenv}
```

`mdframed` environment may not work with the HTML versions of the following, so restore them to their originals while inside `mdframed`:

```
70 \LWR@select@print@hspace%
71 \renewcommand*{\rule}{\LWR@print@rule}
72 \LetLtxMacro\makebox\LWR@print@makebox%

73 \LWR@startpars%
74 \LWR@traceinfo{\LWR@mdframedstart done}%
75 }
```



`\LWR@mdframedend`    Actions after an mdframe ends.

After closing the `<div>`, globally restore to the default environment type:

```
76 \newcommand*{\LWR@mdframedend}{
77 \LWR@traceinfo{\LWR@mdframedend start}%
```

Close the custom `<div>`:

```
78 \LWR@htmldivclassend{\LWR@mdthisenv}
```

Reset future custom class to the default:

```
79 \gdef\LWR@mdthisenv{mdframed}
```

Resume paragraph handling:

```
80 \LWR@startpars%
81 \LWR@traceinfo{\LWR@mdframedend done}%
82 }
```

### § 390.7 **Mdframed environment**

```
83 \renewenvironment{mdframed}[1][\color@begingroup%
84 \mdfsetup{userdefinedwidth=\linewidth,#1}%
85 \mdf@startcode%
86 \mdf@preenvsetting%
87 \ifdefempty{\mdf@firstframetitle}{}%
88 {\let\mdf@frametitlesave\mdf@frametitle%
89 \let\mdf@frametitle\mdf@firstframetitle%
90 }%
91 }%
92 \ifvmode\nointerlineskip\fi%
93 \ifdefempty{\mdf@frametitle}{}%
94 {\mdfframedtitleenv{\mdf@frametitle}%
95 \mdf@@frametitle@use%
96 }%
97 \mdf@trivlist{\mdf@skipabove@length}%%
98 \mdf@settings%
99 \mdf@lrbox{\mdf@splitbox@one}%
100 \mdf@startinnercode%
101 }%
102 {%
103 % \mdf@@ignorelastdescenders%
104 \par%
105 % \unskip\ifvmode\nointerlineskip\hrule \@height\z@ \@width\hsize\fi%
106 \ifmdf@footnoteinside%
107 \def\mdf@reserveda{%
108 \mdf@footnoteoutput%
109 }%
110 \endmdf@lrbox%
111 \ifdefempty{\mdf@frametitle}{}%
112 {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
113 \detected@mdf@put@frame%
114 }%
115 \else%
116 \def\mdf@reserveda{%
117 \mdf@endinnercode%
```

```

118 % \endmdf@lrbox%
119 % \ifdefempty{\mdf@frametitle}{}%
120 % {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
121 % \detected@mdf@put@frame%
122 \mdf@footnoteoutput%
123 }%
124 \fi%
125 \mdf@reserveda%
126 \aftergroup\endmdf@trivlist%
127 \color@endgroup%
128 \mdf@endcode%
129 }

```

\mdf@footnoteoutput

```

130 \renewrobustcmd*\mdf@footnoteoutput{%
131 \LWR@printpendingmpfootnotes%
132 }

```

## § 390.8 Titles and subtitles

\mdfframedtitleenv {<title>}

Place the title inside a <div> of class mdfframedtitle:

```

133 \newlength{\LWR@titleroundcorner}
134
135 \renewrobustcmd\mdfframedtitleenv[1]{%
136 \LWR@traceinfo{\LWR@mdfframedtitleenv start}%

```

Open a <div> with a custom class and custom style:

```

137 \begin{BlockClass}%

```

Convert and print the title background color:

```

138 background:
139 \LWR@mdfprintcolor{frametitlebackgroundcolor}
140 ; \LWR@orignewline

```

Convert and print the title rule:

```

141 \ifbool{mdf@frametitlerule}{%
142 border-bottom:
143 \LWR@mdfprintlength{frametitlerulewidth}
144 solid
145 \LWR@mdfprintcolor{frametitlerulecolor}
146 ; \LWR@orignewline
147 }{}%

```

Finish the custom style and the opening <div> tag:

```

148]{mdfframedtitle}%

```

Print the title inside the <div>:

```

149 \mdf@frametitlefont{\LWR@textcurrentfont{#1}}%

```

Close the <div>:

```

150 \end{BlockClass}%
151 \LWR@traceinfo{\LWR@mdfframedtitleenv end}%

```

152 }

`\LWR@mdfsubtitlecommon`     $\{\langle sub - or - subsub \rangle\} [\langle options \rangle] \{\langle title \rangle\}$

Common code for `\LWR@mdfsubtitle` and `\LWR@mdfsubsubtitle`.

Encapsulate the subtitle inside a `<div>` of class `mdframedsubtitle`:

153 `\NewDocumentCommand{\LWR@mdfsubtitlecommon}{m o m}`

154 `{% the following empty line is required`

155

156 `\LWR@traceinfo{\LWR@mdframedsubtitlecommon start}%`

Open a `<div>` with a custom class and custom style:

157 `\begin{BlockClass}{%`

Convert and print the background color:

158 `background:`

159 `\LWR@mdfprintcolor{\#1titlebackgroundcolor}`

160 `; \LWR@orignewline`

Convert and print the above line:

161 `\ifbool{mdf@#1titleaboveline}{%`

162     `border-top:`

163     `\LWR@mdfprintlength{\#1titleabovelinewidth}`

164     `solid`

165     `\LWR@mdfprintcolor{\#1titleabovelinecolor}`

166     `; \LWR@orignewline`

167 `}{}%`

Convert and print the below line:

168 `\ifbool{mdf@#1titlebelowline}{%`

169     `border-bottom:`

170     `\LWR@mdfprintlength{\#1titlebelowlinewidth}`

171     `solid`

172     `\LWR@mdfprintcolor{\#1titlebelowlinecolor}`

173     `; \LWR@orignewline`

174 `}{}%`

Finish the custom style and the opening `<div>` tag:

175 `]{mdframed#1title}%`

Perform the original subtitle action:

176 `\IfNoValueTF{\#2}`

177 `{\@nameuse{\LWR@origmdf#1title}}{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{\#3}}}%`

178 `{\@nameuse{\LWR@origmdf#1title}[\#2]}{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{\#3}}}%`

Close the `<div>`:

179 `\end{BlockClass}%`

180 `\LWR@traceinfo{\LWR@mdframedsubtitlecommon end}%`

181 }

`\LWR@mdfsubtitle`     $[\langle options \rangle] \{\langle title \rangle\}$

182 `\newcommand*{\LWR@mdfsubtitle}{%`

```

183 \LWR@mdfsubsubtitlecommon{sub}%
184 }
185 \let\mdfsubsubtitle\LWR@mdfsubsubtitle

```

```

\LWR@mdfsubsubsubtitle [\langle options \rangle] {\langle title \rangle}

186 \newcommand*{\LWR@mdfsubsubsubtitle}{%
187 \LWR@mdfsubsubtitlecommon{subsub}%
188 }
189 \let\mdfsubsubsubtitle\LWR@mdfsubsubsubtitle

```

### § 390.9 New environments

`\LWR@mdthisenv` Stores the environment of the frame about to be created:

```

190 \newcommand*{\LWR@mdthisenv}{mdframed}

```

`\newmdenv` [*\langle options \rangle*] {*\langle env-name \rangle*}  
Modified from the original to remember the environment.

```

191 \renewrobustcmd*{\newmdenv}[2][]{%
192 \newenvironment{#2}%
193 {%
194 \mdfsetup{#1}%
195 \renewcommand*{\LWR@mdthisenv}{md#2}%
196 \begin{mdframed}%
197 }
198 {\end{mdframed}}%
199 }

```

`\surroundwithmdframed` [*\langle options \rangle*] {*\langle environment \rangle*}  
Modified from the original to remember the environment.

```

200 \renewrobustcmd*{\surroundwithmdframed}[2][]{%
201 \BeforeBeginEnvironment{#2}{%
202 \renewcommand*{\LWR@mdthisenv}{md#2}%
203 \begin{mdframed}[#1]}%
204 \AfterEndEnvironment{#2}{\end{mdframed}}%
205 }

```

`\mdtheorem` [*\langle mdframed-options \rangle*] {*\langle envname \rangle*} [*\langle numberedlike \rangle*] {*\langle caption \rangle*} [*\langle within \rangle*]  
Modified from the original to remember the environment.

```

206 \DeclareDocumentCommand{\mdtheorem}{ O{} m o m o }%
207 {\ifcsdef{#2}%
208 {\mdf@PackageWarning{Environment #2 already exists\MessageBreak}}%
209 {%
210 \IfNoValueTF {#3}%
211 {%#3 not given -- number relationship
212 \IfNoValueTF {#5}%
213 {%#3+#5 not given
214 \@definecounter{#2}%
215 \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
216 \newenvironment{#2}[1][]{%

```

```

217 \refstepcounter{#2}%
218 \ifstrepty{##1}%
219 {\let\@temptitle\relax}%
220 {%
221 \def\@temptitle{\mdf@theoremseparator%
222 \mdf@theoremspace%
223 \mdf@theoremtitlefont%
224 \LWR@textcurrentfont{##1}}% lwarp
225 \mdf@thm@caption{#2}{\csname the#2\endcsname}{##1}}%
226 }%
227 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
228 \@temptitle}]]%
229 {\end{mdframed}}%
230 \newenvironment{#2*}[1][{%
231 \ifstrepty{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ #1}}%
232 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
233 {\end{mdframed}}%
234 }%
235 {%#5 given -- reset counter
236 \@definecounter{#2}\@newctr{#2}[#5]%
237 \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
238 \expandafter\xdef\csname the#2\endcsname{%
239 \expandafter\noexpand\csname the#5\endcsname \@thmcountersep%
240 \@thmcounter{#2}}%
241 \newenvironment{#2}[1][{%
242 \refstepcounter{#2}%
243 \ifstrepty{##1}%
244 {\let\@temptitle\relax}%
245 {%
246 \def\@temptitle{\mdf@theoremseparator%
247 \mdf@theoremspace%
248 \mdf@theoremtitlefont%
249 \LWR@textcurrentfont{##1}}% lwarp
250 \mdf@thm@caption{#2}{\csname the#2\endcsname}{##1}}%
251 }
252 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
253 \@temptitle}]]%
254 {\end{mdframed}}%
255 \newenvironment{#2*}[1][{%
256 \ifstrepty{##1}%
257 {\let\@temptitle\relax}%
258 {%
259 \def\@temptitle{\mdf@theoremseparator%
260 \mdf@theoremspace%
261 \mdf@theoremtitlefont%
262 \LWR@textcurrentfont{##1}}% lwarp
263 \mdf@thm@caption{#2}{\csname the#2\endcsname}{##1}}%
264 }%
265 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
266 {\end{mdframed}}%
267 }%
268 }%
269 {%#3 given -- number relationship
270 \global\@namedef{the#2}{\nameuse{the#3}}%
271 \newenvironment{#2}[1][{%

```

```

272 \refstepcounter{#3}%
273 \ifstrempy{##1}%
274 {\let\@temptitle\relax}%
275 {%
276 \def\@temptitle{\mdf@theoremseparator%
277 \mdf@theoremspace%
278 \mdf@theoremtitlefont%
279 \LWR@textcurrentfont{##1}}% lwarp
280 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
281 }
282 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
283 \@temptitle}]]%
284 {\end{mdframed}}%
285 \newenvironment{#2*}[1][]{%
286 \ifstrempy{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ #1}}%
287 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
288 {\end{mdframed}}%
289 }%
290 \BeforeBeginEnvironment{#2}{\renewcommand*\LWR@mdthisenv}{md#2}}% lwarp
291 \BeforeBeginEnvironment{#2*}{\renewcommand*\LWR@mdthisenv}{md#2}}% lwarp
292 }%
293 }

```

`\newmdtheoremenv` [*<1: mdframed-options>*] [*<2: envname>*] [*<3: numberedlike>*] [*<4: caption>*] [*<5: within>*]

Modified from the original to remember the environment.

```

294 \DeclareDocumentCommand\newmdtheoremenv{O{ } m o m o }{%
295 \ifboolexpr{ test {\IfNoValueTF {#3}} and test {\IfNoValueTF {#5}} }{%
296 {\newtheorem{#2}{#4}}%
297 {%
298 \IfValueT{#3}{\newtheorem{#2}[#3]{#4}}%
299 \IfValueT{#5}{\newtheorem{#2}{#4}[#5]}%
300 }%
301 \BeforeBeginEnvironment{#2}{%
302 \renewcommand*\LWR@mdthisenv}{md#2}%
303 \begin{mdframed}[#1]}%
304 \AfterEndEnvironment{#2}{%
305 \end{mdframed}}%
306 }

```

---

File 284 **lwarp-mdwmath.sty**

§ 391 Package **mdwmath**

(Emulates or patches code by MARK WOODING.)

Pkg mdwmath **mdwmath** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{mdwmath}[1996/04/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\LWRmdwmathsqrt\sqrt}
4 \CustomizeMathJax{\renewcommand{\sqrt}{\ifstar\LWRmdwmathsqrt\LWRmdwmathsqrt}}

```

---

```

5 \CustomizeMathJax{\newcommand{\bitand}{\mathbin{\&}}}
6 \CustomizeMathJax{\def\bitor{\mathbin{\mid}}}
7 \CustomizeMathJax{\def\dblor{\mathbin{\mid\mid}}}
8 \CustomizeMathJax{\def\dbland{\mathbin{\mathrel{\bitand}\mathrel{\bitand}}}}
9 \end{warpMathJax}

```

---

File 285 **lwarp-media9.sty**

§ 392     Package **media9**

Pkg    media9    **media9** is emulated.

The packages **multimedia**, **movie15**, and **media9** are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For **media9**, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For **movie15**, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

**media9** `\addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

**media9** slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

 **& in a URL** Many special characters are converted to regular catcode 12 characters for use inside a URL. `&` is used in the flash variables fields, which are split with `xparse \SplitList`, which does not seem to work with a catcode 12 divider token, so `&` is not converted to catcode 12, and will not work in a URL with **media9**. Using `&` in a URL in a `flashvars` field may also cause parsing problems with print output, as well.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{media9}[2019/02/21]

2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}

```

\addmediapath    {<path>}

Supported.

```

5 \newcommand*{\LWR@medianine@path}{}
6
7 \newcommand*{\addmediapath}[1]{\appto\LWR@medianine@path{{#1}}}

```

The options and poster text are reused in several places.

```

8 \newcommand*{\LWR@medianine@postertext}{}
9 \newcommand*{\LWR@medianine@options}{}

```

Each addresource can generate a multimedia object.

```

10 \define@key{\LWR@medianine}{addresource}{%
11 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]
12 {\LWR@medianine@postertext}
13 {#1}
14 }

```

Each flashvars source can generate a multimedia object.

```

15 \newcommand*{\LWR@medianine@flashvarsb}[1]{%
16 \IfBeginWith{#1}{source=}{%
17 \StrGobbleLeft{#1}{7}[\LWR@tempone]%
18 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
19 {\LWR@medianine@postertext}%
20 {\LWR@tempone}%
21 }{%
22 \IfBeginWith{#1}{src=}{%
23 \StrGobbleLeft{#1}{4}[\LWR@tempone]%
24 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
25 {\LWR@medianine@postertext}%
26 {\LWR@tempone}%
27 }{%
28 }
29
30 \NewDocumentCommand{\LWR@medianine@flashvars}{>\SplitList{&}} m {%
31 \ProcessList {#1}{\LWR@medianine@flashvarsb}%
32 }
33
34 \define@key{\LWR@medianine}{flashvars}{%
35 \LWR@medianine@flashvars{#1}%
36 }

```

\includemedia    [<options>] {<poster text>} {<file or URL>}

```

37 \newcommand*{\LWR@includemediab}[3][[]]{%

```



```

38 \let\input@path\LWR@medianine@path%
39 \renewcommand*\LWR@medianine@options{#1}%
40 \renewcommand*\LWR@medianine@postertext{#2}%
41 \setkeys*LWR@medianine{#1}%
42 \IfBeginWith{#3}{http}{\LWR@multimedia[#1]{#2}{#3}}{%
43 \IfBeginWith{#3}{HTTP}{\LWR@multimedia[#1]{#2}{#3}}{%
44 \IfBeginWith{#3}{ftp}{\LWR@multimedia[#1]{#2}{#3}}{%
45 \IfBeginWith{#3}{FTP}{\LWR@multimedia[#1]{#2}{#3}}{%
46 }}}}%
47 \endgroup%
48 }
49
50 \newrobustcmd*\includemedia{%
51 \begingroup%
52 \LWR@linkmediacatcodes%
53 \LWR@includemediab%
54 }

```

\mediabutton [*<options>*] {*<text>*}

Ignored.

```
55 \newcommand*\mediabutton[2][{}]
```

---

File 286 **lwarp-memhfixc.sty**

§ 393 Package **memhfixc**

Pkg memhfixc memhfixc is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

---

File 287 **lwarp-menukeys.sty**

§ 394 Package **menukeys**

(Emulates or patches code by TOBIAS WEH.)

Pkg menukeys menukeys is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{menukeys}[2020/12/19]

Patch to use a `\lateximage` whose alt text is the contents of this use of the macro. A hash on these contents allows the reuse of the image for each instance of the same contents.

```

2 \xpatchcmd{\tw@define@menu@macro@}
3 {\@nameuse{tw@style@#4@pre}}
4 {%
5 \begin{lateximage}*[\detokenize{##2}]%
6 \@nameuse{tw@style@#4@pre}%
7 }

```

```

8 {}
9 {\LWR@patcherror{menukeys}{tw@define@menu@macro@}}
10
11 \xpatchcmd{\tw@define@menu@macro@}
12 {\@nameuse{tw@style@#4@post}}
13 {%
14 \@nameuse{tw@style@#4@post}%
15 \end{lateximage}%
16 }
17 {}
18 {\LWR@patcherror{menukeys}{tw@define@menu@macro@ B}}

```

Patch the existing macros:

```

19 \renewmenumacro{\menu}[>]{menus}
20 \renewmenumacro{\directory}[/{]{paths}
21 \renewmenumacro{\keys}[+]{roundedkeys}

```

---

File 288 **lwarp-metalogo.sty**

§ 395      Package **metalogo**

*(Emulates or patches code by ANDREW GILBERT MOSCHOU.)*

Pkg   metalogo   metalogo is used in print mode, and emulated in HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{metalogo}[2010/05/29]

2 \newcommand*{\LWR@HTML@setlogokern}[2]{}
3 \newcommand*{\LWR@HTML@setlogodrop}[2][XeTeX]{}
4 \newcommand*{\LWR@HTML@setLaTeXa}[1]{}
5 \newcommand*{\LWR@HTML@setLaTeXee}[1]{}
6 \newcommand*{\LWR@HTML@seteverylogo}[1]{}
7 \newcommand*{\LWR@HTML@everylogo}[1]{}
8
9 \LWR@formatted{setlogokern}
10 \LWR@formatted{setlogodrop}
11 \LWR@formatted{setLaTeXa}
12 \LWR@formatted{setLaTeXee}
13 \LWR@formatted{seteverylogo}
14 \LWR@formatted{everylogo}

```

---

File 289 **lwarp-metalogox.sty**

§ 396      Package **metalogox**

*(Emulates or patches code by BRIAN DUNN.)*

Pkg   metalogox   metalogox is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{metalogox}[2019/01/20]

```

\AtBeginDocument, adjust the logo setting according to the font which is active at that moment.

```

2 \AtBeginDocument{
3 \let\LWR@metalogox@currentformatting\LWR@formatting
4 \renewcommand*\LWR@formatting{\print}%
5 \autoadjustlogos*
6 \let\LWR@formatting\LWR@metalogox@currentformatting
7 }

```

File 290 **lwarp-mhchem.sty**

§ 397 Package **mhchem**

(Emulates or patches code by MARTIN HENSEL.)

Pkg mhchem mhchem is patched for use by lwarp.

without MATHJAX Without MATHJAX, mhchem expressions are converted to svg math. Inline expressions use hashed filenames to allow reuse, and assume that any mhchem options are global.

MATHJAX with mhchem extension For MATHJAX, the mhchem extension is used if the mhchem expression is used inside a math expression:

$\text{\ce{C6H5-CHO}}$

To force the use of svg math for an expression which does not work with MATHJAX, place the expression between \displaymathother and \displaymathnormal:

```

\displaymathother
\[\ce{ . . . } \] . . . $ \ce { . . . } $
\displaymathnormal

```

not inside math

If *not* used inside a math expression, lwarp converts standalone mhchem expressions into svg math images.



nested math

When producing HTML output without the MATHJAX mhchem extension, lwarp does not support the use of nested dollar signs in mhchem expressions.

For some examples from the mhchem manual, change as follows:

|                                    |       |
|------------------------------------|-------|
| $\text{\ce{NaOH(aq,\infty)}}$      | % old |
| $\text{\ce{NaOH(aq,\infty)}}$      | % new |
| $\text{\ce{Fe(CN)_{\frac{6}{2}}}}$ | % old |
| $\text{\ce{Fe(CN)_{\frac{6}{2}}}}$ | % new |
| $\text{\ce{NO_x}}$                 | % old |
| $\text{\ce{NO_x}}$                 | % new |
| $\text{\ce{NO_{x}}}$               | % old |
| $\text{\ce{NO_{x}}}$               | % new |

|                                                                                                                                        |                |
|----------------------------------------------------------------------------------------------------------------------------------------|----------------|
| $\text{ce}\{\text{cis}\{-}\text{[PtCl}_2(\text{NH}_3)_2]\}\$$<br>$\text{ce}\{\text{\textit{cis}\{-}\text{[PtCl}_2(\text{NH}_3)_2]\}\$$ | % old<br>% new |
|----------------------------------------------------------------------------------------------------------------------------------------|----------------|

for HTML output: 1 \LWR@ProvidesPackagePass{mhchem}[2018/06/22]

The original definition of \ce:

```
2 \LetLtxMacro\LWR@mhchem@origce\ce
```

The new definition, called from the new \ce after math shift is set. The starred lateximage uses a hashed filename for the svg image. The alt tag is set to the mhchem expression.

```
3 \newcommand{\LWR@mhchem@HTML@ce}[1]{%
4 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
5 \ifbool{\LWR@xfakebold}%
6 {\def\LWR@tempone{Y}}%
7 {\def\LWR@tempone{N}}%
8 \begin{lateximage}*[\textbackslash{ce}\{\LWR@HTMLsanitize{#1}\}]%*
9 [%
10 FM\LWR@f@family%
11 SR\LWR@f@series%
12 SH\LWR@f@shape%
13 SHC\LWR@f@shapecaps%
14 CL\LWR@tempcolor%
15 FB\LWR@tempone% xfakebold
16]%
17 \LWR@setcurrentfont%
18 \LWR@mhchem@origce{#1}%
19 \end{lateximage}%
20 \endgroup%
21 \addtocounter{\LWR@mhchem@cedepth}{-1}%
22 }
```

Only set math shift if outer depth:

```
23 \newcounter{\LWR@mhchem@cedepth}
24 \setcounter{\LWR@mhchem@cedepth}{0}
```

The new \ce. Sets math shift then continues.

```
25 \renewcommand{\ce}{%
26 \begingroup%
27 \ifnumequal{\value{\LWR@mhchem@cedepth}}{0}{%
28 \catcode'\$=3% math shift
29 }{%
30 \addtocounter{\LWR@mhchem@cedepth}{1}%
31 \LWR@mhchem@HTML@ce%
32 }
```

The original definition of \cesplit:

```
33 \LetLtxMacro\LWR@mhchem@origcesplit\cesplit
```

The new definition, called from the new `\cesplit` after math shift is set. The starred `lateximage` uses a hashed filename for the svg image. The `alt` tag is set to the `mhchem` expression.

```

34 \newcommand*{\LWR@mhchem@HTML@cesplit}[2]
35 {%
36 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
37 \ifbool{\LWR@xfakebold}%
38 {\def\LWR@tempone{Y}}%
39 {\def\LWR@tempone{N}}%
40 \begin{lateximage}*[\textbackslash{}cesplit\{\LWR@HTMLsanitize{#2}\}]*%
41 [%
42 FM\LWR@f@family%
43 SR\LWR@f@series%
44 SH\LWR@f@shape%
45 SHC\LWR@f@shapecaps%
46 CL\LWR@tempcolor%
47 FB\LWR@tempone% xfakebold
48]%
49 \LWR@setcurrentfont%
50 \LWR@mhchem@origcesplit{#1}{#2}%
51 \end{lateximage}%
52 \endgroup%
53 }

```

Only set math shift if outer depth:

```

54 \newcounter{\LWR@mhchem@cesplitdepth}
55 \setcounter{\LWR@mhchem@cesplitdepth}{0}

```

The new `\cesplit`. Sets math shift then continues.

```

56 \renewcommand{\cesplit}{%
57 \begingroup%
58 \ifnumequal{\value{\LWR@mhchem@cesplitdepth}}{0}{%
59 \catcode'\$=3% math shift
60 }{%
61 \addtocounter{\LWR@mhchem@cesplitdepth}{1}%
62 \LWR@mhchem@HTML@cesplit%
63 }

```

Resore originals inside a `lateximage`:

```

64 \appto\LWR@restoreorigformatting{%
65 \LetLtxMacro\ce\LWR@mhchem@origce%
66 \LetLtxMacro\cesplit\LWR@mhchem@origcesplit%
67 }
68
69 \begin{warpMathJax}
70 \CustomizeMathJax{\require{mhchem}}
71 \end{warpMathJax}

```

## § 398 Package **microtype**

(Emulates or patches code by R SCHLICHT.)

Pkg microtype **microtype** is pre-loaded by **lwarp**. All user options and macros are ignored and disabled.

for HTML output: Discard all options for **lwarp-microtype**:

```

1 \LWR@ProvidesPackageDrop{microtype}[2018/01/14]

2 \DeclareDocumentCommand{\DeclareMicrotypeSet}{o m m}{}
3 \DeclareDocumentCommand{\UseMicrotypeSet}{o m}{}
4 \DeclareDocumentCommand{\DeclareMicrotypeSetDefault}{o m}{}
5 \DeclareDocumentCommand{\SetProtrusion}{o m m}{}
6 \DeclareDocumentCommand{\SetExpansion}{o m m}{}
7 \DeclareDocumentCommand{\SetTracking}{o m m}{}
8 \DeclareDocumentCommand{\SetExtraKerning}{o m m}{}
9 \DeclareDocumentCommand{\SetExtraSpacing}{o m m}{}
10 \DeclareDocumentCommand{\DisableLigatures}{o m}{}
11 \DeclareDocumentCommand{\DeclareCharacterInheritance}{o m m}{}
12 \DeclareDocumentCommand{\DeclareMicrotypeVariants}{m}{}
13 \DeclareDocumentCommand{\DeclareMicrotypeAlias}{m m}{}
14 \DeclareDocumentCommand{\LoadMicrotypeFile}{m}{}
15 \DeclareDocumentCommand{\DeclareMicrotypeBabelHook}{m m}{}
16 \DeclareDocumentCommand{\microtypesetup}{m}{}
17 \DeclareDocumentCommand{\microtypecontext}{m}{}
18 \DeclareDocumentCommand{\textmicrotypecontext}{m m}{#2}
19 \@ifpackageloaded{letterspace}{\let\MT@textls\relax}{%
20 \DeclareDocumentCommand{\lsstyle}{}{}
21 \DeclareDocumentCommand{\textls}{o +m}{}
22 \DeclareDocumentCommand{\lslig}{m}{#1}
23 }
24 \def\DeclareMicrotypeSet#1#{\@gobbletwo}
25 \def\DeclareMicrotypeVariants#1#{\@gobble}
26 \@onlypreamble\DeclareMicrotypeSet
27 \@onlypreamble\UseMicrotypeSet
28 \@onlypreamble\DeclareMicrotypeSetDefault
29 \@onlypreamble\DisableLigatures
30 \@onlypreamble\DeclareMicrotypeVariants
31 \@onlypreamble\DeclareMicrotypeBabelHook

```

---

File 292 **lwarp-midfloat.sty**

## § 399 Package **midfloat**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg midfloat **midfloat** is emulated.

for HTML output: 

```

1 \LWR@ProvidesPackageDrop{midfloat}[2012/05/29]

2 \newenvironment{strip}[1][{}]{
3 \newskip\stripsep

```

---

File 293 **lwarp-midpage.sty**

§ 400 Package **midpage**

Pkg midpage midpage is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{midpage}[2009/09/03]

2 \newenvironment{midpage}
3 {\begin{BlockClass}[%
4 \LWR@print@mbbox{margin-top:6ex} ; \LWR@print@mbbox{margin-bottom:6ex}%
5]{midpage}}
6 {\end{BlockClass}}
```

---

File 294 **lwarp-minibox.sty**

§ 401 Package **minibox**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg minibox minibox is patched for use by lwarp.

Due to HTML limitations regarding paragraphs and <div>s, miniboxes inline with other text will appear on their own line.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{minibox}[2013/06/21]

2 \ExplSyntaxOn
3 \newcommand\LWR@HTML@minibox[2][]{%
4 \LWR@stoppars%
5 \group_begin:
6 \keys_set:nn {minibox} {#1}
7 \bool_if:NTF \l_minibox_frame_bool
8 {
9 \setlength\fbboxrule{\l_minibox_rule_dim}
10 \setlength\fbboxsep{\l_minibox_pad_dim}
11 \fbboxBlock{%
12 \begin{tabular}[\l_minibox_tabular_valign_tl]%
13 {\l_minibox_tabular_preamble_tl}
14 {#2}
15 \end{tabular}
16 }%
17 }
18 {
19 \begin{BlockClass}[display:inline-block]{minibox}
20 \begin{tabular}[\l_minibox_tabular_valign_tl]%
21 {\l_minibox_tabular_preamble_tl}
22 {#2}
```

---

```

23 \end{tabular}
24 \end{BlockClass}
25 }
26 \group_end:
27 \LWR@startpars%
28 }
29 \ExplSyntaxOff
30
31 \LWR@formatted{minibox}

```

---

File 295 **lwarp-minitoc.sty**

§ 402    Package **minitoc**

Pkg    minitoc    minitoc is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{minitoc}[2018/07/12]

mtcoff disables minitoc.

```
2 \usepackage{mtcoff}
```

---

File 296 **lwarp-minted.sty**

§ 403    Package **minted**

(Emulates or patches code by GEOFFREY M. POORE.)

Pkg    minted    minted is patched for use by lwarp.

 **limitations**    mathescape and highlightlines don't work. Line numbers on the right will not be aligned. Due to *pdf<sub>to</sub>text*, extra spaces may appear in broken lines if other formatting is included.

for HTML output:    1 \LWR@ProvidesPackagePass{minted}[2017/07/19]

```

2 \xpatchcmd{\minted}
3 {\setkeys{minted@opt@cmd}{#1}}
4 {%
5 \setkeys{minted@opt@cmd}{%
6 #1,%
7 mathescape=false,breaklines,texcomments=false,highlightlines={}%
8 }%
9 }
10 {}
11 {\LWR@patcherror{minted}{minted}}
12
13 \xpatchcmd{\mintinline}
14 {\setkeys{minted@opt@cmd}{#1}}
15 {\setkeys{minted@opt@cmd}{%

```



---

```

16 #1,%
17 mathescape=false,breaklines,texcomments=false,highlightlines={}%
18 }%
19 }
20 {}
21 {\LWR@patcherror{minted}{mintinline}}
22
23 \xpatchcmd{\mint}
24 {\setkeys{minted@opt@cmd}{#1}}
25 {%
26 \setkeys{minted@opt@cmd}{%
27 #1,%
28 mathescape=false,breaklines,texcomments=false,highlightlines={}%
29 }%
30 }
31 {}
32 {\LWR@patcherror{minted}{mint}}
33
34 \xpatchcmd{\inputminted}
35 {\setkeys{minted@opt@cmd}{#1}}
36 {\setkeys{minted@opt@cmd}{%
37 #1,%
38 mathescape=false,breaklines,texcomments=false,highlightlines={}%
39 }%
40 }
41 {}
42 {\LWR@patcherror{minted}{inputminted}}

```

---

File 297 **lwarp-mismath.sty**

## § 404 Package **mismath**

(Emulates or patches code by ANTOINE MISSIER.)

Pkg mismath mismath is patched for SVG math, and emulated for MATHJAX.

 **MATHJAX** \enumber, \inumber, \jnumber, and \pinumber are ignored for MATHJAX, except that \itpi is made available as a clone of \pi.

For MATHJAX, \boldvect and \arrowvect are honored if in the preamble.

If \boldvectcommand is set to \mathbf in the preamble, it will be used for MATHJAX, otherwise it will default to \mathit. \boldvectcommand may also be set with \CustomizeMathJax in the preamble. See section 8.7.5. Note that as of this writing there is not a bold italic font across all MATHJAX fonts.

If \probastyle is set to \mathbb in the preamble, it will be used for MATHJAX, otherwise it will default to \mathrm. \probastyle may be set with \CustomizeMathJax in the preamble.

If \mathset is set to \mathbb in the preamble, it will be used for MATHJAX, otherwise it will default to \mathbf. \mathset may be set with \CustomizeMathJax in the preamble.

for HTML output: 1 \LWR@ProvidesPackagePass{mismath}[2019/12/27]

For MATHJAX, used in the HTML comment before the environment.

```

2 \ifbool{mathjax}{
3 \RenewEnviron{mathcols}{%
4 \preto\BODY{\begin{aligned}\displaystyle}
5 \appto\BODY{\end{aligned}}
6 \expandafter\(\\BODY\)
7 }
8 }% mathjax

```

For svg math. The lateximage restores the original defintion of the math environment.

```

9 {% svg
10 \renewenvironment{mathcols}{
11 \begin{lateximage}
12 \begin{math}
13 \begin{aligned}\displaystyle
14 }{
15 \end{aligned}%
16 \end{math}
17 \end{lateximage}
18 }
19 }% svg
20
21 \renewcommand{\changecol}{
22 \end{aligned} \quad
23 \begin{aligned}\displaystyle
24 }
25
26 \begin{warpMathJax}
27 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}
28 \CustomizeMathJax{\newcommand{\e}{\mathrm{e}}}
29 \CustomizeMathJax{\newcommand{\i}{\mathrm{i}}}
30 \CustomizeMathJax{\newcommand{\j}{\mathrm{j}}}
31
32 \CustomizeMathJax{\newcommand{\boldvect}{}}
33 \CustomizeMathJax{\newcommand{\arrowvect}{}}
34 \CustomizeMathJax{\newcommand{\pinumber}[1][{}]}
35 \CustomizeMathJax{\newcommand{\hvect}[1]{\vec{\vphantom{h}#1}}}
36 \CustomizeMathJax{\newcommand{\hvec}[1]{\vec{\vphantom{t}#1}}}
37 \CustomizeMathJax{%
38 \newcommand{\norm}[1]{\left\| \right\|_{#1}}
39 }
40 \CustomizeMathJax{\newcommand{\di}{\mathop{!}\mathrm{d}}}
41
42 \CustomizeMathJax{\newcommand{\P}{\operatorname{\probastyle{P}}}}
43 \CustomizeMathJax{\newcommand{\E}{\operatorname{\probastyle{E}}}}
44 \CustomizeMathJax{\newcommand{\V}{\operatorname{\probastyle{V}}}}
45 \CustomizeMathJax{\newcommand{\Par}{\unicode{x00B6}}}
46
47 \CustomizeMathJax{\DeclareMathOperator{\adj}{adj}}
48 \CustomizeMathJax{\DeclareMathOperator{\Aut}{Aut}}
49 \CustomizeMathJax{\DeclareMathOperator{\Conv}{Conv}}
50 \CustomizeMathJax{\DeclareMathOperator{\cov}{cov}}
51 \CustomizeMathJax{\DeclareMathOperator{\Cov}{Cov}}

```

```

52 \CustomizeMathJax{\newcommand{\curl}{\operatorname{\vect{\mathrm{curl}}}}}
53 \CustomizeMathJax{\DeclareMathOperator{\divg}{div}}
54 \CustomizeMathJax{\DeclareMathOperator{\End}{End}}
55
56 \CustomizeMathJax{\DeclareMathOperator{\erf}{erf}}
57 \CustomizeMathJax{\newcommand{\grad}{\operatorname{\vect{\mathrm{grad}}}}}
58 \CustomizeMathJax{\DeclareMathOperator{\id}{id}}
59 \CustomizeMathJax{\DeclareMathOperator{\Id}{Id}}
60 \CustomizeMathJax{\DeclareMathOperator{\im}{im}}
61 \CustomizeMathJax{\let\oldIm\Im}
62 \CustomizeMathJax{\renewcommand{\Im}{\operatorname{Im}}}
63 \CustomizeMathJax{\DeclareMathOperator{\lb}{lb}}
64 \CustomizeMathJax{\DeclareMathOperator{\lcm}{lcm}}
65
66 \CustomizeMathJax{\DeclareMathOperator{\rank}{rank}}
67 \CustomizeMathJax{\let\oldRe\Re}
68 \CustomizeMathJax{\renewcommand{\Re}{\operatorname{Re}}}
69 \CustomizeMathJax{\newcommand{\rot}{\operatorname{\vect{\mathrm{rot}}}}}
70 \CustomizeMathJax{\DeclareMathOperator{\sgn}{sgn}}
71 \CustomizeMathJax{\DeclareMathOperator{\spa}{span}}
72 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
73 \CustomizeMathJax{\DeclareMathOperator{\Var}{Var}}
74 \CustomizeMathJax{\DeclareMathOperator{\Zu}{Z}}
75
76 \CustomizeMathJax{\DeclareMathOperator{\arccot}{arccot}}
77 \CustomizeMathJax{\DeclareMathOperator{\sech}{sech}}
78 \CustomizeMathJax{\DeclareMathOperator{\csch}{csch}}
79 \CustomizeMathJax{\DeclareMathOperator{\arsinh}{arsinh}}
80 \CustomizeMathJax{\DeclareMathOperator{\arcosh}{arcosh}}
81 \CustomizeMathJax{\DeclareMathOperator{\artanh}{artanh}}
82 \CustomizeMathJax{\DeclareMathOperator{\arcoth}{arcoth}}
83 \CustomizeMathJax{\DeclareMathOperator{\arsech}{arsech}}
84 \CustomizeMathJax{\DeclareMathOperator{\arcsch}{arcsch}}
85
86 \CustomizeMathJax{\DeclareMathOperator{\bigO}{\mathcal{O}}}
87 \CustomizeMathJax{\DeclareMathOperator{\bigo}{O}}
88 \CustomizeMathJax{\DeclareMathOperator{\lito}{o}}
89
90 \CustomizeMathJax{\newcommand{\R}{\mathset{R}}}
91 \CustomizeMathJax{\newcommand{\C}{\mathset{C}}}
92 \CustomizeMathJax{\newcommand{\N}{\mathset{N}}}
93 \CustomizeMathJax{\newcommand{\Z}{\mathset{Z}}}
94 \CustomizeMathJax{\newcommand{\Q}{\mathset{Q}}}
95 \CustomizeMathJax{\newcommand{\F}{\mathset{F}}}
96 \CustomizeMathJax{\newcommand{\K}{\mathset{K}}}
97
98 \CustomizeMathJax{\newcommand{\ds}{\displaystyle}}
99 \CustomizeMathJax{\newcommand{\dlim}{\lim\limits}}
100 \CustomizeMathJax{\newcommand{\dsum}{\sum\limits}}
101 \CustomizeMathJax{\newcommand{\dprod}{\prod\limits}}
102 \CustomizeMathJax{\newcommand{\dcup}{\bigcup\limits}}
103 \CustomizeMathJax{\newcommand{\dcap}{\bigcap\limits}}
104 \CustomizeMathJax{\newcommand{\lbar}{\overline{}}}
105 \CustomizeMathJax{\newcommand{\hlbar}[1]{\overline{\vphantom{h}\#1}}}
106 \CustomizeMathJax{\newcommand{\eqdef}{\stackrel{\mathrm{def}}{=}}}

```

```

107 \CustomizeMathJax{\newcommand{\unbr}{\underbrace}}
108 \CustomizeMathJax{\newcommand{\iif}{if and only if }}
109
110 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
111 \CustomizeMathJax{\newcommand{\then}{\ \Longrightarrow \ \mbox{}} }
112 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{\scriptsize #1}\quad}}
113 \CustomizeMathJax{\newcommand{\paren}[1]{\mathopen{\left(#1\right)}}}
114 \CustomizeMathJax{\newcommand{\pow}[2]{\left(#1 \right)^{\scriptsize #2}}}
115 \CustomizeMathJax{\newcommand{\abs}[1]{\left\vert\scriptsize #1\right\vert}}
116 \CustomizeMathJax{\newcommand{\frac}[2]{\frac{\scriptsize #1}{\scriptsize #2}}}
117
118 \CustomizeMathJax{\newenvironment{system}[1][l]%
119 {\left\{\begin{array}{@{.15em}#1@{}}
120 {\end{array}\right.}
121 }
122
123 \CustomizeMathJax{\newenvironment{spmatrix}
124 {\left(\begin{smallmatrix}
125 {\end{smallmatrix}\right)}
126 }
127
128 \CustomizeMathJax{%
129 \newenvironment{mathcols}
130 {\begin{aligned}\displaystyle}
131 {\end{aligned}}
132 }
133 \CustomizeMathJax{\newcommand{\changepcol}{\end{aligned}\quad\begin{aligned}}}

```

User-adjustable settings, detected if in the preamble.

```

134 \AtBeginDocument{
135 \ifdef{\itpi}{
136 \CustomizeMathJax{\let\itpi\pi}
137 }{
138 \ifdefstring{\boldvectcommand}{\mathbf}{
139 \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\mathbf{#1}}}
140 }{
141 \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\boldsymbol{#1}}}
142 }
143 \ifbool{arrowvect}{
144 \CustomizeMathJax{\newcommand{\vect}[1]{\overrightarrow{#1}}}
145 }{
146 \CustomizeMathJax{\newcommand{\vect}[1]{\boldvectcommand{#1}}}
147 }
148 \ifdefstring{\probastyle}{\mathbb}{
149 \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathbb{#1}}}
150 }{
151 \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathrm{#1}}}
152 }
153 \ifdefstring{\mathset}{\mathbb}{
154 \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbb{#1}}}
155 }{
156 \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbf{#1}}}
157 }
158 }

```

---

```
159 \end{warpMathJax}
```

---

File 298 **lwarp-mleftright.sty**

§ 405     Package **mleftright**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg   mleftright   **mleftright** is used as-is, and is emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{mleftright}[2019/12/03]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mleft}{\left}}
4 \CustomizeMathJax{\newcommand{\mright}{\right}}
5 \CustomizeMathJax{\newcommand{\mleftright}{}}
6 \CustomizeMathJax{\newcommand{\mleftrightrestore}{}}
7 \end{warpMathJax}
```

---

File 299 **lwarp-morefloats.sty**

§ 406     Package **morefloats**

Pkg   morefloats   **morefloats** is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]
```

---

File 300 **lwarp-moreverb.sty**

§ 407     Package **moreverb**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg   moreverb   **moreverb** is supported with some patches.

```
1 \LWR@ProvidesPackagePass{moreverb}[2008/06/03]

2 \BeforeBeginEnvironment{verbatim}{%
3 \LWR@forcenewpage
4 \LWR@atbeginverbatim{Verbatim}%
5 }
6 \AfterEndEnvironment{verbatim}{%
7 \LWR@afterendverbatim%
8 }
9
10
11 \LetLtxMacro\LWRMV@orig@verbatimtabinput\@verbatimtabinput
```

```

12
13 \renewcommand{\@verbatimtabinput}[2][]{%
14 \LWR@forcenewpage
15 \LWR@atbeginverbatim{Verbatim}%
16 \LWRMV@orig@verbatimtabinput[#1]{#2}%
17 \LWR@afterendverbatim%
18 }
19
20 \BeforeBeginEnvironment{listing}{%
21 \LWR@forcenewpage
22 \LWR@atbeginverbatim{programlisting}%
23 }
24
25 \AfterEndEnvironment{listing}{%
26 \LWR@afterendverbatim%
27 }
28
29 \BeforeBeginEnvironment{listingcont}{%
30 \LWR@forcenewpage
31 \LWR@atbeginverbatim{programlisting}%
32 }
33
34 \AfterEndEnvironment{listingcont}{%
35 \LWR@afterendverbatim%
36 }

37 \LetLtxMacro\LWRMV@listinginput\@listinginput
38
39 \renewcommand{\@listinginput}[3][]{
40 \LWR@forcenewpage
41 \LWR@atbeginverbatim{programlisting}%
42 \LWRMV@listinginput[#1]{#2}{#3}%
43 \LWR@afterendverbatim%
44 }
45
46
47 \renewenvironment*{boxedverbatim}
48 {
49 \LWR@forcenewpage
50 \LWR@atbeginverbatim{boxedverbatim}%
51 \verbatim%
52 }
53 {
54 \endverbatim%
55 \LWR@afterendverbatim%
56 }

```

---

File 301 **lwarp-movie15.sty**

§ 408     Package **movie15**

Pkg   movie15   movie15 is emulated.

The packages **multimedia**, **movie15**, and **media9** are supported.

HTML5 `<audio>` and `<video>` objects are created for .mp3 and .mp4 files.

HTML5 `<embed>` objects are created for http and ftp links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For **media9**, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For **movie15**, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

**media9** `\addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

**media9** slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

for HTML output:

```

1 \LWR@ProvidesPackageDrop{movie15}[2012/05/16]
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
5
6 \newcommand*{\LWR@moviefifteen@text}{}
7
8 \define@key{\LWR@moviefifteen}{text}{\renewcommand{\LWR@moviefifteen@text}{#1}}
9
10 \newcommand*{\LWR@includemovieb}[4][{}]{%
11 \renewcommand{\LWR@moviefifteen@text}{(multimedia)}
12 \setkeys{\LWR@moviefifteen}{#1}%
13 \LWR@multimediab[#1,width=#2,height=#3]{\LWR@moviefifteen@text}{#4}%
14 }
15
16 \newrobustcmd*{\includemovie}{%
17 \begingroup%
18 \LWR@linkmediacatcodes%
19 \LWR@includemovieb%
20 }
```

---

```

21
22
23 \newcommand*{\movieref}[3][{}]{
24
25 \LetLtxMacro\movie\LWR@multimedia
26 % \LetLtxMacro\sound\LWR@multimedia% not in media15
27
28 \newcommand{\hyperlinkmovie}[3][{}]{

```

---

### File 302 **lwarp-mparhack.sty**

## § 409 Package **mparhack**

Pkg mparhack mparhack is ignored.

**for HTML output:** Discard all options for lwarp-mparhack:

```
1 \LWR@ProvidesPackageDrop{mparhack}[2005/04/17]
```

---

### File 303 **lwarp-multibib.sty**

## § 410 Package **multibib**

*(Emulates or patches code by THORSTEN HANSEN.)*

Pkg multibib multibib is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{multibib}[2008/12/10]

```

2 \xpatchcmd{\newcites}
3 {{\@suffix}}
4 {{\@suffix_html}}
5 {}
6 {\LWR@patcherror{multibib}{newcites}}

```

---

### File 304 **lwarp-multicap.sty**

## § 411 Package **multicap**

Pkg multicap multicap is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multicap}[2002/05/04]

```

2 \newcommand*{\mfcaption}{\captionof{figure}}
3 \newcommand*{\mtcaption}{\captionof{table}}
4 \newcounter{mcapsize}
5 \newcounter{mcapskip}
6 \newlength{\abvmcapskip}
7 \newlength{\blwmcapskip}

```



File 305 **lwarp-multicol.sty**

§ 412 Package **multicol**

*(Emulates or patches code by FRANK MITTELBACH.)*

Pkg multicol **multicol** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{multicol}[2018/12/27]

Multicols are converted into a 1–3 column display, browser-supported.

The optional multicols heading is placed inside a <div> of class multicolsheading.

The content is placed inside a <div> of class multicols.

Env multicols \* {<numcols>} [<heading>]  
2 \NewDocumentEnvironment{multicols}{s m o}

HTML <div> class to contain everything:

```
3 {
4 \LWR@forcenewpage
5 \BlockClass{multicols}
```

Optional HTML <div> class for the heading:

```
6 \IfValueT{#3}{\begin{BlockClass}{multicolsheading}#3\end{BlockClass}}%
```

Change \linewidth to compensate for expected size:

```
7 \setlength{\linewidth}{\linewidth/#2}
```

Locally force any minipages to be fullwidth:

```
8 \booltrue{LWR@forceminipagefullwidth}
9 }
```

When done with the environment, close the <div>:

```
10 {\endBlockClass}
```

Emulated null functions which are not used in HTML:

```
11 \newcommand*{\columnbreak}{}
12 \newcommand*{\RLmulticolcolumns}{}
13 \newcommand*{\LRmulticolcolumns}{}
14
15 \newlength{\premulticols}
16 \newlength{\postmulticols}
17 \newlength{\multicolsep}
18 \newlength{\multicolbaselineskip}
19 \newlength{\multicoltolerance}
20 \newlength{\multicolpretolerance}
21 \newcommand*{\columnseprulecolor}{\normalcolor}
```

---

```

22 \newcounter{columnbadness}
23 \newcounter{finalcolumnbadness}
24 \newcounter{collectmore}
25 \newcounter{unbalance}
26 \newlength{\multicolovershoot}
27 \newlength{\multicolundershoot}

28 \NewDocumentCommand{\docolaction}{s o m m}{%
29 \IfValueTF{#2}{#2}{#3}%
30 }

```

---

File 306 **lwarp-multicolrule.sty**

§ 413     Package **multicolrule**

Pkg multicolrule multicolrule is ignored.

for HTML output:

```

1 \RequirePackage{multicol}
2
3 \LWR@ProvidesPackageDrop{multicolrule}[2019/01/01]

4 \newcommand*{\SetMCRule}[1]{}
5 \NewDocumentCommand{\DeclareMCRulePattern}{m m}{}

```

---

File 307 **lwarp-multimedia.sty**

§ 414     Package **multimedia**

Pkg multimedia multimedia is emulated.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each addressource=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

**media9** \addmediapath is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each <audio> and <video> object.

**media9** slideshows are not supported.

\hyperlinkmovie, \movieref, and \mediabutton are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with .../embed/... instead of .../v/...

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{multimedia}[2012/05/02]

2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \LetLtxMacro\movie\LWR@multimedia
5 \LetLtxMacro\sound\LWR@multimedia
6
7 \newcommand{\hyperlinkmovie}[3][{}]
```

---

File 308 **lwarp-multiobjective.sty**

§ 415 Package **multiobjective**

*(Emulates or patches code by LUIS MARTÍ.)*

Pkg multiobjective **multiobjective** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{multiobjective}[2008/08/19]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\dom}{\prec}}
4 \CustomizeMathJax{\newcommand{\negdom}{\not\prec}}
5 \CustomizeMathJax{\newcommand{\weakdom}{\preccurlyeq}}
6 \CustomizeMathJax{\newcommand{\negweakdom}{\not\preccurlyeq}}

7 \CustomizeMathJax{\newcommand{\strictdom}{\mathord{\prec}!!\!\!\mathord{\prec}}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\mathord{\not\prec}!!\!\!\mathord{\prec}}}
9 \CustomizeMathJax{\newcommand{\multepsilondom}{\preccurlyeq_{\epsilon\cdot}}}
10 \CustomizeMathJax{\newcommand{\addiepsilondom}{\preccurlyeq_{\epsilon +}}}
11 \CustomizeMathJax{\newcommand{\better}{\triangleleft}}
12 \CustomizeMathJax{\def\vec#1{%
13 \mathchoice%
14 {\displaystyle\boldsymbol{#1}}%
15 {\textstyle\boldsymbol{#1}}%
16 {\scriptstyle\boldsymbol{#1}}%
17 {\scriptscriptstyle\boldsymbol{#1}}}%
18 }}
19
```

```

20 \CustomizeMathJax{\newcommand{\set}[1]{%
21 \mathchoice%
22 {\displaystyle\mathcal{#1}}}%
23 {\textstyle\mathcal{#1}}}%
24 {\scriptstyle\mathcal{#1}}}%
25 {\scriptscriptstyle\mathcal{#1}}}%
26 }}
27 \CustomizeMathJax{\def\argmax{\mathop{\mathrm{arg}}\, , \max}}
28 \CustomizeMathJax{\def\argmin{\mathop{\mathrm{arg}}\, , \min}
29 }}
30 \end{warpMathJax}

```

File 309 **lwarp-multirow.sty**

## § 416 Package **multirow**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

Pkg multirow multirow is emulated during HTML output, and used as-is while inside a lateximage.

vposn

- Note that recent versions of **multirow** include a new optional vposn argument.

multirow cells

- For **multirow**, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```

... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...

```

colored cells

- The **multirow** documentation regarding colored cells recommends using a negative number of rows. This will not work with **lwarp**, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

with `\multicolumn`

⚠ `\multicolumn & \multirow`

- See section 416.2 for `\multicolumnrow`.

**lwarp** does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

⚠ skipped cells

As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

⚠ empty cells

```

... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...

```

⚠ **MathJax**

- **MATHJAX** does not support **multirow**, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or svg math.

In a lateximage, the print versions are restored.

See section 74.25 for the print-mode versions.

**for HTML output:** Remove the placeholder macro which was used if **multirow** was not loaded:

```
1 \LetLtxMacro\multirow\relax
2 \LWR@ProvidesPackagePass{multirow}[2021/01/29]
```

**\LWR@multirowborder** Set to left or right to create a thick border for the cell, for use by **bigdelim**:

```
3 \newcommand{\LWR@multirowborder}{{}}
```

### § 416.1 Multirow

**\LWR@multirow@par** \par inside a \multirow.

```
4 \newcommand*{\LWR@multirow@par}{\LWR@htmltag{br /}\LWR@origpar}%
```

**\multirow** [*<vpos>*] {<numrows>} [*<bigstruts>*] {<width>} [*<fixup>*] {<text>}

```
5 \NewDocumentCommand{\LWR@HTML@multirow}{O{c} m o m o +m}%
```

```
6 {%
```

```
7 \LWR@traceinfo{*** LWR@HTML@multirow #1 #2 #4}%
```

```
8 \booltrue{\LWR@usedmultirow}%
```

```
9 \LWR@maybenewtablerow%
```

```
10 \LWR@tabularleftedge%
```

Print the start of a new table data cell:

```
11 \LWR@htmltag{td rowspan=\textquotedbl#2\textquotedbl\ %
```

A class adds the column spec and the rule:

```
12 class=\textquotedbl{}td%
```

Append this column's spec:

```
13 \LWR@gettexpararray{\LWR@tablecolspec}{\arabic{\LWR@tableLaTeXcolindex}}%
```

If this column has a cmidrule, add “rule” to the end of the HTML class tag. Also add the vertical bar class.

```
14 \LWR@addcmidruletrim%
```

```
15 \LWR@addleftmostbartag%
```

```
16 \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
```

```
17 \textquotedbl%
```

```
18 \LWR@tdstartstyles%
```

The vertical alignment, if given:

```
19 \ifstrequal{#1}{c}{\LWR@tdaddstyle\LWR@print@mbx{vertical-align:middle}}{}%
20 \ifstrequal{#1}{b}{\LWR@tdaddstyle\LWR@print@mbx{vertical-align:bottom}}{}%
21 \ifstrequal{#1}{t}{\LWR@tdaddstyle\LWR@print@mbx{vertical-align:top}}{}%
```

The left/right border, if given:

```
22 \ifdefvoid{\LWR@multirowborder}{}{%
23 \LWR@tdaddstyle%
24 \LWR@print@mbx{border-\LWR@multirowborder:} 2px dotted black ; %
25 \LWR@print@mbx{padding-\LWR@multirowborder:} 2px%
26 }%
```

Additional style elements:

```
27 \LWR@addcmidrulewidth%
28 \LWR@addcdashline%
29 \LWR@addtabularrulecolors%
30 \LWR@tdendstyles%
31 }%
```

The column's < spec:

```
32 \LWR@getexparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}%
```

While printing the text, redefine `\` to generate a new line. If a nested tabular occurs, `\` is redefined to `\LWR@tabularendofline` at the start of the tabular, then `\LWR@endofline` before again printing any `\multirow` contents inside the nested tabular.

`\par` is redefined to insert an HTML break, and if tabular is nested, it is redefined at the start of tabular.

```
33 \begingroup%
34 \let\txMacro{\}\{\LWR@endofline}%
35 \let\par\LWR@multirow@par%
36 #6%
37 \endgroup%
38 \LWR@stoppars%
39 \boolfalse{\LWR@intabularmetadata}%
40 \renewcommand{\LWR@multirowborder}{}%
41 \LWR@traceinfo{*** LWR@HTML@multirow done}%
42 }%
43
44 \LWR@formatted{multirow}
```

## § 416.2 Combined multicolumn and multirow

`\multicolumnrow`  $\{\langle 1:cols \rangle\} \{\langle 2:halign \rangle\} [\langle 3:vpos \rangle] \{\langle 4:numrows \rangle\} [\langle 5:bigstruts \rangle] \{\langle 6:width \rangle\} [\langle 7:fixup \rangle] \{\langle 8:text \rangle\}$

`\ifpackageloaded{multirow}` determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The HTML version follows.

`\AtBeginDocument` because the print version had to see if `multirow` was loaded before determining how to define `\LWR@print@multicolumnrow`.

```
45 \AtBeginDocument{
46
47 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{} m O{} m O{} +m}{%

48 \booltrue{\LWR@usedmultirow}%
```

Figure out how many extra HTML columns to add for @ and ! columns:

```
49 \LWR@tabularhtmlcolumns{\arabic{\LWR@tableLaTeXcolindex}}{\#1}
```

Create the multicolumn/multirow tag, temporarily redefining the end of line. (Using a group caused problems with a nested tabular.

```
50 \LetLtxMacro{\}\{\LWR@endofline}%
51 \LWR@domulticolumn[#3][#4]{#1}{\arabic{\LWR@tabhtmlcoltotal}}{\#2}{\#8}%
52 \LetLtxMacro{\}\{\LWR@tabularendofline}%
```

Move to the next  $\LaTeX$  column:

```
53 \defaddtocounter{\LWR@tableLaTeXcolindex}{\#1}%
54 \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
55 \booltrue{\LWR@skipatbang}%
56 }
57
58 \LWR@expandableformatted{multicolumnrow}
59
60 }% \AtBeginDocument
```

For `MATHJAX`. Only the text is used. All other parameters are ignored.

```
61 \begin{warpMathJax}
62 % \multirow[vpos]{num}[bigstruts]{width}[vmove]{text}
63 \CustomizeMathJax{\newcommand{\LWRsubmultirow}[2][\#2]}
64 \CustomizeMathJax{\newcommand{\LWRmultirow}[2][\LWRsubmultirow]}
65 \CustomizeMathJax{\newcommand{\multirow}[2][\LWRmultirow]}
66 %
67 \CustomizeMathJax{\newcommand{\mrowcell}{}}
68 \CustomizeMathJax{\newcommand{\mcolrowcell}{}}
```

---

```
69 \CustomizeMathJax{\newcommand{\STneed}[1]{} }
70 \end{warpMathJax}
```

---

File 310 **lwarp-multitoc.sty**

§ 417 Package **multitoc**

Pkg multitoc multitoc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multitoc}[1999/06/08]

```
2 \newcommand{\multicolumntoc}{2}
3 \newcommand{\multicolumnlot}{2}
4 \newcommand{\multicolumnlof}{2}
5 \newcommand*{\immediateaddtocontents}[2]{ }
```

---

File 311 **lwarp-musicography.sty**

§ 418 Package **musicography**

*(Emulates or patches code by ANDREW A. CASHNER.)*

Pkg musicography musicography is patched for use by lwarp.

Images are used for the meter symbols and fingered bass, since the HTML fonts tend not to be the correct size and HTML cannot stack items. The HTML alt tag copies C and 3/2, etc. Hashes are used for the meter images, which are then reused as necessary.



Note that browser support for musical symbols may be buggy. ALT text and copy/paste into a text editor work well.

**for HTML output:** 1 \LWR@ProvidesPackagePass{musicography}[2019/05/28]

```
2 \NewDocumentCommand{\LWR@HTML@musSymbol}{ O{\musFont} m m m m }{%
3 \begin{lateximage}%
4 {#1\kern#2\raisebox{#3}{#5}\kern#4}%
5 \end{lateximage}%
6 }
7
8 \LWR@formatted{musSymbol}
9
10 \NewDocumentCommand{\LWR@HTML@musStemmedNote}{ m }{%
11 \begin{lateximage}%
12 \musSymbol{0.05em}{0.5ex}{0.2em}{#1\musStem}%
13 \end{lateximage}%
14 }
15
16 \LWR@formatted{musStemmedNote}
17
18 \NewDocumentCommand{\LWR@HTML@musFlaggedNote}{ m m }{%
```



```

19 \begin{lateximage}%
20 \musSymbol{0.05em}{0.5ex}{0pt}{#1\musStem}%
21 \musSymbol{0pt}{0pt}{0.9em}{#2}%
22 \end{lateximage}%
23 }
24
25 \LWR@formatted{musFlaggedNote}
26
27 \NewDocumentCommand{\LWR@HTML@musDottedNote}{ m }{%
28 \begin{lateximage}%
29 #1\musDot%
30 \end{lateximage}%
31 }
32
33 \LWR@formatted{musDottedNote}
34
35 \NewDocumentCommand{\LWR@HTML@musMeter}{ m m }{%
36 \begin{lateximage}*[#1/#2][#1#2]*%
37 \musStack{#1 #2}\kern0.05em%
38 \end{lateximage}%
39 }
40
41 \LWR@formatted{musMeter}
42
43 \NewDocumentCommand{\LWR@HTML@meterCplus}{ m }{%
44 \begin{lateximage}*[C#1]*%
45 \meterC{}\kern-0.7pt#1%
46 \end{lateximage}%
47 }
48
49 \LWR@formatted{meterCplus}
50
51 \NewDocumentCommand{\LWR@HTML@meterC}{}{%
52 \begin{lateximage}*[C]*%
53 \musSymbolMeter{\symbol{83}}%
54 \end{lateximage}%
55 }
56
57 \LWR@formatted{meterC}
58
59 \NewDocumentCommand{\LWR@HTML@meterCutC}{}{%
60 \begin{lateximage}*[C|]*%
61 \musSymbolMeter{\symbol{82}}%
62 \end{lateximage}%
63 }
64
65 \LWR@formatted{meterCutC}
66
67 \NewDocumentCommand{\LWR@HTML@meterCThreeTwo}{}{%
68 \begin{lateximage}*[C3/2]*%
69 \meterCplus{\musStack{3 2}}%
70 \end{lateximage}%
71 }
72
73 \LWR@formatted{meterCThreeTwo}

```

```

74
75 \NewDocumentCommand{\LWR@HTML@meterO}{}{\HTMLUnicode{25EF}}
76
77 \LWR@formatted{meterO}
78
79 \newcommand{\LWR@null@noFig}[1][{}]{%
80
81 \NewDocumentCommand{\LWR@HTML@musFig}{ m }{%
82 \begin{lateximage}*[%
83 {% ALT text for copy/paste
84 \LetLtxMacro\noFig\LWR@null@noFig%
85 \LetLtxMacro\musSharp\LWR@HTML@musSharp%
86 \LetLtxMacro\musDoubleSharp\LWR@HTML@musDoubleSharp%
87 \LetLtxMacro\musFlat\LWR@HTML@musFlat%
88 \LetLtxMacro\musDoubleFlat\LWR@HTML@musDoubleFlat%
89 \LetLtxMacro\musNatural\LWR@HTML@musNatural%
90 {#1}% braces here because \noFig uses []
91 }%
92]*%
93 \musStack[\musFigFont]{#1}%
94 \end{lateximage}%
95 }
96
97 \LWR@formatted{musFig}
98
99 \NewDocumentCommand{\LWR@HTML@musFlat} {}{\HTMLUnicode{266D}}
100 \NewDocumentCommand{\LWR@HTML@musDoubleFlat} {}{\HTMLUnicode{1D12B}}
101 \NewDocumentCommand{\LWR@HTML@musSharp} {}{\HTMLUnicode{266F}}
102 \NewDocumentCommand{\LWR@HTML@musDoubleSharp}{}{\HTMLUnicode{1D12A}}
103 \NewDocumentCommand{\LWR@HTML@musNatural} {}{\HTMLUnicode{266E}}
104
105 \LWR@formatted{musFlat}
106 \LWR@formatted{musDoubleFlat}
107 \LWR@formatted{musSharp}
108 \LWR@formatted{musDoubleSharp}
109 \LWR@formatted{musNatural}
110
111 \NewDocumentCommand{\LWR@HTML@musWhole} {}{\HTMLUnicode{1D15D}}
112 \NewDocumentCommand{\LWR@HTML@musHalf} {}{\HTMLUnicode{1D15E}}
113 \NewDocumentCommand{\LWR@HTML@musQuarter} {}{\HTMLUnicode{1D15F}}
114 \NewDocumentCommand{\LWR@HTML@musEighth} {}{\HTMLUnicode{1D160}}
115 \NewDocumentCommand{\LWR@HTML@musSixteenth} {}{\HTMLUnicode{1D161}}
116 \NewDocumentCommand{\LWR@HTML@musThirtySecond} {}{\HTMLUnicode{1D162}}
117 \NewDocumentCommand{\LWR@HTML@musSixtyFourth} {}{\HTMLUnicode{1D163}}
118
119 \LWR@formatted{musWhole}
120 \LWR@formatted{musHalf}
121 \LWR@formatted{musQuarter}
122 \LWR@formatted{musEighth}
123 \LWR@formatted{musSixteenth}
124 \LWR@formatted{musThirtySecond}
125 \LWR@formatted{musSixtyFourth}
126
127 \NewDocumentCommand{\LWR@HTML@musWholeDotted}{}
128 {\HTMLUnicode{1D15D}\HTMLUnicode{1D16D}}

```

```

129 \NewDocumentCommand{\LWR@HTML@musHalfDotted}{\}
130 {\HTMLUnicode{1D15E}\HTMLUnicode{1D16D}}
131 \NewDocumentCommand{\LWR@HTML@musQuarterDotted}{\}
132 {\HTMLUnicode{1D15F}\HTMLUnicode{1D16D}}
133 \NewDocumentCommand{\LWR@HTML@musEighthDotted}{\}
134 {\HTMLUnicode{1D160}\HTMLUnicode{1D16D}}
135 \NewDocumentCommand{\LWR@HTML@musSixteenthDotted}{\}
136 {\HTMLUnicode{1D161}\HTMLUnicode{1D16D}}
137 \NewDocumentCommand{\LWR@HTML@musThirtySecondDotted}{\}
138 {\HTMLUnicode{1D162}\HTMLUnicode{1D16D}}
139 \NewDocumentCommand{\LWR@HTML@musSixtyFourthDotted}{\}
140 {\HTMLUnicode{1D163}\HTMLUnicode{1D16D}}
141
142 \LWR@formatted{musWholeDotted}
143 \LWR@formatted{musHalfDotted}
144 \LWR@formatted{musQuarterDotted}
145 \LWR@formatted{musEighthDotted}
146 \LWR@formatted{musSixteenthDotted}
147 \LWR@formatted{musThirtySecondDotted}
148 \LWR@formatted{musSixtyFourthDotted}

```

---

File 312 **lwarp-nameauth.sty**

§ 419     Package **nameauth**

*(Emulates or patches code by CHARLES P. SCHAUUM.)*

Pkg    nameauth    **nameauth** is patched for use by **lwarp**.

**for HTML output:**    1 \LWR@ProvidesPackagePass{nameauth}[2017/03/22]

**lwarp** formatting is inserted in the following.

```

2 \renewcommand*\@nameauth@Hook[1]
3 {%
4 \if@nameauth@Lock
5 \@nameauth@InHooktrue%
6 \protected@edef\test{#1}%
7 \expandafter\@nameauth@TestDot\expandafter{\test}%
8 \if@nameauth@InAKA
9 \if@nameauth@AlwaysFormat
10 \@nameauth@FirstFormattrue%
11 \else
12 \unless\if@nameauth@AKAFormat
13 \@nameauth@FirstFormatfalse\fi
14 \fi
15 \if@nameauth@MainFormat
16 \if@nameauth@FirstFormat
17 \bgroup\NamesFormat{%
18 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}}% lwarp
19 \egroup%
20 \else
21 \bgroup\MainNameHook{%

```

```

22 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
23 }\egroup%
24 \fi
25 \else
26 \if@nameauth@FirstFormat
27 \bgroup\FrontNamesFormat{%
28 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
29 }\egroup%
30 \else
31 \bgroup\FrontNameHook{%
32 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
33 }\egroup%
34 \fi
35 \fi
36 \else
37 \if@nameauth@AlwaysFormat
38 \@nameauth@FirstFormattrue%
39 \fi
40 \if@nameauth@MainFormat
41 \if@nameauth@FirstFormat
42 \bgroup\NamesFormat{%
43 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
44 }\egroup%
45 \else
46 \bgroup\MainNameHook{%
47 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
48 }\egroup%
49 \fi
50 \else
51 \if@nameauth@FirstFormat
52 \bgroup\FrontNamesFormat{%
53 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
54 }\egroup%
55 \else
56 \bgroup\FrontNameHook{%
57 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
58 }\egroup%
59 \fi
60 \fi
61 \fi
62 \@nameauth@FirstFormatfalse%
63 \@nameauth@InHookfalse%
64 \fi
65 }

```

---

File 313 **lwarp-nameref.sty**

§ 420    Package **nameref**

Pkg    nameref    **nameref** is emulated by **lwarp**.

**for HTML output:**    Discard all options for **lwarp-nameref**:

---

```

1 \PackageInfo{lwarp}{%
2 Using the lwarp HTML version of package 'nameref',\MessageBreak
3 and discarding options.\MessageBreak
4 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
5 do not attempt to patch lwarp's version of 'nameref'.)\MessageBreak
6 }
7 \DeclareOption*{}
8 \ProcessOptions\relax

```

---

File 314 **lwarp-natbib.sty**

§ 421 Package **natbib**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg natbib natbib is patched for use by lwarp.

for HTML output: 1 \LWRN@ProvidesPackagePass{natbib}[2010/09/13]

Replace math < and > with \textless and \textgreater:

A macro to compare:

```
2 \newcommand{\LWRNB@NAT@open}{<$}
```

To patch \NAT@open and \NAT@close

```

3 \newcommand{\LWRNB@patchnatbibopenclose}{
4 \ifdefstrequal{\NAT@open}{\LWRNB@NAT@open}
5 {
6 \renewcommand{\NAT@open}{\textless}
7 \renewcommand{\NAT@close}{\textgreater}
8 }{}
9 }

```

Do it now in case angle was selected as an option:

```
10 \LWRNB@patchnatbibopenclose
```

Also patch \setcitestyle to patch after settings are made:

```

11 \let\LWRNB@origsetcitestyle\setcitestyle
12
13 \renewcommand{\setcitestyle}[1]{%
14 \LWRNB@origsetcitestyle{#1}%
15 \LWRNB@patchnatbibopenclose%
16 }

```

---

File 315 **lwarp-nccfancyhdr.sty**

## § 422 Package **nccfancyhdr**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg nccfancyhdr **nccfancyhdr** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nccfancyhdr}[2004/12/07]

```

2 \newcommand*\headrulewidth{}
3 \newcommand*\footrulewidth{}
4 \newcommand\headstrutheight{}
5 \newcommand\footstrutheight{}
6 \newcommand*\headrule{}
7 \newcommand*\footrule{}
8
9 \newdimen\headwidth
10 \newcommand*\extendedheaders{}
11 \newcommand*\normalheaders{}
12
13 \newcommand*\fancyhead[2][]{}
14 \newcommand*\fancyfoot[2][]{}
15 \newcommand*\fancyhf[2][]{}
16 \newcommand*\fancypagestyle[2]{}
17 \newcommand*\lhead[2][]{}
18 \newcommand*\chead[2][]{}
19 \newcommand*\rhead[2][]{}
20 \newcommand*\lfoot[2][]{}
21 \newcommand*\cfoot[2][]{}
22 \newcommand*\rfoot[2][]{}
23
24 \newcommand\nouppercase[1]{#1}
25
26 \NewDocumentCommand{\fancycenter}{o o m m}{}
27
28 \NewDocumentCommand{\newpagestyle}{m o m}{}
29
30 \newcommand*\iffloatpage[2]{#2}
31 \newcommand*\ifftopfloat[2]{#2}
32 \newcommand*\iffbotfloat[2]{#2}

```

---

File 316 **lwarp-nccfoots.sty**

## § 423 Package **nccfoots**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg nccfoots **nccfoots** is used as-is, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{nccfoots}[2005/02/03]



For MATHJAX. There is no way to test for an empty argument, so the mark is not automatically duplicated.

---

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\Footnotemark}[1]{{}^{\mathrm{#1}}}}
4 \CustomizeMathJax{\newcommand{\Footnote}[2]{\Footnotemark{#1}}}
5 \end{warpMathJax}

```

---

File 317 **lwarp-nccmath.sty**

§ 424 Package **nccmath**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg nccmath nccmath is patched for use by lwarp, and emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{nccmath}[2006/01/20]

2 \let\LWR@origeqnarray\eqnarray
3 \let\LWR@origendeqnarray\endeqnarray
4
5 \csletcs{LWR@origeqnarraystar}{eqnarray*}
6 \csletcs{LWR@origendeqnarraystar}{endeqnarray*}
7
8 \RenewEnviron{eqnarray}
9 {%
10
11 \LWR@eqnarrayfactor
12
13 }
14
15 \RenewEnviron{eqnarray*}
16 {%
17
18 \begingroup
19 \csletcs{LWR@origeqnarray}{LWR@origeqnarraystar}
20 \csletcs{LWR@origendeqnarray}{LWR@origendeqnarraystar}
21 \boolfalse{LWR@numbereqnarray}
22 \LWR@eqnarrayfactor
23 \endgroup
24
25 }
26
27 \def\eqs{%
28 \ifstar\LWR@nccmath@eqsstar\LWR@nccmath@eqs%
29 }
30 \newcommand*{\LWR@nccmath@eqsstar}[2][\begin{eqnarray*}#2\end{eqnarray*}]{}
31 \newcommand*{\LWR@nccmath@eqs}[2][\begin{eqnarray}#2\end{eqnarray}]{}
32
33 \begin{warpMathJax}

34 \CustomizeMathJax{\renewcommand{\intertext}[2][\text{#2}\notag \\\]}
35 \CustomizeMathJax{\newenvironment{fleqn}[1][\{\}\}}
36 \CustomizeMathJax{\newenvironment{ceqn}[\{\}\]}
37 \CustomizeMathJax{\newenvironment{darray}[2][c]{\begin{array}[#1][#2]{\end{array}}}}
38 \CustomizeMathJax{\newcommand{\dmulticolumn}[3][#3]}

```

As of v0.86, MATHJAX v3 does not offer `\*`, so the unstarred version is used here.

```

39 \CustomizeMathJax{\newcommand{\LWRnrmnostar}[1][0.5ex]{\[#1]}}
40 \CustomizeMathJax{\newcommand{\nr}{\ifstar\LWRnrmnostar\LWRnrmnostar}}
41
42 \CustomizeMathJax{\newcommand{\mrel}[1]{\begin{aligned}#1\end{aligned}}}
43 \CustomizeMathJax{\newcommand{\underrel}[2]{\underset{#2}{#1}}}
44 \CustomizeMathJax{\newcommand{\medmath}[1]{#1}}
45 \CustomizeMathJax{\newcommand{\medop}[1]{#1}}
46 \CustomizeMathJax{\newcommand{\medint}[1]{#1}}
47 \CustomizeMathJax{\newcommand{\medintcorr}[1]{#1}}
48 \CustomizeMathJax{\newcommand{\mfrac}[2]{\frac{#1}{#2}}}
49 \CustomizeMathJax{\newcommand{\mbinom}[2]{\binom{#1}{#2}}}
50 \CustomizeMathJax{\newenvironment{mmatrix}{\begin{matrix}}{\end{matrix}}}

51 \CustomizeMathJax{\newcommand{\displaybreak}[1][{}]}

\eq, \eqs, \eqalign are created by LATEX, not MATHJAX.

52 \end{warpMathJax}

```

---

## File 318 **lwarp-needspace.sty**

### § 425 Package **needspace**

(Emulates or patches code by PETER WILSON.)

Pkg needspace **needspace** is ignored.

**for HTML output:** Discard all options for **lwarp-needspace**:

```

1 \LWR@ProvidesPackageDrop{needspace}[2010/09/12]
2
3 \DeclareDocumentCommand{\needspace}{m}{}
4 \DeclareDocumentCommand{\Needspace}{s m}{}

```

---

## File 319 **lwarp-newpxmath.sty**

### § 426 Package **newpxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newpxmath **newpxmath** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored. The dedicated macros for upright and italic Greek do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** The MATHJAX code from **newtxmath** is used:



```

1 \LWR@ProvidesPackagePass{newpxmath}[2020/01/09]
2
3 \LWR@infoprocessingmathjax{newpxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}{}
14 \LWR@mathjax@addgreek@l@up{}{}
15 \LWR@mathjax@addgreek@l@up{}{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}

```

Optional slanted Greek:

```

18 \ifpx@slantedG
19 \LWR@mathjax@addgreek@u@it*{}{}
20 \fi
21
22 \end{warpMathJax}

```

---

File 320 **lwarp-newtxmath.sty**

## § 427 Package **newtxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newtxmath **newtxmath** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and except that bold italic Latin letters are not defined for MATHJAX if the option is not selected.

The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{newtxmath}[2020/08/04]
2
3 \LWR@infoprocessingmathjax{newtxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10

```

```

11% * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{up}{}
14 \LWR@mathjax@addgreek@l@up{up}{}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19% only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{it}{}
21 \LWR@mathjax@addgreek@l@it{it}{}
22
23% only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{
25 \iftx@BI
26 \LWR@mathjax@addlatin@u@bfit{BI}
27 \LWR@mathjax@addlatin@l@bfit{BI}
28 \fi
29 }{}

```

Optional slanted Greek:

```

30 \iftx@slantedG
31 \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}

```

---

File 321 **lwarp-newtxsf.sty**

§ 428     Package **newtxsf**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg    newtxsf    **newtxsf** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations**    The MATHJAX emulation ignores all package options, except `slantedGreek` is honored. The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{newtxsf}[2020/05/02]
2
3 \LWR@infoprocessingmathjax{newtxsf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11% * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}

```

```

12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{up}{}
14 \LWR@mathjax@addgreek@l@up{up}{}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{it}{}
21 \LWR@mathjax@addgreek@l@it{it}{}
22 %
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{
25 \iftx@BI
26 \LWR@mathjax@addlatin@u@bfit{BI}
27 \LWR@mathjax@addlatin@l@bfit{BI}
28 \fi
29 }{}

```

Optional slanted Greek:

```

30 \iftx@slantedG
31 \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}

```

---

File 322 **lwarp-nextpage.sty**

§ 429     Package **nextpage**

(Emulates or patches code by PETER WILSON.)

Pkg   nextpage   **nextpage** is ignored.

for HTML output: Discard all options for **lwarp-nextpage**.

```

1 \LWR@ProvidesPackageDrop{nextpage}[2009/09/03]

2 \DeclareDocumentCommand{\cleartoevenpage}{o}{}
3 \DeclareDocumentCommand{\movetoevenpage}{o}{}
4 \DeclareDocumentCommand{\cleartooddpage}{o}{}
5 \DeclareDocumentCommand{\movetooddpage}{o}{}

```

---

File 323 **lwarp-nfs sext-cfr.sty**

§ 430     Package **nfs sext-cfr**

(Emulates or patches code by CLEA F. REES.)

Pkg   nfs sext-cfr   **nfs sext-cfr** is emulated in HTML, and used as-is in print output.

Results depend on the browser's font.

for HTML output:

```
1 \LWR@ProvidesPackagePass{nfssect-cfr}[2017/03/28]
```

Macros which are present in the **lwarp** core are commented out here.

```
2 \newrobustcmd{\LWR@HTML@lnstyle}{}
3 \newrobustcmd{\LWR@HTML@osstyle}{\LWR@HTML@scshape}
4 \newrobustcmd{\LWR@HTML@instyle}{}
5 \newrobustcmd{\LWR@HTML@sustyle}{}
6 \newrobustcmd{\LWR@HTML@swstyle}{}
7 \newrobustcmd{\LWR@HTML@pstyle}{}
8 \newrobustcmd{\LWR@HTML@tistyle}{}
9 \newrobustcmd{\LWR@HTML@ostyle}{\LWR@HTML@scshape}
10 \newrobustcmd{\LWR@HTML@postyle}{\LWR@HTML@scshape}
11 \newrobustcmd{\LWR@HTML@ltstyle}{}
12 \newrobustcmd{\LWR@HTML@ofstyle}{}
13 \newrobustcmd{\LWR@HTML@altstyle}{}
14 \newrobustcmd{\LWR@HTML@regstyle}{}
15 \newrobustcmd{\LWR@HTML@embosstyle}{}
16 \newrobustcmd{\LWR@HTML@ornamentalstyle}{}
17 \newrobustcmd{\LWR@HTML@qtstyle}{}
18 \newrobustcmd{\LWR@HTML@shstyle}{}
19 \newrobustcmd{\LWR@HTML@swashstyle}{}
20 \newrobustcmd{\LWR@HTML@tmstyle}{\renewcommand*{\LWR@f@family}{tt}}
21 \newrobustcmd{\LWR@HTML@tvstyle}{\renewcommand*{\LWR@f@family}{tt}}
22 \newrobustcmd{\LWR@HTML@tstyle}{}
23 \newrobustcmd{\LWR@HTML@lstyle}{}
24 \newrobustcmd{\LWR@HTML@tlstyle}{}
25 \newrobustcmd{\LWR@HTML@plstyle}{}
26 \newrobustcmd{\LWR@HTML@tostyle}{\LWR@HTML@scshape}
27 % \newrobustcmd{\LWR@HTML@sishape}{}
28 \newrobustcmd{\LWR@HTML@olshape}{}
29 \newrobustcmd{\LWR@HTML@scolshape}{}
30 \newrobustcmd{\LWR@HTML@ushape}{}
31 \newrobustcmd{\LWR@HTML@scushape}{}
32 \newrobustcmd{\LWR@HTML@uishape}{\LWR@HTML@itshape}
33 \newrobustcmd{\LWR@HTML@rishape}{}
34 \newrobustcmd{\LWR@HTML@regwidth}{}
35 \newrobustcmd{\LWR@HTML@nwidth}{}
36 \newrobustcmd{\LWR@HTML@cdwidth}{}
37 \newrobustcmd{\LWR@HTML@ecwidth}{}
38 \newrobustcmd{\LWR@HTML@ucwidth}{}
39 \newrobustcmd{\LWR@HTML@etwidth}{}
40 \newrobustcmd{\LWR@HTML@ewidth}{}
41 \newrobustcmd{\LWR@HTML@exwidth}{}
42 \newrobustcmd{\LWR@HTML@uxwidth}{}
43 \newrobustcmd{\LWR@HTML@mbweight}{\renewcommand*{\LWR@f@series}{md}}
44 \newrobustcmd{\LWR@HTML@dbweight}{\renewcommand*{\LWR@f@series}{db}}
45 \newrobustcmd{\LWR@HTML@sbweight}{\renewcommand*{\LWR@f@series}{sb}}
46 % \newrobustcmd{\LWR@HTML@ebweight}{\renewcommand*{\LWR@f@series}{eb}}
47 \newrobustcmd{\LWR@HTML@ubweight}{\renewcommand*{\LWR@f@series}{ub}}
48 % \newrobustcmd{\LWR@HTML@lgweight}{\renewcommand*{\LWR@f@series}{lg}}
49 \newrobustcmd{\LWR@HTML@elweight}{\renewcommand*{\LWR@f@series}{el}}
50 \newrobustcmd{\LWR@HTML@ulweight}{\renewcommand*{\LWR@f@series}{ul}}
```

```
51 % \newrobustcmd{\LWR@HTML@itshape}{}
52 % \newrobustcmd{\LWR@HTML@scshape}{}
53 % \newrobustcmd{\LWR@HTML@upshape}{}
54 \newrobustcmd{\LWR@HTML@dfshape}{}
55
56 \ifdef{\LWR@HTML@swshape}{}{% duplicated by fontaxes
57 \newrobustcmd{\LWR@HTML@swshape}{}
58 }
59
60 \newrobustcmd{\LWR@HTML@ornament}[1]{}
61
62 \LWR@formatted{lnstyle}
63 \LWR@formatted{osstyle}
64 \LWR@formatted{instyle}
65 \LWR@formatted{sustyle}
66 \LWR@formatted{swstyle}
67 \LWR@formatted{pstyle}
68 \LWR@formatted{tistyle}
69 \LWR@formatted{ostyle}
70 \LWR@formatted{postyle}
71 \LWR@formatted{ltstyle}
72 \LWR@formatted{ofstyle}
73 \LWR@formatted{altstyle}
74 \LWR@formatted{regstyle}
75 \LWR@formatted{embossstyle}
76 \LWR@formatted{ornamentalstyle}
77 \LWR@formatted{qtstyle}
78 \LWR@formatted{shstyle}
79 \LWR@formatted{swashstyle}
80 \LWR@formatted{tmstyle}
81 \LWR@formatted{tvstyle}
82 \LWR@formatted{tstyle}
83 \LWR@formatted{lstyle}
84 \LWR@formatted{tlstyle}
85 \LWR@formatted{plstyle}
86 \LWR@formatted{tostyle}
87 % \LWR@formatted{sisshape}
88 \LWR@formatted{olshape}
89 \LWR@formatted{scolshape}
90 \LWR@formatted{ushape}
91 \LWR@formatted{scushape}
92 \LWR@formatted{uishape}
93 \LWR@formatted{rishape}
94 \LWR@formatted{regwidth}
95 \LWR@formatted{nwwidth}
96 \LWR@formatted{cdwidth}
97 \LWR@formatted{ecwidth}
98 \LWR@formatted{ucwidth}
99 \LWR@formatted{etwidth}
100 \LWR@formatted{epwidth}
101 \LWR@formatted{exwidth}
102 \LWR@formatted{uxwidth}
103 \LWR@formatted{mbweight}
104 \LWR@formatted{dbweight}
105 \LWR@formatted{sbweight}
```

```

106 % \LWR@formatted{ebweight}
107 \LWR@formatted{ubweight}
108 % \LWR@formatted{lgweight}
109 \LWR@formatted{elweight}
110 \LWR@formatted{ulweight}
111 \LWR@formatted{itshape}% adapt to the new print version
112 \LWR@formatted{scshape}% adapt to the new print version
113 \LWR@formatted{upshape}% adapt to the new print version
114 \LWR@formatted{dfshape}
115
116 \ifdef{\LWR@HTML@swshape}{ }{% duplicated by fontaxes
117 \LWR@formatted{swshape}
118 }
119
120 \LWR@formatted{ornament}

121 \FilenameNullify{%
122 \LetLtxMacro\lnstyle\@empty%
123 \LetLtxMacro\osstyle\@empty%
124 \LetLtxMacro\instyle\@empty%
125 \LetLtxMacro\sustyle\@empty%
126 \LetLtxMacro\swstyle\@empty%
127 \LetLtxMacro\pstyle\@empty%
128 \LetLtxMacro\tistyle\@empty%
129 \LetLtxMacro\ostyle\@empty%
130 \LetLtxMacro\postyle\@empty%
131 \LetLtxMacro\ltstyle\@empty%
132 \LetLtxMacro\ofstyle\@empty%
133 \LetLtxMacro\altstyle\@empty%
134 \LetLtxMacro\regstyle\@empty%
135 \LetLtxMacro\embossstyle\@empty%
136 \LetLtxMacro\ornamentalstyle\@empty%
137 \LetLtxMacro\qtstyle\@empty%
138 \LetLtxMacro\shstyle\@empty%
139 \LetLtxMacro\swashstyle\@empty%
140 \LetLtxMacro\tmstyle\@empty%
141 \LetLtxMacro\tvstyle\@empty%
142 \LetLtxMacro\tstyle\@empty%
143 \LetLtxMacro\lstyle\@empty%
144 \LetLtxMacro\tlstyle\@empty%
145 \LetLtxMacro\plstyle\@empty%
146 \LetLtxMacro\tostyle\@empty%
147 % \LetLtxMacro\sishape\@empty%
148 \LetLtxMacro\olshape\@empty%
149 \LetLtxMacro\scolshape\@empty%
150 \LetLtxMacro\ushape\@empty%
151 \LetLtxMacro\scushape\@empty%
152 \LetLtxMacro\uishape\@empty%
153 \LetLtxMacro\rishape\@empty%
154 \LetLtxMacro\regwidth\@empty%
155 \LetLtxMacro\nwidth\@empty%
156 \LetLtxMacro\cdwidth\@empty%
157 \LetLtxMacro\ecwidth\@empty%
158 \LetLtxMacro\ucwidth\@empty%
159 \LetLtxMacro\etwidth\@empty%

```

```

160 \LetLtxMacro\epwidth\@empty%
161 \LetLtxMacro\exwidth\@empty%
162 \LetLtxMacro\uxwidth\@empty%
163 \LetLtxMacro\mbweight\@empty%
164 \LetLtxMacro\dbweight\@empty%
165 \LetLtxMacro\sbweight\@empty%
166 % \LetLtxMacro\ebweight\@empty%
167 \LetLtxMacro\ubweight\@empty%
168 % \LetLtxMacro\lgweight\@empty%
169 \LetLtxMacro\elweight\@empty%
170 \LetLtxMacro\ulweight\@empty%
171 % \LetLtxMacro\itshape\@empty%
172 % \LetLtxMacro\scshape\@empty%
173 % \LetLtxMacro\upshape\@empty%
174 \LetLtxMacro\dfshape\@empty%
175 \LetLtxMacro\swshape\@empty%
176 \LetLtxMacro\ornament\@gobble%
177 }
178
179 \newrobustcmd{\LWR@HTML@textln}[1]{\InlineClass{textln}{#1}}
180 \newrobustcmd{\LWR@HTML@textos}[1]{\textsc{#1}}
181 \newrobustcmd{\LWR@HTML@textin}[1]{#1}
182 \newrobustcmd{\LWR@HTML@textsu}[1]{#1}
183 % \newrobustcmd{\LWR@HTML@textsi}[1]{#1}
184 \newrobustcmd{\LWR@HTML@textdf}[1]{#1}

185 \ifdef{\LWR@HTML@textsw}{% duplicated by fontaxes
186 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
187 \LWR@formatted{textsw}
188 }
189
190 \newrobustcmd{\LWR@HTML@textti}[1]{#1}
191 \newrobustcmd{\LWR@HTML@textlt}[1]{#1}
192 \newrobustcmd{\LWR@HTML@textof}[1]{#1}
193 \newrobustcmd{\LWR@HTML@textalt}[1]{#1}
194 \newrobustcmd{\LWR@HTML@textreg}[1]{#1}
195 \newrobustcmd{\LWR@HTML@emboss}[1]{#1}
196 \newrobustcmd{\LWR@HTML@textorn}[1]{#1}
197 \newrobustcmd{\LWR@HTML@textqt}[1]{#1}
198 \newrobustcmd{\LWR@HTML@textsh}[1]{#1}
199 \newrobustcmd{\LWR@HTML@texttm}[1]{\texttt{#1}}
200 \newrobustcmd{\LWR@HTML@texttv}[1]{\texttt{#1}}
201 \newrobustcmd{\LWR@HTML@textl}[1]{\InlineClass{textln}{#1}}
202 \newrobustcmd{\LWR@HTML@texto}[1]{\textsc{#1}}
203 \newrobustcmd{\LWR@HTML@textp}[1]{\InlineClass{textp}{#1}}
204 \newrobustcmd{\LWR@HTML@textt}[1]{\InlineClass{textt}{#1}}
205 \newrobustcmd{\LWR@HTML@textpl}[1]{#1}
206 \newrobustcmd{\LWR@HTML@textpo}[1]{\textsc{#1}}
207 \newrobustcmd{\LWR@HTML@texttl}[1]{\InlineClass{textln}{#1}}
208 \newrobustcmd{\LWR@HTML@textto}[1]{\textsc{#1}}
209 \newrobustcmd{\LWR@HTML@textol}[1]{#1}
210 \newrobustcmd{\LWR@HTML@textswash}[1]{#1}
211 \newrobustcmd{\LWR@HTML@textu}[1]{#1}
212 \newrobustcmd{\LWR@HTML@textscu}[1]{#1}
213 \newrobustcmd{\LWR@HTML@textui}[1]{\LWR@HTML@textit{#1}}

```

```
214 \newrobustcmd{\LWR@HTML@textri}[1]{#1}
215 \newrobustcmd{\LWR@HTML@textnw}[1]{#1}
216 \newrobustcmd{\LWR@HTML@textcd}[1]{#1}
217 \newrobustcmd{\LWR@HTML@textec}[1]{#1}
218 \newrobustcmd{\LWR@HTML@textuc}[1]{#1}
219 \newrobustcmd{\LWR@HTML@textet}[1]{#1}
220 \newrobustcmd{\LWR@HTML@textep}[1]{#1}
221 \newrobustcmd{\LWR@HTML@textex}[1]{#1}
222 \newrobustcmd{\LWR@HTML@textux}[1]{#1}
223 \newrobustcmd{\LWR@HTML@extrw}[1]{#1}
224 \newrobustcmd{\LWR@HTML@textmb}[1]{\LWR@HTML@mbweight\InlineClass{textmb}{#1}}
225 \newrobustcmd{\LWR@HTML@textdb}[1]{\LWR@HTML@dbweight\InlineClass{textdb}{#1}}
226 \newrobustcmd{\LWR@HTML@textsb}[1]{\LWR@HTML@sbweight\InlineClass{textsb}{#1}}
227 % \newrobustcmd{\LWR@HTML@texteb}[1]{#1}
228 \newrobustcmd{\LWR@HTML@textub}[1]{\LWR@HTML@ubweight\InlineClass{textub}{#1}}
229 % \newrobustcmd{\LWR@HTML@textlg}[1]{#1}
230 \newrobustcmd{\LWR@HTML@textel}[1]{\LWR@HTML@elweight\InlineClass{textel}{#1}}
231 \newrobustcmd{\LWR@HTML@textul}[1]{\LWR@HTML@ulweight\InlineClass{textul}{#1}}
232
233 \LWR@formatted{textln}
234 \LWR@formatted{textos}
235 \LWR@formatted{textin}
236 \LWR@formatted{textsu}
237 % \LWR@formatted{textsi}
238 \LWR@formatted{textdf}
239 \LWR@formatted{textti}
240 \LWR@formatted{textlt}
241 \LWR@formatted{textof}
242 \LWR@formatted{textalt}
243 \LWR@formatted{textreg}
244 \LWR@formatted{emboss}
245 \LWR@formatted{textorn}
246 \LWR@formatted{textqt}
247 \LWR@formatted{textsh}
248 \LWR@formatted{texttm}
249 \LWR@formatted{texttv}
250 \LWR@formatted{textl}
251 \LWR@formatted{texto}
252 \LWR@formatted{textp}
253 \LWR@formatted{textt}
254 \LWR@formatted{textpl}
255 \LWR@formatted{textpo}
256 \LWR@formatted{texttl}
257 \LWR@formatted{textto}
258 \LWR@formatted{textol}
259 \LWR@formatted{textswash}
260 \LWR@formatted{textu}
261 \LWR@formatted{textscu}
262 \LWR@formatted{textui}
263 \LWR@formatted{textri}
264 \LWR@formatted{textnw}
265 \LWR@formatted{textcd}
266 \LWR@formatted{textec}
267 \LWR@formatted{textuc}
268 \LWR@formatted{textet}
```



```
269 \LWR@formatted{textep}
270 \LWR@formatted{textex}
271 \LWR@formatted{textux}
272 \LWR@formatted{textrw}
273 \LWR@formatted{textmb}
274 \LWR@formatted{textdb}
275 \LWR@formatted{textsb}
276 % \LWR@formatted{texteb}
277 \LWR@formatted{textub}
278 % \LWR@formatted{textlg}
279 \LWR@formatted{textel}
280 \LWR@formatted{textul}
281

282 \FilenameNullify{%
283 \LetLtxMacro\textln\@firstofone%
284 \LetLtxMacro\textos\@firstofone%
285 \LetLtxMacro\textin\@firstofone%
286 \LetLtxMacro\textsu\@firstofone%
287 % \LetLtxMacro\textsi\@firstofone%
288 \LetLtxMacro\textdf\@firstofone%
289 \LetLtxMacro\textsw\@firstofone%
290 \LetLtxMacro\textti\@firstofone%
291 \LetLtxMacro\textlt\@firstofone%
292 \LetLtxMacro\textof\@firstofone%
293 \LetLtxMacro\textalt\@firstofone%
294 \LetLtxMacro\textreg\@firstofone%
295 \LetLtxMacro\emboss\@firstofone%
296 \LetLtxMacro\textorn\@firstofone%
297 \LetLtxMacro\textqt\@firstofone%
298 \LetLtxMacro\textsh\@firstofone%
299 \LetLtxMacro\texttm\@firstofone%
300 \LetLtxMacro\texttv\@firstofone%
301 \LetLtxMacro\textl\@firstofone%
302 \LetLtxMacro\texto\@firstofone%
303 \LetLtxMacro\textp\@firstofone%
304 \LetLtxMacro\textt\@firstofone%
305 \LetLtxMacro\textpl\@firstofone%
306 \LetLtxMacro\textpo\@firstofone%
307 \LetLtxMacro\texttl\@firstofone%
308 \LetLtxMacro\textto\@firstofone%
309 \LetLtxMacro\textol\@firstofone%
310 \LetLtxMacro\textswash\@firstofone%
311 \LetLtxMacro\textu\@firstofone%
312 \LetLtxMacro\textscu\@firstofone%
313 \LetLtxMacro\textui\@firstofone%
314 \LetLtxMacro\textri\@firstofone%
315 \LetLtxMacro\textnw\@firstofone%
316 \LetLtxMacro\textcd\@firstofone%
317 \LetLtxMacro\textec\@firstofone%
318 \LetLtxMacro\textuc\@firstofone%
319 \LetLtxMacro\textet\@firstofone%
320 \LetLtxMacro\textep\@firstofone%
321 \LetLtxMacro\textex\@firstofone%
322 \LetLtxMacro\textux\@firstofone%
```

```

323 \LetLtxMacro\textrw\@firstofone%
324 \LetLtxMacro\textmb\@firstofone%
325 \LetLtxMacro\textdb\@firstofone%
326 \LetLtxMacro\textsb\@firstofone%
327 % \LetLtxMacro\texteb\@firstofone%
328 \LetLtxMacro\textub\@firstofone%
329 % \LetLtxMacro\textlg\@firstofone%
330 \LetLtxMacro\textel\@firstofone%
331 \LetLtxMacro\textul\@firstofone%
332 }
333
334 \providecommand*\zeroslash{}{}
335 \newrobustcmd*\LWR@HTML@zeroslash{}{}
336 \LWR@formatted{zeroslash}

```

---

File 324 **lwarp-nicefrac.sty**

§ 431 Package **nicefrac**

(Emulates or patches code by AXEL REICHERT.)

Pkg nicefrac nicefrac is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{nicefrac}[1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@UnitsNiceFrac}[3][[%
3 {% localize font selection
4 #1{%
5 \LWR@textcurrentfont{%
6 \InlineClass{numerator}{#2}%
7 /%
8 \InlineClass{denominator}{#3}%
9 }%
10 }%
11 }%
12 }
13
14 \LWR@formatted{@UnitsNiceFrac}
15
16 \DeclareRobustCommand*\LWR@HTML@UnitsUglyFrac}[3][[%
17 {% localize font selection
18 #1{\LWR@textcurrentfont{#2/#3}}%
19 }%
20 }
21
22 \LWR@formatted{@UnitsUglyFrac}

```

For MATHJAX:

```

23 \begin{warpMathJax}
24 \CustomizeMathJax{\newcommand{\nicefrac}[3][\mathinner{{}^{\#2}\!/_{\#3}}]}
25 \end{warpMathJax}

```

File 325 **lwarp-niceframe.sty**§ 432 Package **niceframe**

Pkg niceframe niceframe is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{niceframe}% the original date is in yyyy/dd/mm format

```

2 \newcommand{\LWR@niceframe}[3]{%
3 \begin{LWR@setvirtualpage}*%
4 \setlength{\LWR@templengthone}{#1}%
5 \begin{BlockClass}[max-width:\LWR@printlength{\LWR@templengthone}]{#3}%
6 #2
7 \end{BlockClass}%
8 \end{LWR@setvirtualpage}%
9 }
10
11 \newcommand{\niceframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{niceframe}}
12 \newcommand{\curlyframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{curlyframe}}
13 \newcommand{\artdecoframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{artdecoframe}}
14
15 \newcommand{\generalframe}[9]{\LWR@niceframe{\textwidth}{#9}{generalframe}}
```

File 326 **lwarp-nicematrix.sty**§ 433 Package **nicematrix**

(Emulates or patches code by F. PANTIGNY.)

Pkg nicematrix nicematrix is used as-is for SVG math, and is emulated for MATHJAX.

△ **MATHJAX** Keys/values are ignored in MATHJAX. \Cdots, etc. do not span multiple cells. AutoNiceMatrix, etc. are not supported for MATHJAX. SVG math output preserves all nicematrix features. To force SVG output for one or more consecutive math expressions, for inline math use \inlinemathother and \inlinemathnormal, or for display math use \displaymathother and \displaymathnormal.

for HTML output: 1 \LWR@ProvidesPackagePass{nicematrix}[2020/11/23]

NiceTabular must be converted to SVG to support the various nicematrix options:

```

2 \begin{warpHTML}
3 \BeforeBeginEnvironment{NiceTabular}{%
4 \begin{lateximage}[-nicematrix--\PackageDiagramAltText]%
5 }
6 \AfterEndEnvironment{NiceTabular}{\end{lateximage}}
7 \BeforeBeginEnvironment{NiceTabular*}{%
8 \begin{lateximage}[-nicematrix--\PackageDiagramAltText]%
```

```

9 }
10 \AfterEndEnvironment{NiceTabular*}{\end{lateximage}}
11 \end{warpHTML}

```

Special handling for the optional arguments, and the lack of a delimiter:

```

12 \begin{warpMathJax}
13 \CustomizeMathJax{\newcommand{\LWRnicearrayarray}[1]{\begin{array}{#1}}}
14 \CustomizeMathJax{\def\LWRnicearrayarrayopt#1[#2] {\begin{array}{#1}}}
15
16 \CustomizeMathJax{%
17 \newenvironment{NiceArray}[2][{}%
18 {\ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%
19 {\end{array}}}%
20 }
21
22 \CustomizeMathJax{%
23 \newcommand{\LWRnicearraywithdelimitwo}[2][{}%
24 {\ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%
25 }%
26 }

```

General case with left/right delimiters:

```

27 \CustomizeMathJax{%
28 \newenvironment{NiceArrayWithDelims}[2]%
29 {%
30 \def\LWRnicearrayrightdelim{\right#2}%
31 \left#1%
32 \LWRnicearraywithdelimitwo%
33 }%
34 {\end{array}\LWRnicearrayrightdelim}%
35 }

```

Instances of specific delimiters:

```

36 \CustomizeMathJax{%
37 \newenvironment{pNiceArray}
38 {\begin{NiceArrayWithDelims}{\{ \}}{}}
39 {\end{NiceArrayWithDelims}}
40 }
41
42 \CustomizeMathJax{%
43 \newenvironment{bNiceArray}
44 {\begin{NiceArrayWithDelims}{[]}{}}
45 {\end{NiceArrayWithDelims}}
46 }
47
48 \CustomizeMathJax{%
49 \newenvironment{BNiceArray}
50 {\begin{NiceArrayWithDelims}{\{ \}}{\{ \}}{}}
51 {\end{NiceArrayWithDelims}}
52 }
53
54 \CustomizeMathJax{%

```

```

55 \newenvironment{vNiceArray}
56 {\begin{NiceArrayWithDelims}{\vert}{\vert}}
57 {\end{NiceArrayWithDelims}}
58 }
59
60 \CustomizeMathJax{%
61 \newenvironment{vNiceArray}
62 {\begin{NiceArrayWithDelims}{\Vert}{\Vert}}
63 {\end{NiceArrayWithDelims}}
64 }

```

Ignore optional arg and use standard environments:

```

65 \CustomizeMathJax{\newenvironment{NiceMatrix}[1][\begin{matrix}]{\end{matrix}}}
66 \CustomizeMathJax{\newenvironment{pNiceMatrix}[1][\begin{pmatrix}]{\end{pmatrix}}}
67 \CustomizeMathJax{\newenvironment{bNiceMatrix}[1][\begin{bmatrix}]{\end{bmatrix}}}
68 \CustomizeMathJax{\newenvironment{BNiceMatrix}[1][\begin{Bmatrix}]{\end{Bmatrix}}}
69 \CustomizeMathJax{\newenvironment{vNiceMatrix}[1][\begin{vmatrix}]{\end{vmatrix}}}
70 \CustomizeMathJax{\newenvironment{VNiceMatrix}[1][\begin{Vmatrix}]{\end{Vmatrix}}}

```

Ignore optional argument and size. Print contents.

```

71 \CustomizeMathJax{\newcommand{\LWRnicematrixBlock}[1]{#1}}
72 \CustomizeMathJax{\def\LWRnicematrixBlockopt<#1>#2{#2}}
73
74 \CustomizeMathJax{%
75 \newcommand{\Block}[2][\ifnextchar<\LWRnicematrixBlockopt\LWRnicematrixBlock}%
76 }

```

Form an approximation:

```

77 \CustomizeMathJax{%
78 \newcommand{\diagbox}[2]{%
79 \begin{array}{l}\hfill\quad#2\\\hline#1\quad\hfill\end{array}%
80 }%
81 }

```

More approximations:

```

82 \CustomizeMathJax{\let\hdottedline\hdashline}
83
84 \CustomizeMathJax{\newcommand{\ldots}[1][\dots]}
85 \CustomizeMathJax{\newcommand{\cdots}[1][\cdots]}
86 \CustomizeMathJax{\newcommand{\vdots}[1][\vdots]}
87 \CustomizeMathJax{\newcommand{\ddots}[1][\ddots]}
88 \CustomizeMathJax{\newcommand{\iddots}[1][\mathinner{\unicode{x22F0}}]}
89
90 \CustomizeMathJax{\newcommand{\Hdotsfor}[1]{\ldots}}
91 \CustomizeMathJax{\newcommand{\Vdotsfor}[1]{\vdots}}

```

There is no way to emulate `AutoNiceMatrix` in `MATHJAX`.

```

92 \CustomizeMathJax{\newcommand{\AutoNiceMatrix}[2]{\text{(AutoNiceMatrix #1)}}}
93 \CustomizeMathJax{\let\pAutoNiceMatrix\AutoNiceMatrix}
94 \CustomizeMathJax{\let\bAutoNiceMatrix\AutoNiceMatrix}

```

---

```

95 \CustomizeMathJax{\let\BAutoNiceMatrix\AutoNiceMatrix}
96 \CustomizeMathJax{\let\vAutoNiceMatrix\AutoNiceMatrix}
97 \CustomizeMathJax{\let\VAutoNiceMatrix\AutoNiceMatrix}
98 \end{warpMathJax}

```

---

File 327 **lwarp-noitcrul.sty**

§ 434    Package **noitcrul**

*(Emulates or patches code by PAUL EBERMANN.)*

Pkg    noitcrul    noitcrul is used as-is for SVG and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{noitcrul}[2006/04/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\noitUnderLine}[1]{\underline{#1}!}}
4 \end{warpMathJax}

```

---

File 328 **lwarp-nolbreaks.sty**

§ 435    Package **nolbreaks**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg    nolbreaks    nolbreaks is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{nolbreaks}[2012/05/31]

2 \NewDocumentCommand{\nolbreaks}{s m}{\InlineClass{nolbreaks}{#2}}

```

---

File 329 **lwarp-nomenc1.sty**

§ 436    Package **nomenc1**

*(Emulates or patches code by BORIS VEYTSMAN, BERND SCHANDL, LEE NETHERTON, CV RADHAKRISHNAN.)*

Pkg    nomenc1    nomenc1 is patched for use by lwarp.

To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomenc1.ist -o <project>_html.nls
```

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{nomenc1}[2005/09/22]

```

\BaseJobname is added to the label in case xr or xr-hyper are used.

```

2 \def\@@@nomenclature[#1]#2#3{%

```

---

```

3 \def\@tempa{#2}\def\@tempb{#3}%
4 \protected@write\@nomenclaturefile{}%
5 {\string\nomenclatureentry{#1\nom@verb\@tempa @[\nom@verb\@tempa]}%
6 \begingroup\nom@verb\@tempb\protect\nomeqref{\theequation}%
7 |nompageref}{\theLWR@previousautopagelabel}}% lwarp
8 \endgroup
9 \esphack}
10
11 \renewcommand*{\pagedeclaration}[1]{, \nameref{\BaseJobname-autopage-#1}}%

```

---

File 330 **lwarp-nonfloat.sty**

§ 437 Package **nonfloat**

*(Emulates or patches code by KAI RASCHER.)*

Pkg nonfloat nonfloat is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{nonfloat}[1999/07/05]

```

2 \LetLtxMacro\topcaption\caption
3 \newcommand{\figcaption}{\def\@captype{figure}\caption}
4 \newcommand{\tabcaption}{\def\@captype{table}\topcaption}
5 \newenvironment{narrow}[2]{}{ }

```

---

File 331 **lwarp-nonumonpart.sty**

§ 438 Package **nonumonpart**

Pkg nonumonpart nonumonpart is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]

---

File 332 **lwarp-nopageno.sty**

§ 439 Package **nopageno**

Pkg nopageno nopageno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]

---

File 333 **lwarp-notes.sty**

§ 440 Package **notes**

Pkg notes notes is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{notes}[2002/10/29]

2 \newcommand*{\LWR@notes@onenote}[2]{%
3 \newenvironment{#1}
4 {
5 \BlockClass{notes#1}
6 \begin{BlockClass}{notesicon}\textcircled{~#2~}\end{BlockClass}
7 \BlockClass{notescontents}
8 }
9 {\endBlockClass\endBlockClass}
10 }
11
12 \LWR@notes@onenote{importantnote}{!}
13
14 \LWR@notes@onenote{warningnote}{--}
15
16 \LWR@notes@onenote{informationnote}{i}

```

---

File 334 **lwarp-notespages.sty**

§ 441 Package **notespages**

Pkg notespages notespages is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{notespages}[2016/08/21]

2 \newcommand*{\npnotesname}{}
3 \newcommand*{\npnotestext}{}
4 \newcommand*{\remainingtextheight}{}
5 \newdimen\remainingtextheight
6 \newcommand*{\notestitletext}{}
7 \newcommand*{\notesareatext}{}
8 \newcommand*{\npnpinfo}[1]{}
9 \newcommand*{\tracingnmarks}{}
10 \newcommand*{\notespage}[1][1]{}
11 \newcommand*{\notespages}[1][1]{}
12 \newcommand*{\notesfill}[1][1]{}
13 \newcommand*{\setnotespages}[1]{}
14 \newcommand*{\definenotesoption}[2]{}
15 \newcommand*{\definestyles}[2]{}
16 \newcommand*{\definetitlestyle}[2]{}
17 \newcommand*{\npnpatchchapter}[1]{}
18 \newcommand*{\npunpatchchapter}{}

```

---

File 335 **lwarp-nowidow.sty**

§ 442 Package **nowidow**

*(Emulates or patches code by RAPHAËL PINSON.)*



Pkg    nowindow    nowindow is ignored.

for HTML output: `DiscardRebootOptionsPackageNow widow[2011/09/20]`

```
\nowidow [$\langle lines \rangle$]
\setnowidow [$\langle lines \rangle$]

2 \newcommand*{\nowidow}[1][{}]{
3 \newcommand*{\setnowidow}[1][{}]{
```

```

\noclub [\lines]
\setnoclub [\lines]

4 \newcommand*{\noclub}[1][{}]{
5 \newcommand*{\setnoclub}[1][{}]{

```

File 336 **lwarp-ntheorem.sty**

§ 443 Package **ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

|     |           |                                        |
|-----|-----------|----------------------------------------|
| Pkg | nttheorem | nttheorem is patched for use by lwarp. |
|-----|-----------|----------------------------------------|

Table 18: Ntheorem package – css styling of theorems and proofs

**Theorem:**

**Theorem Header:** `<span> of class theoremheader<style>`

where <theoremstyle> is plain, break, etc.

### § 443.1 Limitations

⚠ **Font control** This conversion is not total. Font control is via CSS, and the custom  $\LaTeX$  font settings are ignored.

⚠ **cref reference format undefined** If the print version does not use `cleveref`, place all `\theoremstyle` and `\newtheorem` declarations in the preamble inside `\AtBeginDocument`.<sup>19</sup> For some theorems, it may also be required to add inside `\AtBeginDocument` something such as:

---

<sup>19</sup>`lwrap` uses `cleveref` for the HTML conversion, and loads `cleveref \AtEndPreamble`, just before `\AtBeginDocument`.

```

\AtBeginDocument{ % if not using cleveref package
 \theoremstyle{definition}
 \newtheorem{dtheorem}{Definition}
 . . .
 \usepackage{etoolbox} % for \ifdef
 \ifdef{\cref}{
 \crefname{Proof}{Proof}{Proofs}
 }{}
}

```

⚠ **Equation numbering** `ntheorem` has a bug with equation numbering in  $\mathcal{AMS}$  environments when the option `thref` is used. `lwarp` does not share this bug, so equations with `\split`, etc, are numbered correctly with `lwarp`'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

## § 443.2 Options

Options `amsthm` or `standard` choose which set of theorems and proofs to initialize.

⚠ **Disabled options** The options `thmmarks` and `amsmath` are disabled, since they heavily modify the underlying math code. Theorem marks are emulated. The AMS-math modifications are not done.

Option `thref` is disabled because `cleveref` functions are used instead. `\thref` is emulated.

Option `hyperref` is disabled because `lwarp` emulated `hyperref`.

**for HTML output:** Some disabled options:

```

1 \DeclareOption{thref}{
2 \AtEndDocument{
3 \PackageWarningNoLine{lwarp}{%
4 Lwarp uses cleveref, which takes over ntheorem's\MessageBreak
5 referencing, including
6 \protect\label \space and \protect\thref.\MessageBreak
7 Cleveref does not accept ntheorem's optional\MessageBreak
8 argument for \protect\label, so it will appear\MessageBreak
9 in the text. It is recommended to remove the\MessageBreak
10 thref option, \protect\usepackage{cleveref} instead,\MessageBreak
11 and remove any trailing optional arguments for \protect\label%
12 }%
13 }
14 }
15
16
17 \newbool{LWR@theoremamsthm}
18 \boolfalse{LWR@theoremamsthm}
19
20 \DeclareOption{thmmarks}{
21 \booltrue{LWR@theoremamsthm}
22 \newif\ifsetendmark\setendmarktrue
23 }
24
25
26 \newbool{LWR@theoremamsthm}
27 \boolfalse{LWR@theoremamsthm}
28

```

```

29 \DeclareOption{amsthm}{\booltrue{LWR@theoremamsthm}}
30
31
32 \DeclareOption{amsmath}{}
33 \DeclareOption{hyperref}{}
34
35 \LWR@ProvidesPackagePass{ntheorem}[2011/08/15]

```

### § 443.3 Remembering the theorem style

Storage for the style being used for new theorems.

```

36 \newcommand{\LWR@newtheoremstyle}{plain}

37 \AtBeginDocument{
38 \ifpackageloaded{cleveref}{
39 \gdef\@thm#1#2#3{%
40 \if@thmmarks
41 \stepcounter{end\InTheoType ctr}%
42 \fi
43 \renewcommand{\InTheoType}{#1}%
44 \if@thmmarks
45 \stepcounter{curr#1ctr}%
46 \setcounter{end#1ctr}{0}%
47 \fi
48 \refstepcounter[#1]{#2}% <<< cleveref modification
49 \theorem@prework
50 \LWR@forcenewpage% lwarp
51 \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
52 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
53 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
54 \ifthm@inframe
55 \thm@topsep\theoreminframepreskipamount
56 \thm@topsepadd\theoreminframepostskipamount
57 \else
58 \thm@topsep\theorempreskipamount
59 \thm@topsepadd\theorempostskipamount
60 \fi
61 \else% oldframeskips
62 \thm@topsep\theorempreskipamount
63 \thm@topsepadd \theorempostskipamount
64 \ifvmode\advance\thm@topsepadd\partopsep\fi
65 \fi
66 \@topsep\thm@topsep
67 \@topsepadd\thm@topsepadd
68 \advance\linewidth -\theorem@indent
69 \advance\linewidth -\theorem@rightindent
70 \advance\@totalleftmargin \theorem@indent
71 \parshape \@ne \@totalleftmargin \linewidth
72 \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
73 }
74 }{% not @ifpackageloaded{cleveref}
75 \gdef\@thm#1#2#3{%
76 \if@thmmarks
77 \stepcounter{end\InTheoType ctr}%

```

```

78 \fi
79 \renewcommand{\InTheoType}{#1}%
80 \if@thmmarks
81 \stepcounter{curr#1ctr}%
82 \setcounter{end#1ctr}{0}%
83 \fi
84 \refstepcounter{#2}%
85 \theorem@prework
86 \LWR@forcenewpage% lwarp
87 \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
88 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
89 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
90 \ifthm@inframe
91 \thm@topsep\theorem@inframepreskipamount
92 \thm@topsepadd\theorem@inframepostskipamount
93 \else
94 \thm@topsep\theorem@preskipamount
95 \thm@topsepadd\theorem@postskipamount
96 \fi
97 \else% oldframeskips
98 \thm@topsep\theorem@preskipamount
99 \thm@topsepadd \theorem@postskipamount
100 \ifvmode\advance\thm@topsepadd\partopsep\fi
101 \fi
102 \@topsep\thm@topsep
103 \@topsepadd\thm@topsepadd
104 \advance\linewidth -\theorem@indent
105 \advance\linewidth -\theorem@rightindent
106 \advance\@totalleftmargin \theorem@indent
107 \parshape \@ne \@totalleftmargin \linewidth
108 \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
109 }
110 }
111 }% AtBeginDocument

```

Patched to remember the style being used for new theorems:

```

112 \gdef\theoremstyle#1{%
113 \@ifundefined{th#1}{\@warning
114 {Unknown theoremstyle ‘#1’. Using ‘plain’}%
115 \theorem@style{plain}
116 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
117 }%
118 {
119 \theorem@style{#1}
120 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
121 }
122 }

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

123
124 \gdef\xnthm#1#2[#3]{%
125 \ifthm@tempif

```

```

126 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
127 \expandafter\@ifundefined{c@#1}%
128 {\@definecounter{#1}}{}%
129 \@newctr{#1}[#3]%
130 \expandafter\xdef\csname the#1\endcsname{%
131 \expandafter\noexpand\csname the#3\endcsname \@thmcountersep
132 {\noexpand\csname\the\theoremnumbering\endcsname{#1}}}%
133 \expandafter\gdef\csname mkheader@#1\endcsname
134 {\csname setparms@#1\endcsname
135 \@thm{#1}{#1}{#2}
136 }%
137 \global\@namedef{end#1}{\@endtheorem}
138 \AtBeginEnvironment{#1}{\edef\LWR@thismstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
139 \fi
140 }
141
142 \gdef\@ynthm#1#2{%
143 \ifthm@tempif
144 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
145 \expandafter\@ifundefined{c@#1}%
146 {\@definecounter{#1}}{}%
147 \expandafter\xdef\csname the#1\endcsname
148 {\noexpand\csname\the\theoremnumbering\endcsname{#1}}}%
149 \expandafter\gdef\csname mkheader@#1\endcsname
150 {\csname setparms@#1\endcsname
151 \@thm{#1}{#1}{#2}
152 }%
153 \global\@namedef{end#1}{\@endtheorem}
154 \AtBeginEnvironment{#1}{\edef\LWR@thismstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
155 \fi
156 }
157
158 \gdef\@othm#1[#2]#3{%
159 \@ifundefined{c@#2}{\@nocounterr{#2}}%
160 {\ifthm@tempif
161 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
162 \global\@namedef{the#1}{\@nameuse{the#2}}%
163 \expandafter\protected@xdef\csname num@addtheoremline#1\endcsname{%
164 \noexpand\num@addtheoremline{#1}{#3}}%
165 \expandafter\protected@xdef\csname nonum@addtheoremline#1\endcsname{%
166 \noexpand\nonum@addtheoremline{#1}{#3}}%
167 \theoremkeyword{#3}%
168 \expandafter\protected@xdef\csname #1Keyword\endcsname
169 {\the\theoremkeyword}%
170 \expandafter\gdef\csname mkheader@#1\endcsname
171 {\csname setparms@#1\endcsname
172 \@thm{#1}{#2}{#3}
173 }%
174 \global\@namedef{end#1}{\@endtheorem}
175 \AtBeginEnvironment{#1}{\edef\LWR@thismstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
176 \fi}
177 }

```

#### § 443.4 **HTML cross-referencing**

Mimics a float by incrementing the float counter and generating an HTML anchor. These are used for list-of-theorem cross-references.

```

178 \newcommand{\LWR@inctheorem}{%
179 \addtocounter{LWR@thisautoid}{1}%
180 \LWR@stoppars%
181 \LWR@htmltag{%
182 a id=\textquotedbl\LWR@print@mbx{autoid-\arabic{LWR@thisautoid}}\textquotedbl%
183 }%
184 \LWR@htmltag{/a}%
185 \LWR@startpars%
186 }
```

#### § 443.5 **\newtheoremstyle**

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader<style>.

```

187 \gdef\newtheoremstyle#1#2#3{%
188 \expandafter\ifundefined{th@#1}%
189 {\expandafter\gdef\csname th@#1\endcsname{%
190 \def\@begintheorem####1####2{%
191 \LWR@inctheorem% lwarp
192 #2}%
193 \def\@opargbegintheorem####1####2####3{%
194 \LWR@inctheorem% lwarp
195 #3}%
196 }%
197 }%
198 {\PackageError{\basename}{Theorem style #1 already defined}\@eha}
199 }
```

#### § 443.6 **Standard styles**

```

200 \renewtheoremstyle{plain}%
201 {\item[
202 \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]]}%
203 {\item[
204 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]]}
205
206 \renewtheoremstyle{break}%
207 {\item[
208 \InlineClass{theoremheaderbreak}{##1\ ##2\theorem@separator}\newline
209]}%
210 {\item[
211 \InlineClass{theoremheaderbreak}%
212 {##1\ ##2\ (##3)\theorem@separator}\newline
213]}
```

```

214
215 \renewtheoremstyle{change}%
216 {\item[
217 \InlineClass{theoremheaderchange}{##2\ ##1\theorem@separator}]]}%
218 {\item[
219 \InlineClass{theoremheaderchange}{##2\ ##1\ (##3)\theorem@separator}]]}
220
221 \renewtheoremstyle{changebreak}%
222 {\item[
223 \InlineClass{theoremheaderchangebreak}%
224 {##2\ ##1\theorem@separator}\newline
225]}%
226 {\item[
227 \InlineClass{theoremheaderchangebreak}%
228 {##2\ ##1\ (##3)\theorem@separator}\newline
229]}
230
231 \renewtheoremstyle{margin}%
232 {\item[
233 \InlineClass{theoremheadermargin}{##2 \quad ##1\theorem@separator}
234]}%
235 {\item[
236 \InlineClass{theoremheadermargin}{##2 \quad ##1\ (##3)\theorem@separator}
237]}
238
239 \renewtheoremstyle{marginbreak}%
240 {\item[
241 \InlineClass{theoremheadermarginbreak}%
242 {##2 \quad ##1\theorem@separator}\newline
243]}%
244 {\item[
245 \InlineClass{theoremheadermarginbreak}%
246 {##2 \quad ##1\ (##3)\theorem@separator}\newline
247]}
248
249 \renewtheoremstyle{nonumberplain}%
250 {\item[
251 \InlineClass{theoremheaderplain}{##1\theorem@separator}]]}%
252 {\item[
253 \InlineClass{theoremheaderplain}{##1\ (##3)\theorem@separator}]]}
254
255 \renewtheoremstyle{nonumberbreak}%
256 {\item[
257 \InlineClass{theoremheaderbreak}{##1\theorem@separator}\newline
258]}%
259 {\item[
260 \InlineClass{theoremheaderbreak}{##1\ (##3)\theorem@separator}\newline
261]}
262
263 \renewtheoremstyle{empty}%
264 {\item[]}%
265 {\item[
266 \InlineClass{theoremheaderplain}{##3}]]}
267
268 \renewtheoremstyle{emptybreak}%

```

```

269 {\item[]}%
270 {\item[
271 \InlineClass{theoremheaderplain}{##3}} \ \newline}

```

### § 443.7 Additional objects

The following manually adjust the css for the standard configuration objects which are not a purely plain style:

```

272 \ifbool{LWR@theoremamsthm}{%{

```

Upright text via CSS:

```

273 \newtheoremstyle{plainupright}%
274 {\item[
275 \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}}}%
276 {\item[
277 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}}}]

```

Upright text and small caps header via CSS:

```

278 \newtheoremstyle{nonumberplainuprightsc}%
279 {\item[
280 \InlineClass{theoremheadersc}{##1\theorem@separator}}}%
281 {\item[
282 \InlineClass{theoremheadersc}{##1\ (##3)\theorem@separator}}}]
283 }% not amsthm

```

### § 443.8 Renewed standard configuration

The following standard configuration is renewed using the new css:

```

284 \ifbool{LWR@theoremamsthm}{%{
285 \ifx\thm@usestd\@undefined
286 \else
287 \theoremnumbering{arabic}
288 \theoremstyle{plain}
289 \RequirePackage{latexsym}
290 \theoremsymbol{\Box}
291 \theorembodyfont{\itshape}
292 \theoremheaderfont{\normalfont\bfseries}
293 \theoremseparator{}
294 \renewtheorem{Theorem}{Theorem}
295 \renewtheorem{theorem}{Theorem}
296 \renewtheorem{Satz}{Satz}
297 \renewtheorem{satz}{Satz}
298 \renewtheorem{Proposition}{Proposition}
299 \renewtheorem{proposition}{Proposition}
300 \renewtheorem{Lemma}{Lemma}
301 \renewtheorem{lemma}{Lemma}
302 \renewtheorem{Korollar}{Korollar}
303 \renewtheorem{korollar}{Korollar}
304 \renewtheorem{Corollary}{Corollary}

```



```

305 \renewtheorem{corollary}{Corollary}
306
307 \theoremstyle{plainupright}
308 \theorembodyfont{\upshape}
309 \theoremsymbol{\HTMLUnicode{25A1}}% UTF-8 white box
310 \renewtheorem{Example}{Example}
311 \renewtheorem{example}{Example}
312 \renewtheorem{Beispiel}{Beispiel}
313 \renewtheorem{beispiel}{Beispiel}
314 \renewtheorem{Bemerkung}{Bemerkung}
315 \renewtheorem{bemerkung}{Bemerkung}
316 \renewtheorem{Anmerkung}{Anmerkung}
317 \renewtheorem{anmerkung}{Anmerkung}
318 \renewtheorem{Remark}{Remark}
319 \renewtheorem{remark}{Remark}
320 \renewtheorem{Definition}{Definition}
321 \renewtheorem{definition}{Definition}
322
323 \theoremstyle{nonumberplainuprightsc}
324 \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
325 \renewtheorem{Proof}{Proof}
326 \renewtheorem{proof}{Proof}
327 \renewtheorem{Beweis}{Beweis}
328 \renewtheorem{beweis}{Beweis}
329 \qedsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
330
331 \theoremsymbol{}
332 \fi
333 }% not amsthm

```

### § 443.9 amsthm option

Only if the amsthm option was given:

```

334 \ifbool{LWR@theoremamsthm}{
335
336 \gdef\th@plain{%
337 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
338 \def\@begintheorem##1##2{%
339 \LWR@intheorem% lwarp
340 \item[
341 \InlineClass{theoremheaderplain}{##1\ ##2.}
342]}%
343 \def\@opargbegintheorem##1##2##3{%
344 \LWR@intheorem% lwarp
345 \item[
346 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3).}
347]}}
348
349 \gdef\th@nonumberplain{%
350 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
351 \def\@begintheorem##1##2{%
352 \LWR@intheorem% lwarp
353 \item[
354 \InlineClass{theoremheaderplain}{##1.}

```

```

355]}%
356 \def\@opargbegintheorem##1##2##3{%
357 \LWR@intheorem% lwarp
358 \item[
359 \InlineClass{theoremheaderplain}{##1\ (##3).}
360]}}
361
362 \gdef\th@definition{%
363 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
364 \def\@begintheorem##1##2{%
365 \LWR@intheorem% lwarp
366 \item[
367 \InlineClass{theoremheaderdefinition}{##1\ ##2.}
368]}%
369 \def\@opargbegintheorem##1##2##3{%
370 \LWR@intheorem% lwarp
371 \item[
372 \InlineClass{theoremheaderdefinition}{##1\ ##2\ (##3).}
373]}}
374
375 \gdef\th@nonumberdefinition{%
376 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
377 \def\@begintheorem##1##2{%
378 \LWR@intheorem% lwarp
379 \item[
380 \InlineClass{theoremheaderdefinition}{##1.}
381]}%
382 \def\@opargbegintheorem##1##2##3{%
383 \LWR@intheorem% lwarp
384 \item[
385 \InlineClass{theoremheaderdefinition}{##1\ (##3).}
386]}}
387
388 \gdef\th@remark{%
389 \def\theorem@headerfont{\itshape}\normalfont%
390 \def\@begintheorem##1##2{%
391 \LWR@intheorem% lwarp
392 \item[
393 \InlineClass{theoremheaderremark}{##1\ ##2.}
394]}%
395 \def\@opargbegintheorem##1##2##3{%
396 \LWR@intheorem% lwarp
397 \item[
398 \InlineClass{theoremheaderremark}{##1\ ##2\ (##3).}
399]}}
400
401 \gdef\th@nonumberremark{%
402 \def\theorem@headerfont{\itshape}\normalfont%
403 \def\@begintheorem##1##2{%
404 \LWR@intheorem% lwarp
405 \item[
406 \InlineClass{theoremheaderremark}{##1.}
407]}%
408 \def\@opargbegintheorem##1##2##3{%
409 \LWR@intheorem% lwarp

```

```

410 \item[
411 \InlineClass{theoremheaderremark}{##1\ (##3).}
412]}]
413
414 \gdef\th@proof{%
415 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
416 \def\@begintheorem##1##2{%
417 \LWR@intheorem% lwarp
418 \item[
419 \InlineClass{theoremheaderproof}{##1.}
420]}%
421 \def\@opargbegintheorem##1##2##3{%
422 \LWR@intheorem% lwarp
423 \item[
424 \InlineClass{theoremheaderproof}{##1\ (##3).}
425]}]
426
427
428
429 \newcounter{proof}%
430 \ifthmmarks
431 \newcounter{currproofctr}%
432 \newcounter{endproofctr}%
433 \fi
434
435 \gdef\proofSymbol{\openbox}
436
437 \newcommand{\proofname}{Proof}
438
439 \newenvironment{proof}[1][\proofname]{
440 \th@proof
441 \def\theorem@headerfont{\itshape}%
442 \normalfont
443 \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
444 \@thm{proof}{proof}{#1}
445 }%
446 {\@endtheorem}
447
448 }{}% amsthm option

```

### § 443.10 Ending a theorem

Patched for css:

```

449 \let\LWR@origendtheorem\@endtheorem
450 \renewcommand{\@endtheorem}{%
451 \ifbool{LWR@theoremmarks}{%
452 \ifsetendmark%
453 \InlineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
454 \setendmarkfalse%
455 \fi%
456 }{}%
457 \LWR@origendtheorem% also does \@endtrivlist
458 \ifbool{LWR@theoremmarks}{\global\setendmarktrue}{}%
459 \endBlockClass%
460 }

```

§ 443.11 **\NoEndMark**

```
461 \gdef\NoEndMark{\global\setendmarkfalse}
```

§ 443.12 **List-of**

Redefined to reuse the float mechanism to add list-of-theorem links:

```
\thm@thmline {\<1: printed type>} {\<2: #>} {\<3: optional>} {\<4: page>}
```

```
462 \renewcommand{\thm@thmline@noname}[4]{%
463 \hypertocfloat{1}{theorem}{thm}{#2 #3}{}%
464 }
465
466 \renewcommand{\thm@thmline@name}[4]{%
467 \hypertocfloat{1}{theorem}{thm}{#1 #2 #3}{}%
468 }
```

This was redefined by `ntheorem` when loaded, so it is now redefined for `lwarp`:

```
469 \def\thm@thmline{\thm@thmline@name}
```

Patch for css:

```
470 \def\listtheorems#1{
471 \LWR@html@elementclass{nav}{lohtm}%
472 \begingroup
473 \c@tocdepth=-2%
474 \def\thm@list{#1}\thm@processlist
475 \endgroup
476 \LWR@html@elementclassend{nav}{lohtm}%
477 }
```

§ 443.13 **Symbols**

Proof QED symbol:

```
478 \newcommand{\qed}{\qqquad\the\qedsymbol}
479
480 \AtBeginDocument{
481 \ifundefined{LWR@orig@openbox}{
482 \LetLtxMacro\LWR@orig@openbox\openbox
483 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
484 \LetLtxMacro\LWR@orig@Box\Box
485
486 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
487 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
488 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
489
490 \appto\LWR@restoreorigformatting{%
491 \LetLtxMacro\openbox\LWR@orig@openbox%
492 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
493 \LetLtxMacro\Box\LWR@orig@Box%
494 }% \appto
495 }{}% \ifundefined
496 }% \AtBeginDocument
```

## § 443.14 Cross-referencing

`\thref {<label>}`

497 \newcommand\*{\thref}[1]{\cref{#1}}%

## File 337 **lwarp-octave.sty**

## § 444 Package **octave**

*(Emulates or patches code by ANDREW A. CASHNER.)*

Pkg octave octave is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{octave}[2017/10/31]

Remove the leading 1pt kern:

```
2 \RenewDocumentCommand{\@PrintTicks}{ m }{%
3 \kern-1pt% lwarp
4 \@TickNum = #1%
5 \loop
6 \@Tick{}%
7 \advance\@TickNum by -1
8 \ifnum\@TickNum > 0
9 \repeat
10 }
```

Use unicode for the prime character:

```
11 \RenewDocumentCommand{\@Tick}{}{\HTMLUnicode{2032}}
```

Catch the inline font:

```
12 \RenewDocumentCommand{\pitch}{ m o m }{%
13 \if@OctaveNumber%
14 {%
15 \pitchfont{%
16 \LWR@textcurrentfont{% lwarp
17 \MakeUppercase{#1}%
18 \IfValueTF{#2}{#2}{ }\textsubscript{#3}%
19 }%
20 }%
21 }%
22 \else%
23 {%
24 \pitchfont{%
25 \LWR@textcurrentfont{% lwarp
26 \@GetOctaveTick{#1}[#2]{#3}%
27 }%
28 }%
29 }%
30 \fi%
```

```
31 }
```

The original was hard to adapt to **lwarp**'s handling of &.

```
32 \StartDefiningTabulars
33 \renewcommand{\octavetable}{%
34 \begin{tabular}{ll}
35 \octaveprimes \pitch{C}{0} & \octavenumbers \pitch{C}{0} \\
36 \octaveprimes \pitch{C}{1} & \octavenumbers \pitch{C}{1} \\
37 \octaveprimes \pitch{C}{2} & \octavenumbers \pitch{C}{2} \\
38 \octaveprimes \pitch{C}{3} & \octavenumbers \pitch{C}{3} \\
39 \octaveprimes \pitch{C}{4} & \octavenumbers \pitch{C}{4} \\
40 \octaveprimes \pitch{C}{5} & \octavenumbers \pitch{C}{5} \\
41 \octaveprimes \pitch{C}{6} & \octavenumbers \pitch{C}{6} \\
42 \octaveprimes \pitch{C}{7} & \octavenumbers \pitch{C}{7} \\
43 \end{tabular}
44 }
45 \StopDefiningTabulars
```

File 338 **lwarp-overpic.sty**

§ 445 Package **overpic**

*(Emulates or patches code by ROLF NIEPRASCHK.)*

Pkg overpic **overpic** is patched for use by **lwarp**.



**scaling**

The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the **overpic** and **Overpic** environments.

See section [87.2](#) for the print-mode version of `\overpicfontsize` and `\overpicfontskip`.

for HTML output:

```
1 \LWR@ProvidesPackagePass{overpic}[2017/10/06]

2 \newcommand*{\overpicfontsize}{12}
3 \newcommand*{\overpicfontskip}{14}
4
5 \BeforeBeginEnvironment{overpic}{%
6 \begin{lateximage}%
7 \fontsize{\overpicfontsize}{\overpicfontskip}%
8 \selectfont%
9 }
10
11 \AfterEndEnvironment{overpic}{\end{lateximage}}
12
13 \BeforeBeginEnvironment{Overpic}{%
14 \begin{lateximage}%
15 \fontsize{\overpicfontsize}{\overpicfontskip}%
16 \selectfont%
17 }
18
```

---

```
19 \AfterEndEnvironment{Overpic}{\end{lateximage}}
```

---

File 339 **lwarp-pagegrid.sty**

§ 446 Package **pagegrid**

Pkg pagegrid pagegrid is ignored.

for HTML output: 

```
1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]
2 \newcommand*{\pagegridsetup}[1]{}

```

---

File 340 **lwarp-pagenote.sty**

§ 447 Package **pagenote**

Pkg pagenote pagenote works as-is, but the page option is disabled.

 labels Note that labels in page notes do not appear as expected, even in the print version.

for HTML output: 

```
1 \DeclareOption{page}{}
2 \LWR@ProvidesPackagePass{pagenote}[2009/09/03]

```

For MATHJAX:

```
3 \begin{warpMathJax}
4 \appto\LWR@syncnotenumbers{\LWR@synconenotenumbers{\LWRpagenote}{\thepagenote}}
5 \CustomizeMathJax{\def\LWRpagenote{1}}
6 \CustomizeMathJax{\newcommand{\pagenote}[2][\LWRpagenote]{\mathrm{#1}}}
7 \end{warpMathJax}

```

There is no \pagenotemark, so the following are not required:

```
\providecommand{\pagenotename}{pagenote}
\appto\LWR@syncnotenames{\LWR@synconenotename{\LWRpagenote}{\pagenotename}}

```

---

File 341 **lwarp-pagesel.sty**

§ 448 Package **pagesel**

Pkg pagesel pagesel is ignored.

for HTML output: 

```
1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]

```

---

File 342 **lwarp-paralist.sty**

## § 449 Package **paralist**

(Emulates or patches code by BERND SCHANDL.)

Pkg paralist **paralist** is supported with minor changes.

for HTML output: 1 \LWR@ProvidesPackagePass{paralist}[2017/01/22]

The compact environments are identical to the regular ones:

```
2 \LetLtxMacro\compactitem\itemize
3 \LetLtxMacro\compactenum\enumerate
4 \LetLtxMacro\compactdesc\description
5 \LetLtxMacro\endcompactitem\enditemize
6 \LetLtxMacro\endcompactenum\endenumerate
7 \LetLtxMacro\endcompactdesc\enddescription
```

For the inline environments, revert \item to its original print-mode version:

```
8 \AtBeginEnvironment{inparaitem}{\LetLtxMacro\item\LWR@origitem}
9 \AtBeginEnvironment{inparaenum}{\LetLtxMacro\item\LWR@origitem}
10 \AtBeginEnvironment{inparadesc}{\LetLtxMacro\item\LWR@origitem}
```

Manual formatting of the description labels:

```
11 \def\paradescriptionlabel#1{{\normalfont\textbf{#1}}}
```

---

### File 343 **lwarp-parallel.sty**

## § 450 Package **parallel**

(Emulates or patches code by MATTHIAS ECKERMANN.)

Pkg parallel **parallel** is emulated.

Package options are ignored. Footnotes are treated as normal **lwarp** footnotes.

Environment option `c` gives side-by-side <div>s of class `minipage`, each of whose width is a percent depending on the given left and right widths, proportional to `\linewidth`.

Inside each environment, `\linewidth` and `\textwidth` are set for the print-output sizes.

for HTML output: Discard all options for **lwarp-parallel**:

```
1 \LWR@ProvidesPackageDrop{parallel}[2003/04/13]

2 \newcounter{LWR@parallel@Lwidth}
3 \newcounter{LWR@parallel@Rwidth}
4 \newcommand*{\LWR@parallel@border}
5
6 \newenvironment*{Parallel}[3][]%
7 {%
8 \LWR@printpendingfootnotes%
```



```

9 \setlength{\linewidth}{\LWR@userstextwidth}%
10 \setlength{\textwidth}{\LWR@userstextwidth}%
11 \renewcommand*{\LWR@parallel@border}{}%
12 \ifstrequal{#1}{v}%
13 {%
14 \renewcommand*{\LWR@parallel@border}{ ; border-left: 2px solid black}%
15 }%
16 {}%
17 \ifblank{#2}{%
18 \ifblank{#3}{% {}{}
19 \setcounter{LWR@parallel@Lwidth}{45}%
20 \setcounter{LWR@parallel@Rwidth}{45}%
21 }% {}{}
22 {% {}{x}
23 \setlength{\LWR@templengthone}{\linewidth-#3}%
24 \setcounter{LWR@parallel@Lwidth}{%
25 90*\ratio{\LWR@templengthone}{\linewidth}%
26 }%
27 \setcounter{LWR@parallel@Rwidth}{%
28 90*\ratio{#3}{\linewidth}%
29 }%
30 }% {}{x}
31 }% #2 blank
32 {% #2 non-blank
33 \ifblank{#3}{% {}{}
34 \setcounter{LWR@parallel@Lwidth}{%
35 90*\ratio{#2}{\linewidth}%
36 }%
37 \setlength{\LWR@templengthone}{\linewidth-#2}%
38 \setcounter{LWR@parallel@Rwidth}{%
39 90*\ratio{\LWR@templengthone}{\linewidth}%
40 }%
41 }% {}{}
42 {% {}{x}
43 \setcounter{LWR@parallel@Lwidth}{%
44 90*\ratio{#2}{\linewidth}%
45 }%
46 \setcounter{LWR@parallel@Rwidth}{%
47 90*\ratio{#3}{\linewidth}%
48 }%
49 }% {}{x}
50 }% #2 non-blank
51 }
52 {%
53 \ParallelAtEnd%
54 \renewcommand*{\ParallelAtEnd}{}%
55 \LWR@printpendingfootnotes%
56 }
57
58 \newcommand*{\ParallelLText}[1]{%
59 \begin{BlockClass}%
60 width:\arabic{LWR@parallel@Lwidth}\% ; % space
61 padding: .5ex 1\% ; % space
62]{minipage}%
63 #1%

```

---

```

64 \end{BlockClass}%
65 }
66
67 \newcommand*{\ParallelRText}[1]{%
68 \begin{BlockClass}%
69 width:\arabic{LWR@parallel@Rwidth}\% ; % space
70 padding: .5ex 1\% ; % space
71 \LWR@parallel@border%
72][minipage]%
73 #1%
74 \end{BlockClass}%
75 }
76
77 \newcommand*{\ParallelPar}{\LWR@printpendingfootnotes}
78
79 \newcommand*{\ParallelAtEnd}{}

```

---

File 344 **lwarp-parcolumns.sty**

§ 451    Package **parcolumns**

*(Emulates or patches code by JONATHAN SAUER.)*

Pkg    parcolumns    **parcolumns** is emulated.

rulebetween is honored. The other keys are ignored, including colwidths.

Each column is placed inside a <div> of class minipage, each of whose width is fixed at 85% divided by the number of columns. In most cases, this results in side-by-side minipages adapting to the browser width. Inside each minipage, \linewidth, \textwidth, and \textheight are set for a virtual 6 × 9 inch page, with \linewidth divided by the number of columns.

**for HTML output:**    Discard all options for lwarp-parcolumns:

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDrop{parcolumns}[2004/11/25]

4 \newcounter{LWR@parcolumns@numcols}
5 \newcounter{LWR@parcolumns@thiscol}
6 \newcounter{LWR@parcolumns@width}
7 \newbool{LWR@parcolumns@started}
8 \newbool{LWR@parcolumns@rule}
9
10 \define@key{LWRparcols}{colwidths}{}
11 \define@key{LWRparcols}{distance}{}
12 \define@key{LWRparcols}{rulebetween}[true]{%
13 \setbool{LWR@parcolumns@rule}{#1}%
14 }
15 \define@key{LWRparcols}{nofirstindent}{}
16 \define@key{LWRparcols}{sloppy}{}
17 \define@key{LWRparcols}{sloppyspaces}{}

```

```

18
19 \newenvironment*{parcolumns}[2][]
20 {
21 \begin{LWR@setvirtualpage}*[#2]%
22 \setcounter{LWR@parcolumns@numcols}{#2}%
23 \setcounter{LWR@parcolumns@thiscol}{1}%
24 \boolfalse{LWR@parcolumns@started}%
25 \boolfalse{LWR@parcolumns@rule}%
26 \setcounter{LWR@parcolumns@width}{%
27 85/#2
28 }%
29 \setkeys{LWRparcols}{#1}%
30 }
31 {%

32 \colplacechunks%
33 \end{LWR@setvirtualpage}%
34 }
35
36 \newcommand{\LWR@parcolumns@onecol}[1]{%
37 \ifbool{LWR@parcolumns@started}%
38 {}%
39 {%
40 \LWR@htmldivclass{parcolumns}%
41 \booltrue{LWR@parcolumns@started}%
42 }%
43 \ifboolexpr{%
44 bool {LWR@parcolumns@rule} and
45 test {%
46 \ifnumgreater
47 {\value{LWR@parcolumns@thiscol}}
48 {1}
49 }%
50 }%
51 {\renewcommand{\LWR@tempone}{ ; border-left: 2px solid black}}%
52 {\renewcommand{\LWR@tempone}{}}%
53 \begin{BlockClass}[%
54 width:\arabic{LWR@parcolumns@width}\% ; % space
55 padding: .5ex 1\% ; % space
56 \LWR@tempone%
57]{minipage}%
58 #1%
59 \end{BlockClass}%
60 \addtocounter{LWR@parcolumns@thiscol}{1}%
61 }
62
63 \newcommand{\colchunk}[2][\value{LWR@parcolumns@thiscol}]{%
64 \whileboolexpr{%
65 test {%
66 \ifnumcomp%
67 {\value{LWR@parcolumns@thiscol}}
68 {<}
69 {#1}%
70 }%
71 }{%

```

```

72 \LWR@parcolumns@onecol{}%
73 }%
74 \LWR@parcolumns@onecol{#2}%
75 }
76
77 \newcommand*{\colplacechunks}{%
78 \ifbool{LWR@parcolumns@started}%
79 {%
80 \LWR@htmldivclassend{div}%
81 \boolfalse{LWR@parcolumns@started}%
82 }%
83 }%
84 \setcounter{LWR@parcolumns@thiscol}{1}%
85 }

```

---

File 345 **lwarp-parnotes.sty**

§ 452    Package **parnotes**

*(Emulates or patches code by CHELSEA HUGHES.)*

Pkg    parnotes    **parnotes** is supported with some patches.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{parnotes}[2016/08/15]

2 \long\def\PN@parnote@real#1#2{%
3 \parnotemark{#1}%
4 % Unless this is the first parnote in \PN@text, add a separator first
5 \unless\ifx\PN@text\empty\g@addto@macro\PN@text{\parnoteintercmd}\fi
6 % Redefine \@currentlabel to the parnote label, so \label works
7 \g@addto@macro\PN@text{%
8 \phantomsection%
9 \def\@currentlabel{#1}%
10 \def\cref@currentlabel{% lwarp
11 [parnotemark][\arabic{parnotemark}][\the parnotemark%
12]%
13 }%
14 \g@addto@macro\PN@text{%
15 \LWR@textcurrentfont{% lwarp
16 \parnotemark{#1}\nolinebreak\thinspace#2%
17 }%
18 }%
19 }
20
21 \def\PN@parnotes@real{%
22 % We call \par later, so this avoids recursion with \PN@parnotes@auto
23 \PN@inparnotesttrue
24 \unless\ifvmode\par\fi
25 % Avoid page breaks between a paragraph and its parnotes
26 \nopagebreak\addvspace{\parnotevskip}%
27 \LWR@forcenewpage% lwarp
28 \begin{BlockClass}{footnotes}% lwarp
29 {\parnotefmt{\PN@text}\par}%

```

---

```

30 \end{BlockClass}% lwarp
31 \global\def\PN@text{}%
32 \addvspace{\parnotevskip}%
33 %
34 % These can be enabled or disabled by package options
35 %
36 \PN@disable@indent
37 \PN@reset@optional
38 \PN@inparnotesfalse
39 }
40
41 \AtBeginDocument{
42 \crefname{parnotemark}{paragraph note}{paragraph notes}
43 \Crefname{parnotemark}{Paragraph note}{Paragraph notes}
44 }

```

For MATHJAX:

```

45 \begin{warpMathJax}
46 \providecommand{\parnotename}{parnote}
47 \appto\LWR@syncnotenumbers{%
48 \addtocounter{parnotemark}{-1}% specific to parnotes
49 \LWR@synconenotenummer{LWRparnote}{\theparnotemark}%
50 \addtocounter{parnotemark}{1}% specific to parnotes
51 }
52 \appto\LWR@syncnotenames{\LWR@synconenotename{LWRparnote}{\parnotename}}
53 \CustomizeMathJax{\def\LWRparnote{1}}
54 \CustomizeMathJax{\newcommand{\parnote}[2][LWRparnote]{{}^{\mathrm{#1}}}}
55 \CustomizeMathJax{\newcommand{\parnotemark}[1][LWRparnote]{{}^{\mathrm{#1}}}}
56 \end{warpMathJax}

```

---

File 346 **lwarp-parskip.sty**

§ 453     Package **parskip**

Pkg    parskip    parskip is ignored.

for HTML output:    Discard all options for lwarp-parskip.

```
1 \LWR@ProvidesPackageDrop{parskip}[2001/04/09]
```

---

File 347 **lwarp-pbox.sty**

§ 454     Package **pbox**

(Emulates or patches code by SIMON LAW.)

Pkg    pbox     pbox is emulated.

for HTML output:    1 \LWR@ProvidesPackageDrop{pbox}[2011/12/07]

---

```

2 \NewDocumentCommand{\pbox}{O{t} O{} O{t} m +m}{%
3 \global\booltrue{LWR@minipagefullwidth}%
4 \parbox[#1][#2][#3]{#4}{#5}%
5 }
6
7 \newcommand{\settoinwidth}[3][\columnwidth]{%
8 \settowidth{#2}{#3}%
9 }
10
11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }

```

---

File 348 **lwarp-pdfcol.sty**

§ 455      Package **pdfcol**

Pkg pdfcol pdfcol is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcol}[2018/11/01]
2
3 \ltx@newif\ifpdfcolAvailable
4 \pdfcolAvailablefalse
5
6 \def\pdfcolErrorNoStacks{
7 \PackageInfo{lwarp-pdfcol}{Ignoring pdfcol for HTML output.}
8 }
9
10 \def\pdfcolInitStack#1{%
11
12 \long\def\pdfcolIfStackExists#1#2#3{#3}%
13
14 \def\pdfcolSwitchStack#1{%
15
16 \def\pdfcolSetCurrentColor{%
17
18 \def\pdfcolSetCurrent#1{%

```

---

File 349 **lwarp-pdfcolfoot.sty**

§ 456      Package **pdfcolfoot**

Pkg pdfcolfoot pdfcolfoot is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcolfoot}[2016/05/16]
2
3 \newcommand*{\pdfcolfoot@switch}{}
4
5 \newcommand*{\pdfcolfoot@current}{}

```

---

File 350 **lwarp-pdfcolmk.sty**

§ 457 Package **pdfcolmk**

Pkg pdfcolmk pdfcolmk is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]

---

File 351 **lwarp-pdfcolparallel.sty**

§ 458 Package **pdfcolparallel**

Pkg pdfcolparallel pdfcolparallel is ignored.

for HTML output: 1 \RequirePackage{keyval}%  
2  
3 \LWR@ProvidesPackageDropA{pdfcolparallel}{2016/05/16}

Pass options to **parallel**:

```
4 \DeclareOption*{%
5 \PassoptionsToPackage{\CurrentOption}{parallel}%
6 }
```

Process the options:

```
7 \LWR@ProvidesPackageDropB
```

Require **parallel** with the given options:

```
8 \RequirePackage{parallel}[2003/04/13]
```

Ignore the new key:

```
9 \define@key{parallel}{rulebetweencolor}{{}}
```

---

File 352 **lwarp-pdfcolparcolumns.sty**

§ 459 Package **pdfcolparcolumns**

Pkg pdfcolparcolumns pdfcolparcolumns is ignored.

for HTML output: 1 \LWR@ProvidesPackageDropA{pdfcolparcolumns}{2016/05/16}

Pass options to `parcolumns`:

```
2 \DeclareOption*{%
3 \PassoptionsToPackage{\CurrentOption}{parcolumns}%
4 }
```

Process the options:

```
5 \LWR@ProvidesPackageDropB
```

Require `parcolumns` with the given options:

```
6 \RequirePackage{parcolumns}[2004/11/25]
```

Ignore the new key:

```
7 \define@key{LWRparcols}{rulebetweencolor}{{}}
```

---

## File 353 **lwarp-pdfcomment.sty**

§ 460      Package **pdfcomment**

Pkg   pdfcomment   pdfcomment is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{pdfcomment}[2016/06/13]

```
2 \newenvironment{pdfsidelinecomment}[2][{}]{ }
3 \newcommand{\pdfcomment}[2][{}]{ }
4 \newcommand{\pdfmargincomment}[2][{}]{ }
5 \newcommand{\pdfmarkupcomment}[3][{}]{#2}
6 \newcommand{\pdfreetextcomment}[2][{}]{ }
7 \newcommand{\pdfsquarecomment}[2][{}]{ }
8 \newcommand{\pdfcirclecomment}[2][{}]{ }
9 \newcommand{\pdflinecomment}[2][{}]{ }
10 \newcommand{\pdftooltip}[3][{}]{#2}
11 \newcommand{\pdfcommentssetup}[2][{}]{ }
12 \newcommand{\listofpdfcomments}[1][{}]{ }
13 \newcommand{\setliststyle}[1]{ }
14 \newcommand{\defineliststyle}[2]{ }
15 \newcommand{\defineavatar}[2]{ }
16 \newcommand{\definestyle}[2]{ }
```

For MATHJAX:

```
17 \begin{warpMathJax}
18 \CustomizeMathJax{\newcommand{\pdfmarkupcomment}[3][{}]{#2}}
19 \CustomizeMathJax{\newcommand{\pdftooltip}[3][{}]{#2}}
20 \end{warpMathJax}
```

---

## File 354 **lwarp-pdfcrypt.sty**



## § 461 Package **pdfcrypt**

Pkg pdfcrypt pdfcrypt is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]
2 \newcommand*{\pdfcryptsetup}[1]{}
```

---

### File 355 **lwarp-pdflandscape.sty**

## § 462 Package **pdfscape**

Pkg pdfscape pdfscape is ignored.

**for HTML output:** Discard all options for lwarp-pdfscape:

```
1 \LWR@ProvidesPackageDrop{pdfscape}[2016/05/14]
```

---

### File 356 **lwarp-pdfmarginpar.sty**

## § 463 Package **pdfmarginpar**

Pkg pdfmarginpar pdfmarginpar is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pdfmarginpar}[2011/08/05]
2 \newcommand{\pdfmarginpar}[2][]{ }
3 \newcommand{\pdfmarginparset}[1]{ }
```

---

### File 357 **lwarp-pdfpages.sty**

## § 464 Package **pdfpages**

*(Emulates or patches code by ANDREAS MATTHIAS.)*

Pkg pdfpages pdfpages is patched for use by lwarp.

Option link and linkname work:

---

```
\hyperlink{<filename>.pdf.<pagenubmer>}{some text}
\hyperlink{<linkname>.<pagenubmer>}{some text}
```

---

Options which make no sense in HTML are disabled.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{pdfpages}[2017-10-31]
```

Disable option which have no meaning for HTML output:

```

2 \define@key{pdfpages}{fitpaper}[false]{}
3 \define@key{pdfpages}{landscape}[false]{}
4 \define@key{pdfpages}{openright}[false]{}
5 \define@key{pdfpages}{signature}{}
6 \define@key{pdfpages}{signature*}{}
7 \define@key{pdfpages}{booklet}[false]{}
8 \define@key{pdfpages}{rotateoversize}[false]{}
9 \define@key{pdfpages}{doublepages}[false]{}
10 \define@key{pdfpages}{doublepagestwist}[false]{}
11 \define@key{pdfpages}{doublepagestwistodd}[false]{}
12 \define@key{pdfpages}{doublepagestwist*}[false]{}
13 \define@key{pdfpages}{doublepagestwistodd*}[false]{}
14 \define@key{pdfpages}{duplicatepages}[2]{}
15 \define@key{pdfpages}{thread}[false]{}
16 \define@key{pdfpages}{threadname}{}
17 \define@key{pdfpages}{linkfit}{}
18 \define@key{pdfpages}{linktodoc}[false]{}
19 \define@key{pdfpages}{linktodocfit}{}
20 \define@key{pdfpages}{linkfilename}{}
21 \define@key{pdfpages}{survey}[false]{}
22 \define@key{pdfpages}{survey-nolink}[false]{}
23 \define@key{pdfpages}{newwindow}[false]{}

```

Use print mode while measuring the page numbers:

```

24 \xpretocmd{\AM@getpagecount}{\LWR@restoreorigformatting}{}{}

```

Emulate a bit of **eso-pic**:

```

25 \newif\ifESO@texcoord
26
27 \newcommand{\ESO@HookIIBG}{}
28
29 \renewcommand{\AM@AddToShipoutPicture}{\g@addto@macro\ESO@HookIIBG}
30
31 \renewcommand{\ClearShipoutPicture}{}

```

`\LWR@esopic@newpage`     At each `\newpage`.

```

32 \newcommand*{\LWR@esopic@newpage}{%

```

Is there something to draw?

```

33 \ifdefvoid{\ESO@HookIIBG}%
34 {}%
35 {%

```

If the `link` option was specified, add a hyper target:

```

36 \ifAM@link%
37 \hypertarget{\AM@linkname.\AM@page}{}%
38 \fi%

```

Draw inside a picture environment of the size of a virtual page:

```

39 \begingroup%
40 \setlength{\unitlength}{1in}%
41 \begin{picture}(8,10.5)%
42 \ESO@HookIIBG%
43 \end{picture}%
44 \endgroup%
45 \global\let\ESO@HookIIBG\@empty%
46 }
47 }

```

\AM@output      Patched to use \LWR@esopic@newpage.

```

48 \xpatchcmd{\AM@output}
49 {\newpage}
50 {\LWR@esopic@newpage}
51 {}
52 {\LWR@patcherror{pdfpages}{AM@output-1}}
53
54 \xpatchcmd{\AM@output}
55 {\newpage}
56 {\LWR@esopic@newpage}
57 {}
58 {\LWR@patcherror{pdfpages}{AM@output-2}}
59
60 \xpatchcmd{\AM@output}
61 {\newpage}
62 {\LWR@esopic@newpage}
63 {}
64 {\LWR@patcherror{pdfpages}{AM@output-3}}

```

\includepdf      Patched to set the user's paper size.

```

65 \xpretocmd{\includepdf}{%
66 \begingroup%
67 \setlength{\paperwidth}{\LWR@userspaperwidth}%
68 \setlength{\paperheight}{\LWR@userspaperheight}%
69 }{}{}
70
71 \xapptocmd{\includepdf}{%
72 \endgroup%
73 }{}{}

```

\includepdfmerge      Patched to set the user's paper size.

```

74 \xpretocmd{\includepdfmerge}{%
75 \begingroup%
76 \setlength{\paperwidth}{\LWR@userspaperwidth}%
77 \setlength{\paperheight}{\LWR@userspaperheight}%
78 }{}{}
79
80 \xapptocmd{\includepdfmerge}{%
81 \endgroup%
82 }{}{}

```

\AM@hyper@begin@i Hyper links are created by \LWR@esopic@newpage, so don't create them here:  
 83 \renewcommand{\AM@hyper@begin@i}{}
 

---

File 358 **lwarp-pdfprivacy.sty**

§ 465 Package **pdfprivacy**

Pkg pdfprivacy pdfprivacy is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]

---

File 359 **lwarp-pdfrender.sty**

§ 466 Package **pdfrender**

Pkg pdfrender pdfrender is allowed during HTML, but it has no effect on HTML text output. pdfrender is enabled for use with xfakebold, and it is enabled during HTML so that it may be in use when an svg math image is started. I.e. xfakebold's \setBold may be used outside of a math expression and still be detected when the math begins.

The lwarp-pdfrender package is present because it used to disable pdfrender, so this newer version is to overwrite older versions.

for HTML output: 1 \LWR@ProvidesPackagePass{pdfrender}[2019/12/29]

---

File 360 **lwarp-pdfsync.sty**

§ 467 Package **pdfsync**

(Emulates or patches code by J. LAURENS.)

Pkg pdfsync pdfsync is ignored.

for HTML output: Discard all options for lwarp-pdfsync:

```
1 \LWR@ProvidesPackageDrop{pdfsync}[2008/01/26]

2 \newcommand*{\pdfsync}{}
3 \newcommand*{\pdfsyncstart}{}
4 \newcommand*{\pdfsyncstop}{}

```

---

File 361 **lwarp-pdftricks.sty**

§ 468 Package **pdftricks**

(Emulates or patches code by C. V. RADHAKRISHNAN, C. V. RAJAGOPAL, ANTOINE CHAMBERT-LOIR.)

Pkg pdftricks pdftricks is patched for use by lwarp.

 **convert image files** The pdftricks image files <jobname>-fig\*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

Enter ⇒ **lwarpmk pdftosvg <jobname>-fig\*.pdf**

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdftricks}[2003/08/10]

Reuse the print-mode images:

2 \def\PDFTfigname{\BaseJobname-fig\thepsfig}

If the .pdf images have not yet been converted to .svg then an error about a missing file will occur. Warn the user to convert the images.

```
3 \PackageWarning{lwarp-pdftricks}{
4 When the pdftricks images change,
5 remember to convert PDF images to SVG using 'lwarpmk pdftosvg *-fig.pdf',
6 }
7
8 \AfterEndDocument{\typeout{***}}
9 \AfterEndDocument{\typeout{*** Note: If pdftricks images are not found, new, or updated,}}
10 \AfterEndDocument{\typeout{*** \space use 'lwarpmk pdftosvg \BaseJobname-fig*.pdf'}}
11 \AfterEndDocument{\typeout{***}}
```

---

File 362 **lwarp-pdfx.sty**

§ 469 Package **pdfx**

Pkg pdfx pdfx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfx}[2017/05/18]

---

File 363 **lwarp-perpage.sty**

§ 470 Package **perpage**

*(Emulates or patches code by DAVID KASTRUP.)*

Pkg perpage perpage is mostly ignored, but support is added for footnote counters.

There is no page number in HTML, so most counters are not reset. If the document redefines \the<countername> to include \theperpage, it is necessary to place that redefinition inside a warpprint environment to avoid modifying the HTML definitions.

\AddAbsoluteCounter must not be inside warpprint, as the counter must be added for HTML also, although it is not incremented.

footnote numbering To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For **bigfoot**, **manyfoot**, or **perpage**:

```
\MakePerPage{footnoteX}
```

— or —

```
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{perpage}[2014/10/25]

2 \newcommand\AddAbsoluteCounter[1]
3 {
4 \ifundefined{c@abs#1}{%
5 \expandafter\newcount\csname c@abs#1\endcsname
6 \global\value{abs#1}\@ne
7 \global\expandafter\let\csname cl@abs#1\endcsname\@empty
8 \expandafter\xdef\csname theabs#1\endcsname{%
9 \noexpand\number \csname c@abs#1\endcsname
10 }%
11 \global\@namedef{c@pabs@#1}{\pp@cl@begin
12 \stepcounter{abs#1}%
13 \pp@cl@end}%
14 \@addtoreset{pabs@#1}{#1}
15 }
16 {}
17 }
18
19 \AddAbsoluteCounter{page}
20 \def\theabspage{1}
21
22 \newcommand*\MakePerPage[2][1]{%
23 \ifltxcounter{#2Reset}{%
24 \setcounter{#2Reset}{#1}%
25 }{
26
27 }%
28 }
29
30 \newcommand*\MakeSorted[1]{}
31
32 \newcommand*\MakeSortedPerPage[2][1]{%
33 \ifltxcounter{#2Reset}{%
34 \setcounter{#2Reset}{#1}%
35 }{
36 }%
37 }
38
39 \newcommand*\theperpage{1}
```

---

File 364 **lwarp-pfnote.sty**

§ 471 Package **pfnote**

Pkg pfnote **pfnote** is ignored.

 **pfnote** While emulating **pfnote**, **lwarp** is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. **lwarp** therefore uses continuous footnote numbering even for **pfnote**.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pfnote}[1999/07/14]

---

File 365 **lwarp-phfqit.sty**

§ 472 Package **phfqit**

*(Emulates or patches code by PHILIPPE FAIST.)*

Pkg phfqit **phfqit** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{phfqit}[2017/08/16]

```

2 \LetLtxMacro\LWR@origbitstring\bitstring
3
4 \renewcommand\bitstring[1]{%
5 \InlineClass[%
6 text-decoration: overline underline ;
7]{bitstring}{#1}%
8 % \phfqit@bitstring{#1}%
9 }
10
11 \appto\LWR@restoreorigformatting{%
12 \LetLtxMacro\bitstring\LWR@origbitstring%
13 }
```

---

File 366 **lwarp-physics.sty**

§ 473 Package **physics**

*(Emulates or patches code by SERGIO C. DE LA BARRERA.)*

Pkg physics **physics** works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 **physics** extension is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{physics}% No date is provided by the package.

```

2 \begin{warpMathJax}
3 \PackageWarningNoLine{lwarp, physics}{The MathJax v3 extension will be used}
4 \CustomizeMathJax{\require{physics}}
5 \end{warpMathJax}

```

---

File 367 **lwarp-physunits.sty**

§ 474      Package **physunits**

(Emulates or patches code by BRIAN W. MULLIGAN.)

Pkg    physunits    **physunits** is supported as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{physunits}[2020/03/26]

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{physunits}
4
5 \CustomizeMathJax{\newcommand{\micro}{\mu}}
6 \CustomizeMathJax{\newcommand{\V}[1][]{\,\,\mathrm{#1V}\,}}
7 \CustomizeMathJax{\newcommand{\Volt}[1][]{\,\,\mathrm{#1V}\,}}
8 \CustomizeMathJax{\newcommand{\Coulomb}[1][]{\,\,\mathrm{#1C}\,}}
9 \CustomizeMathJax{\newcommand{\esu}{\,\,\mathrm{esu}\,}}
10 \CustomizeMathJax{\newcommand{\Ohm}[1][]{\,\,\mathrm{#1\Omega}\,}}
11 \CustomizeMathJax{\newcommand{\Amp}[1][]{\,\,\mathrm{#1A}\,}}
12 \CustomizeMathJax{\newcommand{\Farad}[1][]{\,\,\mathrm{#1F}\,}}
13 \CustomizeMathJax{\newcommand{\Tesla}[1][]{\,\,\mathrm{#1T}\,}}
14 \CustomizeMathJax{\newcommand{\Gauss}[1][]{\,\,\mathrm{#1G}\,}}
15 \CustomizeMathJax{\newcommand{\Henry}[1][]{\,\,\mathrm{#1H}\,}}
16 \CustomizeMathJax{\newcommand{\eV}[1][]{\,\,\mathrm{#1eV}\,}}
17 \CustomizeMathJax{\newcommand{\keV}{\,\,\mathrm{keV}\,}}
18 \CustomizeMathJax{\newcommand{\MeV}{\,\,\mathrm{MeV}\,}}
19 \CustomizeMathJax{\newcommand{\J}[1][]{\,\,\mathrm{#1J}\,}}
20 \CustomizeMathJax{\newcommand{\Joule}[1][]{\,\,\mathrm{#1J}\,}}
21 \CustomizeMathJax{\newcommand{\erg}{\,\,\mathrm{erg}\,}}
22 \CustomizeMathJax{\newcommand{\kcal}{\,\,\mathrm{kcal}\,}}
23 \CustomizeMathJax{\newcommand{\Cal}{\,\,\mathrm{Cal}\,}}
24 \CustomizeMathJax{\newcommand{\calorie}[1][]{\,\,\mathrm{#1cal}\,}}
25 \CustomizeMathJax{\newcommand{\BTU}{\,\,\mathrm{BTU}\,}}
26 \CustomizeMathJax{\newcommand{\tnt}{\,\,\mathrm{ton\, of\, TNT}\,}}
27 \CustomizeMathJax{\newcommand{\Watt}[1][]{\,\,\mathrm{#1W}\,}}
28 \CustomizeMathJax{\newcommand{\hpi}{\,\,\mathrm{hp(I)}\,}}
29 \CustomizeMathJax{\newcommand{\hpm}{\,\,\mathrm{hp(M)}\,}}
30 \CustomizeMathJax{\newcommand{\hp}{\,\,\mathrm{hp}\,}}
31 \CustomizeMathJax{\newcommand{\meter}[1][]{\,\,\mathrm{#1m}\,}}
32 \CustomizeMathJax{\newcommand{\m}[1][]{\,\,\mathrm{#1m}\,}}
33 \CustomizeMathJax{\newcommand{\km}{\,\,\mathrm{km}\,}}
34 \CustomizeMathJax{\newcommand{\au}{\,\,\mathrm{au}\,}}
35 \CustomizeMathJax{\newcommand{\pc}[1][]{\,\,\mathrm{#1pc}\,}}
36 \CustomizeMathJax{\newcommand{\ly}[1][]{\,\,\mathrm{#1ly}\,}}
37 \CustomizeMathJax{\newcommand{\cm}{\,\,\mathrm{cm}\,}}
38 \CustomizeMathJax{\newcommand{\nm}{\,\,\mathrm{nm}\,}}
39 \CustomizeMathJax{\newcommand{\ft}{\,\,\mathrm{ft}\,}}

```



```

40 \CustomizeMathJax{\newcommand{\inch}{\,\mathrm{in}}}
41 \CustomizeMathJax{\newcommand{\mi}{\,\mathrm{mi}}}
42 \CustomizeMathJax{\newcommand{\s}[1][\]{\,\mathrm{#1s}}}
43 \CustomizeMathJax{\newcommand{\Sec}[1][\]{\,\mathrm{#1s}}}
44 \CustomizeMathJax{\newcommand{\Min}{\,\mathrm{min}}}
45 \CustomizeMathJax{\newcommand{\h}{\,\mathrm{h}}}
46 \CustomizeMathJax{\newcommand{\y}[1][\]{\,\mathrm{#1y}}}
47 \CustomizeMathJax{\newcommand{\Day}{\,\mathrm{d}}}
48
49 \CustomizeMathJax{\newcommand{\gm}[1][\]{\,\mathrm{#1g}}}
50 \CustomizeMathJax{\newcommand{\kg}{\,\mathrm{kg}}}
51 \CustomizeMathJax{\newcommand{\lb}{\,\mathrm{lb}}}
52 \CustomizeMathJax{\newcommand{\amu}{\,\mathrm{amu}}}
53 \CustomizeMathJax{\newcommand{\N}[1][\]{\,\mathrm{#1N}}}
54 \CustomizeMathJax{\newcommand{\Newton}[1][\]{\,\mathrm{#1N}}}
55 \CustomizeMathJax{\newcommand{\dyne}[1][\]{\,\mathrm{#1dyn}}}
56 \CustomizeMathJax{\newcommand{\lbf}{\,\mathrm{lbf}}}
57 \CustomizeMathJax{\newcommand{\kmps}{\,\mathrm{km}\,\mathrm{s}^{-1}}}
58 \CustomizeMathJax{\newcommand{\kmph}{\,\mathrm{km}\,\mathrm{h}^{-1}}}
59 \CustomizeMathJax{\newcommand{\mps}[1][\]{\,\mathrm{#1m}\,\mathrm{s}^{-1}}}
60 \CustomizeMathJax{\newcommand{\miph}{\,\mathrm{mi}\,\mathrm{h}^{-1}}}
61 \CustomizeMathJax{\newcommand{\kts}{\,\mathrm{kts}}}
62
63 \CustomizeMathJax{\newcommand{\mpss}[1][\]{\,\mathrm{#1m}\,\mathrm{s}^{-2}}}
64 \CustomizeMathJax{\newcommand{\gacc}{\,\mathrm{g}}}
65 \CustomizeMathJax{\newcommand{\ftpss}{\,\mathrm{ft}\,\mathrm{s}^{-2}}}
66 \CustomizeMathJax{\newcommand{\K}[1][\]{\,\mathrm{#1K}}}
67 \CustomizeMathJax{\newcommand{\Kelvin}[1][\]{\,\mathrm{#1K}}}
68 \CustomizeMathJax{\newcommand{\Celcius}{\,\mathrm{^{\circ}C}}}
69 \CustomizeMathJax{\newcommand{\Rankine}{\,\mathrm{^{\circ}R}}}
70 \CustomizeMathJax{\newcommand{\Fahrenheit}{\,\mathrm{^{\circ}F}}}
71
72 \CustomizeMathJax{\newcommand{\rpm}{\,\mathrm{rev}\,\mathrm{Min}^{-1}}}
73
74 \CustomizeMathJax{\newcommand{\Hz}[1][\]{\,\mathrm{#1Hz}}}
75 \CustomizeMathJax{\newcommand{\barP}[1][\]{\,\mathrm{#1bar}}}
76 \CustomizeMathJax{\newcommand{\atm}{\,\mathrm{atm}}}
77 \CustomizeMathJax{\newcommand{\Pa}[1][\]{\,\mathrm{#1Pa}}}
78 \CustomizeMathJax{\newcommand{\mmHg}{\,\mathrm{mmHg}}}
79 \CustomizeMathJax{\newcommand{\inHg}{\,\mathrm{inHg}}}
80 \CustomizeMathJax{\newcommand{\lbsi}{\,\mathrm{\psi}}}
81 \CustomizeMathJax{\newcommand{\lbsf}{\,\mathrm{\psi f}}}
82 \CustomizeMathJax{\newcommand{\Ba}[1][\]{\,\mathrm{#1Ba}}}
83 \CustomizeMathJax{\newcommand{\Torr}[1][\]{\,\mathrm{#1Torr}}}
84 \CustomizeMathJax{\newcommand{\mol}{\,\mathrm{mol}}}
85 \end{warpMathJax}

```

---

File 368 **lwarp-picinpar.sty**

§ 475 Package **picinpar**

(Emulates or patches code by FRIEDHELM SOWA.)

Pkg picinpar picinpar is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{picinpar}% No date is assigned.

The window is floated by a BlockClass style.

```

2 \long\def\LWR@HTML@window[#1,#2,#3,#4] {%
3 \if #2r%
4 \begin{BlockClass}[float:right]{marginblock}%
5 \else%
6 \begin{BlockClass}[float:left]{marginblock}%
7 \fi%
8 #3\par%
9 #4%
10 \end{BlockClass}%
11 }
12
13 \def\endLWR@HTML@window{}
14
15 \LWR@formattedenv{window}

```

The framepic and wframepic are placed inside a BlockClass of class framebox.

```

16 \def\LWR@HTML@framepic#1{%
17 \begin{BlockClass}{framebox}
18 \expandafter\box\csname #1box\endcsname%
19 \end{BlockClass}
20 }
21 \LWR@formatted{framepic}

22 \def\LWR@HTML@wframepic#1{%
23 \begin{BlockClass}{framebox}
24 \expandafter\box\csname #1box\endcsname%
25 \end{BlockClass}
26 }
27 \LWR@formatted{wframepic}

```

The caption is placed inside a BlockClass of class figurecaption.

```

28 \long\def\LWR@HTML@makewincaption#1#2{%
29 \begin{BlockClass}{figurecaption}
30 #1: #2
31 \end{BlockClass}
32 }
33 \LWR@formatted{@makewincaption}

```

With HTML output, figwindow and tabwindow must not pre-decrement their counters.

```

34 \long\def\LWR@HTML@figwindow[#1,#2,#3,#4] {%
35 % \advance\c@figure -1
36 \window[#1,#2,{#3},{\def\capttype{figure}%
37 \wincaption#4\par}] }
38
39 \def\endLWR@HTML@figwindow{\endwindow}
40
41 \LWR@formattedenv{figwindow}

```

For `tabwindow`, to change the catcode of `&`, `\StartDefiningTabulars` is used before absorbing the arguments, and `\EndDefiningTabulars` is used at the end of the environment.

```

42 \long\def\LWR@HTML@subtabwindow[#1,#2,#3,#4] {%
43 % \advance\c@table -1
44 % \window[#1,#2,{#3},{\def\@capytype{table}%
45 % \wincaption#4\par}]] }
46
47 \newcommand*\LWR@HTML@tabwindow{%
48 % \StartDefiningTabulars%
49 % \LWR@HTML@subtabwindow%
50 % }
51
52 \def\endLWR@HTML@tabwindow{%
53 % \endwindow%
54 % \StopDefiningTabulars%
55 % }
56
57 \LWR@formattedenv{tabwindow}

```

---

File 369 **lwarp-pifont.sty**

§ 476 Package **pifont**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg pifont **pifont** is patched for use by **lwarp**.

Hashed inline images are used, as there may not be Unicode support for all icons.

for HTML output:

```

1 \LWR@ProvidesPackagePass{pifont}[2005/04/12]
2 \renewcommand{\Pisymbol}[2]{%
3 \begin{lateximage}*\Pisymbol][pysymbol#1#2]%
4 {\Pifont{#1}\char#2}%
5 \end{lateximage}%
6 }
7
8 \newcommand*\LWR@HTML@Pifill}[2]{
9 \Pisymbol{#1}{#2} \Pisymbol{#1}{#2} \Pisymbol{#1}{#2}
10 }
11 \LWR@formatted{Pifill}
12
13 \newcommand*\LWR@HTML@Piline}[2]{%
14 \par\noindent\hspace*{0.5in}
15 \Pifill{#1}{#2} \Pifill{#1}{#2} \Pifill{#1}{#2}
16 }
17 \LWR@formatted{Piline}

```

---

File 370 **lwarp-pinlabel.sty**

## § 477 Package **pinlabel**

(Emulates or patches code by COLIN ROURKE.)

Pkg pinlabel pinlabel is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{pinlabel}% no date given
2 \xpretocmd{\psfig}
3 {\begin{lateximage}[-pinlabel~\PackageDiagramAltText]}
4 {}
5 {\LWR@patcherror{pinlabel}{psfigA}}
6
7 \xapptocmd{\psfig}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{pinlabel}{psfigB}}
```

---

File 371 **lwarp-placeins.sty**

## § 478 Package **placeins**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg placeins placeins is ignored.

Discard all options for lwarp-placeins:

for HTML output:

```

1 \LWR@ProvidesPackageDrop{placeins}[2005/04/18]
2 \newcommand*{\FloatBarrier}{}

```

---

File 372 **lwarp-plarydshln.sty**

## § 479 Package **plarydshln**

Pkg plarydshln plarydshln is emulated by lwarp-arydshln.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{plarydshln}[2018/10/20]
2 \LWR@origRequirePackage{lwarp-arydshln}

```

---

File 373 **lwarp-plext.sty**

## § 480 Package **plext**

Pkg plext plext is preloaded by jtarticle and related classes.

for HTML output:

```

1 \LWR@loadbefore{plext}
2
3 \LWR@ProvidesPackagePass{plext}[2017/07/21]

4 \let\tate\relax
5
6 \DeclareExpandableDocumentCommand{\rensuji}{s o m}{#3}
7
8 % \layoutfloat(width,height)[pos]#4
9 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
10
11 % \DeclareLayoutCaption{type} <dir>(width)[pos1pos2]
12 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}
13
14 \LetLtxMacro\pcaption\caption
15
16 % \layoutcaption<dir>(width)[pos]
17 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}
18
19 \let\captiondir\relax

```

Add the optional <t/y> direction:

```

20 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{} O{t} m}
21 {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
22 {\endLWR@HTML@sub@minipage}
23
24 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> O{t} O{} O{t} m +m}
25 {
26 \LWR@traceinfo{parbox of width #4}%
27 \begin{minipage}[#2][#3][#4]{#5}%
28 #6
29 \end{minipage}%
30 }
31
32 % \pbox <t/y> [width] [l/r] {contents}
33 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{%
34 \global\booltrue{LWR@minipagefullwidth}%
35 \parbox{#2}{#4}%
36 }

```

picture, as modified by pext, is encapsulated by the lwarp core.

---

File 374 **lwarp-plextarydshln.sty**

§ 481      Package **plextarydshln**

Pkg   plextarydshln   plextarydshln is emulated by lwarp-arydshln.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{plextarydshln}[2018/10/20]

2 \LWR@origRequirePackage{lwarp-arydshln}

```

---

File 375 **lwarp-plextcolortbl.sty**

§ 482      Package **plextcolortbl**

Pkg    plextcolortbl    plextcolortbl is emulated by lwarp-colortbl.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{plextcolortbl}[2018/09/19]  
                          2 \LWR@origRequirePackage{lwarp-colortbl}

---

File 376 **lwarp-plimsoll.sty**

§ 483      Package **plimsoll**

*(Emulates or patches code by PALLE JØRGENSEN.)*

Pkg    plimsoll    plimsoll is used as-is for SVG math, and emulated for MATHJAX.

The circ option is honored. For MATHJAX, \plimsollsans is the same as \plimsollroman.

**for HTML output:**    1 \LWR@ProvidesPackagePass{plimsoll}[2020/10/09]  
                          2 \begin{warpMathJax}  
                          3 \CustomizeMathJax{\newcommand{\plimsollroman}{\unicode{x029B5}}}  
                          4  
                          5 \CustomizeMathJax{\let\plimsoll\plimsollroman}  
                          6 \CustomizeMathJax{\let\plimsollsans\plimsoll}  
                          7  
                          8 \ifdefstring{\stst}{^{\circ}}  
                          9     {\CustomizeMathJax{\newcommand{\stst}{^{\circ}}}}  
                          10    {\CustomizeMathJax{\newcommand{\stst}{^{\plimsoll}}}}  
                          11 \end{warpMathJax}

---

File 377 **lwarp-prelim2e.sty**

§ 484      Package **prelim2e**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

Pkg    prelim2e    prelim2e is ignored.

**for HTML output:**    Discard all options for lwarp-prelim2e:

```
1 \LWR@ProvidesPackageDrop{prelim2e}[2009/05/29]

2 \newcommand{\PrelimText}{}
3 \newcommand{\PrelimTextStyle}{}
4 \newcommand{\PrelimWords}{}

```

---

File 378 **lwarp-prettyref.sty**

§ 485    Package **prettyref**

*(Emulates or patches code by KEVIN S. RULAND.)*

Pkg    prettyref    **prettyref** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{prettyref}[1998/07/09]

2 \newreformat{fig}{Figure \ref{#1}}
3 \newreformat{tab}{Table \ref{#1}}
```

---

File 379 **lwarp-preview.sty**

§ 486    Package **preview**

Pkg    preview    **preview** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{preview}[2017/04/24]

2 \newenvironment{preview}{}{}
3 \newenvironment{nopreview}{}{}
4 \NewDocumentCommand{\PreviewMacro}{s o o +m}{}
5 \NewDocumentCommand{\PreviewEnvironment}{s o o +m}{}
6 \newcommand{\PreviewSnarfEnvironment}[2][{}]{
7 \NewDocumentCommand{\PreviewOpen}{s o}{}
8 \NewDocumentCommand{\PreviewClose}{s o}{}
9 \let\ifPreview\iffalse% \fi for syntax highlighting
```

---

File 380 **lwarp-psfrag.sty**

§ 487    Package **psfrag**

*(Emulates or patches code by MICHAEL C. GRANT, DAVID CARLISLE.)*

Pkg    psfrag    **psfrag** is patched for use by **lwarp**.

 **use psfrags** The **psfrags** environment is modified to use `lateximage` to encapsulate the image. Always use a **psfrags** environment to contain any local `\psfrag` macros and the associated `\includegraphics` or `\epsfig` calls. Outside of a **psfrags** environment, **psfrags** adjustments will not be seen by **lwarp**.

 Tip: Use a mono-spaced font for the tags in the `eps` file.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{psfrag}[1998/04/11]
```

A lateximage captures the modified image from the document.

```

2 \BeforeBeginEnvironment{psfrags}{%
3 \begin{lateximage}[-psfrags-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{lateximage}}
```

---

File 381 **lwarp-psfragx.sty**

§ 488    Package **psfragx**

*(Emulates or patches code by PASCAL KOCKAERT.)*

Pkg    psfragx    **psfragx** is patched for use by **lwarp**.

for HTML output:    1 \LWR@ProvidesPackagePass{psfragx}[2012/05/02]

A lateximage captures the modified image from the document.

```

2 \def\pfx@includegraphicx#1#2{%
3 \begin{lateximage}[-psfragx-~\PackageDiagramAltText]%
4 \mbox{\pfx@overpix{#1}{#2}\endpfx@overpix}%
5 \end{lateximage}%
6 }
7
8 \def\@@@overpix[#1]<#2>[#3]#4{%
9 \begin{lateximage}[-psfragx-~\PackageDiagramAltText]%
10 \pfx@overpix{#1,ovpfgd={#2},ovbgd={#3}}{#4}%
11 }
12
13 \def\endoverpix{%
14 \endpfx@overpix%
15 \end{lateximage}%
16 }
```

---

File 382 **lwarp-pst-eps.sty**

§ 489    Package **pst-eps**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg    pst-eps    **pst-eps** is patched for use by **lwarp**.

for HTML output:    1 \LWR@ProvidesPackagePass{pst-eps}[2005/05/20]

```

2 \renewenvironment{TeXtoEPS}{}{}
3 \renewcommand{\PSTtoEPS}[3][[]]{}
```



File 383 **lwarp-pstool.sty**§ 490 Package **pstool**

*(Emulates or patches code by ZEBB PRIME, WILL ROBERTSON.)*

Pkg pstool **pstool** is patched for use by **lwarp**.

`\graphicspath` is ignored, and the file directory must be stated.

 **path and filename** The filename must not have a file extension.

Use

Enter ⇒ **lwarpmk html**

followed by

Enter ⇒ **lwarpmk limages**

.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pstool}[2018/01/20]

Each image is placed inside a `lateximage` to capture the results of **psfrag**.

```

2 \renewcommand\pstool@alwaysprocess[3][\]{%
3 \begin{lateximage}[-pstool-~\PackageDiagramAltText]%
4 \includegraphics{#2.pdf}%
5 \end{lateximage}%
6 }
7 \let\LTxMacro\pstool@neverprocess\pstool@alwaysprocess
8 \let\LTxMacro\pstool@maybeprocess\pstool@alwaysprocess
9
10 \renewcommand\pstool@psfragfig[4]{%
11 \begin{lateximage}[-pstool-~\PackageDiagramAltText]%
12 \includegraphics{#2.pdf}%
13 \end{lateximage}%
14 }
```

File 384 **lwarp-pstricks.sty**§ 491 Package **pstricks**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

Pkg pstricks **pstricks** is patched for use by **lwarp**.

 **use pspicture** All **pstricks** content should be contained inside a **pspicture** environment.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pstricks}[2018/01/06]

---

```

2 \BeforeBeginEnvironment{pspicture}{%
3 \begin{lateximage}[pspicture]%
4 }
5 \AfterEndEnvironment{pspicture}{\end{lateximage}}
6
7 \BeforeBeginEnvironment{pspicture*}{%
8 \begin{lateximage}[pspicture]%
9 }
10 \AfterEndEnvironment{pspicture*}{\end{lateximage}}

```

---

File 385 **lwarp-pxatbegshi.sty**

§ 492    Package **pxatbegshi**

Pkg   pxatbegshi   pxatbegshi is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]  
                           2 \LWR@origRequirePackage{lwarp-atbegshi}

---

File 386 **lwarp-pxeveryshi.sty**

§ 493    Package **pxeveryshi**

Pkg   pxeveryshi   pxeveryshi is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]  
                           2 \LWR@origRequirePackage{lwarp-everyshi}

---

File 387 **lwarp-pxfonts.sty**

§ 494    Package **pxfonts**

*(Emulates or patches code by YOUNG RYU.)*

Pkg   pxfonts   pxfonts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**    1 \LWR@ProvidesPackagePass{pxfonts}[2008/01/22]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{pxfonts}
6
7 \LWR@mathjax@addgreek@l@up{}{}{up}
8 \end{warpMathJax}

```

---

File 388 **lwarp-pxftnright.sty**

§ 495 Package **pxftnright**

Pkg pxftnright pxftnright is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]
2 \LWR@origRequirePackage{lwarp-ftnright}
```

---

File 389 **lwarp-pxjahyper.sty**

§ 496 Package **pxjahyper**

Pkg pxjahyper pxjahyper is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]
```

---

File 390 **lwarp-quotchap.sty**

§ 497 Package **quotchap**

*(Emulates or patches code by KARSTEN TINNEFELD, JAN KLEVER.)*

Pkg quotchap quotchap is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{quotchap}[2019/07/09]
2 \newcommand{\@quotchap}{}
3 \newlength{\LWR@quotchapwidth}
4
5 \let\@printcites\relax
6
7 \newcommand*{\@iprintcites}{%
```

Place the quotes inside a <div> of class quotchap, of the maximum selected width:

```
8 \begin{BlockClass}[max-width: \LWR@printlength{\LWR@quotchapwidth}]{quotchap}
9 %\begin{minipage}{\LWR@quotchapwidth}
10 \@quotchap
11 %\end{minipage}
12 \end{BlockClass}
```

Deactivate the quote printing:

```

13 \global\let\@printcites\relax
14 }
15
16 \NewEnviron{savequote}[1][\linewidth]{%

```

Remember the width, adjusted for HTML, and make the length assignment global, per:

<https://tex.stackexchange.com/questions/300823/>

[why-is-setlength-ineffective-inside-a-tabular-environment](#)

```

17 \setlength{\LWR@quotchapwidth}{#1*2}%
18 \global\LWR@quotchapwidth=\LWR@quotchapwidth%

```

Remember the body, and activate the quote printing:

```

19 \global\let\@quotchap\BODY
20 \global\let\@printcites\@iprintcites%
21 }

```

The quotation author is placed inside a <div> of class qauthor:

```

22 \newcommand{\qauthor}[1]{%
23 \LWR@stoppars%
24 \begin{BlockClass}{qauthor}%
25 {#1}%
26 \end{BlockClass}%
27 \LWR@startpars%
28 }

```

Fonts are ignored. Use css.

```

29 \newcommand{\qsetcnfont}[1]{}
30 \providecommand*\quotefont{}
31 \providecommand*\qauthorfont{}

```

---

File 391 **lwarp-quoting.sty**

§ 498    Package **quoting**

*(Emulates or patches code by THOMAS TITZ.)*

Pkg    quoting    **quoting** is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{quoting}[2014/01/28]

```

2 \xpatchcmd{\quoting}{\quo@begintext}
3 {\begin{LWR@blocktextcurrentfont}\quo@begintext}
4 {}
5 {\LWR@patcherror{quoting}{quoting}}
6
7 \xpatchcmd{\endquoting}{\quo@endtext}
8 {\quo@endtext\end{LWR@blocktextcurrentfont}\LWR@stoppars}
9 {}
10 {\LWR@patcherror{quoting}{endquoting}}

```

---

File 392 **lwarp-ragged2e.sty**

§ 499      Package **ragged2e**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

Pkg    ragged2e    **ragged2e** is emulated.

Discard all options for **lwarp-ragged2e**:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ragged2e}[2009/05/21]

2 \LetLtxMacro\Centering\centering
3 \LetLtxMacro\RaggedLeft\raggedleft
4 \LetLtxMacro\RaggedRight\raggedright
5 \newcommand*{\justifying}{}
6 \newlength{\CenteringLeftskip}
7 \newlength{\RaggedLeftLeftskip}
8 \newlength{\RaggedRightLeftskip}
9 \newlength{\CenteringRightskip}
10 \newlength{\RaggedLeftRightskip}
11 \newlength{\RaggedRightRightskip}
12 \newlength{\CenteringParfillskip}
13 \newlength{\RaggedLeftParfillskip}
14 \newlength{\RaggedRightParfillskip}
15 \newlength{\JustifyingParfillskip}
16 \newlength{\CenteringParindent}
17 \newlength{\RaggedLeftParindent}
18 \newlength{\RaggedRightParindent}
19 \newlength{\JustifyingParindent}
20 \newenvironment*{Center}{\center}{\endcenter}
21 \newenvironment*{FlushLeft}{\flushleft}{\endflushleft}
22 \newenvironment*{FlushRight}{\flushright}{\endflushright}
23 \newenvironment*{justify}{\justifying}{\endjustifying}

```

---

File 393 **lwarp-realscripts.sty**

§ 500      Package **realscripts**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg    realscripts    **realscripts** is emulated. See `lwarp.css` for the `<span>` of class `supsubscript`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{realscripts}[2016/02/13]

```

The following are copied verbatim from the original, but given new names, since `xparse` definitions should not be `\let`.

```

2 \ExplSyntaxOn

```

```

3
4 \DeclareDocumentCommand \LWR@print@realsubscript {m} {
5 \fontspec_if_fontspec_font:TF {
6 \fontspec_if_opentype:TF
7 { \fontspec_if_feature:nTF {+subs}
8 { {\addfontfeature{VerticalPosition=Inferior}#1} }
9 { \fontspec_if_feature:nTF {+sinf}
10 { {\addfontfeature{VerticalPosition=ScientificInferior}#1} }
11 { \fakesubscript{#1} }
12 }
13 }
14 { \fontspec_if_aat_feature:nnTF {10} {2}
15 { {\addfontfeature{VerticalPosition=Inferior}#1} }
16 { \fakesubscript{#1} }
17 }
18 }
19 { \fakesubscript{#1} }
20 }
21
22 \DeclareDocumentCommand \LWR@HTML@realsubscript {m} {
23 \LWR@HTML@textsubscript{#1}
24 }
25
26 \LWR@formatted{realsubscript}
27
28
29 \DeclareDocumentCommand \LWR@print@realsuperscript {m} {
30 \fontspec_if_fontspec_font:TF
31 {
32 \fontspec_if_opentype:TF
33 { \fontspec_if_feature:nTF {+sups}
34 { {\addfontfeature{VerticalPosition=Superior}#1} }
35 { \fakesuperscript{#1} }
36 }
37 { \fontspec_if_aat_feature:nnTF {10} {1}
38 { {\addfontfeature{VerticalPosition=Superior}#1} }
39 { \fakesuperscript{#1} }
40 }
41 }
42 { \fakesuperscript{#1} }
43 }
44
45 \DeclareDocumentCommand \LWR@HTML@realsuperscript {m} {
46 \LWR@HTML@textsuperscript{#1}
47 }
48
49 \LWR@formatted{realsuperscript}
50
51
52 \DeclareDocumentCommand \LWR@print@textsubsuperscript {s O{l} mm} {
53 \leavevmode
54 \group_begin:
55 \IfBooleanTF #1
56 {
57 \hbox_set:Nn \l_tmpa_box {\textsubscript*{#3}}

```

```

58 \hbox_set:Nn \l_tmpb_box {\textsuperscript*{#4}}
59 }
60 {
61 \hbox_set:Nn \l_tmpa_box {\textsubscript{#3}}
62 \hbox_set:Nn \l_tmpb_box {#4}
63 }
64 \hbox_set:Nn \l_tmpa_box
65 { \box_move_down:nn \subsupersep {\box_use:N \l_tmpa_box} }
66 \hbox_set:Nn \l_tmpb_box
67 { \box_move_up:nn \subsupersep {\box_use:N \l_tmpb_box} }
68 \str_case:nnF {#2}
69 {
70 {l}{\use_i:nnn}
71 {c}{\use_ii:nnn}
72 {r}{\use_iii:nnn}
73 }
74 {
75 \PackageWarning{realscripts}{
76 Unknown~alignment~option~‘#2’. \MessageBreak
77 One~ of~ ‘l’,~ ‘c’,~ ‘r’,~ only
78 }
79 \use_i:nnn
80 }
81 {
82 \hbox_overlap_right:n { \box_use:N \l_tmpa_box }
83 \hbox_overlap_right:n { \box_use:N \l_tmpb_box }
84 \skip_horizontal:n {
85 \dim_max:nn {\box_wd:N \l_tmpa_box} {\box_wd:N \l_tmpb_box}
86 }
87 }
88 {
89 \dim_compare:nTF { \box_wd:N \l_tmpa_box > \box_wd:N \l_tmpb_box }
90 {
91 \skip_horizontal:n {
92 0.5\box_wd:N \l_tmpa_box-0.5\box_wd:N \l_tmpb_box
93 }
94 \box_use:N \l_tmpb_box
95 \skip_horizontal:n {
96 -0.5\box_wd:N \l_tmpa_box-0.5\box_wd:N \l_tmpb_box
97 }
98 \box_use:N \l_tmpa_box
99 }
100 {
101 \skip_horizontal:n {
102 0.5\box_wd:N \l_tmpb_box-0.5\box_wd:N \l_tmpa_box
103 }
104 \box_use:N \l_tmpa_box
105 \skip_horizontal:n {
106 -0.5\box_wd:N \l_tmpb_box-0.5\box_wd:N \l_tmpa_box
107 }
108 \box_use:N \l_tmpb_box
109 }
110 }
111 {
112 \skip_horizontal:n {

```

```

113 \dim_max:nn {\box_wd:N \l_tmpa_box} {\box_wd:N \l_tmpb_box}
114 }
115 \hbox_overlap_left:n { \box_use:N \l_tmpa_box }
116 \hbox_overlap_left:n { \box_use:N \l_tmpb_box }
117 }
118 \group_end:
119 }
120
121 \ExplSyntaxOff
122
123
124 \newcommand*{\LWR@realscriptsalign}{}
125
126 \newcommand*{\LWR@setrealscriptsalign}[1]{%
127 \renewcommand*{\LWR@realscriptsalign}{}%
128 \ifthenelse{\equal{#1}{c}}{%
129 \renewcommand{\LWR@realscriptsalign}{%
130 \LWR@print@mbox{text-align:center} ; %
131 }%
132 }{%
133 \ifthenelse{\equal{#1}{r}}{%
134 \renewcommand{\LWR@realscriptsalign}{%
135 \LWR@print@mbox{text-align:right} ; %
136 }%
137 }{%
138 }
139
140 \DeclareDocumentCommand \LWR@HTML@textsubsuperscript {s O{l} mm} {%
141 \LWR@setrealscriptsalign{#2}%
142 \InlineClass[\LWR@realscriptsalign]{supsubscript}{%
143 #4\textsubscript{#3}%
144 }%
145 }
146 \LWR@formatted{textsubsuperscript}
147
148 \FilenameNullify{%
149 \RenewDocumentCommand{\textsuperscript}{s m}{}%
150 \RenewDocumentCommand{\textsubscript}{s m}{}%
151 \renewcommand{\fakesubscript}[1]{}%
152 \renewcommand{\fakesuperscript}[1]{}%
153 \renewcommand{\realsubscript}[1]{}%
154 \renewcommand{\realsuperscript}[1]{}%
155 \renewcommand{\textsubsuperscript}[2]{}%
156 \renewcommand{\textsupersubscript}[2]{}%
157 }

```

---

File 394 **lwarp-refcheck.sty**

§ 501    Package **refcheck**

Pkg    refcheck    refcheck is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{refcheck}[2013/02/14]



---

```

2 \def\showrefnames{}
3 \def\norefnames{}
4 \def\showcitenames{}
5 \def\nocitenames{}
6 \def\setonmsgs{}
7 \def\setoffmsgs{}
8 \def\checkunlbd{}
9 \def\ignoreunlbd{}
10 \newcommand*{\refcheckxrdoc}[2][{}]{}
```

---

File 395 **lwarp-register.sty**

§ 502     Package **register**

*(Emulates or patches code by MATTHEW LOVELL.)*

Pkg    register    **register** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{register}[2019/01/01]

2 \xpatchcmd{\register}
3 {\centering}
4 {%
5 \begin{center}%
6 \begin{lateximage}[-register~~\PackageDiagramAltText]%
7 }
8 {}
9 {\LWR@patcherror{register}{register}}
10
11 \xpatchcmd{\endregister}
12 {\leftskip}
13 {%
14 \end{lateximage}\end{center}%
15 \leftskip%
16 }%
17 {}
18 {\LWR@patcherror{register}{endregister}}
19
20 \expandafter\xapptocmd\csname register*\endcsname
21 {%
22 \begin{center}%
23 \begin{lateximage}[-register~~\PackageDiagramAltText]%
24 }
25 {}
26 {\LWR@patcherror{register}{register*}}
27
28 \expandafter\xpatchcmd\csname endregister*\endcsname
29 {\leftskip}
30 {%
31 \end{lateximage}\end{center}%
32 \leftskip%
33 }%
34 {}
```

```

35 {\LWR@patcherror{register}{endregister*}}
36
37 \setlength{\regWidth}{5in}

```

File 396 **lwarp-relsize.sty**

§ 503 Package **relsize**

(Emulates or patches code by DONALD ARSENEAU, BERNIE COSELL, MATT SWIFT.)

Pkg relsize **relsize** is patched for use by **lwarp**, and emulated for MATHJAX.

For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

for HTML output:

```

1 \LWR@ProvidesPackagePass{relsize}[2013/03/29]

2 \let\LWR@origrelsize\relsize
3 \LetLtxMacro\LWR@origlarger\larger
4 \LetLtxMacro\LWR@origsmaller\smaller
5 \let\LWR@relscale\relscale
6 \LetLtxMacro\LWR@origtextlarger\textlarger
7 \LetLtxMacro\LWR@origtextsmaller\textsmaller
8 \let\LWR@textscale\textscale
9
10 \appto\LWR@restoreorigformatting{%
11 \let\relsize\LWR@origrelsize%
12 \LetLtxMacro\larger\LWR@origlarger%
13 \LetLtxMacro\smaller\LWR@origsmaller%
14 \let\relscale\LWR@relscale%
15 \LetLtxMacro\textlarger\LWR@origtextlarger%
16 \LetLtxMacro\textsmaller\LWR@origtextsmaller%
17 \let\textscale\LWR@textscale%
18 }
19
20 \newcounter{LWR@relsizetemp}
21
22 \renewcommand*{\relsize}[1]{%
23 \renewcommand*{\larger}[1][1]{%
24 \renewcommand*{\smaller}[1][1]{%
25 \renewcommand*{\relscale}[1]{%
26
27 \renewcommand*{\textlarger}[2][1]{%
28 \setcounter{LWR@relsizetemp}{100+(#1*20)}%
29 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{\textlarger}{#2}%

```

```

30 }
31
32 \renewcommand*{\textsmaller}[2][1]{%
33 \setcounter{LWR@relsize}{100-(#1*20)}%
34 \InlineClass[font-size:\arabic{LWR@relsize}\%]{textsmaller}{#2}%
35 }
36
37 \renewcommand*{\textscale}[2]{%
38 \setcounter{LWR@relsize}{100*\real{#1}}%
39 \InlineClass[font-size:\arabic{LWR@relsize}\%]{textscale}{#2}%
40 }

```

For MATHJAX:

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\mathlarger}[1]{#1}}
43 \CustomizeMathJax{\newcommand{\mathsmaller}[1]{#1}}
44 \end{warpMathJax}

```

---

File 397 **lwarp-repeatindex.sty**

§ 504    Package **repeatindex**

Pkg    repeatindex    repeatindex is emulated for lwarp.

 **style file**    lwarp must be used with a special style file:

```
\usepackage[makeindex,makeindexStyle={lwarp_repeatindex}]{lwarp}
```

where lwarp\_repeatindex.ist may be copied from the following modified version of lwarp.ist:

```

preamble
"\begin{theindex}
 \providecommand*\lettergroupDefault[1]{}
 \providecommand*\lettergroup[1]{%
 \par\textbf{#1}\par
 \nopagebreak
 }
"

headings_flag 1
heading_prefix "
 \lettergroup{"
heading_suffix "}
delim_0 "], \hyperindexref{"
delim_1 " ", \hyperindexref{"
delim_2 " ", \hyperindexref{"
delim_n "}, \hyperindexref{"
delim_r "} -- \hyperindexref{"
delim_t "}"

```

---

```
item_0 "\n \item ["
```

(The modifications are the `delim_0` and `item_0` entries.)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repeatindex}[2001/10/13]

In the `lwarp` core, `\LWR@indexitem` is modified to accept the optional `\item` argument.

```
2 \RequirePackage{makeidx}
3 \def\entryprefix{\itshape}
4 \def\entrypostfix{\dots}
```

---

File 398 **lwarp-repltext.sty**

§ 505 Package **repltext**

Pkg repltext repltext is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repltext}[2020/09/25]

```
2 \newcommand{\repltext}[2]{#2}
3 \newcommand*{\prevrepl}{}
```

For MATHJAX:

```
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\repltext}[2]{#2}}
6 \end{warpMathJax}
```

---

File 399 **lwarp-resizegather.sty**

§ 506 Package **resizegather**

Pkg resizegather resizegather is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]

```
2 \newcommand*{\resizegathersetup}[1]{}
```

---

File 400 **lwarp-returntogrid.sty**

§ 507 Package **returntogrid**

Pkg returntogrid returntogrid is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{returntogrid}[2018/08/21]

---

```

2 \NewDocumentCommand\returntograd{ 0 {} }{}
3 \NewDocumentCommand\returntogradsetup { m } {}
4 \NewDocumentCommand\showdebugpagegrid {} {}

```

---

File 401 **lwarp-rlepsz.sty**

§ 508      Package **rlepsz**

*(Emulates or patches code by MICHAEL GREENE, COLIN ROURKE.)*

Pkg    rlepsz    **rlepsz** is patched for use by **lwarp**.

 **Rename the style file!** The file `rlepsz.tex` must be copied to `rlepsz.sty` for **lwarp** to detect and patch it.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{rlepsz}% No date given.

2 \xpretocmd{\relabelbox}
3 {\begin{lateximage}}
4 {}
5 {\LWR@patcherror{rlepsz}{relabelbox}}
6
7 \xapptocmd{\endrelabelbox}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{rlepsz}{endrelabelbox}}

```

---

File 402 **lwarp-rmathbr.sty**

§ 509      Package **rmathbr**

*(Emulates or patches code by DENIS RYABOV.)*

Pkg    rmathbr    **rmathbr** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{rmathbr}[2020/12/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def*{~}}
4 \CustomizeMathJax{\newcommand{\cdott}{\cdot}}
5 \CustomizeMathJax{\newcommand{\nobr}{}}
6 \end{warpMathJax}

```

---

File 403 **lwarp-rmpage.sty**

§ 510      Package **rmpage**

Pkg    rmpage    **rmpage** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

```

---

File 404 **lwarp-romanbar.sty**

§ 511 Package **romanbar**

*(Emulates or patches code by H.-MARTIN MÜNCH.)*

Pkg romanbar **romanbar** is patched for use by **lwarp**.

An inline class with an overline and underline is used.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{romanbar}[2012/01/01]

2 \DeclareRobustCommand{\Roman@bar}[1]{% #1 is in Roman, i.e. MMXII
3 \InlineClass[%
4 text-decoration: overline underline ;
5]{romanbar}{#1}%
6 }
```

---

File 405 **lwarp-romanbarpagenumber.sty**

§ 512 Package **romanbarpagenumber**

Pkg romanbarpagenumber **romanbarpagenumber** is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]
```

---

File 406 **lwarp-rotating.sty**

§ 513 Package **rotating**

*(Emulates or patches code by ROBIN FAIRBAIRNS, SEBASTIAN RAHTZ, LEONOR BARROCA.)*

Pkg rotating **rotating** is emulated.

All rotations are ignored in HTML output.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{rotating}[2016/08/11]
2 \RequirePackage{graphicx}

3 \LetLtxMacro\LWR@HTML@sidewaystable\table
4 \let\endLWR@HTML@sidewaystable\endtable
5 \LWR@formattedenv{sidewaystable}
6
7 \LetLtxMacro\LWR@HTML@sidewaysfigure\figure
8 \let\endLWR@HTML@sidewaysfigure\endfigure
9 \LWR@formattedenv{sidewaysfigure}
```

---

```

10
11 \newenvironment*{LWR@HTML@sideways}{}{}
12 \LWR@formattedenv{sideways}
13
14 \newenvironment*{LWR@HTML@turn}[1]{}{}
15 \LWR@formattedenv{turn}
16
17 \newenvironment*{LWR@HTML@rotate}[1]{}{}
18 \LWR@formattedenv{rotate}
19
20 \NewDocumentCommand{\LWR@HTML@turnbox}{m +m}{#2}
21 \LWR@formatted{turnbox}
22
23 \let\LWR@HTML@rotcaption\caption
24 \LWR@formatted{rotcaption}
25
26 \let\LWR@HTML@makerotcaption\makecaption
27 \LWR@formatted{@makerotcaption}

```

---

File 407 **lwarp-rotfloat.sty**

§ 514      Package **rotfloat**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg    rotfloat    **rotfloat** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{rotfloat}[2004/01/04]
2
3 \RequirePackage{float}
4 \RequirePackage{rotating}

```

`\newfloat`     $\langle 1: type \rangle \langle 2: placement \rangle \langle 3: ext \rangle [ \langle 4: within \rangle ]$

Emulates the `\newfloat` command from the `float` package. Sideways floats are `\let` to the same as regular floats.

“placement” is ignored.

```

5 \RenewDocumentCommand{\newfloat}{m m m o}{%
6 \IfValueTF{#4}%
7 {%
8 \DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}%
9 }%
10 {%
11 \DeclareFloatingEnvironment[fileext=#3]{#1}%
12 }%
13 \csletcs{sideways#1}{#1}%
14 \csletcs{endsideways#1}{end#1}%

```

Remember the float style:

```

15 \csedef{LWR@floatstyle@#1}{\LWR@floatstyle}%
16 \csedef{LWR@floatstyle@sideways#1}{\LWR@floatstyle}%

```

**newfloat** package automatically creates the `\listof` command for new floats, but **float** does not, so remove `\listof` here in case it is manually created later:

```

17 \cslet{listof#1s}\relax%
18 \cslet{listof#1es}\relax%
19 \cslet{listofsideways#1s}\relax%
20 \cslet{listofsideways#1es}\relax%
21 }

```

---

#### File 408 **lwarp-rviewport.sty**

### § 515 Package **rviewport**

Pkg rviewport **rviewport** is honored inside a `lateximage`, and otherwise ignored for HTML output.

If **rviewport** is important for an image, enclose the image inside a `lateximage` environment.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{rviewport}[2011/08/27]

2 \define@key{igraph}{rviewport}{}

```

---

#### File 409 **lwarp-savetrees.sty**

### § 516 Package **savetrees**

Pkg savetrees **savetrees** is ignored.

**for HTML output:** Discard all options for **lwarp-savetrees**:

```

1 \LWR@ProvidesPackageDrop{savetrees}[2016/04/13]

```

---

#### File 410 **lwarp-scalefnt.sty**

### § 517 Package **scalefnt**

*(Emulates or patches code by D. CARLISLE.)*

Pkg scalefnt **scalefnt** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{scalefnt}

2 \DeclareRobustCommand\scalefont[1]{}

```



---

File 411 **lwarp-scalerel.sty**

§ 518 Package **scalerel**

(Emulates or patches code by STEVEN B. SEGLETES.)

Pkg scalerel **scalerel** is used as-is for SVG math, and is emulated and ignored for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{scalerel}[2016/12/29]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \LWR@info{processingmathjax}{scalerel}
4
5 \CustomizeMathJax{\newcommand{\scalerel}{\ifstar{\scalerelplain}{\scalerelplus}}}
6 \CustomizeMathJax{\newcommand{\scalerelplain}[3][\#2]}
7 \CustomizeMathJax{\newcommand{\scalerelplus}[3][\#2\#3]}
8 \CustomizeMathJax{\newcommand{\stretchrel}{\ifstar{\stretchrelplain}{\stretchrelplus}}}
9 \CustomizeMathJax{\newcommand{\stretchrelplain}[3][\#2]}
10 \CustomizeMathJax{\newcommand{\stretchrelplus}[3][\#2\#3]}
11 \CustomizeMathJax{\newcommand{\scaleto}[3][\#2]}
12 \CustomizeMathJax{\newcommand{\stretchto}[3][\#2]}
13 \CustomizeMathJax{\newcommand{\scaleleftright}[4][\#2\#3\#4]}
14 \CustomizeMathJax{\newcommand{\stretchleftright}[4][\#2\#3\#4]}
15 \CustomizeMathJax{\newcommand{\hstretch}[2]{\#2}}
16 \CustomizeMathJax{\newcommand{\vstretch}[2]{\#2}}
17 \CustomizeMathJax{\newcommand{\scaleobj}[2]{\#2}}
18 \CustomizeMathJax{\newcommand{\ThisStyle}[1]{\#1}}
19 \CustomizeMathJax{\newcommand{\SavedStyle}{}}
20 \CustomizeMathJax{\def\scriptstyleScaleFactor{.7}}
21 \CustomizeMathJax{\def\scriptscriptstyleScaleFactor{.5}}
22 \CustomizeMathJax{\newcommand{\discernmathstyle}{}}
23 \CustomizeMathJax{\newcommand{\ignoremathstyle}[1][T]}
24 \CustomizeMathJax{\newcommand{\Isnextbyte}[3][v]}
25 \end{warpMathJax}

```

---

File 412 **lwarp-schemata.sty**

§ 519 Package **schemata**

(Emulates or patches code by CHARLES P. SCHAUM.)

Pkg schemata **schemata** is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{schemata}[2020/11/23]

```

2 \LetLtxMacro\LWR@schemata@origschema\schema
3 \LetLtxMacro\LWR@schemata@origSchema\Schema

```

---

```

4
5 \renewcommand{\schema}[3][open]{%
6 \begin{lateximage}[-schemata-~\PackageDiagramAltText]%
7 \LWR@print@normalsize%
8 \LWR@schemata@origschema[#1]{#2}{#3}%
9 \end{lateximage}%
10 }
11
12 \renewcommand{\Schema}[5][open]{%
13 \begin{lateximage}[-schemata-~\PackageDiagramAltText]%
14 \LWR@print@normalsize%
15 \LWR@schemata@origSchema[#1]{#2}{#3}{#4}{#5}%
16 \end{lateximage}%
17 }

```

---

File 413 **lwarp-scrextend.sty**

§ 520    Package **scrextend**

Pkg    scrextend    **scrextend** is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. \DeclareDocumentCommand is used to overwrite the koma-script definitions.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{scrextend}[2020/01/24]

2 \DeclareDocumentCommand{\setkomafont}{m m}{}
3 \DeclareDocumentCommand{\addkomafont}{m m}{}
4 \DeclareDocumentCommand{\usekomafont}{m}{}
5
6 \DeclareDocumentCommand{\usefontofkomafont}{m}{}
7 \DeclareDocumentCommand{\useencodingofkomafont}{m}{}
8 \DeclareDocumentCommand{\usesizeofkomafont}{m}{}
9 \DeclareDocumentCommand{\usefamilyofkomafont}{m}{}
10 \DeclareDocumentCommand{\useseriesofkomafont}{m}{}
11 \DeclareDocumentCommand{\useshapeofkomafont}{m}{}
12
13 \providecommand*\coverpagetopmargin{}
14 \providecommand*\coverpagebottommargin{}
15 \providecommand*\coverpageleftmargin{}
16 \providecommand*\coverpagerightmargin{}
17

```

Title page:

```

18 \AtBeginDocument{
19 \let\LWR@koma@orig@maketitle\maketitle
20 \DeclareDocumentCommand{\maketitle}{o}{\LWR@koma@orig@maketitle}
21 }
22
23 \DeclareDocumentCommand{\@maketitle}{}{%

```

```

24 \ifdefvoid{\@titlehead}{\}%
25 \begin{BlockClass}{titlehead}%
26 \@titlehead%
27 \end{BlockClass}%
28 }%
29 \ifdefvoid{\@subject}{\}%
30 \begin{BlockClass}{subject}%
31 \@subject%
32 \end{BlockClass}%
33 }%
34 \LWR@stoppars%
35 \LWR@htmltag{\LWR@tagtitle}%
36 \@title%
37 \LWR@htmltag{\LWR@tagtitleend}%
38 \ifdefvoid{\@subtitle}{\}%
39 \begin{BlockClass}{subtitle}%
40 \@subtitle%
41 \end{BlockClass}%
42 }%
43 \LWR@startpars%
44 \begin{BlockClass}{author}%

45 \renewcommand*{\cr}{\}%
46 \renewcommand*{\cr cr}{\}%
47 \renewcommand*{\noalign}{\}%

48 \renewcommand{\and}{\}%
49 \end{BlockClass}%
50 \begin{BlockClass}{oneauthor}%
51 }%
52 \begin{BlockClass}{oneauthor}%
53 \@author%
54 \end{BlockClass}%
55 \end{BlockClass}%
56 \begin{BlockClass}{titledate}%
57 \@date%
58 \end{BlockClass}%
59 \ifdefvoid{\@published}{\}%
60 \begin{BlockClass}{published}%
61 \@published%
62 \end{BlockClass}%
63 }%
64 }
65
66 \AddSubtitlePublished
67
68 \DeclareDocumentCommand{\extratitle}{m}{}
69 \DeclareDocumentCommand{\frontispiece}{m}{}
70
71 \def\@titlehead{\}%
72 \DeclareDocumentCommand{\titlehead}{m}{\gdef\@titlehead{#1}}%
73
74 \def\@subject{\}%
75 \DeclareDocumentCommand{\subject}{m}{\gdef\@subject{#1}}%
76

```

```

77 % \subtitle and \published are defined by \AddSubtitlePublished
78
79 \DeclareDocumentCommand{\publishers}{m}{\published{#1}}
80
81 \DeclareDocumentCommand{\uppertitleback}{m}{}
82 \DeclareDocumentCommand{\lowertitleback}{m}{}
83 \DeclareDocumentCommand{\dedication}{m}{}
84
85 \DeclareDocumentCommand{\ifthispageodd}{m m}{#1}
86
87 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{}
88 \DeclareDocumentCommand{\cleardoubleemptypage}{}{}
89 \DeclareDocumentCommand{\cleardoubleplainpage}{}{}
90 \DeclareDocumentCommand{\cleardoublestandardpage}{}{}
91 \DeclareDocumentCommand{\cleardoubleoddpager}{m}{}
92 \DeclareDocumentCommand{\cleardoubleoddpagerusingstyle}{m}{}
93 \DeclareDocumentCommand{\cleardoubleoddpageremptypage}{}{}
94 \DeclareDocumentCommand{\cleardoubleoddpagerplainpage}{}{}
95 \DeclareDocumentCommand{\cleardoubleoddpagerstandardpage}{}{}
96 \DeclareDocumentCommand{\cleardoubleevenpage}{m}{}
97 \DeclareDocumentCommand{\cleardoubleevenpagerusingstyle}{m}{}
98 \DeclareDocumentCommand{\cleardoubleevenpageremptypage}{}{}
99 \DeclareDocumentCommand{\cleardoubleevenpagerplainpage}{}{}
100 \DeclareDocumentCommand{\cleardoubleevenpagerstandardpage}{}{}
101
102 \DeclareDocumentCommand{\multiplefootnoteseparator}{}{}
103 \begin{group}\let\thefootnotemark\multfootsep\@makefnmark\endgroup
104 }
105
106 \DeclareDocumentCommand{\multfootsep}{}{, }
107
108 \DeclareDocumentCommand{\footref}{m}{%
109 \begin{group}
110 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
111 \end{group}
112 \@footnotemark
113 }
114
115 \DeclareDocumentCommand{\deffootnote}{o m m m}{}
116 \DeclareDocumentCommand{\deffootnotemark}{m}{}
117 \DeclareDocumentCommand{\setfootnoterule}{o m}{}
118 \DeclareDocumentCommand{\raggedfootnote}{}{}

119 \DeclareDocumentCommand{\dictum}{o m}{
120 \begin{LWR@BlockClassWP}{\LWR@print@mbbox{text-align:right}}{}{\dictum}
121 #2
122 \IfValueT{#1}
123 {
124 \LWR@stoppars%
125 \ifbool{FormatWP}
126 {\begin{BlockClass}[\LWR@print@mbbox{border-top:} 1px solid gray]{dictumauthor}}
127 {\begin{BlockClass}{dictumauthor}}
128 \dictumauthorformat{#1}
129 \end{BlockClass}
130 }

```

```

131 \end{LWR@BlockClassWP}
132 }
133
134 \DeclareDocumentCommand{\dictumwidth}{}{}
135 \DeclareDocumentCommand{\dictumauthorformat}{m}{(#1)}
136 \DeclareDocumentCommand{\dictumrule}{}{}
137 \DeclareDocumentCommand{\raggeddictum}{}{}
138 \DeclareDocumentCommand{\raggeddictumtext}{}{}
139 \DeclareDocumentCommand{\raggeddictumauthor}{}{}
140
141 \DeclareDocumentEnvironment{labeling}{o m}
142 {%
143 \def\sc@septext{#1}%
144 \list{}{}%
145 \let\makelabel\labelinglabel%
146 }
147 {
148 \endlist
149 }
150
151 \DeclareDocumentCommand{\labelinglabel}{m}{%
152 #1 \quad \sc@septext%
153 }
154
155 \let\addmargin\relax
156 \let\endaddmargin\relax
157 \cslet{addmargin*}{\relax}
158 \cslet{endaddmargin*}{\relax}

159 \NewDocumentEnvironment{addmargin}{s O{ } m}
160 {
161 \LWR@stoppars%
162 \setlength{\LWR@templelengthtwo}{#3}
163 \ifblank{#2}
164 {
165 \begin{BlockClass}[
166 \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templelengthtwo}} ;
167 \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templelengthtwo}}
168]{addmargin}
169 }
170 {
171 \setlength{\LWR@templelengthone}{#2}
172 \begin{BlockClass}[
173 \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templelengthone}} ;
174 \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templelengthtwo}}
175]{addmargin}
176 }
177 }
178 {\end{BlockClass}\LWR@startpars}

```

Ref to create a starred environment:

<https://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>

```

180 \ExplSyntaxOn
181 \cs_new:cpn {addmargin*} {\addmargin*}
182 \cs_new_eq:cN {endaddmargin*} \endaddmargin
183 \ExplSyntaxOff
184
185 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}

```

---

File 414 **lwarp-scrhack.sty**

§ 521 Package **scrhack**

Pkg scrhack scrhack is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{scrhack}[2018/03/30]

---

File 415 **lwarp-scrlayer.sty**

§ 522 Package **scrlayer**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrlayer scrlayer is emulated.

 **Not fully tested!** [Please send bug reports!](#)

for HTML output: 1 \LWR@ProvidesPackageDrop{scrlayer}[2018/03/30]

```

2 \newcommand*{\DeclareSectionNumberDepth}[2]{}
3 \newcommand*{\DeclareLayer}[2][]{ }
4 \newcommand*{\DeclareNewLayer}[2][]{ }
5 \newcommand*{\ProvideLayer}[2][]{ }
6 \newcommand*{\RedeclareLayer}[2][]{ }
7 \newcommand*{\ModifyLayer}[2][]{ }
8 \newcommand*{\layerhalign}{}
9 \newcommand*{\layervalign}{}
10 \newcommand*{\layerxoffset}{}
11 \newcommand*{\layeryoffset}{}
12 \newcommand*{\layerwidth}{}
13 \newcommand*{\layerheight}{}
14 \providecommand*{\LenToUnit}[1]{\strip@pt\dimexpr#1*\p@/\unitlength}
15 \newcommand*{\putUL}[1]{}
16 \newcommand*{\putUR}[1]{}
17 \newcommand*{\putLL}[1]{}
18 \newcommand*{\putLR}[1]{}
19 \newcommand*{\putC}[1]{}
20 \newcommand*{\GetLayerContents}[1]{}
21 \newcommand*{\IfLayerExists}[3]{#3}
22 \newcommand*{\DestroyLayer}[1]{}
23 \newcommand*{\layercontentsmeasure}{}
24 \newcommand*{\currentpagestyle}{}

```

```

25 \newcommand*{\BeforeSelectAnyPageStyle}[1]{}
26 \newcommand*{\AfterSelectAnyPageStyle}[1]{}
27 \newcommand*{\DeclarePageStyleAlias}[2]{}
28 \newcommand*{\DeclareNewPageStyleAlias}[2]{}
29 \newcommand*{\ProvidePageStyleAlias}[2]{}
30 \newcommand*{\RedeclarePageStyleAlias}[2]{}
31 \newcommand*{\DestroyPageStyleAlias}[1]{}
32 \newcommand*{\GetRealPageStyle}[1]{}
33 \newcommand*{\DeclarePageStyleByLayers}[3][1]{}
34 \newcommand*{\DeclareNewPageStyleByLayers}[3][1]{}
35 \newcommand*{\ProvidePageStyleByLayers}[3][1]{}
36 \newcommand*{\RedeclarePageStyleByLayers}[3][1]{}
37 \NewDocumentCommand{\ForEachLayerOfPageStyle}{s m m}{}
38 \newcommand*{\AddLayersToPageStyle}[2]{}
39 \newcommand*{\AddLayersAtBeginOfPageStyle}[2]{}
40 \newcommand*{\AddLayersAtEndOfPageStyle}[2]{}
41 \newcommand*{\RemoveLayersFromPageStyle}[2]{}
42 \newcommand*{\AddLayersToPageStyleBeforeLayer}[3]{}
43 \newcommand*{\AddLayersToPageStyleAfterLayer}[3]{}
44 \newcommand*{\UnifyLayersAtPageStyle}[1]{}
45 \newcommand*{\ModifyLayerPageStyleOptions}[2]{}
46 \newcommand*{\AddToLayerPageStyleOptions}[2]{}
47 \newcommand*{\IfLayerPageStyleExists}[3]{#3}
48 \newcommand*{\IfRealLayerPageStyleExists}[3]{#3}
49 \newcommand*{\IfLayerAtPageStyle}[4]{#4}
50 \newcommand*{\IfSomeLayerAtPageStyle}[4]{#4}
51 \newcommand*{\IfLayersAtPageStyle}[4]{#4}
52 \newcommand*{\DestroyRealLayerPageStyle}[1]{}
53 \ifundefined{footheight}{\newlength{footheight}}{}
54 \DeclareDocumentCommand{\automark}{s o m}{}
55 \DeclareDocumentCommand{\manualmark}{}{}
56 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

57 \newcommand{\partmarkformat}{}
58 \if@chapter
59 \newcommand{\chaptermarkformat}{}
60 \fi
61 \newcommand{\sectionmarkformat}{}
62 \DeclareDocumentCommand{\GenericMarkFormat}{m}{}

63 \newcommand*{\@mkleft}[1]{}
64 \newcommand*{\@mkright}[1]{}
65 \newcommand*{\@mkdouble}[1]{}
66 \newcommand*{\@mkboth}[2]{}
67 \newcommand*{\scrLayerInitInterface}[1][1]{}
68 \newcommand*{\scrLayerAddToInterface}[3][1]{}
69 \newcommand*{\scrLayerAddCsToInterface}[3][1]{}
70 \newcommand*{\scrLayerOnAutoRemoveInterface}[2][1]{}

```

## § 523 Package **scrlayer-notecolumn**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrlayer-notecolumn scrlayer-notecolumn is emulated.

 **Not fully tested!** Please send bug reports!

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{scrlayer-notecolumn}[2018/02/02]

2 \newcommand*{\DeclareNoteColumn}[2][]{\}
3 \newcommand*{\DeclareNewNoteColumn}[2][]{\}
4 \newcommand*{\ProvideNoteColumn}[2][]{\}
5 \newcommand*{\RedeclareNoteColumn}[2][]{\}
6 \NewDocumentCommand{\makenote}{s o m}{\marginpar{#3}}
7 \newcommand*{\syncwithnotecolumn}[1][]{\}
8 \newcommand*{\syncwithnotecolumns}[1][]{\}
9 \newcommand*{\clearnotecolumn}[1][]{\}
10 \newcommand*{\clearnotecolumns}[1][]{\}

```

---

File 417 **lwarp-scrlayer-scrpage.sty**

## § 524 Package **scrlayer-scrpage**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrlayer-scrpage scrlayer-scrpage is ignored.

 **Not fully tested!** Please send bug reports!

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{scrlayer-scrpage}[2018/03/30]

2 \@ifundefined{footheight}{\newlength\footheight}{\}
3 \NewDocumentCommand{\lehead}{s o m}{\}
4 \NewDocumentCommand{\cehead}{s o m}{\}
5 \NewDocumentCommand{\rehead}{s o m}{\}
6 \NewDocumentCommand{\lohead}{s o m}{\}
7 \NewDocumentCommand{\cohead}{s o m}{\}
8 \NewDocumentCommand{\rohead}{s o m}{\}
9 \NewDocumentCommand{\lefoot}{s o m}{\}
10 \NewDocumentCommand{\cefoot}{s o m}{\}
11 \NewDocumentCommand{\refoot}{s o m}{\}
12 \NewDocumentCommand{\lofoot}{s o m}{\}
13 \NewDocumentCommand{\cofoot}{s o m}{\}
14 \NewDocumentCommand{\rofoot}{s o m}{\}
15 \NewDocumentCommand{\ohead}{s o m}{\}
16 \NewDocumentCommand{\chead}{s o m}{\}
17 \NewDocumentCommand{\ihead}{s o m}{\}
18 \NewDocumentCommand{\ofoot}{s o m}{\}
19 \NewDocumentCommand{\cfoot}{s o m}{\}
20 \NewDocumentCommand{\ifoot}{s o m}{\}
21 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
22 \newcommand*{\defpaairofpagestyles}[3][]{\}

```



```

23 \newcommand*{\newpairstyles}[3][]{ }
24 \newcommand*{\renewpairstyles}[3][]{ }
25 \newcommand*{\providepairstyles}[3][]{ }

26 \newcommand*{\clearmainofpairstyles}{}
27 \newcommand*{\clearplainofpairstyles}{}
28 \newcommand*{\clearpairstyles}{}
29 \newcommand*{\clearscrheadings}{}
30 \newcommand*{\clearscrheadfoot}{}
31 \newcommand*{\clearscrplain}{}

32 \NewDocumentCommand{\deftriplepairstyle}{m o m m m m m m}{}
33 \NewDocumentCommand{\newtriplepairstyle}{m o m m m m m m}{}
34 \NewDocumentCommand{\renewtriplepairstyle}{m o m m m m m m}{}
35 \NewDocumentCommand{\providetruplepairstyle}{m o m m m m m m}{}
36 \newcommand*{\defpairstyle}[3]{}
37 \newcommand*{\newpairstyle}[3]{}
38 \newcommand*{\providepairstyle}[3]{}
39 \newcommand*{\renewpairstyle}[3]{}

```

---

File 418 **lwarp-scrpage2.sty**

§ 525 Package **scrpage2**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrpage2 **scrpage2** is ignored.

 **Not fully tested!** [Please send bug reports!](#)

for HTML output: 1 \LWR@ProvidesPackageDrop{scrpage2}[2018/03/30]

```

2 \@ifundefined{footheight}{\newlength\footheight}{}
3 \NewDocumentCommand{\lehead}{o m}{}
4 \NewDocumentCommand{\cehead}{o m}{}
5 \NewDocumentCommand{\rehead}{o m}{}
6 \NewDocumentCommand{\lohead}{o m}{}
7 \NewDocumentCommand{\cohead}{o m}{}
8 \NewDocumentCommand{\rohead}{o m}{}
9 \NewDocumentCommand{\lefoot}{o m}{}
10 \NewDocumentCommand{\cefoot}{o m}{}
11 \NewDocumentCommand{\refoot}{o m}{}
12 \NewDocumentCommand{\lofoot}{o m}{}
13 \NewDocumentCommand{\cofoot}{o m}{}
14 \NewDocumentCommand{\rofoot}{o m}{}
15 \NewDocumentCommand{\ohead}{o m}{}
16 \NewDocumentCommand{\chead}{o m}{}
17 \NewDocumentCommand{\ihead}{o m}{}
18 \NewDocumentCommand{\ofoot}{o m}{}
19 \NewDocumentCommand{\cfoot}{o m}{}
20 \NewDocumentCommand{\ifoot}{o m}{}
21 \DeclareDocumentCommand{\automark}{o m}{}

```

---

```

22 \DeclareDocumentCommand{\manualmark}{}{}
23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
24 \NewDocumentCommand{\deftripstyle}{m o o m m m m m}{}
25 \NewDocumentCommand{\defpagestyle}{s m m m}{}
26 \NewDocumentCommand{\newpagestyle}{s m m m}{}
27 \NewDocumentCommand{\renewpagestyle}{s m m m}{}
28 \NewDocumentCommand{\providepagestyle}{s m m m}{}
29 \newcommand{\partmarkformat}{}
30 \if@chapter
31 \newcommand{\chaptermarkformat}{}
32 \fi
33 \newcommand{\sectionmarkformat}{}
34 \newcommand{\subsectionmarkformat}{}
35 \newcommand{\subsubsectionmarkformat}{}
36 \newcommand{\paragraphmarkformat}{}
37 \newcommand{\subparagraphmarkformat}{}
38
39 \newcommand*{\clearscrheadings}{}
40 \newcommand*{\clearscrheadfoot}{}
41 \newcommand*{\clearscrplain}{}

```

---

File 419 **lwarp-section.sty**

§ 526 Package **section**

Pkg section **section** is ignored.

*(Emulates or patches code by OLIVER PRETZEL.)*

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{section}

2 \ifx\chapter\undefined
3 \def\chsize{\Large}\def\hdsiZe{\huge}\else
4 \def\chsize{\huge}\def\hdsiZe{\Huge}
5 \fi
6 \let\ttsize\LARGE
7 \let\ausize\large
8 \let\dasize\large
9 \let\seCsize\Large
10 \let\subsize\large
11 \let\hdpos\raggedright
12 \newcounter{hddepth}
13 \let\fpind\relax
14 \def\ttfnt{}
15 \def\hdfnt{}
16 \def\fefnt{}
17 \def\thfnt{}
18 \def\pgfnt{}
19 \def\hmkfnt{}
20 \let\mkcse\uppercase
21 \def\hddot{}
22 \def\cpdot{:}
23 \def\nmddot{}

```

---

```

24 \ifx\secindent\undefined
25 \newdimen\secindent
26 \newskip\secpreskp
27 \newskip\secpstskp
28 \newdimen\subindent
29 \newskip\subpreskp
30 \newskip\subpstskp
31 \newskip\parpstskp
32 \newcount\c@hddepth
33 \fi

```

---

File 420 **lwarp-sectionbreak.sty**

§ 527 Package **sectionbreak**

*(Emulates or patches code by MICHAL HOFTICH.)*

Pkg sectionbreak **sectionbreak** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{sectionbreak}[2018-01-03]

2 \renewcommand\asterism{\HTMLunicode{2042}}
3
4 \renewcommand\pre@sectionbreak{}
5 \renewcommand\post@sectionbreak{}
6
7 \renewcommand\print@sectionbreak[1]{%
8 \begin{center}
9 #1
10 \end{center}
11 }
12

```

---

File 421 **lwarp-sectsty.sty**

§ 528 Package **sectsty**

*(Emulates or patches code by ROWLAND McDONNELL.)*

Pkg sectsty **sectsty** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{sectsty}[2002/02/25]

2 \newcommand*\partfont [1] {}
3 \newcommand*\partnumberfont [1] {}
4 \newcommand*\parttitlefont [1] {}
5 \newcommand*\chapterfont [1] {}
6 \newcommand*\chapternumberfont [1] {}
7 \newcommand*\chaptertitlefont [1] {}
8 \newcommand*\sectionfont [1] {}
9 \newcommand*\subsectionfont [1] {}

```

```

10 \newcommand*{\subsubsectionfont} [1] {}
11 \newcommand*{\paragraphfont} [1] {}
12 \newcommand*{\subparagraphfont} [1] {}
13 \newcommand*{\minisecfont} [1] {}
14 \newcommand*{\allsectionsfont}[1] {}
15 \newcommand{\nohang}{}

```

`\sectionrule` is only to be used in `*font` commands, thus it is ignored.

```

16 \newcommand*{\sectionrule}[5]{}
17
18 \def\ulemheading#1#2{}

```

---

File 422 **lwarp-selectp.sty**

§ 529     Package **selectp**

Pkg    selectp    **selectp** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{selectp}% no date given

2 \newcommand*{\outputonly}[1]{}

```

---

File 423 **lwarp-semantic-markup.sty**

§ 530     Package **semantic-markup**

*(Emulates or patches code by ANDREW A. CASHNER.)*

Pkg    semantic-markup    **semantic-markup** is patched for use by **lwarp**.



If using the `endnotes` option, add `\theendnotes` where desired.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{semantic-markup}[2018/05/21]

```

The endnotes must be printed by the user before the end of the document, since the end is after the HTML footer, etc.

```

2 \ifendnotes
3 \RenewDocumentCommand{\SetupEndnotes}{}{}%
4 \let\footnote=\endnote
5 % \AtEndDocument{\DoBeforeEndnotes{\EndnoteFont\theendnotes}}%
6 }
7 \fi

```

HTML unicode characters from **musicography** are used.

```

8 \RequirePackage{musicography}
9

```

```

10 \let\fl\musFlat
11 \let\sh\musSharp
12 \let\na\musNatural

```

The `\musfig` is placed inside a hashed image, with a simple alt tag.

```

13 \RequirePackage{amsmath}
14
15 \RenewDocumentCommand{\musfig}{ m m }{%
16 \LWR@subsingledollar*%
17 {#1/#2}% alt tag
18 {musfig}% addl' hashing
19 {% contents
20 \LWR@origensuredmath{%
21 \genfrac{}{}{0pt}{1}{\text{#1}}{\text{#2}}}%
22 }%
23 }%
24 }

```

The `\meter` is taken from `musicography`, and becomes a hashed image with a simple alt tag.

```

25 \RenewDocumentCommand{\meter}{ m m }{%
26 \musMeter{#1}{#2}%
27 }

```

---

## File 424 **lwarp-seqspl.it.sty**

### § 531 Package **seqsplit**

(Emulates or patches code by BORIS VEYTSMAN.)

Pkg seqsplit **seqsplit** is patched for use by **lwarp**.

For HTML output, the results are similar to print mode, and respond to window size.

 **svg math results** For svg math, the output differs from print mode in that the contents are formatted in a minipage, which is then inline with the surrounding math.

For MATHJAX, the contents are used as-is.

**for HTML output:** 1 \LWR@ProvidesPackagePass{seqsplit}[2006/08/07]

Special handling because **lwarp** uses a box for svg math, which does not normally allow line breaks, so a print-mode minipage must be used to allow line breaks. The minipage will not be wrapped inline with any surrounding math.

```

2 \begin{warpHTML}
3 \LetLtxMacro\LWR@orig@seqsplit\seqsplit
4
5 \renewcommand*{\seqsplit}[1]{%
6 \ifmode%
7 \begin{LWR@print@minipage}{6in}%

```

```

8 \LWR@orig@seqsplit{#1}%
9 \end{LWR@print@minipage}%
10 \else%
11 \InlineClass[word-wrap:break-word]{seqsplit}{\LWR@orig@seqsplit{#1}}%
12 \fi
13 }

```

Between characters, an empty HTML comment is placed to allow a line wrap in the HTML source, without adding spaces in the output.

```

14 \AtBeginDocument{
15 \newcommand*\LWR@HTML@seqinsert{%
16 \LWR@htmlcomment{ }%
17 }
18 \LWR@formatted{seqinsert}
19 }
20 \end{warpHTML}
21
22 \begin{warpMathJax}
23 \CustomizeMathJax{\newcommand{\seqsplit}[1]{#1}}
24 \end{warpMathJax}

```

---

File 425 **lwarp-setspace.sty**

§ 532    Package **setspace**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

Pkg    setspace    **setspace** is emulated.

Discard all options for **lwarp-setspace**:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{setspace}[2011/12/19]
2
3 \newcommand*\setstretch[1]{}
4 \newcommand*\SetSingleSpace[1]{}
5 \newcommand*\singlespacing{}
6 \newcommand*\onehalfspacing{}
7 \newcommand*\doublespacing{}
8
9 \newenvironment{singlespace}
10 {
11 \LWR@forcenewpage
12 \BlockClass{singlespace}
13 }
14 {\endBlockClass}
15
16 \newenvironment{singlespace*}
17 {
18 \LWR@forcenewpage
19 \BlockClass{singlespace}
20 }
21 {\endBlockClass}

```

---

```

22
23 \newenvironment*{spacing}[1]{
24
25 }{
26
27 }
28
29 \newenvironment*{onehalfspace}
30 {
31 \LWR@forcenewpage
32 \BlockClass{onehalfspace}
33 }
34 {\endBlockClass}
35
36 \newenvironment*{doublespace}
37 {
38 \LWR@forcenewpage
39 \BlockClass{doublespace}
40 }
41 {\endBlockClass}

```

---

File 426 **lwarp-shadethm.sty**

§ 533    Package **shadethm**

*(Emulates or patches code by JIM HEFFERON.)*

Pkg    shadethm    **shadethm** is patched for use by **lwarp**.

**for HTML output:**    1 \LWR@ProvidesPackagePass{shadethm}[1999/11/23]

```

2 \newenvironment{LWR@HTML@shadebox}
3 {%
4 \convertcolorspec{named}{shadethmcolor}{HTML}\LWR@tempcolor%
5 \convertcolorspec{named}{shaderulecolor}{HTML}\LWR@tempcolortwo%
6 \begin{BlockClass}[%
7 background: \LWR@origpound\LWR@tempcolor ;
8 border: 1px solid \LWR@origpound\LWR@tempcolortwo ;
9]{shadebox}
10 }%
11 {\end{BlockClass}}
12 \LWR@formattedenv{shadebox}

```

---

File 427 **lwarp-shadow.sty**

§ 534    Package **shadow**

*(Emulates or patches code by MAURO ORLANDINI.)*

Pkg    shadow    **shadow** is emulated.

**for HTML output:** Discard all options for **lwarp-shadow**:

```
1 \LWR@ProvidesPackageDrop{shadow}[2003/02/19]

2 \newdimen\shboxsep
3 \newdimen\shboxrule
4 \newdimen\shdim
5
6 \newcommand{\shabox}[1]{%
7 \InlineClass{shabox}{#1}%
8 }
```

---

File 428 **lwarp-shapepar.sty**

§ 535 Package **shapepar**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg shapepar **shapepar** is patched for use by **lwarp**. Shapes appear in print mode, as well as inside a `lateximage`, but are ignored for HTML.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{shapepar}[2013/03/26]

2 \newcommand*{\LWR@HTML@shapepar}[2][{}]{
3 \LWR@formatted{shapepar}
4
5 \NewDocumentCommand{\LWR@HTML@cutout}{m d()}{
6 \LWR@formatted{cutout}
```

---

File 429 **lwarp-showidx.sty**

§ 536 Package **showidx**

Pkg showidx **showidx** is ignored.

**for HTML output:** Discard all options for **lwarp-showidx**:

```
1 \LWR@ProvidesPackageDrop{showidx}[2014/09/29]

\@wrindex is redefined \AtBeginDocument by the lwarp core.
```

---

File 430 **lwarp-showkeys.sty**

§ 537 Package **showkeys**

*(Emulates or patches code by DAVID CARLISLE, MORTEN HØGHOLM.)*

Pkg showkeys **showkeys** is ignored.



for HTML output: Discard all options for `lwarp-showkeys`:

```
1 \LWR@ProvidesPackageDrop{showkeys}[2014/10/28]
2 \NewDocumentCommand{\showkeys}{s}{}

```

---

File 431 **lwarp-showtags.sty**

§ 538 Package **showtags**

Pkg showtags `showtags` is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{showtags}% no version is given
2 \newcommand{\thecitetag}[1]{}

```

---

File 432 **lwarp-shuffle.sty**

§ 539 Package **shuffle**

*(Emulates or patches code by JULIAN GILBEY AND ANTOINE LEJAY.)*

Pkg shuffle `shuffle` is emulated for SVG math, and also emulated for MATHJAX.

The font used for `shuffle` may not render correctly when converted to SVG math, so a `picture` environment drawing is used instead.

For MATHJAX, the Unicode character is used, and for `\cshuffle` a `\bar` is added.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{shuffle}[2008/10/27]
2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}

3 \newcommand*\LWR@shuffle@start{%
4 \hspace*{.2em}
5 \begin{picture}(.75,0.65)
6 \setlength{\unitlength}{1em}
7 \put(0,0){\line(1,0){.75}}
8 \put(0,0){\line(0,1){.5}}
9 \put(.375,0){\line(0,1){.5}}
10 \put(.75,0){\line(0,1){.5}}
11 }
12
13 \newcommand*\LWR@shuffle@finish{%
14 \end{picture}
15 \hspace*{.75em}
16 \hspace*{.2em}
17 }
18
19 \newcommand*\shuffle{%
20 \LWR@shuffle@start%

```

---

```

21 \LWR@shuffle@finish%
22 }
23
24 \newcommand*{\cshuffle}{%
25 \LWR@shuffle@start%
26 \put(.05,.65){\line(1,0){.65}}%
27 \LWR@shuffle@finish%
28 }

29 \begin{warpMathJax}
30 \CustomizeMathJax{\newcommand{\shuffle}{\mathbin{\unicode{0x29E2}}}}
31 \CustomizeMathJax{\newcommand{\cshuffle}{%
32 \mathbin{\LWRoverlaysymbols{\raise{.6ex}{-}}{\unicode{0x29E2}}}}%
33 }}
34 \end{warpMathJax}

```

---

File 433 **lwarp-sidecap.sty**

§ 540 Package **sidecap**

*(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSLEIN.)*

Pkg sidecap **sidecap** is emulated.

**for HTML output:** Discard all options for **lwarp-sidecap**.

```
1 \LWR@ProvidesPackageDrop{sidecap}[2003/06/06]
```

See:

<http://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>  
regarding the creation of starred environments with **xparse**.

```

2 \NewDocumentEnvironment{SCtable}{soo}
3 {\IfValueTF{#3}{\table[#3]}{\table}}
4 {\endtable}
5
6 \ExplSyntaxOn
7 \cs_new:cpn {SCtable*} {\SCtable*}
8 \cs_new_eq:cN {endSCtable*} \endSCtable
9 \ExplSyntaxOff
10
11
12 \NewDocumentEnvironment{SCfigure}{soo}
13 {\IfValueTF{#3}{\figure[#3]}{\figure}}
14 {\endfigure}
15
16 \ExplSyntaxOn
17 \cs_new:cpn {SCfigure*} {\SCfigure*}
18 \cs_new_eq:cN {endSCfigure*} \endSCfigure
19 \ExplSyntaxOff
20

```

---

```

21
22 \newenvironment*{wide}{}{}

```

---

File 434 **lwarp-sidenotes.sty**

§ 541     Package **sidenotes**

*(Emulates or patches code by ANDY THOMAS, OLIVER SCHEBAUM.)*

Pkg    sidenotes    Patched for lwarp.

for HTML output:    Load the original package:

```
1 \LWR@ProvidesPackagePass{sidenotes}
```

The following patch sidenotes for use with lwarp:

```

\sidecaption * [⟨entry⟩] [⟨offset⟩] {⟨text⟩}

2 \RenewDocumentCommand \sidecaption {s o o m}
3 {
4 \LWR@stoppars
5 \begingroup
6 \captionsetup{style=sidecaption}%
7 \IfBooleanTF{#1}
8 { % starred
9 \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}
10 \caption*{#4}%
11 \end{BlockClass}
12 }
13 { % unstarred
14 \IfNoValueOrEmptyTF{#2}
15 {\def\@sidenotes@sidecaption@tof{#4}}
16 {\def\@sidenotes@sidecaption@tof{#2}}
17 \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}
18 \caption[\@sidenotes@sidecaption@tof]{#4}
19 \end{BlockClass}
20 }
21 \endgroup
22 \LWR@startpars
23 }

```

Borrowed from the lwarp version of keyfloat:

```

24 \NewDocumentEnvironment{KFLT sidenotes @marginfloat}{0{-1.2ex} m}
25 {% start
26 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}{marginblock}%
27 \renewcommand*{\@capttype}{#2}%
28 }
29 {%
30 \endLWR@BlockClassWP%
31 }
32

```

```

33 \RenewDocumentEnvironment{marginfigure}{o}
34 {\begin{KFLTsidenotes@marginfloat}{figure}}
35 {\end{KFLTsidenotes@marginfloat}}
36
37 \RenewDocumentEnvironment{margintable}{o}
38 {\begin{KFLTsidenotes@marginfloat}{table}}
39 {\end{KFLTsidenotes@marginfloat}}

```

The following were changed by `sidenotes`, and now are reset back to their `lwarp`-supported originals:

Restoring the definition from the  $\text{\LaTeX}$  2 $\epsilon$  `article.cls` source:

```

40 \renewenvironment{figure*}
41 {\@dblfloat{figure}}
42 {\end@dblfloat}
43
44 \renewenvironment{table*}
45 {\@dblfloat{table}}
46 {\end@dblfloat}

```

For `MATHJAX`:



Note that `sidenotes` does not support `\sidenote` inside math in print mode. Use `\sidenotemark` and `\sidenotetext` instead.

```

47 \begin{warpMathJax}
48 \providecommand{\sidenotename}{sidenote}
49 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{\LWRsidenote}{\thesidenote}}
50 \appto\LWR@syncnotenames{\LWR@synconenotename{\LWRsidenote}{\sidenotename}}
51 \CustomizeMathJax{\def\LWRsidenote{1}}
52 \CustomizeMathJax{\newcommand{\sidenotemark}[1][\LWRsidenote]{\mathrm{#1}}}
53 \end{warpMathJax}

```

The following is not defined since is not allowed inside math in print mode, and also would have to be modified to parse the optional offset argument:

```
\CustomizeMathJax{\newcommand{\sidenote}[2][\LWRsidenote]{\mathrm{#1}}}
```

---

File 435 **lwarp-simplebnf.sty**

§ 542 Package **simplebnf**

*(Emulates or patches code by JAY LEE.)*

Pkg simplebnf **simplebnf** is patched for use by `lwarp`.

for HTML output: 1 \LWR@ProvidesPackagePass{simplebnf}[2020/09/01]

The entire object is placed inside a `lateximage` whose alt text is the  $\text{\LaTeX}$  source BNF expression.

```

2 \ExplSyntaxOn
3
4 \RenewDocumentEnvironment { bnfgrammar } { +b }
5 {
6 %% \l__input_seq is a list of term definitions.
7 \regex_split:nnN { ;; } { #1 } \l__input_seq
8 \begin{center}
9 \begin{lateximage}[#1]% lwarp
10 \tl_set:Nn \l__table_tl
11 {
12 \begin{tabular}{lcll}
13 }
14 \bool_set_true:N \l_tmp_first_term % Is this the first term in this grammar?
15 \seq_map_inline:Nn \l__input_seq
16 {
17 %% \l__term_seq - (term, rhses)...
18 %% \l__term_tl - term
19 %% \l__keypairs_tl - rhses
20 \regex_split:nnN { ::= } { ##1 } \l__term_seq
21 \seq_pop_left:NN \l__term_seq \l__term_tl
22 \seq_pop_left:NN \l__term_seq \l__keypairs_tl
23
24 \regex_replace_once:nnN { ^\s+ } {} \l__term_tl
25
26 \bool_if:NTF \l_tmp_first_term
27 {
28 \bool_set_false:N \l_tmp_first_term
29 }
30 {
31 \tl_put_right:Nn \l__table_tl { \\ }
32 }
33 \tl_put_right:Nx \l__table_tl
34 {
35 \bnfexpr { \l__term_tl } & \g__simplebnf_defeq_tl &
36 }
37 %% \l__keypairs_seq - (rhs:annot | rhs)...
38 \seq_set_split:NnV \l__keypairs_seq { | } \l__keypairs_tl
39
40 \bool_set_true:N \l__first_rhs
41 \seq_map_function:NN \l__keypairs_seq \simplebnf_typeset_rhs:n
42 }
43
44 \tl_put_right:Nn \l__table_tl { \end{tabular} }
45 \tl_use:N \l__table_tl
46 \end{lateximage}% lwarp
47 \end{center}
48 }
49 { }
50
51 \ExplSyntaxOff

```

§ 543

Package

## Slunits

*(Emulates or patches code by MARCEL HELDOORN.)***Pkg** SIunits **Slunits** is patched for use by lwarp.

For SVG math, it is recommended to use `\unit` where possible, which combines the entire expression into a single `lateximage`, and adds the `alt` tag containing the  $\TeX$  code, allowing for copy/paste. When units are used outside of the `\unit` macro, each unit macro will have its own `lateximage`, and each will have the `alt` tag set according to `\MathImageAltText`, which defaults to `(math image)`.

For MATHJAX, individual units used in text will appear as SVG images, since `\ensuremath` is used in the original definitions, and `\ensuremath` often has expressions which do not work well in MATHJAX, so it is always forced to an SVG image. If, however, `\unit` is used, the result is expressed with MATHJAX instead of an SVG image.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{SIunits}[2007/12/02]`

Patched for copy/paste with the HTML `alt` tag:

```

2 \ifbool{mathjax}{
3 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
4 \LWR@subsingledollar*% lwarp
5 {% alt tag
6 \textbackslash{}unit\{\LWR@HTMLsanitize{#1}\}%
7 \{ \LWR@HTMLsanitize{#2}\}% extra space
8 }%
9 {SIunits}% add'l hashing
10 {%
11 #1\,{#2}%
12 }% contents
13 }
14 }{% not MathJax
15 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
16 \@inunitcommandtrue% original
17 \LWR@subsingledollar*% lwarp
18 {% alt tag
19 \textbackslash{}unit\{\LWR@HTMLsanitize{#1}\}%
20 \{ \LWR@HTMLsanitize{#2}\}% extra space
21 }%
22 {SIunits}% add'l hashing
23 {%
24 \LWR@origensuredmath{% lwarp modification
25 \SI@fstyle{%
26 {#1}\@qsk\period@active{#2}%
27 }% original
28 }%
29 }% contents
30 \@inunitcommandfalse% original
31 }
32 }% not MathJax
33 \LWR@formatted{unit}

```

For MATHJAX:

```

34 \begin{warpMathJax}
35 \LWR@infoprocessingmathjax{SIunits}
36
37 \CustomizeMathJax{\newcommand{\one}}{}}
38 \CustomizeMathJax{\newcommand{\meter}}{\metre}}
39 \CustomizeMathJax{\newcommand{\deka}}{\deca}}
40 \CustomizeMathJax{\newcommand{\dekad}}{\decad}}
41 \CustomizeMathJax{\newcommand{\per}}{/}}
42 \CustomizeMathJax{\newcommand{\usk}}{\;}}
43 \CustomizeMathJax{\newcommand{\unit}[2]{\#1\,{\#2}}}
44 \CustomizeMathJax{\newcommand{\power}[2]{\#1^{\#2}}}
45
46 \AtBeginDocument{%
47 \if@redefsquare
48 \CustomizeMathJax{\renewcommand{\square}[1]{\power{\#1}{2}}}
49 \else
50 \if@defsquaren
51 \CustomizeMathJax{\newcommand{\square}[1]{\power{\#1}{2}}}
52 \else
53 \CustomizeMathJax{\renewcommand{\square}[1]{\power{\#1}{2}}}
54 \fi %\if@defsquaren
55 \fi %\if@redefsquare
56 } %\AtBeginDocument
57
58 \CustomizeMathJax{\newcommand{\squared}}{\^{2}}}
59 \CustomizeMathJax{\newcommand{\cubic}[1]{\power{\#1}{3}}}
60 \CustomizeMathJax{\newcommand{\cubed}}{\^{3}}}
61 \CustomizeMathJax{\newcommand{\fourth}[1]{\power{\#1}{4}}}
62 \CustomizeMathJax{\newcommand{\reciprocal}[1]{\power{\#1}{-1}}}
63 \CustomizeMathJax{\newcommand{\rp}{\reciprocal}}
64 \CustomizeMathJax{\newcommand{\rpsquare}[1]{\power{\#1}{-2}}}
65 \CustomizeMathJax{\newcommand{\rpsquared}}{\^{ -2}}}
66 \CustomizeMathJax{\newcommand{\rpcubic}[1]{\power{\#1}{-3}}}
67 \CustomizeMathJax{\newcommand{\rpcubed}}{\^{ -3}}}
68 \CustomizeMathJax{\newcommand{\rpfourth}[1]{\power{\#1}{-4}}}
69 \CustomizeMathJax{\newcommand{\yocto}}{\mathrm{y}}}
70 \CustomizeMathJax{\newcommand{\zepto}}{\mathrm{z}}}
71 \CustomizeMathJax{\newcommand{\atto}}{\mathrm{a}}}
72 \CustomizeMathJax{\newcommand{\femto}}{\mathrm{f}}}
73 \CustomizeMathJax{\newcommand{\pico}}{\mathrm{p}}}
74 \CustomizeMathJax{\newcommand{\nano}}{\mathrm{n}}}
75 \CustomizeMathJax{\newcommand{\micro}}{\mathrm{\unicode{x00B5}}}}
76 \CustomizeMathJax{\newcommand{\milli}}{\mathrm{m}}}
77 \CustomizeMathJax{\newcommand{\centi}}{\mathrm{c}}}
78 \CustomizeMathJax{\newcommand{\deci}}{\mathrm{d}}}
79 \CustomizeMathJax{\newcommand{\deca}}{\mathrm{da}}}
80 \CustomizeMathJax{\newcommand{\hecto}}{\mathrm{h}}}
81 \CustomizeMathJax{\newcommand{\kilo}}{\mathrm{k}}}
82 \CustomizeMathJax{\newcommand{\mega}}{\mathrm{M}}}
83 \CustomizeMathJax{\newcommand{\giga}}{\mathrm{G}}}
84 \CustomizeMathJax{\newcommand{\tera}}{\mathrm{T}}}
85 \CustomizeMathJax{\newcommand{\peta}}{\mathrm{P}}}
86 \CustomizeMathJax{\newcommand{\exa}}{\mathrm{E}}}

```

```

87 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
88 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
89 \CustomizeMathJax{\newcommand{\yoctod}{\power{10}{-24}}}
90 \CustomizeMathJax{\newcommand{\zeptod}{\power{10}{-21}}}
91 \CustomizeMathJax{\newcommand{\attod}{\power{10}{-18}}}
92 \CustomizeMathJax{\newcommand{\femtod}{\power{10}{-15}}}
93 \CustomizeMathJax{\newcommand{\picod}{\power{10}{-12}}}
94 \CustomizeMathJax{\newcommand{\nanod}{\power{10}{-9}}}
95 \CustomizeMathJax{\newcommand{\microd}{\power{10}{-6}}}
96 \CustomizeMathJax{\newcommand{\millid}{\power{10}{-3}}}
97 \CustomizeMathJax{\newcommand{\centid}{\power{10}{-2}}}
98 \CustomizeMathJax{\newcommand{\decid}{\power{10}{-1}}}
99 \CustomizeMathJax{\newcommand{\decad}{\power{10}{1}}}
100 \CustomizeMathJax{\newcommand{\hectod}{\power{10}{2}}}
101 \CustomizeMathJax{\newcommand{\kilod}{\power{10}{3}}}
102 \CustomizeMathJax{\newcommand{\megad}{\power{10}{6}}}
103 \CustomizeMathJax{\newcommand{\gigad}{\power{10}{9}}}
104 \CustomizeMathJax{\newcommand{\terad}{\power{10}{12}}}
105 \CustomizeMathJax{\newcommand{\petad}{\power{10}{15}}}
106 \CustomizeMathJax{\newcommand{\exad}{\power{10}{18}}}
107 \CustomizeMathJax{\newcommand{\zettad}{\power{10}{21}}}
108 \CustomizeMathJax{\newcommand{\yottad}{\power{10}{24}}}
109 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
110 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
111 \CustomizeMathJax{\newcommand{\kilogram}{\kilo\gram}}
112 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
113 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
114 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
115 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
116 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
117 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
118 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
119 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
120 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
121 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
122 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
123 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
124 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
125 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
126 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
127 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
128 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
129 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
130 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
131 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
132 \CustomizeMathJax{\newcommand{\degreecelsius}{\mathrm{\unicode{x2103}}}}
133 \CustomizeMathJax{\newcommand{\celsius}{\degreecelsius}}
134 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
135 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
136 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
137 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
138 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
139
140 \ifdef{\radianbase}{
141 \CustomizeMathJax{\newcommand{\radianbase}%

```



```

142 {\metre\usk\reciprocal\metre}}
143 \CustomizeMathJax{\newcommand{\steradianbase}%
144 {\squaremetre\usk\rpsquare\metre}}
145 \CustomizeMathJax{\newcommand{\hertzbase}%
146 {\reciprocal\second}}
147 \CustomizeMathJax{\newcommand{\newtonbase}%
148 {\metre\usk\kilogram\usk\second\rpsquared}}
149 \CustomizeMathJax{\newcommand{\pascalbase}%
150 {\reciprocal\metre\usk\kilogram\usk\second\rpsquared}}
151 \CustomizeMathJax{\newcommand{\joulebase}%
152 {\squaremetre\usk\kilogram\usk\second\rpsquared}}
153 \CustomizeMathJax{\newcommand{\wattbase}%
154 {\squaremetre\usk\kilogram\usk\rpcubic\second}}
155 \CustomizeMathJax{\newcommand{\coulombbase}%
156 {\ampere\usk\second}}
157 \CustomizeMathJax{\newcommand{\voltbase}%
158 {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\reciprocal\ampere}}
159 \CustomizeMathJax{\newcommand{\faradbase}%
160 {\rpsquare\metre\usk\reciprocal\kilogram\usk\fourth\second\usk\ampere\squared}}
161 \CustomizeMathJax{\newcommand{\ohmbase}%
162 {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\rpsquare\ampere}}
163 \CustomizeMathJax{\newcommand{\siemensbase}%
164 {\rpsquare\metre\usk\reciprocal\kilogram\usk\cubic\second\usk\ampere\squared}}
165 \CustomizeMathJax{\newcommand{\weberbase}%
166 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
167 \CustomizeMathJax{\newcommand{\teslabase}%
168 {\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
169 \CustomizeMathJax{\newcommand{\henrybase}%
170 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\rpsquare\ampere}}
171 \CustomizeMathJax{\newcommand{\celsiusbase}%
172 {\kelvin}}
173 \CustomizeMathJax{\newcommand{\lumenbase}%
174 {\candela\usk\squaremetre\usk\rpsquare\metre}}
175 \CustomizeMathJax{\newcommand{\luxbase}%
176 {\candela\usk\squaremetre\usk\rpfourth\metre}}
177 \CustomizeMathJax{\newcommand{\becquerelbase}%
178 {\hertzbase}}
179 \CustomizeMathJax{\newcommand{\graybase}%
180 {\squaremetre\usk\second\rpsquared}}
181 \CustomizeMathJax{\newcommand{\sievertbase}%
182 {\graybase}}
183 \CustomizeMathJax{\newcommand{\katalbase}%
184 {\rp\second\usk\mole }}
185 {}{}
186
187 \ifdef{\derradian}{
188 \CustomizeMathJax{\newcommand{\derradian}%
189 {\metre\usk\reciprocal\metre}}
190 \CustomizeMathJax{\newcommand{\dersteradian}%
191 {\squaremetre\usk\rpsquare\metre}}
192 \CustomizeMathJax{\newcommand{\derhertz}%
193 {\reciprocal\second}}
194 \CustomizeMathJax{\newcommand{\dernewton}%
195 {\metre\usk\kilogram\usk\second\rpsquared}}
196 \CustomizeMathJax{\newcommand{\derpascal}%

```

```

197 {\newton\usk\rpsquare\metre}}
198 \CustomizeMathJax{\newcommand{\derjoule}%
199 {\newton\usk\metre}}
200 \CustomizeMathJax{\newcommand{\derwatt}%
201 {\joule\usk\reciprocal\second}}
202 \CustomizeMathJax{\newcommand{\dercoulomb}%
203 {\ampere\usk\second}}
204 \CustomizeMathJax{\newcommand{\dervolt}%
205 {\watt\usk\reciprocal\ampere}}
206 \CustomizeMathJax{\newcommand{\derfarad}%
207 {\coulomb\usk\reciprocal\volt}}
208 \CustomizeMathJax{\newcommand{\derohm}%
209 {\volt\usk\reciprocal\ampere}}
210 \CustomizeMathJax{\newcommand{\dersiemens}%
211 {\ampere\usk\reciprocal\volt}}
212 \CustomizeMathJax{\newcommand{\derweber}%
213 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
214 \CustomizeMathJax{\newcommand{\dertesla}%
215 {\weber\usk\rpsquare\metre}}
216 \CustomizeMathJax{\newcommand{\derhenry}%
217 {\weber\usk\reciprocal\ampere}}
218 \CustomizeMathJax{\newcommand{\dercelsius}%
219 {\kelvin}}
220 \CustomizeMathJax{\newcommand{\derlumen}%
221 {\candela\usk\steradian}}
222 \CustomizeMathJax{\newcommand{\derlux}%
223 {\lumen\usk\rpsquare\metre}}
224 \CustomizeMathJax{\newcommand{\derbecquerel}%
225 {\derhertz}}
226 \CustomizeMathJax{\newcommand{\dergray}%
227 {\joule\usk\reciprocal\kilogram}}
228 \CustomizeMathJax{\newcommand{\dersievert}%
229 {\dergray}}
230 \CustomizeMathJax{\newcommand{\derkatal}%
231 {\katalbase}}
232 }{}
233
234 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
235 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
236 \CustomizeMathJax{\newcommand{\dday}{\mathrm{d}}}
237 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^{\circ}}}}
238 \CustomizeMathJax{\newcommand{\pminute}{\mathrm{^{\prime}}}}
239 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^{\prime}}}}
240 \CustomizeMathJax{\newcommand{\pasecond}{\mathrm{^{\prime\prime}}}}
241 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^{\prime\prime}}}}
242 \CustomizeMathJax{\newcommand{\ton}{\mathrm{t}}}
243 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
244 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
245 \CustomizeMathJax{\newcommand{\litre}{\mathrm{L}}}
246 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
247 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
248 \CustomizeMathJax{\newcommand{\curie}{\mathrm{Ci}}}
249 \CustomizeMathJax{\newcommand{\rad}{\mathrm{rad}}}
250 \CustomizeMathJax{\newcommand{\arad}{\mathrm{rd}}}
251 \CustomizeMathJax{\newcommand{\rem}{\mathrm{rem}}}

```

```

252 \CustomizeMathJax{\newcommand{\roentgen}{\mathrm{R}}}
253 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{\mathrm{eV}}}}
254 \CustomizeMathJax{\newcommand{\atomicmass}{\mathrm{u}}}
255 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
256 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{Da}}}
257 \CustomizeMathJax{\newcommand{\are}{\mathrm{a}}}
258 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{\hecto\are}}}
259 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
260 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{\bar{b}}}}
261 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
262 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
263 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r}\per\minute}}
264 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r}\per\second}}
265 \CustomizeMathJax{\newcommand{\squaremetre}{\power{\metre}{2}}}
266 \CustomizeMathJax{\newcommand{\cubicmetre}{\cubic\metre}}
267 \CustomizeMathJax{\newcommand{\graypersecond}{\gray\per\second}}
268 \CustomizeMathJax{\newcommand{\graypersecondnp}{\gray\usk\reciprocal\second}}
269 \CustomizeMathJax{\newcommand{\metrepersquaresecond}{\metre\per\second\squared}}
270 \CustomizeMathJax{\newcommand{\metrepersquaresecondnp}{\metre\usk\second\rpsquared}}
271 \CustomizeMathJax{\newcommand{\joulepermole}{\joule\per\mole}}
272 \CustomizeMathJax{\newcommand{\joulepermolenp}{\joule\usk\reciprocal\mole}}
273 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mole\per\cubic\metre}}
274 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mole\usk\rpcubic\metre}}
275 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\radian\per\second\squared}}
276 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\radian\usk\second\rpsquared}}
277 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecond}{%
278 \kilogram\usk\squaremetre\per\second%
279 }}
280 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecondnp}{%
281 \kilogram\usk\squaremetre\usk\reciprocal\second%
282 }}
283 \CustomizeMathJax{\newcommand{\radianpersecond}{\radian\per\second}}
284 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\radian\usk\reciprocal\second}}
285 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\squaremetre\per\cubic\metre}}
286 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{%
287 \squaremetre\usk\rpcubic\metre%
288 }}
289 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\katal\per\cubic\metre}}
290 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\katal\usk\rpcubic\metre}}
291 \CustomizeMathJax{\newcommand{\coulombpermol}{\coulomb\per\mole}}
292 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\coulomb\usk\reciprocal\mole}}
293 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\ampere\per\squaremetre}}
294 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\ampere\usk\rpsquare\metre}}
295 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\kilogram\per\cubic\metre}}
296 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\kilogram\usk\rpcubic\metre}}
297 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{%
298 \squaremetre\per\newton\usk\second%
299 }}
300 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{%
301 \squaremetre\usk\reciprocal\newton\usk\reciprocal\second%
302 }}
303 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}
304 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}
305 \CustomizeMathJax{\newcommand{\coulombpercubicmetrenp}{\coulomb\usk\rpcubic\metre}}
306 \CustomizeMathJax{\newcommand{\ampere metre second}{\ampere\usk\metre\usk\second}}

```

```

307 \CustomizeMathJax{\newcommand{\voltpermetre}{\volt\per\metre}}
308 \CustomizeMathJax{\newcommand{\voltpermetrenp}{\volt\usk\reciprocal\metre}}
309 \CustomizeMathJax{\newcommand{\coulombpersquaremetre}{\coulomb\per\squaremetre}}
310 \CustomizeMathJax{\newcommand{\coulombpersquaremetrenp}{\coulomb\usk\rpsquare\metre}}
311 \CustomizeMathJax{\newcommand{\faradpermetre}{\farad\per\metre}}
312 \CustomizeMathJax{\newcommand{\faradpermetrenp}{\farad\usk\reciprocal\metre}}
313 \CustomizeMathJax{\newcommand{\ohmmetre}{\ohm\usk\metre}}
314 \CustomizeMathJax{\newcommand{\kilowatthour}{\kilo\watt\hour}}
315 \CustomizeMathJax{\newcommand{\wattpersquaremetre}{\watt\per\squaremetre}}
316 \CustomizeMathJax{\newcommand{\wattpersquaremetrenp}{\watt\usk\rpsquare\metre}}
317 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}
318 \CustomizeMathJax{\newcommand{\joulepersquaremetrenp}{\joule\usk\rpsquare\metre}}
319 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}
320 \CustomizeMathJax{\newcommand{\newtonpercubicmetrenp}{\newton\usk\rpcubic\metre}}
321 \CustomizeMathJax{\newcommand{\newtonperkilogram}{\newton\per\kilogram}}
322 \CustomizeMathJax{\newcommand{\newtonperkilogramnp}{\newton\usk\reciprocal\kilogram}}
323 \CustomizeMathJax{\newcommand{\jouleperkelvin}{\joule\per\kelvin}}
324 \CustomizeMathJax{\newcommand{\jouleperkelvinnp}{\joule\usk\reciprocal\kelvin}}
325 \CustomizeMathJax{\newcommand{\jouleperkilogram}{\joule\per\kilogram}}
326 \CustomizeMathJax{\newcommand{\jouleperkilogramnp}{\joule\usk\reciprocal\kilogram}}
327 \CustomizeMathJax{\newcommand{\coulombperkilogram}{\coulomb\per\kilogram}}
328 \CustomizeMathJax{\newcommand{\coulombperkilogramnp}{\coulomb\usk\reciprocal\kilogram}}
329 \CustomizeMathJax{\newcommand{\squaremetrepersecond}{\squaremetre\per\second}}
330 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{%
331 \squaremetre\usk\reciprocal\second%
332 }}
333 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecond}{%
334 \squaremetre\per\second\squared%
335 }}
336 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecondnp}{%
337 \squaremetre\usk\second\rpsquared%
338 }}
339 \CustomizeMathJax{\newcommand{\kilogrammetrepersecond}{%
340 \kilogram\usk\metre\per\second%
341 }}
342 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{%
343 \kilogram\usk\metre\usk\reciprocal\second%
344 }}
345 \CustomizeMathJax{\newcommand{\candelapersquaremetre}{\candela\per\squaremetre}}
346 \CustomizeMathJax{\newcommand{\candelapersquaremetrenp}{\candela\usk\rpsquare\metre}}
347 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\per\metre}}
348 \CustomizeMathJax{\newcommand{\amperepermetrenp}{\ampere\usk\reciprocal\metre}}
349 \CustomizeMathJax{\newcommand{\joulepertesla}{\joule\per\tesla}}
350 \CustomizeMathJax{\newcommand{\jouleperteslanp}{\joule\usk\reciprocal\tesla}}
351 \CustomizeMathJax{\newcommand{\henrypermetre}{\henry\per\metre}}
352 \CustomizeMathJax{\newcommand{\henrypermetrenp}{\henry\usk\reciprocal\metre}}
353 \CustomizeMathJax{\newcommand{\kilogrampersecond}{\kilogram\per\second}}
354 \CustomizeMathJax{\newcommand{\kilogrampersecondnp}{\kilogram\usk\reciprocal\second}}
355 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecond}{%
356 \kilogram\per\squaremetre\usk\second%
357 }}
358 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecondnp}{%
359 \kilogram\usk\rpsquare\metre\usk\reciprocal\second%
360 }}
361 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre}{\kilogram\per\squaremetre}}

```

```

362 \CustomizeMathJax{\newcommand{\kilogrampersquaremetrenp}{\kilogram\usk\rpsquare\metre}}
363 \CustomizeMathJax{\newcommand{\kilogrampermetre}{\kilogram\per\metre}}
364 \CustomizeMathJax{\newcommand{\kilogrampermetrenp}{\kilogram\usk\reciprocal\metre}}
365 \CustomizeMathJax{\newcommand{\joulepermolekelvin}{\joule\per\mole\usk\kelvin}}
366 \CustomizeMathJax{\newcommand{\joulepermolekelvinnp}{%
367 \joule\usk\reciprocal\mole\usk\reciprocal\kelvin%
368 }}
369 \CustomizeMathJax{\newcommand{\kilogramperkilomole}{\kilogram\per\kilo\mole}}
370 \CustomizeMathJax{\newcommand{\kilogramperkilomolenp}{%
371 \kilogram\usk\kilo\reciprocal\mole%
372 }}
373 \CustomizeMathJax{\newcommand{\kilogramsquaremetre}{\kilogram\usk\squaremetre}}
374 \CustomizeMathJax{\newcommand{\kilogramsquaremetrenp}{\kilogramsquaremetre}}
375 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecond}{%
376 \kilogram\usk\metre\per\second\squared%
377 }}
378 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecondnp}{%
379 \kilogram\usk\metre\usk\second\rpsquared%
380 }}
381 \CustomizeMathJax{\newcommand{\newtonpersquaremetre}{\newton\per\squaremetre}}
382 \CustomizeMathJax{\newcommand{\newtonpersquaremetrenp}{\newton\usk\rpsquare\metre}}
383 \CustomizeMathJax{\newcommand{\persquaremetresecond}{1\per\squaremetre\usk\second}}
384 \CustomizeMathJax{\newcommand{\persquaremetresecondnp}{%
385 \rpsquare\metre\usk\reciprocal\second%
386 }}
387 \CustomizeMathJax{\newcommand{\wattperkilogram}{\watt\per\kilogram}}
388 \CustomizeMathJax{\newcommand{\wattperkilogramnp}{\watt\usk\reciprocal\kilogram}}
389 \CustomizeMathJax{\newcommand{\wattpercubicmetre}{\watt\per\cubic\metre}}
390 \CustomizeMathJax{\newcommand{\wattpercubicmetrenp}{\watt\usk\rpcubic\metre}}
391 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradian}{%
392 \watt\per\squaremetre\usk\steradian%
393 }}
394 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradiannp}{%
395 \watt\usk\rpsquare\metre\usk\rp\steradian%
396 }}
397 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvin}{\joule\per\kilogram\usk\kelvin}}
398 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvinnp}{%
399 \joule\usk\reciprocal\kilogram\usk\reciprocal\kelvin%
400 }}
401 \CustomizeMathJax{\newcommand{\squaremetreperkilogram}{\squaremetre\per\kilogram}}
402 \CustomizeMathJax{\newcommand{\rpsquaremetreperkilogram}{%
403 \squaremetre\usk\reciprocal\kilogram%
404 }}
405 \CustomizeMathJax{\newcommand{\cubicmetreperkilogram}{\cubic\metre\per\kilogram}}
406 \CustomizeMathJax{\newcommand{\rpcubicmetreperkilogram}{%
407 \cubic\metre\usk\reciprocal\kilogram%
408 }}
409 \CustomizeMathJax{\newcommand{\newtonpermetre}{\newton\per\metre}}
410 \CustomizeMathJax{\newcommand{\newtonpermetrenp}{\newton\usk\reciprocal\metre}}
411 \CustomizeMathJax{\newcommand{\Celsius}{\unicode{x2103}}}
412 \CustomizeMathJax{\newcommand{\wattpermetrekelvin}{\watt\per\metre\usk\kelvin}}
413 \CustomizeMathJax{\newcommand{\wattpermetrekelvinnp}{%
414 \watt\usk\reciprocal\metre\usk\reciprocal\kelvin%
415 }}
416 \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre}}

```

```

417 \CustomizeMathJax{\newcommand{\newtonmetrenp}{\newtonmetre}}
418 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecond}{%
419 \squaremetre\per\cubic\second%
420 }}
421 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecondnp}{%
422 \squaremetre\usk\rpcubic\second%
423 }}
424 \CustomizeMathJax{\newcommand{\metrepersecond}{\metre\per\second}}
425 \CustomizeMathJax{\newcommand{\metrepersecondnp}{\metre\usk\reciprocal\second}}
426 \CustomizeMathJax{\newcommand{\joulepercubicmetre}{\joule\per\cubicmetre}}
427 \CustomizeMathJax{\newcommand{\joulepercubicmetrenp}{\joule\usk\rpcubic\metre}}
428 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulomb}{%
429 \kilogram\per\cubic\metre\usk\coulomb%
430 }}
431 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulombnp}{%
432 \kilogram\usk\rpcubic\metre\usk\reciprocal\coulomb%
433 }}
434 \CustomizeMathJax{\newcommand{\cubicmetrepersecond}{\cubicmetre\per\second}}
435 \CustomizeMathJax{\newcommand{\rpcubicmetrepersecond}{\cubicmetre\usk\reciprocal\second}}
436 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetre}{%
437 \kilogram\per\second\usk\cubicmetre%
438 }}
439 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetrenp}{%
440 \kilogram\usk\reciprocal\second\usk\rpcubic\metre%
441 }}
442 \end{warpMathJax}

```

---

### File 437 **lwarp-siunitx.sty**

## § 544 Package **siunitx**

(Emulates or patches code by JOSEPH WRIGHT.)

**Pkg** `siunitx` `siunitx` is patched for use by `lwarp`, and is emulated for `MATHJAX`.

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

 **math mode required** Some units will require that the expression be placed inside math mode.

 **tabular** Tabular S columns are rendered as simple c columns, and tabular s columns are not supported. These may be replaced by c columns with each cell contained in `\num` or `\si`.

 **MathJax** For math mode with svg display, the original `siunitx` code is used while generating the svg image. For text mode, `lwarp` uses an emulation which provides a very effective HTML interpretation of `siunitx`. For math expressions while using `MATHJAX`, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. Complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

Document modifications required for `MATHJAX`:

**custom units** • Custom units may be added with `\CustomizeMathJax`. See the `lwarp-siunitx` code

for examples.

⚠ unit spacing

- Units work better using ~ between units instead of using periods.

⚠ \square, \cubic

- To square or cube compound units, enclose the following compound units in braces:

`\cubic{\centi\meter}`

Single units do not require braces.

Also see [MATHJAX option](#), section 8.7.4.

for HTML output:

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{siunitx}[2018/05/17]

4 \AtBeginDocument{% in case textcomp was not loaded
5 \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
6 \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
7 \DeclareSIUnit\elementarycharge{\textit{e}}
8 \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
9 \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
10 \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
11}% AtBeginDocument
```

`\@ensuredmath` is not supported inside an `\hbox`, so it must temporarily be restored to its original. Similar for `\mbox`. `svg math` is created explicitly when necessary, using `\LWR@subsingledollar`.

```
12
13 \ExplSyntaxOn
14%
```

Modified to set set HTML `\textcolor` if not black:

```
15 \cs_undefine:N __siunitx_print_aux:
16 \cs_new_protected:Npn __siunitx_print_aux:
17 {
18 \text
19 {
20 __siunitx_ensure_ltr:n
21 {
22 \color@begingroup
23 __siunitx_print_color:
24 __siunitx_font_shape:
25 __siunitx_font_weight:
26 \use:c
27 {
28 @@_ \l__siunitx_print_type_tl _
29 text \l__siunitx_font_family_tl :
30 }
31 \bool_if:NTF \l__siunitx_font_math_mode_bool
32 { __siunitx_print_math: }
33 {
34 \LWR@findcurrenttextcolor% lwarp
```

```

35 \ifdefstring{\LWR@tempcolor}{000000}% lwarp
36 {__siunitx_print_text:}% lwarp
37 {% lwarp
38 \LWR@textcurrentcolor{% lwarp
39 __siunitx_print_text:
40 }% lwarp
41 }% lwarp
42 }
43 \color@endgroup
44 }
45 }
46 }
47
48
49 \cs_undefine:N __siunitx_set_math_fam:n
50 \cs_new_protected:Npn __siunitx_set_math_fam:n #1 {
51 \int_new:c { c__siunitx_math #1 _int }
52 \group_begin:% lwarp
53 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
54 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
55 \hbox_set:Nn \l__siunitx_tmp_box
56 {
57 \ensuremath
58 {
59 \use:c { math #1 }
60 {
61 \int_gset:cn { c__siunitx_math #1 _int } { \fam }
62 }
63 }
64 }
65 \group_end:% lwarp
66 }
67
68 \cs_undefine:N __siunitx_combined_output:n
69 \cs_new_protected:Npn __siunitx_combined_output:n #1 {
70 \group_begin:% lwarp
71 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
72 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
73 \bool_if:NTF \l__siunitx_number_parse_bool
74 {
75 \tl_clear:N \l__siunitx_number_out_tl
76 \bool_set_false:N \l__siunitx_number_compound_bool
77 __siunitx_number_output_parse:n {#1}
78 }
79 {

```

For parse-numbers=false:

```

80 __siunitx_unit_output_pre_print:
81 \begingroup% lwarp
82 \boolfalse{mathjax}% lwarp
83 % __siunitx_print:nn { number } { \ensuremath {#1} }
84 \LWR@subsingledollar{% lwarp
85 \textbackslash(\LWR@HTMLsanitize{#1} \textbackslash)% lwarp
86 }{siunitx}{%

```



```

87 __siunitx_print:nn { number } {%
88 \LWR@origensuredmath{#1}%
89 }%
90 }% lwarp
91 \endgroup% lwarp
92 __siunitx_unit_output_print:
93 }
94 \group_end:% lwarp
95 }

```

For parse-numbers=false:

```

96 \cs_set_protected:Npn __siunitx_range_numbers_aux:n #1
97 {
98 \bool_if:NTF \l__siunitx_number_parse_bool
99 {
100 \tl_clear:N \l__siunitx_number_out_tl
101 \tl_clear:N \l__siunitx_number_out_saved_tl
102 \bool_set_false:N \l__siunitx_number_compound_bool
103 __siunitx_number_output_parse:n {#1}
104 \bool_if:NT \l__siunitx_number_compound_bool
105 { \msg_error:nnx { siunitx } { multi-part-range } {#1} }
106 }
107 {
108 __siunitx_unit_output_pre_print:
109 \begingroup% lwarp
110 \boolfalse{mathjax}% lwarp
111 __siunitx_print:nn { number } {#1}
112 \LWR@subsingledollar{% lwarp
113 \textbackslash(\LWR@HTMLsanitize{#1} \textbackslash)% lwarp
114 }{siunitx}{%
115 __siunitx_print:nn { number } {
116 \LWR@origensuredmath{#1}%
117 } % lwarp
118 }% lwarp
119 \endgroup% lwarp
120 __siunitx_unit_output_print:
121 }
122 }

```

For parse-numbers=false:

```

123 \cs_set_protected:Npn __siunitx_angle_print_direct_aux:nn #1#2 {
124 \tl_if_empty:nF {#1}
125 {
126 \tl_set:Nn \l__siunitx_unit_tl {#2}
127 \begingroup% lwarp
128 \boolfalse{mathjax}% lwarp
129 __siunitx_print:nn { number } {#1}
130 \LWR@subsingledollar{% lwarp
131 \textbackslash(\LWR@HTMLsanitize{#1} \textbackslash)% lwarp
132 }{siunitx}{%
133 __siunitx_print:nn { number } {
134 \LWR@origensuredmath{#1}%
135 } % lwarp

```

```

136 }% lwarp
137 \endgroup% lwarp
138 __siunitx_unit_output_print:
139 }
140 }
141 %

```

For quotients, the fraction code is replaced by the symbol code:

```

142 \cs_undefine:N __siunitx_number_output_quotient_fraction:
143 \cs_new_protected:Npn __siunitx_number_output_quotient_fraction: {
144 \bool_set_true:N \l__siunitx_number_compound_bool
145 __siunitx_number_output_quotient_aux_i:
146 \tl_set_eq:NN \l__siunitx_number_out_tl
147 \l__siunitx_number_numerator_tl
148 \tl_put_right:NV \l__siunitx_number_out_tl \l__siunitx_output_quotient_tl
149 \tl_put_right:NV \l__siunitx_number_out_tl
150 \l__siunitx_number_denominator_tl
151 __siunitx_number_output_single_aux:
152 }

```

For units, the fraction code is replaced by the symbol code:

```

153 \cs_undefine:N __siunitx_unit_format_fraction_fraction:
154 \cs_new_protected:Npn __siunitx_unit_format_fraction_fraction: {
155 __siunitx_unit_format_fraction_symbol_aux:
156 \int_compare:nNnT { \l__siunitx_unit_denominator_int } > { 1 }
157 {
158 \bool_if:NT \l__siunitx_unit_denominator_bracket_bool
159 {
160 \tl_put_left:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_open_tl
161 \tl_put_right:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_close_tl
162 }
163 }
164 \tl_set_eq:NN \l__siunitx_unit_tl \l__siunitx_unit_numerator_tl
165 \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_per_symbol_tl
166 \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_unit_denominator_tl
167 }

```

```

168 \cs_undefine:N __siunitx_angle_print_astronomy_aux:
169 \cs_new_protected:Npn __siunitx_angle_print_astronomy_aux: {
170 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-integer }
171 \l__siunitx_tmpa_tl
172 { __siunitx_print:nV { number } \l__siunitx_tmpa_tl }
173 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
174 {% lateximage
175 \hbox_set:Nn \l__siunitx_angle_marker_box
176 {
177 __siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
178 }
179 \hbox_set:Nn \l__siunitx_angle_unit_box
180 {
181 __siunitx_print:nV { unit } \l__siunitx_unit_tl
182 \skip_horizontal:n { -\scriptspace }
183 }

```

```

184 __siunitx_angle_print_astronomy_aux:n { marker }
185 __siunitx_angle_print_astronomy_aux:n { unit }
186 \hbox_set:Nn \l__siunitx_angle_marker_box
187 {
188 \box_use:N \l__siunitx_angle_marker_box
189 \box_use:N \l__siunitx_angle_unit_box
190 }
191 \dim_compare:nNnTF
192 { \l__siunitx_angle_marker_dim } > { \l__siunitx_angle_unit_dim }
193 { __siunitx_angle_print_astronomy_marker: }
194 { __siunitx_angle_print_astronomy_unit: }
195]% lateximage
196 {% not a lateximage
197 __siunitx_print:nV { unit } \l__siunitx_unit_tl
198 __siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
199]% not a lateximage
200 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-decimal }
201 \l__siunitx_tmpa_tl
202 { __siunitx_print:nV { number } \l__siunitx_tmpa_tl }
203 }

204 \cs_undefine:N __siunitx_textsuperscript:n
205 \cs_new_protected:Npn __siunitx_textsuperscript:n #1 {#1}

```

`\num` [*<options>*] {*<value>*}

```

206 \RenewDocumentCommand \num { o m } {
207 \leavevmode
208 \group_begin:% lwarp
209 \LetLtxMacro\ensuredmath\LWR@origensuredmath% lwarp
210 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
211 \bool_set_false:N \l__siunitx_font_set_bool
212 \IfNoValueF {#1}
213 { \keys_set:nn { siunitx } {#1} }
214 __siunitx_number_output:n {#2}
215 \group_end:% lwarp
216 }

```

`\numrange` [*<options>*] {*<value1>*} {*<value2>*}

```

217 \RenewDocumentCommand \numrange { o m m } {
218 \leavevmode
219 \group_begin:% lwarp
220 \LetLtxMacro\ensuredmath\LWR@origensuredmath% lwarp
221 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
222 \bool_set_false:N \l__siunitx_font_set_bool
223 \IfNoValueF {#1}
224 { \keys_set:nn { siunitx } {#1} }
225 __siunitx_range_numbers:nn {#2} {#3}
226 \group_end:% lwarp
227 }

```

`\ang` {*<options>*} {*<angle>*}

```

228 \RenewDocumentCommand \ang { o > { \SplitArgument { 2 } { ; } } m } {
229 \group_begin:% lwarp
230 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
231 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
232 \IfNoValueF {#1}
233 { \keys_set:nn { siunitx } {#1} }
234 __siunitx_angle_output:nnn #2
235 \group_end:% lwarp
236 }

```

`\si`    `{<options>}{<unit>}`

```

237 \RenewDocumentCommand \si { o m } {
238 \leavevmode
239 \group_begin:% lwarp
240 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
241 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
242 \bool_set_false:N \l__siunitx_font_set_bool
243 \IfNoValueTF {#1}
244 { __siunitx_unit_output:nn {#2} { } }
245 {
246 \keys_set:nn { siunitx } {#1}
247 __siunitx_unit_output:nn {#2} {#1}
248 }
249 \group_end:% lwarp
250 }

```

`\SIrange`    `[<options>]{<value1>}{<value2>}{<unit>}`

```

251 \RenewDocumentCommand{\SIrange}{o m m m}
252 {%
253 \leavevmode
254 \group_begin:% lwarp
255 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
256 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
257 \bool_set_false:N \l__siunitx_font_set_bool
258 \IfNoValueTF {#1}
259 { __siunitx_range_unit:nnnn {#4} { } {#2} {#3} }
260 {
261 \keys_set:nn { siunitx } {#1}
262 __siunitx_range_unit:nnnn {#4} {#1} {#2} {#3}
263 }
264 \group_end:% lwarp
265 }

```

```

266 \ExplSyntaxOff

```

For MATHJAX. (The following runs much faster as separate `\CusomizeMathJax` calls instead of one single call.)

```

267 \begin{warpMathJax}
268 \LWR@infoprocessingmathjax{siunitx}

269 \CustomizeMathJax{\newcommand{\tothe}[1]{^{#1}}}

```

```
270 \CustomizeMathJax{\newcommand{\raiseto}[2]{\#2^{\#1}}}
```

Used as an end marker when parsing values:

```
271 \CustomizeMathJax{\newcommand{\LWRsiunitxEND}{}}
```

`\ang`    [*<options>*] {*<value>*}

```
272 \CustomizeMathJax{\def\LWRsiunitxang#1;#2;#3;#4\LWRsiunitxEND{%
273 \ifblank{#1}{\num{#1}\degree}%
274 \ifblank{#2}{\num{#2}^{\unicode{x2032}}}% \prime
275 \ifblank{#3}{\num{#3}^{\unicode{x2033}}}% \dblprime
276 }}
277 \CustomizeMathJax{\newcommand{\ang}[2][\LWRsiunitxang#2;;;\LWRsiunitxEND]}
```

Processes scientific notation. Special handling for a mantissa which is either empty or only a minus sign.

```
278 \CustomizeMathJax{\newcommand{\LWRsiunitxnumscientific}[2]{%
279 \ifblank{#1}%
280 {}%
281 {%
282 \ifstrequal{#1}{-}%
283 {-}%
284 {\LWRsiunitxprintdecimal{#1}\times}%
285 }%
286 10^{\LWRsiunitxprintdecimal{#2}}
287 }}
```

`\num` handles optional powers (e, E, d, D), multiples (x), plus and minus, and period or comma decimal output.

To split the string, `\def` is used with parameter delimiters. When each of the following macro is used, extra delimiters are padded to the end of the arguments of each macro when used, and the final argument of each collects any extra unused delimiters.

```
288 \ExplSyntaxOn
289 \AtBeginDocument{
290 \ifdefstring{\l__siunitx_output_decimal_tl}{,}{,}
291 {% Use decimal comma
292 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsub#1.#2.#3\LWRsiunitxEND{%
293 \mathrm{#1}%
294 \ifblank{#2}
295 {}%
296 {,\mathrm{#2}}
297 }}
298
299 \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%
300 \LWRsiunitxprintdecimalsub#1...\LWRsiunitxEND%
301 }}
302 }
303 {% Use decimal point
304 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsub#1,#2,#3\LWRsiunitxEND{%
305 \mathrm{#1}%
306 \ifblank{#2}
307 {}%
308 {.\mathrm{#2}}
309 }}
310 }
```

```

306 \ifblank{#2}
307 {}%
308 {.\mathrm{#2}}
309 }}
310
311 \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%
312 \LWRsiunitxprintdecimalsub#1,,\LWRsiunitxEND%
313 }}
314 }
315 }
316 \ExplSyntaxOff

```

\num [*<options>*] {*<value>*}

```

317 \CustomizeMathJax{\def\LWRsiunitxnumplus#1+#2+#3\LWRsiunitxEND{%
318 \ifblank{#2}
319 {\LWRsiunitxprintdecimal{#1}}% no plus
320 {%
321 \ifblank{#1}%
322 {\LWRsiunitxprintdecimal{#2}}% leading plus, ignore
323 {% a+b
324 \LWRsiunitxprintdecimal{#1}%
325 \unicode{x02B}% plus sign
326 \LWRsiunitxprintdecimal{#2}%
327 }%
328 }%
329 }}
330
331 \CustomizeMathJax{\def\LWRsiunitxnumminus#1-#2-#3\LWRsiunitxEND{%
332 \ifblank{#2}
333 {\LWRsiunitxnumplus#1+++ \LWRsiunitxEND}%
334 {%
335 \LWRsiunitxprintdecimal{#1}%
336 \unicode{x02212}% mathematical minus sign
337 \LWRsiunitxprintdecimal{#2}%
338 }%
339 }}
340
341 \CustomizeMathJax{\def\LWRsiunitxnumpm#1+-#2+-#3\LWRsiunitxEND{%
342 \ifblank{#2}%
343 {\LWRsiunitxnumminus#1--- \LWRsiunitxEND}%
344 {%
345 \LWRsiunitxprintdecimal{#1}%
346 \unicode{x0B1}% \pm
347 \LWRsiunitxprintdecimal{#2}%
348 }%
349 }}
350
351 \CustomizeMathJax{\def\LWRsiunitxnumx#1x#2x#3x#4\LWRsiunitxEND{%
352 \ifblank{#2}%
353 {\LWRsiunitxnumpm#1+-- \LWRsiunitxEND}%
354 {%
355 \ifblank{#3}%
356 {%
357 \LWRsiunitxprintdecimal{#1}%

```

```

358 \times%
359 \LWRsiunitxprintdecimal{#2}%
360 }%
361 {%
362 \LWRsiunitxprintdecimal{#1}%
363 \times%
364 \LWRsiunitxprintdecimal{#2}%
365 \times%
366 \LWRsiunitxprintdecimal{#3}%
367 }%
368 }%
369 }}
370
371 \CustomizeMathJax{\def\LWRsiunitxnumD#1D#2D#3\LWRsiunitxEND{%
372 \ifblank{#2}%
373 {\LWRsiunitxnumx#1xxxxx\LWRsiunitxEND}%
374 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
375 }}
376
377 \CustomizeMathJax{\def\LWRsiunitxnumd#1d#2d#3\LWRsiunitxEND{%
378 \ifblank{#2}%
379 {\LWRsiunitxnumD#1DDD\LWRsiunitxEND}%
380 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
381 }}
382
383 \CustomizeMathJax{\def\LWRsiunitxnumE#1E#2E#3\LWRsiunitxEND{%
384 \ifblank{#2}%
385 {\LWRsiunitxnumd#1ddd\LWRsiunitxEND}%
386 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
387 }}
388
389 \CustomizeMathJax{\def\LWRsiunitxnume#1e#2e#3\LWRsiunitxEND{%
390 \ifblank{#2}%
391 {\LWRsiunitxnumE#1EEE\LWRsiunitxEND}%
392 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
393 }}
394
395 \CustomizeMathJax{\def\LWRsiunitxnumcomma#1,#2,#3\LWRsiunitxEND{%
396 \ifblank{#2}
397 {\LWRsiunitxnume#1eee\LWRsiunitxEND}
398 {\LWRsiunitxnume#1.#2eee\LWRsiunitxEND}
399 }}
400
401 \CustomizeMathJax{\newcommand{\num}[2][\LWRsiunitxnumcomma#2,,\LWRsiunitxEND]}

```

`\si` [*<options>*] {*<unit>*}

```
402 \CustomizeMathJax{\newcommand{\si}[2][\mathrm{#2}]}
```

`\SI` [*<options>*] {*<value>*} [*<prefix>*] {*<unit>*}

`\SI` has a second optional arg, which is parsed using `\ifnextchar`.

```

403 \CustomizeMathJax{\def\LWRsiunitxSIopt#1[#2]#3{%
404 {#2}\num{#1}{#3}%
405 }}

```

```

420 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
421 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
422 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
423 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
424 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
425 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
426 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
427 %
428 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
429 \CustomizeMathJax{\newcommand{\degreeCelsius}{\unicode{x2103}}}
430 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
431 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
432 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
433 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
434 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
435 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}

```



```

436 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
437 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
438 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
439 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
440 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
441 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
442 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
443 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
444 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
445 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
446 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
447 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
448 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
449 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
450 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
451 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
452 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
453 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
454 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
455 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
456 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^\prime}}}
457 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
458 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^\prime\prime}}}
459 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
460 \CustomizeMathJax{\newcommand{\astronomicalunit}{au}}
461 \CustomizeMathJax{\newcommand{\atomicmassunit}{u}}
462 \CustomizeMathJax{\newcommand{\bohr}{\mathit{a}_0}}
463 \CustomizeMathJax{\newcommand{\clight}{\mathit{c}_0}}
464 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{D}_\mathrm{a}}}
465 \CustomizeMathJax{\newcommand{\electronmass}{\mathit{m}_\mathrm{e}}}
466 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
467 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathit{e}}}
468 \CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_\mathrm{h}}}
469 \CustomizeMathJax{\newcommand{\planckbar}{\mathit{\unicode{x210F}}}}
470 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
471 \CustomizeMathJax{\let\LWRorigbar\bar}
472 \CustomizeMathJax{\newcommand{\bar}{\mathrm{bar}}}
473 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
474 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
475 \CustomizeMathJax{\newcommand{\decibel}{\mathrm{dB}}}
476 \CustomizeMathJax{\newcommand{\knot}{\mathrm{kn}}}
477 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
478 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathrm{M}}}
479 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
480 %
481 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
482 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
483 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
484 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
485 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
486 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
487 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
488 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
489 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
490 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}

```

```

491 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
492 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
493 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
494 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
495 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
496 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
497 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
498 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
499 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
500 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
501 %
502 \CustomizeMathJax{\newcommand{\percent}{\mathrm{\%}}}
503 %
504 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
505 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
506 %
507 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
508 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
509 \CustomizeMathJax{\newcommand{\of}[1]{_{\mathrm{\#1}}}}
510 \CustomizeMathJax{\newcommand{\squared}{^2}}
511 \CustomizeMathJax{\newcommand{\square}[1]{\mathrm{\#1}^2}}
512 \CustomizeMathJax{\newcommand{\cubed}{^3}}
513 \CustomizeMathJax{\newcommand{\cubic}[1]{\mathrm{\#1}^3}}
514 \CustomizeMathJax{\newcommand{\per}{/}}
515 \CustomizeMathJax{\newcommand{\celsius}{\unicode{x2103}}}
516 %
517 \CustomizeMathJax{\newcommand{\fg}{\femto\gram}}
518 \CustomizeMathJax{\newcommand{\pg}{\pico\gram}}
519 \CustomizeMathJax{\newcommand{\ng}{\nano\gram}}
520 \CustomizeMathJax{\newcommand{\ug}{\micro\gram}}
521 \CustomizeMathJax{\newcommand{\mg}{\milli\gram}}
522 \CustomizeMathJax{\newcommand{\g}{\gram}}
523 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
524 %
525 \CustomizeMathJax{\newcommand{\amu}{\mathrm{u}}}
526 %
527 \CustomizeMathJax{\newcommand{\pm}{\pico\metre}}
528 \CustomizeMathJax{\newcommand{\nm}{\nano\metre}}
529 \CustomizeMathJax{\newcommand{\um}{\micro\metre}}
530 \CustomizeMathJax{\newcommand{\mm}{\milli\metre}}
531 \CustomizeMathJax{\newcommand{\cm}{\centi\metre}}
532 \CustomizeMathJax{\newcommand{\dm}{\deci\metre}}
533 \CustomizeMathJax{\newcommand{\m}{\metre}}
534 \CustomizeMathJax{\newcommand{\km}{\kilo\metre}}
535 %
536 \CustomizeMathJax{\newcommand{\as}{\atto\second}}
537 \CustomizeMathJax{\newcommand{\fs}{\femto\second}}
538 \CustomizeMathJax{\newcommand{\ps}{\pico\second}}
539 \CustomizeMathJax{\newcommand{\ns}{\nano\second}}
540 \CustomizeMathJax{\newcommand{\us}{\micro\second}}
541 \CustomizeMathJax{\newcommand{\ms}{\milli\second}}
542 \CustomizeMathJax{\newcommand{\s}{\second}}
543 %
544 \CustomizeMathJax{\newcommand{\fmol}{\femto\mol}}
545 \CustomizeMathJax{\newcommand{\pmol}{\pico\mol}}

```

```
546 \CustomizeMathJax{\newcommand{\nmol}{\nano\mol}}
547 \CustomizeMathJax{\newcommand{\umol}{\micro\mol}}
548 \CustomizeMathJax{\newcommand{\mmol}{\milli\mol}}
549 \CustomizeMathJax{\newcommand{\mol}{\mol}}
550 \CustomizeMathJax{\newcommand{\kmol}{\kilo\mol}}
551 %
552 \CustomizeMathJax{\newcommand{\pA}{\pico\ampere}}
553 \CustomizeMathJax{\newcommand{\nA}{\nano\ampere}}
554 \CustomizeMathJax{\newcommand{\uA}{\micro\ampere}}
555 \CustomizeMathJax{\newcommand{\mA}{\milli\ampere}}
556 \CustomizeMathJax{\newcommand{\A}{\ampere}}
557 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
558 %
559 \CustomizeMathJax{\newcommand{\uL}{\micro\litre}}
560 \CustomizeMathJax{\newcommand{\mL}{\milli\litre}}
561 \CustomizeMathJax{\newcommand{\L}{\litre}}
562 \CustomizeMathJax{\newcommand{\hL}{\hecto\litre}}
563 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
564 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
565 \CustomizeMathJax{\newcommand{\L}{\liter}}
566 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
567 %
568 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
569 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
570 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
571 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
572 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
573 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
574 %
575 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
576 \CustomizeMathJax{\newcommand{\N}{\newton}}
577 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
578 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
579 %
580 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
581 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
582 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
583 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
584 %
585 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
586 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
587 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
588 %
589 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
590 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
591 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
592 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
593 \CustomizeMathJax{\newcommand{\V}{\volt}}
594 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
595 %
596 \CustomizeMathJax{\newcommand{\W}{\watt}}
597 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
598 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
599 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
600 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
```

```

601 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
602 %
603 \CustomizeMathJax{\newcommand{\J}{\joule}}
604 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
605 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
606 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}
607 %
608 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
609 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
610 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
611 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
612 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
613 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
614 %
615 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
616 %
617 \CustomizeMathJax{\newcommand{\F}{\farad}}
618 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
619 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
620 %
621 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
622 %
623 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
624 %
625 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}
626 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
627 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
628 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
629 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
630 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
631 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
632 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
633 \end{warpMathJax}

```

---

File 438 **lwarp-skmath.sty**

§ 545      Package **skmath**

*(Emulates or patches code by SIMON SIGURDHSSON.)*

Pkg    skmath    **skmath** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**    1 \LWR@ProvidesPackagePass{skmath}[2019/10/15]

Only defined if package option requested:

```

2 \begin{warpMathJax}
3 \ExplSyntaxOn
4 \bool_if:NT\g__skmath_define_common_sets_bool{
5 \CustomizeMathJax{\newcommand{\N}{\mathbb{N}}}
6 \CustomizeMathJax{\newcommand{\Z}{\mathbb{Z}}}
7 \CustomizeMathJax{\newcommand{\Q}{\mathbb{Q}}}
8 \CustomizeMathJax{\newcommand{\R}{\mathbb{R}}}

```

```

9 \CustomizeMathJax{\newcommand{\C}{\mathbb{C}}}
10 }

```

**skmath** is using **l3keys**, which does not seem to have an equivalent to `\@ifpackagewith`. To detect package options, comparisons with the following are made to see if various macros have been defined as follows:

```

11 \cs_gset_nopar:Npn\LWR__skmath_imaginary_unit:n#1{#{#1}}
12 \cs_gset_nopar:Npn\LWR__skmath_natural_log_e:{{e}}
13 \cs_gset_nopar:Npn\LWR__skmath_integral_d:{{d}}
14 \cs_gset_nopar:Npn\LWR__skmath_total_derivative_d:{{d}}

```

If notation=iso, use upright, else italic:

```

15 \cs_if_eq:NNTF __skmath_imaginary_unit:n \LWR__skmath_imaginary_unit:n
16 {
17 \CustomizeMathJax{\newcommand{ii}{\mathit{i}}}
18 \CustomizeMathJax{\newcommand{jj}{\mathit{j}}}
19 }
20 {
21 \CustomizeMathJax{\newcommand{ii}{\mathrm{i}}}
22 \CustomizeMathJax{\newcommand{jj}{\mathrm{j}}}
23 }

```

If notation=iso, use upright, else italic:

```

24 \cs_if_eq:NNTF __skmath_natural_log_e: \LWR__skmath_natural_log_e:
25 { \CustomizeMathJax{\newcommand{\ee}{\mathit{e}}} }
26 { \CustomizeMathJax{\newcommand{\ee}{\mathrm{e}}} }

```

**skmath** uses `\DeclarePairedDelimiter` from **mathtools** for `\abs` and `\norm`, and **lwarp** uses this to automatically define MATHJAX definitions for each.

If notation=english, use slanted, else upright:

```

27 \cs_if_eq:NNTF __skmath_integral_d: \LWR__skmath_integral_d:
28 { \CustomizeMathJax{\newcommand{\d}{\mathit{d}}} }
29 { \CustomizeMathJax{\newcommand{\d}{\mathrm{d}}} }

```

Used to parse comma and caret arguments for `\pd` and `\td`:

```

30 \CustomizeMathJax{\def\LWRskmathEND{}}

```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```

31 \CustomizeMathJax{\def\LWRskmathpdstarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
32 #1_{#2#3#4#5}%
33 }}
34
35 \CustomizeMathJax{\newcommand{\LWRskmathpdstar}[2]{%
36 \LWRskmathpdstarsub{#1}#2,,,\LWRskmathEND%
37 }}

```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets. `\LWRskmathpdplus` is used to only place a plus sign starting after the first term.

`\LWRskmathpdone` is used to only place a 1 digit if a second or later term does not have a power.

```

38 \CustomizeMathJax{\def\LWRskmathpdnumerator#1^#2^#3\LWRskmathEND{%
39 \ifblank{#1}{}{
40 \ifblank{#2}{\LWRskmathpdplus\LWRskmathpdone}{\LWRskmathpdplus#2}
41 }
42 }}
```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets.

```

43 \CustomizeMathJax{\def\LWRskmathpddenominator#1^#2^#3\LWRskmathEND{%
44 \ifblank{#1}{}%
45 \ifblank{#2}%
46 {\partial{#1}}%
47 {\partial{#1}^{#2}}%
48 }%
49 }}
```

Factored from `\LWRskmathpdnostarsub`, following:

The phrase `^{}` appears to be required while parsing the carets. `\LWRskmathpdplus` is used to only place a plus sign starting after the first term. `\LWRskmathpdone` is used to only place a 1 digit if a second or later term does not have a power.

This may not be recursion-safe. (Is there really such a thing as nested differentials?)

```

50 \CustomizeMathJax{\newcommand{\LWRskmathdonumerator}[5]{%
51 \partial^{%
52 \def\LWRskmathpdplus{}%
53 \LWRskmathpdnumerator#2^{ }^{ }\LWRskmathEND%
54 \def\LWRskmathpdplus{+}%
55 \def\LWRskmathpdone{1}%
56 \LWRskmathpdnumerator#3^{ }^{ }\LWRskmathEND%
57 \LWRskmathpdnumerator#4^{ }^{ }\LWRskmathEND%
58 \LWRskmathpdnumerator#5^{ }^{ }\LWRskmathEND%
59 }%
60 {#1}%
61 }}
62
63 \CustomizeMathJax{\newcommand{\LWRskmathdodenominator}[4]{%
64 \LWRskmathpddenominator#1^{ }^{ }^{ }\LWRskmathEND%
65 \ifblank{#2}{\,\,}%
66 \LWRskmathpddenominator#2^{ }^{ }^{ }\LWRskmathEND%
67 \ifblank{#3}{\,\,}%
68 \LWRskmathpddenominator#3^{ }^{ }^{ }^{ }\LWRskmathEND%
69 \ifblank{#4}{\,\,}%
70 \LWRskmathpddenominator#4^{ }^{ }^{ }^{ }\LWRskmathEND%
71 }}
```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```

72 \CustomizeMathJax{\def\LWRskmathpdnostarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
73 \ifblank{#3}{\def\LWRskmathpdone{}}{\def\LWRskmathpdone{1}}
74 \frac%
```

```

75 {\LWRskmathdonominator{#1}{#2}{#3}{#4}{#5}}%
76 {\LWRskmathdodenominator{#2}{#3}{#4}{#5}}%
77 }}
78
79 \CustomizeMathJax{\newcommand{\LWRskmathpdnostar}[2]{%
80 \LWRskmathpdnostarsub{#1}#2,,,,,\LWRskmathEND%
81 }}

82 \CustomizeMathJax{\newcommand{\pd}{\ifstar\LWRskmathpdstar\LWRskmathpdnostar}}

```

If notation=english or legacy, use slanted, else upright:

```

83 \cs_if_eq:NNTF __skmath_total_derivative_d: \LWR__skmath_total_derivative_d:
84 { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathit{d}}} }
85 { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathrm{d}}} }

86 \CustomizeMathJax{\def\LWRskmathtdsub#1#2^#3\LWRskmathEND{%
87 \frac
88 {\LWRskmathtd^{#3}{#1}}
89 {\LWRskmathtd{#2}^{#3}}
90 }}
91
92 \CustomizeMathJax{\newcommand{\td}[2]{%
93 \LWRskmathtdsub{#1}#2^{}}\LWRskmathEND%
94 }}

95 \CustomizeMathJax{\newcommand{\E}[1]{%
96 \operatorname{E}\left[#1\right]%
97 }}

98 \CustomizeMathJax{\let\given\mid}
99
100 \CustomizeMathJax{\newcommand{\P}[1]{%
101 \operatorname{P}%
102 \left(#1\right)%
103 }}

104 \CustomizeMathJax{\newcommand{\var}[1]{%
105 \operatorname{Var}\left(#1\right)%
106 }}
107
108 \CustomizeMathJax{\newcommand{\cov}[2]{%
109 \operatorname{Cov}\left(#1,#2\right)%
110 }}

Common code for \sin etc:

111 \CustomizeMathJax{\newcommand{\LWRskmathtrigtwo}[2][1]{%
112 \ifblank{#1}{\^{#1}}%
113 \ifblank{#2}{\left(#2\right)}%
114 }}
115
116 \CustomizeMathJax{\newcommand{\LWRskmathtrig}[1]{%
117 \operatorname{#1}%

```

```

118 \LWRskmathtrigtwo%
119 }}

120 \CustomizeMathJax{\renewcommand{\sin}{\LWRskmathtrig{sin}}}
121 \CustomizeMathJax{\renewcommand{\arcsin}{\LWRskmathtrig{arcsin}}}
122
123 \CustomizeMathJax{\renewcommand{\cos}{\LWRskmathtrig{cos}}}
124 \CustomizeMathJax{\renewcommand{\arccos}{\LWRskmathtrig{arccos}}}
125
126 \CustomizeMathJax{\renewcommand{\tan}{\LWRskmathtrig{tan}}}
127 \CustomizeMathJax{\renewcommand{\arctan}{\LWRskmathtrig{arctan}}}
128
129 \CustomizeMathJax{\renewcommand{\cot}{\LWRskmathtrig{cot}}}
130
131 \CustomizeMathJax{\renewcommand{\sinh}{\LWRskmathtrig{sinh}}}
132 \CustomizeMathJax{\renewcommand{\cosh}{\LWRskmathtrig{cosh}}}
133 \CustomizeMathJax{\renewcommand{\tanh}{\LWRskmathtrig{tanh}}}

```

Common code for `\ln` and `\log`:

```

134 \CustomizeMathJax{\newcommand{\LWRskmathlogtwo}[2][1]{%
135 \ifblank{#1}{}{_{{#1}}}%
136 \ifblank{#2}{}{\left{#2\right}}}%
137 }}
138
139 \CustomizeMathJax{\newcommand{\LWRskmathlog}[1]{%
140 \operatorname{#1}%
141 \LWRskmathlogtwo%
142 }}

143 \CustomizeMathJax{\renewcommand{\ln}{\LWRskmathlog{ln}}}
144 \CustomizeMathJax{\renewcommand{\log}{\LWRskmathlog{log}}}

145 \CustomizeMathJax{\newcommand{\LWRskmathexpparens}[1]{%
146 \operatorname{exp}%
147 \ifblank{#1}{}{\left{#1\right}}}%
148 }}

```

See the `skmath` source for the original of the following:

```

149 \CustomizeMathJax{\newcommand{\LWRskmathexpnostar}[1]{%
150 \mathchoice
151 {\ee^{#1}}
152 {\LWRskmathexpparens{#1}}
153 {\LWRskmathexpparens{#1}}
154 {\LWRskmathexpparens{#1}}
155 }}
156
157 \CustomizeMathJax{\renewcommand{\exp}{\ifstar\LWRskmathexpparens\LWRskmathexpnostar}}

```

Common code for `\min` etc:

```

158 \CustomizeMathJax{\newcommand{\LWRskmathminstar}[2][1]{%
159 \operatorname{\LWRskmathminname}%

```



```

160 \ifblank{#1}{}{%
161 _{\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}
162 }%
163 \ifblank{#2}{}{#2}%
164 }}

165 \CustomizeMathJax{\newcommand{\LWRskmathminnostar}[2][{%
166 \ifblank{#1}%
167 {\operatorname{\LWRskmathminname}}%
168 {%
169 \underset%
170 {\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}%
171 {\operatorname{\LWRskmathminname}}%
172 }%
173 \ifblank{#2}{\left\{#2\right\}}%
174 }}

```

`\LWRskmathminname` seems to be recursion-safe since it is used immediately.

```

175 \CustomizeMathJax{\newcommand{\LWRskmathmin}[1]{%
176 \def\LWRskmathminname{#1}%
177 \ifstar\LWRskmathminstar\LWRskmathminnostar%
178 }}

179 \CustomizeMathJax{\renewcommand{\min}{\LWRskmathmin{min}}}
180 \CustomizeMathJax{\renewcommand{\argmin}{\arg\LWRskmathmin{min}}}
181
182 \CustomizeMathJax{\renewcommand{\max}{\LWRskmathmin{max}}}
183 \CustomizeMathJax{\renewcommand{\argmax}{\arg\LWRskmathmin{max}}}
184 \CustomizeMathJax{\renewcommand{\sup}{\LWRskmathmin{sup}}}
185 \CustomizeMathJax{\renewcommand{\inf}{\LWRskmathmin{inf}}}

186 \CustomizeMathJax{\let\bar\overline}
187
188 \CustomizeMathJax{\let\vec\boldsymbol}

```

Remember the original definitions:

```

189 \CustomizeMathJax{\let\LWRskmathRe\Re}
190 \CustomizeMathJax{\let\LWRskmathIm\Im}

```

Redefine depending on notation=iso:

```

191 \bool_if:NTF\g__skmath_iso_complex_parts_bool{
192 \CustomizeMathJax{\renewcommand{\Re}[1]{%
193 \LWRskmathRe%
194 \ifblank{#1}{\left(#1\right)}%
195 }}
196 \CustomizeMathJax{\renewcommand{\Im}[1]{%
197 \LWRskmathIm%
198 \ifblank{#1}{\left(#1\right)}%
199 }}
200 }{
201 \CustomizeMathJax{\renewcommand{\Re}[1]{%

```

---

```

202 \operatorname{Re}%
203 \ifblank{#1}{}{#1}%
204 }}
205 \CustomizeMathJax{\renewcommand{\Im}[1]{%
206 \operatorname{Im}%
207 \ifblank{#1}{}{#1}%
208 }}
209 }
210
211 \ExplSyntaxOff
212 \end{warpMathJax}

```

---

File 439 **lwarp-slantsc.sty**

§ 546 Package **slantsc**

*(Emulates or patches code by HARALD HARDERS.)*

Pkg slantsc **slantsc** is emulated for HTML, and used as-is for print output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{slantsc}[2012/01/01]

2 \newcommand*{\LWR@HTML@noscsshape}{}
3 \LWR@formatted{noscsshape}
4
5 \FilenameNullify{%
6 \LetLtxMacro\noscsshape\@empty%
7 }

```

---

File 440 **lwarp-slashed.sty**

§ 547 Package **slashed**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg slashed **slashed** works as-s for HTML SVG math. For MATHJAX, emulation is provided.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{slashed}[1997/01/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\slashed}[1]{\cancel{#1}}}
4 \end{warpMathJax}

```

---

File 441 **lwarp-soul.sty**

§ 548 Package **soul**

*(Emulates or patches code by MELCHIOR FRANZ.)*

Pkg soul soul is emulated.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{soul}[2003/11/17]
2 \RequirePackage{xcolor}% for \convertcolorspec

```

Storage for the colors to use:

```

3 \newcommand*\LWR@soululcolor{}
4
5 \newcommand*\LWR@soulstcolor{}
6
7 % \definecolor{\LWR@soulhlcolordefault}{HTML}{F8E800}
8 % \newcommand*\LWR@soulhlcolor{\LWR@soulhlcolordefault}
9 \newcommand*\LWR@soulhlcolor{}

```

\so {<text>}

Basic markup with css:

```

10 \newcommand{\so}[1]{%
11 \InlineClass(letter-spacing:.2ex){letterspacing}{#1}%
12 }

```

\caps {<text>}

```

13 \newcommand{\caps}[1]{%
14 \InlineClass%
15 (font-variant:small-caps;letter-spacing:.1ex)%
16 {capsspacing}{#1}%
17 }

```

\LWR@soulcolor {<text>} {<color>} {<class>} {<colorstyle>} {<FormatWPstyle>}

Add colors if not empty:

```

18 \newcommand{\LWR@soulcolor}[5]{%
19 \ifcsemtty{#2}%
20 {%
21 \InlineClass(#5){#3}{#1}%
22 }%
23 {%
24 \convertcolorspec{named}{\@nameuse{#2}}{HTML}\LWR@tempcolor%
25 \LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}%
26 }%
27 }

28 \newcommand{\ul}[1]{%
29 \LWR@soulcolor{#1}{\LWR@soululcolor}{uline}{text-decoration-color}%
30 {text-decoration:underline; text-decoration-skip: auto;}%
31 }
32
33 \newcommand{\st}[1]{%
34 \LWR@soulcolor{#1}{\LWR@soulstcolor}{sout}{text-decoration-color}%
35 {text-decoration:line-through}%
36 }

```

```

37
38 \newcommand{\hl}[1]{
39 \LWR@soulcolor{#1}{\LWR@soulhlcolor}{highlight}{background-color}%
40 {background:\LWR@origpound{ }F8E800}
41 }

```

Nullified:

```

42 \newcommand*\soulaccent}[1]{}
43 \newcommand*\soulregister}[2]{}
44 \newcommand*\sloppyword}[1]{#1}
45 \newcommand*\sodef}[5]{\DeclareRobustCommand*#1[1]{\so{##1}}}
46 \newcommand*\resetso{}
47 \newcommand*\capsdef}[5]{}
48 \newcommand*\capsreset{}
49 \newcommand*\capssave}[1]{}
50 \newcommand*\capssselect}[1]{}
51 \newcommand*\setul}[2]{}
52 \newcommand*\resetul{}
53 \newcommand*\setuldepth}[1]{}
54 \newcommand*\setuloverlap}[1]{}
55 \newcommand*\<{}{}

```

Set colors:

```

56 \newcommand*\setulcolor}[1]{\renewcommand{\LWR@soululcolor}{#1}}
57 \newcommand*\setstcolor}[1]{\renewcommand{\LWR@soulstcolor}{#1}}
58 \newcommand*\sethlcolor}[1]{\renewcommand{\LWR@soulhlcolor}{#1}}

```

Long versions of the user-level macros:

```

59 \let\textso\so
60 \let\textul\ul
61 \let\texthl\hl
62 \let\textcaps\caps

```

---

File 442 **lwarp-soulpos.sty**

§ 549      Package **soulpos**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg    soulpos    **soulpos** is emulated.

**for HTML output:**

```

1 \RequirePackage{soul}
2 \RequirePackage{soulutf8}
3 \LWR@ProvidesPackageDrop{soulpos}[2012/02/25]

4 \NewDocumentCommand{\ulposdef}{m o m}{}
5
6 \newdimen\ulwidth
7

```

---

```

8 \newcommand\ifulstarttype[1]{%
9 \expandafter\@secondoftwo%
10 }
11
12 \newcommand\ifulendtype[1]{%
13 \expandafter\@secondoftwo%
14 }
15
16 \newcommand{\ulstarttype}{0}
17 \newcommand{\ulendtype}{0}
18 \newcommand\ulpostolerance{0}%

```

---

File 443 **lwarp-soulutf8.sty**

§ 550    Package **soulutf8**

Pkg    soulutf8    soulutf8 is emulated.

lwarp's HTML output naturally supports UTF-8 encoding.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{soulutf8}[2016/05/16]
2 \RequirePackage{soul}

```

---

File 444 **lwarp-splitbib.sty**

§ 551    Package **splitbib**

*(Emulates or patches code by NICOLAS MARKEY.)*

Pkg    splitbib    splitbib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{splitbib}[2005/12/22]

2 \def\NMSB@stylebox#1#2{%
3 \begin{BlockClass}[text-align:center ; border: 1px solid black]{splitbibbox}
4 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
5 \end{BlockClass}
6 }
7
8 \def\NMSB@stylebar#1#2{%
9 \begin{BlockClass}[%
10 text-align:center ;
11 border-top: 1px solid black ;
12 border-bottom: 1px solid black ;
13]{splitbibbar}
14 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
15 \end{BlockClass}
16 }
17
18 \def\NMSB@styledash#1#2{%

```

---

```

19 \begin{BlockClass}[%
20 text-align:center ;
21]{\splitbibdash}
22 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{---~#1#2~---}}
23 \end{BlockClass}
24 }
25
26 \def\NMSB@stylenone#1#2{%
27 \par
28 }
29
30 \def\NMSB@stylesimple#1#2{%
31 \par
32 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
33 \par
34 }

```

---

File 445 **lwarp-splitidx.sty**

## § 552 Package **splitidx**

(Emulates or patches code by MARKUS KOHM.)

Pkg splitidx **splitidx** is patched for use by **lwarp**.

If the `latexmk` option is selected for **lwarp**, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

 **\thepage** When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer to `\thepage` during HTML output, as the concept of a page number is meaningless. Instead, do

```

\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}

```

where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 671.17 in the **lwarp-patch-memoir** package for the `\@wrsindexhyp` macro as an example.

for HTML output: 1 \LWR@ProvidesPackagePass{splitidx}[2016/02/18]

```

2 \catcode'_ =12%
3 \xpatchcmd{\newindex}
4 {\jobname-#2.idx}
5 {\jobname-#2_html.idx}
6 {}
7 {\LWR@patcherror{splitidx}{@newindex}}
8 \catcode'_ =8%

```

Patched to use **lwarp**'s automatic indexing counter instead of `\thepage`:

```

9 \renewcommand*{\@wrsindex}[2][\%
10 \ifx\relax#1\relax
11 \if@splitidx
12 \@wrsindex[idx]{#2}%
13 \else
14 \def\@tempa{#2}%
15 \if@verbinde\@onelevel@sanitize\@tempa\fi
16 \@wrindex{\@tempa}%
17 \fi
18 \else
19 \def\@tempa{#2}%
20 \csname index@#1@hook\endcsname
21 % \expandafter\ifx\csname @@wrsindex\endcsname\relax
22 \addtocounter{LWR@autoindex}{1}% lwarp
23 \label{LWRindex-\arabic{LWR@autoindex}}% lwarp
24 % \@@@wrsindex{#1}{\@tempa}{\thepage}}%
25 \@@@wrsindex{#1}{\@tempa}{\arabic{LWR@autoindex}}}%
26 % \else
27 % \def\@tempb{\@wrsindex{#1}}%
28 % \expandafter\@tempb\@tempa||\%
29 % \fi
30 \endgroup
31 \@esphack
32 \fi
33 }

```

**lwarp** defines sectioning commands with **xparse**, so the below patches are done as temporary redefinitions instead of being **\let**.

```

34 \xpatchcmd{\printsubindex}
35 {\let\section\subsection}
36 {\renewcommand*{\section}{\subsection}}
37 {}
38 {\LWR@patcherror{splitidx}{printsubindex-section}}
39
40 \xpatchcmd{\printsubindex}
41 {\let\chapter\section}
42 {\renewcommand*{\chapter}{\section}}
43 {}
44 {\LWR@patcherror{splitidx}{printsubindex-chapter}}
45
46 \xpatchcmd{\printsubindex}
47 {\let\@makechapterhead\section}
48 {\def\@makechapterhead{\section}}
49 {}
50 {\LWR@patcherror{splitidx}{printsubindex-chapter}}

```

---

File 446 **lwarp-srcltx.sty**

§ 553 Package **srcltx**

Pkg srcltx srcltx is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{srcltx}[2006/11/12]

2 \newif\ifSRCOK \SRCOKfalse
3 \newcommand*\srcIncludeHook[1]{}
4 \newcommand*\srcInputHook[1]{}
5 \newcommand*\MainFile{}
6 \def\MainFile{\jobname.tex}
7 \newcommand*\CurrentInput{}
8 \gdef\CurrentInput{\MainFile}
9 \newcommand\Input{}
10 \let\Input\input

```

---

File 447 **lwarp-srctex.sty**

§ 554     Package **srctex**

Pkg   srctex   srctex is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]
2 \LWR@origRequirePackage{lwarp-srcltx}

```

---

File 448 **lwarp-stabular.sty**

§ 555     Package **stabular**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg   stabular   stabular is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{stabular}[2014/03/20]

```

Env stabular   [ $\langle vpos \rangle$ ] [ $\langle colspec \rangle$ ]

```

2 \newenvironment{stabular}[2][c]
3 {
4 \begin{tabular}[#1]{#2}
5 \renewcommand{\noalign}[1]{}
6 }
7 {\end{tabular}}

```

Env stabular   [ $\langle width \rangle$ ] [ $\langle vpos \rangle$ ] [ $\langle colspec \rangle$ ]

```

8 \NewDocumentEnvironment{stabular*}{m o m}
9 {
10 \begin{tabular}[#2]{#3}
11 \renewcommand{\noalign}[1]{}
12 }
13 {\end{tabular}}

```



File 449 **lwarp-stackengine.sty**

§ 556 Package **stackengine**

(Emulates or patches code by STEVEN B. SEGLETES.)

Pkg stackengine stackengine is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{stackengine}[2017/02/13]

The original version is necessary for the patched \@stack and \stackanchor, where nesting lateximages does not work:

```
2 \LetLtxMacro\LWR@orig@stackengine\stackengine

3 \renewcommand*{\stackengine}[8]{%
4 \ifstrequal{#4}{0}%
5 {\begin{lateximage}[\ImageAltText]]%
6 {\begin{lateximage}[\ImageAltText][][vertical-align:top]]%
7 \LWR@orig@stackengine{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
8 \end{lateximage}%
9 }
```

\@stack uses a lateximage with a vertical alignment:

```
10 \LetLtxMacro\LWR@orig@@stack\@stack
11
12 \xpatchcmd{\LWR@orig@@stack}{\stackengine}{\LWR@orig@stackengine}
13 {}
14 {\LWR@patcherror{stackengine}{\LWR@orig@@stack}}
15
16 \renewcommand*{\@stack}[4]{%
17 \ifstrequal{#3}{0}%
18 {\begin{lateximage}[\ImageAltText]]%
19 {\begin{lateximage}[\ImageAltText][][vertical-align:top]]%
20 \LWR@orig@@stack{#1}{#2}{#3}{#4}%
21 \end{lateximage}%
22 }
```

The lapping macros are disabled for HTML:

```
23 \newcommand*\LWR@HTML@@stacklap[4]{#3}
24 \LWR@formatted{@stacklap}
```

\stackanchor is patched for two instances of \stackengine. A lateximage with vertical alignment is used.

```
25 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
26 {}
27 {\LWR@patcherror{stackengine}{stackanchor patch 1}}
```

```

28
29 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
30 {}
31 {\LWR@patcherror{stackengine}{stackanchor patch 2}}
32
33 \xpretocmd{\stackanchor}
34 {\begin{lateximage}[\ImageAltText][][vertical-align:middle]}
35 {}
36 {\LWR@patcherror{stackengine}{stackanchor pre}}
37
38 \xapptocmd{\stackanchor}{\end{lateximage}}
39 {}
40 {\LWR@patcherror{stackengine}{stackanchor app}}

```

`\Centerstack` is simply placed inside a `lateximage` with a vertical alignment:

```

41 \xpretocmd{\Centerstack}
42 {\begin{lateximage}[\ImageAltText][][vertical-align:middle]}
43 {}
44 {\LWR@patcherror{stackengine}{Centerstack pre}}
45
46 \xapptocmd{\Centerstack}{\end{lateximage}}
47 {}
48 {\LWR@patcherror{stackengine}{Centerstack app}}

```

`\savestack` reverts to print mode while saving the box, then places it inside a `lateximage` when used:

```

49 \renewcommand*\savestack[2]{%
50 \xdef\sv@name{\stack@macro@name{#1}}%
51 \@ifundefined{\sv@name content}{%
52 \expandafter\newsavebox\expandafter{\csname\sv@name content\endcsname}%
53 }{%
54 \begingroup% lwarp
55 \LWR@restoreorigformatting% lwarp
56 \RenewDocumentEnvironment{lateximage}{s o s o o}{}{}% lwarp: inside group
57 \expandafter\LWR@gsavebox\csname\sv@name content\endcsname{#2}%
58 \expandafter\gdef\expandafter#1\expandafter{%
59 \expandafter\begin\expandafter{lateximage\expandafter}% lwarp
60 \expandafter\usebox\expandafter%
61 {\csname\sv@name content\endcsname}%
62 \expandafter\end\expandafter{lateximage\expandafter}% lwarp
63 }%
64 \endgroup% lwarp
65 }

```

---

File 450 **lwarp-stackrel.sty**

§ 557 Package **stackrel**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg stackrel **stackrel** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{stackrel}[2016/05/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\renewcommand{\stackrel}[3][]{%
4 \mathrel{\mathop{\#3}\limits_{\#1}^{\#2}}}%
5 }}
6
7 \CustomizeMathJax{\newcommand{\stackbin}[3][]{%
8 \mathbin{\mathop{\#3}\limits_{\#1}^{\#2}}}%
9 }}
10 \end{warpMathJax}

```

File 451 **lwarp-statex2.sty**

§ 558 Package **statex2**

(Emulates or patches code by RODNEY A SPARAPANI.)

Pkg statex2 **statex2** is patched for use by **lwarp**, and emulated for MATHJAX.

⚠ As of this version, option `autobold` does not appear to work for PDF output.

⚠ For MATHJAX, the tilde character `~` does not create `\sim`. Use `\sim` directly.

⚠ Because MATHJAX has limited conditional processing:

- `\wrap` only creates square braces, no matter what its optional arguments.
- `\P`, `\pCau`, `\pN`, and `\pU` do not handle special cases.

⚠ **\and** To have `\and` work if using `\maketitle`, place the following after the start of the document:

```

\newcommand*{\and}{%
 \relax\ifmmode%
 \expandafter\;\mb{\mathrm{and}}\;%
 \else%
 \expandafter\STATEXand%
 \fi%
}

```

for HTML output:

```

1 \LWR@ProvidesPackagePass{statex2}[2011/09/14]

2 \newcommand*{\LWR@HTML@Alpha}[1][]{%
3 \fcolorbox{black}{ForestGreen}{\textcolor{white}{\textsf{ALPHA}}}%
4 \textbf{\textcolor{ForestGreen}{\textsf{\#1}}}%
5 }
6 \LWR@formatted{Alpha}
7
8 \newcommand*{\LWR@HTML@List}[1]{%
9 \textbf{\textcolor{Dandelion}{\textsf{L}}\textsubscript{\textit{\#1}}}%

```

```

10 }
11 \LWR@formatted{List}
12
13 \newcommand*\LWR@HTML@Snd}[1][{}]{%
14 \fcolorbox{black}{Dandelion}{\textcolor{white}{\textsf{2nd}}}%
15 \textbf{\textcolor{Dandelion}{\textsf{#1}}}%
16 }
17 \LWR@formatted{Snd}
18
19 \begin{warpMathJax}
20 \LWR@infoprocessingmathjax{statex2}
21
22 \CustomizeMathJax{\newcommand{\cpi}{\boldsymbol{\pi}}}
23 \CustomizeMathJax{\newcommand{\c}[1]{\boldsymbol{\mathrm{#1}}}}
24 \CustomizeMathJax{\newcommand{\sfs}[1]{\mathsf{#1}}}% not slanted
25
26 \if@manualbold
27 \CustomizeMathJax{\newcommand{\mb}[1]{\mathrm{#1}}}
28 \else
29 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{\mathrm{#1}}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mb{\mathrm{diag}}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mb{\mathrm{blockdiag}}}}
34 \CustomizeMathJax{\newcommand{\erf}{\mb{\mathrm{erf}}}}
35 \CustomizeMathJax{\newcommand{\logit}{\mb{\mathrm{logit}}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mb{\mathrm{trace}}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mb{\chi^2}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\mb{\frac{d}{d{#1}}}\wrap{\mb{#2}}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mb{\frac{d}{d{#2}}}\wrap{\mb{#1}}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mb{\mathrm{e}^{#1}}}}
42 \CustomizeMathJax{\newcommand{\E}[2][{}]{\mb{\mathrm{E}}_{\mb{#1}}}\wrap{\mb{#2}}}
43 \CustomizeMathJax{\newcommand{\ha}{\mb{\frac{\alpha}{2}}}}
44 \CustomizeMathJax{\newcommand{\I}[2][{}]{%
45 \mb{\mathrm{I}}_{\mb{#1}} \LWRwrapparen{\mb{#2}}}%
46 }}
47 \CustomizeMathJax{\newcommand{\IBeta}[2]{%
48 \mb{\frac{\Gamma[1+2]}{\Gamma[1]\Gamma[2]}}}%
49 }}
50 \CustomizeMathJax{\newcommand{\If}{\; \mb{\mathrm{if}} \;}}
51 \CustomizeMathJax{\newcommand{\im}{\mb{\mathrm{i}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\overline{}}}
53 \CustomizeMathJax{\newcommand{\ow}{\; \mb{\mathrm{otherwise}} \;}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2]{%
55 \mb{\frac{\partial}{\partial #1}}\wrap{\mb{#2}}}%
56 }}
57 \CustomizeMathJax{\newcommand{\pderivf}[2]{%
58 \mb{\frac{\partial}{\partial #2}}\wrap{\mb{#1}}}%
59 }}
60 \CustomizeMathJax{\newcommand{\sd}{\mb{\sigma}}}
61 \CustomizeMathJax{\newcommand{\ul}{\underline{}}}
62 \CustomizeMathJax{\newcommand{\V}[2][{}]{\mb{\mathrm{V}}_{\mb{#1}}}\wrap{\mb{#2}}}
63 \CustomizeMathJax{\newcommand{\vs}{\; \mb{\mathrm{vs.}} \;}}
64 \CustomizeMathJax{\newcommand{\where}{\; \mb{\mathrm{where}} \;}}

```

```

65 \CustomizeMathJax{\newcommand{\wrap}[2][\left[#2 \right]]}% only []
66 \CustomizeMathJax{\newcommand{\LWRwrapparen}[1]{\left(#1 \right)}}% lwarp
67
68 % \CustomizeMathJax{\renewcommand{\sim}{\mb{\sim}}}% doesn't work,
69 % replace <space>~<space> with <space>\sim<space>
70
71 \CustomizeMathJax{\newcommand{\iid}{\;\stackrel{\mb{\mathrm{iid}}}{\sim}};}
72 \CustomizeMathJax{\newcommand{\ind}{\;\stackrel{\mb{\mathrm{ind}}}{\sim}};}
73 \CustomizeMathJax{\newcommand{\indpr}{%
74 \;\stackrel{\mb{\mathrm{ind}}}{\stackrel{\mb{\mathrm{prior}}}{\sim}}\;}%
75 }}
76 \CustomizeMathJax{\newcommand{\post}{\;\stackrel{\mb{\mathrm{post}}}{\sim}};}
77 \CustomizeMathJax{\newcommand{\prior}{\;\stackrel{\mb{\mathrm{prior}}}{\sim}};}
78
79 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
80 \CustomizeMathJax{\renewcommand{\Gamma}[1][\mb{\STATEXGamma}\LWRwrapparen{\mb{#1}}]}
81 %
82 \CustomizeMathJax{\renewcommand{\and}{\;\mb{\mathrm{and}}\;}}
83 %
84 \CustomizeMathJax{\newcommand{\H}{\mb{\mathrm{H}}}}
85 %
86 \CustomizeMathJax{\newcommand{\P}[2][\mb{\mathrm{P}}_{\mb{#1}}\wrap{\mb{#2}}]}
87 %
88 \CustomizeMathJax{\newcommand{\I}{\mb{\mathrm{I}}}}
89
90 \CustomizeMathJax{\newcommand{\B}[1]{\mb{\mathrm{B}}\LWRwrapparen{\mb{#1}}}}
91 \CustomizeMathJax{\newcommand{\BB}[1]{\mb{\mathrm{BetaBin}}\LWRwrapparen{\mb{#1}}}}
92 \CustomizeMathJax{\newcommand{\Bin}[2]{\mb{\mathrm{Bin}}\LWRwrapparen{\mb{#1},\ #2}}}
93 \CustomizeMathJax{\newcommand{\Dir}[1]{\mb{\mathrm{Dirichlet}}\LWRwrapparen{\mb{#1}}}}
94 \CustomizeMathJax{\newcommand{\HG}[3]{%
95 \mb{\mathrm{Hypergeometric}}\LWRwrapparen{\mb{#1},\ #2,\ #3}}%
96 }}
97 \CustomizeMathJax{\newcommand{\M}[2]{%
98 \mb{\mathrm{Multinomial}}\LWRwrapparen{\mb{#1},\ #2}}%
99 }}
100 \CustomizeMathJax{\newcommand{\NB}[2]{\mb{\mathrm{NegBin}}\LWRwrapparen{\mb{#1},\ #2}}}
101 \CustomizeMathJax{\newcommand{\Poi}[1]{\mb{\mathrm{Poisson}}\LWRwrapparen{\mb{#1}}}}
102 \CustomizeMathJax{\let\Poisson=\Poi}
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{%
105 \mb{\frac{\Gamma[#+1]\Gamma[#+1]\Gamma[#+4-#1]\Gamma[#+4]}%
106 {\Gamma[#+1]\Gamma[#+1]\Gamma[#+3+#+4]\Gamma[#+3]\Gamma[#+4]}%
107 \I[#+1]{\{0, 1, \dots, #2\}}, \text{where } #3>0, \; #4>0 \text{ and } n=1, 2, \dots}%
108 }}
109 \CustomizeMathJax{\newcommand{\pBin}[3][x]{%
110 \mb{\binom{#2}{#1}#3^{#1}} \LWRwrapparen{\mb{\{1-#3\}^{#2-#1}}}%
111 \mb{\I[#+1]{\{0, 1, \dots, #2\}}, \text{where } p \in (0, 1) \text{ and } n=1, 2, \dots}%
112 }}
113 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{%
114 \mb{\frac{1}{#1!}#2^{#1}e^{-#2}\I[#+1]{\{0, 1, \dots\}}, \text{where } #2>0}%
115 }}
116
117 \CustomizeMathJax{\newcommand{\Cau}[2]{\mb{\mathrm{Cauchy}}\LWRwrapparen{\mb{#1},\ #2}}}
118 \CustomizeMathJax{\let\Cauchy=\Cau}
119 \CustomizeMathJax{\newcommand{\Chi}[2][x]{%

```

```

120 \chisq_{\mb{#1}}\LWRwrapparen{\mb{#2}}%
121 }}
122 \CustomizeMathJax{\let\Chisq=\Chi}
123 \CustomizeMathJax{\newcommand{\Bet}[2]{\mb{\mathrm{Beta}}\LWRwrapparen{\mb{#1},\ #2}}}%
124 \CustomizeMathJax{\let\Beta=\Bet}
125 \CustomizeMathJax{\newcommand{\Exp}[1]{\mb{\mathrm{Exp}}\LWRwrapparen{\mb{#1}}}%
126 \CustomizeMathJax{\newcommand{\F}[2]{\mb{\mathrm{F}}\LWRwrapparen{\mb{#1},\ #2}}}%
127 \CustomizeMathJax{\newcommand{\Gam}[2]{\mb{\mathrm{Gamma}}\LWRwrapparen{\mb{#1},\ #2}}}%
128 \CustomizeMathJax{\newcommand{\IC}[1]{\mb{\mathrm{\chi^{-2}}}\LWRwrapparen{\mb{#1}}}%
129 \CustomizeMathJax{\newcommand{\IG}[2]{%
130 \mb{\mathrm{Gamma^{-1}}}\LWRwrapparen{\mb{#1},\ #2}}}%
131 }}
132 \CustomizeMathJax{\newcommand{\IW}[2]{%
133 \mb{\mathrm{Wishart^{-1}}}\LWRwrapparen{\mb{#1},\ #2}}}%
134 }}
135 \CustomizeMathJax{\newcommand{\Log}[2]{%
136 \mb{\mathrm{Logistic}}\LWRwrapparen{\mb{#1},\ #2}}}%
137 }}
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139 \mb{\mathrm{Log\!-\!N}}\LWRwrapparen{\mb{#1},\ #2}}}%
140 }}
141 \CustomizeMathJax{\newcommand{\N}[3][x]{%
142 \mb{\mathrm{N}}_{\mb{#1}}\LWRwrapparen{\mb{#2},\ #3}}}%
143 }}
144 \CustomizeMathJax{\newcommand{\Par}[2]{\mb{\mathrm{Pareto}}\LWRwrapparen{\mb{#1},\ #2}}}%
145 \CustomizeMathJax{\let\Pareto=\Par}
146 \CustomizeMathJax{\newcommand{\Tsq}[2]{\mb{\mathrm{T^2}}\LWRwrapparen{\mb{#1},\ #2}}}%
147 \CustomizeMathJax{\newcommand{\U}[1]{\mb{\mathrm{U}}\LWRwrapparen{\mb{#1}}}%
148 \CustomizeMathJax{\newcommand{\W}[2]{\mb{\mathrm{Wishart}}\LWRwrapparen{\mb{#1},\ #2}}}%
149 }}
150 \CustomizeMathJax{\renewcommand{\t}[1]{\mb{\mathrm{t}}\LWRwrapparen{\mb{#1}}}%
151 }}
152 \CustomizeMathJax{\newcommand{\pBet}[3][x]{%
153 \IBeta{#2}{#3}%
154 #1^{#2-1}\LWRwrapparen{1-#1}^{#3-1}\I[#1]{0,\ 1}, \where #2>0 \and #3>0%
155 }}
156 \CustomizeMathJax{\newcommand{\pCau}[3][x]{%
157 % \ifthenelse{equal{#2, #3}{0, 1}}{\frac{1}{\cpi}\LWRwrapparen{1+#1^2}}%
158 {\frac{1}{#3\cpi}\left\{1+\wrap{\LWRwrapparen{x-#2}/#3^2}\right\}}, \where #3>0}%
159 }}% no special case for 0,1
160 \CustomizeMathJax{\newcommand{\pChi}[2][x]{%
161 \frac{2^{-#2/2}}{\Gamma[#2/2]}#1^{#2/2-1}\e{-#1/2}%
162 \I[#1]{0,\infty}, \where #2>0%
163 }}
164 \CustomizeMathJax{\newcommand{\pExp}[2][x]{%
165 \frac{1}{#2}\e{-#1/#2}\I[#1]{0,\infty},%
166 \where #2>0%
167 }}
168 \CustomizeMathJax{\newcommand{\pGam}[3][x]{%
169 \frac{#3^{#2}}{\Gamma[#2]}#1^{#2-1}\e{-#3#1}%
170 \I[#1]{0,\infty}, \where #2>0 \and #3>0%
171 }}
172 \CustomizeMathJax{\newcommand{\pN}[3][x]{%
173 % \ifthenelse{equal{#2, #3}{0, 1}}%
174 % {\frac{1}{\sqrt{2\cpi}}\e{-#1^2/2}}%

```

```

175 {\frac{1}{\sqrt{2\pi} \cdot #3}}e^{-\LWRwrapparen{#1-#2}^2/2 \cdot #3}}%
176 }}% no test for 0,1, must add \cdot
177 \CustomizeMathJax{\newcommand{\pPar}[3][x]{%
178 \frac{#3}{#2\LWRwrapparen{1+#1/#2}^{#3+1}}\I[#1]{0,\infty},%
179 \where #2>0 \and #3>0}%
180 }}
181 \CustomizeMathJax{\newcommand{\pU}[3][x]{%
182 \ifthenelse{\equal{#2, #3}{0, 1}}{\I[#1]{0, \ 1}}%
183 {\frac{1}{#3-#2}\I[#1]{#2, \ #3}, \where #2<#3}%
184 }}% no special case for 0,1
185
186 \CustomizeMathJax{\newcommand{\=} [1]{\bar{#1}}}
187 \CustomizeMathJax{\let\^ \widehat}
188 \CustomizeMathJax{\let\~ \widetilde}
189 \CustomizeMathJax{\newcommand{\'} [1]{\LWRwrapparen{\mb{#1}}}}
190 \CustomizeMathJax{\newcommand{\b} [1]{\bar{#1}}}
191 \CustomizeMathJax{\newcommand{\c} [1]{\mb{\mathrm{#1}}}}
192 \CustomizeMathJax{\newcommand{\d} [1]{\, \mb{\mathrm{d}}{#1}}}
193 \CustomizeMathJax{\newcommand{\.} {\mb{\ldots}}}
194 \end{warpMathJax}

```

File 452 **lwarp-statistics.sty**

## § 559 Package **statistics**

(Emulates or patches code by JULIEN RIVAUD.)

Pkg statistics **statistics** is patched for use by **lwarp**.

 **\color** The **statistics** documentation examples include the use of the **\color** macro. Use **\textcolor** instead.

 **math** The **statistics** package uses math arrays, but the HTML version uses text tabulars to allow text copy/paste. If math is required, use **\ensuremath** or **\(** and **\)** as needed.

Pre/postline is ignored, and **\hline** is used instead. Each table will have an **\hline** above and below as a frame.

for HTML output: 1 \LWR@ProvidesPackagePass{statistics}[2019/09/29]

2 \ExplSyntaxOn

To use text tabular instead of math array. This allows text copy/paste of the results.

In the following, all changes for the Lwarp package are labelled "lwarp".

Redefined using the lwarp version of &:

```

3 \StartDefiningTabulars% lwarp
4 \cs_set_protected_nopar:Nn __statistics_table_make:nn {
5 \int_compare:nT
6 { 0 < \l__statistics_table_maxcols_int
7 = \l__statistics_nbvals_int } {

```

```

8 __statistics_table_end:
9 \tl_use:N \l__statistics_table_sep_tl
10 __statistics_table_start:
11 }
12 \int_incr:N \l__statistics_nbvals_int
13 \int_incr:N \l__statistics_currange_int
14 \fp_add:Nn \l__statistics_curtotal_fp { #2 }
15 __statistics_set_if_shown:N \l_tmpa_bool
16 \tl_set:Nx \l_tmpa_tl {
17 \exp_not:n { & \tl_set:Nn \currentcolumn } {
18 \int_use:N \l__statistics_currange_int
19 }
20 }
21 \bool_if:NTF \l_tmpa_bool {
22 \tl_put_right:Nn \l_tmpa_tl
23 { __statistics_table_shown_format:n }
24 }{
25 \tl_put_right:Nn \l_tmpa_tl
26 { __statistics_table_hidden_format:n }
27 }
28 \seq_put_right:Nn \l__statistics_store_values_seq { #1 }
29 \bool_if:NT \l__statistics_table_values_bool {
30 \tl_put_right:Nx \l__statistics_table_values_tl {
31 \exp_not:V \l_tmpa_tl {
32 \exp_not:n {
33 __statistics_table_values_format:n { #1 }
34 }
35 }
36 }
37 }
38 \seq_put_right:Nx \l__statistics_store_counts_seq { \fp_eval:n {#2} }
39 \bool_if:NT \l__statistics_table_counts_bool {
40 \tl_put_right:Nx \l__statistics_table_counts_tl {
41 \exp_not:V \l_tmpa_tl {
42 \exp_not:n {
43 __statistics_table_counts_format:n {
44 { __statistics_table_allcounts_format:n { #2 } }
45 }
46 }
47 }
48 }
49 }
50 \bool_if:NT \l__statistics_table_icc_bool {
51 \tl_put_right:Nx \l__statistics_table_icc_tl {
52 \exp_not:V \l_tmpa_tl {
53 \exp_not:n { __statistics_table_icc_format:n }
54 {
55 \exp_not:n{ __statistics_table_allcounts_format:n }
56 { \fp_use:N \l__statistics_curtotal_fp }
57 }
58 }
59 }
60 }
61 \bool_if:NT \l__statistics_table_dcc_bool {
62 \tl_put_right:Nx \l__statistics_table_dcc_tl {

```



```

63 \exp_not:V \l_tmpa_tl {
64 \exp_not:n { __statistics_table_dcc_format:n }
65 {
66 \exp_not:n{ __statistics_table_allcounts_format:n }
67 {
68 \fp_eval:n {
69 \l__statistics_total_fp
70 - \l__statistics_curtotal_fp
71 + #2
72 }
73 }
74 }
75 }
76 }
77 }
78 \fp_set:Nn \l__statistics_table_curICF_fp {
79 round(\l__statistics_curtotal_fp
80 / \l__statistics_total_fp,
81 \l__statistics_table_round_int)
82 }
83 \bool_if:NT \l__statistics_table_frequencies_bool {
84 \tl_put_right:Nx \l__statistics_table_frequencies_tl {
85 \exp_not:V \l_tmpa_tl {
86 \exp_not:n { __statistics_table_frequencies_format:n }
87 {
88 \exp_not:n{ __statistics_table_allfreqs_format:n }
89 {
90 \fp_eval:n {
91 \l__statistics_table_curICF_fp
92 - \l__statistics_table_prevICF_fp
93 }
94 }
95 }
96 }
97 }
98 }
99 \bool_if:NT \l__statistics_table_icf_bool {
100 \tl_put_right:Nx \l__statistics_table_icf_tl {
101 \exp_not:V \l_tmpa_tl {
102 \exp_not:n { __statistics_table_icf_format:n }
103 {
104 \exp_not:n{ __statistics_table_allfreqs_format:n }
105 { \fp_to_decimal:N \l__statistics_table_curICF_fp }
106 }
107 }
108 }
109 }
110 \bool_if:NT \l__statistics_table_dcf_bool {
111 \tl_put_right:Nx \l__statistics_table_dcf_tl {
112 \exp_not:V \l_tmpa_tl {
113 \exp_not:n { __statistics_table_dcf_format:n }
114 {
115 \exp_not:n{ __statistics_table_allfreqs_format:n }
116 {
117 \fp_eval:n {

```

```

118 1 - \l__statistics_table_prevICF_fp
119 }
120 }
121 }
122 }
123 }
124 }
125 \fp_set_eq:NN
126 \l__statistics_table_prevICF_fp
127 \l__statistics_table_curICF_fp
128 }
129 \StopDefiningTabulars% lwarp

```

Redefined using tabular. Also, preline and postline do not work correctly with `lwarp`, which looks for certain tokens to detect `\hlines`, so `\hline` is used instead.

```

130 \cs_set_protected_nopar:Nn __statistics_table_end: {
131 \tl_set:Nx \l__statistics_table_preamble_tl {
132 % \exp_not:n { \begin{array}[] }
133 \exp_not:n { \begin{tabular}[] % lwarp
134 \exp_not:V \l__statistics_table_valign_tl
135 \exp_not:n {] }
136 { \exp_not:V \l__statistics_table_headcoltype_tl
137 \prg_replicate:nn { \l__statistics_nbvals_int }
138 { \exp_not:V \l__statistics_table_coltype_tl } }
139 }
140 \seq_clear:N \l__statistics_table_contents_seq
141 \clist_map_inline:nn { values, counts, icc, dcc, frequencies, icf, dcf } {
142 \bool_if:cT { \l__statistics_table_##1_bool } {
143 \seq_put_right:Nv
144 \l__statistics_table_contents_seq
145 { \l__statistics_table_##1_tl }
146 }
147 }
148 % $
149 \tl_use:N \l__statistics_table_preamble_tl
150 \hline% lwarp
151 % \l__statistics_table_preline_tl
152 \seq_use:Nn
153 \l__statistics_table_contents_seq
154 { \l__statistics_table_newline_tl }
155 \\
156 % \l__statistics_table_postline_tl
157 \hline% lwarp
158 % \end{array}$
159 \end{tabular}% lwarp
160 }

```

With `lwarp`, `\ensuremath` creates an svg image, but its `alt` tag does not contain the text of the contents for copy/paste, since these expressions are usually not simple text. For the **statistics** package, copy/paste is restored by using text instead of math output.

For the leftmost column. Redefined to use text output:

```

161 \cs_set_protected_nopar:Nn __statistics_table_start: {

```

```

162 \int_zero:N \l__statistics_nbvals_int
163 \clist_pop:NNT \l__statistics_table_maxcols_clist \l_tmpa_tl {
164 \int_set:Nn \l__statistics_table_maxcols_int { \l_tmpa_tl }
165 }
166 \clist_map_inline:nn { values, counts, frequencies, icc, icf, dcc, dcf } {
167 \tl_set:cx { l__statistics_table_##1_tl } {
168 % \exp_not:N \ensuremath {
169 \exp_not:N \hbox {
170 \exp_not:c { l__statistics_table_##1_name_tl }
171 }
172 % }
173 }
174 }
175 }

```

For the first row. Redefined to use text output:

```

176 \RenewDocumentCommand __statistics_IN:w { m u{}; } u{}; m } {
177 % \ensuremath{ \left#1 \num{#2} \mathbin{;} \num{#3} \right#4 }
178 #1 #2 ; #3 #4% lwarp
179 }
180
181 __statistics_setup:nn { table } {
182 % values/format = \ensuremath{#1},
183 values/format = {#1},% lwarp
184 }

```

Added \ExplSyntaxOn/Off to avoid errors. (In once instance, a double subscript error appeared.)

```

185 \RenewDocumentCommand \StatsGraph { +0{} +m +0{} } {
186 \group_begin:
187 \int_gincr:N \g__statistics_graph_last_int
188 \tl_set:Nx \l_tmpa_tl {
189 \exp_not:n { g__statistics_graph_xstep_ }
190 \int_use:N \g__statistics_graph_last_int
191 \exp_not:n { _tl }
192 }
193 \tl_if_exist:cTF { \l_tmpa_tl } {
194 \fp_gset:Nn \g__statistics_graph_xstep_fp
195 { \tl_use:c { \l_tmpa_tl } }
196 }{
197 \fp_gset:Nn \g__statistics_graph_xstep_fp { \c_one_int }
198 }
199 __statistics_setup:nn { graph } { #1, #3 }
200 \tl_if_single:nTF { #2 } {
201 \cs_if_exist:NF #2 { #2 }
202 \tl_set_eq:NN \l__statistics_data_tl #2
203 }{
204 \tl_set:Nn \l__statistics_data_tl { #2 }
205 }
206 \fp_zero:N \l__statistics_graph_maxheight_fp
207 \fp_set:Nn \l__statistics_graph_minvalue_fp {inf}
208 \fp_set:Nn \l__statistics_graph_maxvalue_fp {-inf}
209 \fp_zero:N \l__statistics_total_fp

```

```

210 \int_zero:N \l__statistics_nbvals_int
211 \bool_set_true:N \l__statistics_graph_allranges_bool
212 \keyval_parse:NNV
213 __statistics_graph_prepare:n
214 __statistics_graph_prepare:nn
215 \l__statistics_data_tl
216 \tl_clear:N \l__statistics_graph_tikzdata_tl
217 \tl_clear:N \l__statistics_graph_tikzinfo_tl
218 \int_zero:N \l__statistics_currange_int
219 \bool_if:NTF \l__statistics_graph_allranges_bool {
220 \bool_if:NTF \l__statistics_graph_cumulative_bool {
221 \ExplSyntaxOn% lwarp
222 __statistics_graph_dopicture_cumulative:
223 \ExplSyntaxOff% lwarp
224 }{
225 \ExplSyntaxOn% lwarp
226 __statistics_graph_dopicture_hist:
227 \ExplSyntaxOff% lwarp
228 }
229 }{
230 \ExplSyntaxOn% lwarp
231 __statistics_graph_dopicture_comb:
232 \ExplSyntaxOff% lwarp
233 }
234 \iow_now:Nx \@auxout {
235 \exp_not:n {
236 \ExplSyntaxOn
237 \tl_gset:cn
238 }
239 {
240 \exp_not:n {g__statistics_graph_xstep_}
241 \int_use:N \g__statistics_graph_last_int
242 \exp_not:n {_tl}
243 }
244 {
245 \fp_to_decimal:N \g__statistics_graph_xstep_fp
246 }
247 \exp_not:n {
248 \ExplSyntaxOff
249 }
250 }
251 \group_end:
252 }
253
254 \ExplSyntaxOff

```

---

File 453 **lwarp-statmath.sty**

§ 560 Package **statmath**

(Emulates or patches code by SEBASTIAN ANKARGREN.)

Pkg statmath **statmath** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{statmath}[2018/03/08]

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{statmath}
6
7 \ifdefequal{\abcbf}{\mathbf}
8 {\CustomizeMathJax{\newcommand{\abcbf}[1]{\mathbf{#1}}}}
9 {\CustomizeMathJax{\newcommand{\abcbf}[1]{\boldsymbol{#1}}}}
10
11 \CustomizeMathJax{\newcommand{\greekbf}[1]{\boldsymbol{#1}}}
12
13 \CustomizeMathJax{\newcommand{\bfA}{\abcbf A}}
14 \CustomizeMathJax{\newcommand{\bfB}{\abcbf B}}
15 \CustomizeMathJax{\newcommand{\bfC}{\abcbf C}}
16 \CustomizeMathJax{\newcommand{\bfD}{\abcbf D}}
17 \CustomizeMathJax{\newcommand{\bfE}{\abcbf E}}
18 \CustomizeMathJax{\newcommand{\bfF}{\abcbf F}}
19 \CustomizeMathJax{\newcommand{\bfG}{\abcbf G}}
20 \CustomizeMathJax{\newcommand{\bfH}{\abcbf H}}
21 \CustomizeMathJax{\newcommand{\bfI}{\abcbf I}}
22 \CustomizeMathJax{\newcommand{\bfJ}{\abcbf J}}
23 \CustomizeMathJax{\newcommand{\bfK}{\abcbf K}}
24 \CustomizeMathJax{\newcommand{\bfL}{\abcbf L}}
25 \CustomizeMathJax{\newcommand{\bfM}{\abcbf M}}
26 \CustomizeMathJax{\newcommand{\bfN}{\abcbf N}}
27 \CustomizeMathJax{\newcommand{\bfO}{\abcbf O}}
28 \CustomizeMathJax{\newcommand{\bfP}{\abcbf P}}
29 \CustomizeMathJax{\newcommand{\bfQ}{\abcbf Q}}
30 \CustomizeMathJax{\newcommand{\bfR}{\abcbf R}}
31 \CustomizeMathJax{\newcommand{\bfS}{\abcbf S}}
32 \CustomizeMathJax{\newcommand{\bfT}{\abcbf T}}
33 \CustomizeMathJax{\newcommand{\bfU}{\abcbf U}}
34 \CustomizeMathJax{\newcommand{\bfV}{\abcbf V}}
35 \CustomizeMathJax{\newcommand{\bfW}{\abcbf W}}
36 \CustomizeMathJax{\newcommand{\bfX}{\abcbf X}}
37 \CustomizeMathJax{\newcommand{\bfY}{\abcbf Y}}
38 \CustomizeMathJax{\newcommand{\bfZ}{\abcbf Z}}
39 \CustomizeMathJax{\newcommand{\bfa}{\abcbf a}}
40 \CustomizeMathJax{\newcommand{\bfb}{\abcbf b}}
41 \CustomizeMathJax{\newcommand{\bfc}{\abcbf c}}
42 \CustomizeMathJax{\newcommand{\bfd}{\abcbf d}}
43 \CustomizeMathJax{\newcommand{\bfe}{\abcbf e}}
44 \CustomizeMathJax{\newcommand{\bff}{\abcbf f}}
45 \CustomizeMathJax{\newcommand{\bfg}{\abcbf g}}
46 \CustomizeMathJax{\newcommand{\bfh}{\abcbf h}}
47 \CustomizeMathJax{\newcommand{\bfi}{\abcbf i}}
48 \CustomizeMathJax{\newcommand{\bfj}{\abcbf j}}
49 \CustomizeMathJax{\newcommand{\bfk}{\abcbf k}}
50 \CustomizeMathJax{\newcommand{\bfl}{\abcbf l}}
51 \CustomizeMathJax{\newcommand{\bfm}{\abcbf m}}
52 \CustomizeMathJax{\newcommand{\bfn}{\abcbf n}}
53 \CustomizeMathJax{\newcommand{\bfo}{\abcbf o}}
54 \CustomizeMathJax{\newcommand{\bfp}{\abcbf p}}

```

---

```

55 \CustomizeMathJax{\newcommand{\bfq}{\abcbf q}}
56 \CustomizeMathJax{\newcommand{\bfr}{\abcbf r}}
57 \CustomizeMathJax{\newcommand{\bfs}{\abcbf s}}
58 \CustomizeMathJax{\newcommand{\bft}{\abcbf t}}
59 \CustomizeMathJax{\newcommand{\bfu}{\abcbf u}}
60 \CustomizeMathJax{\newcommand{\bfv}{\abcbf v}}
61 \CustomizeMathJax{\newcommand{\bfw}{\abcbf w}}
62 \CustomizeMathJax{\newcommand{\bf x}{\abcbf x}}
63 \CustomizeMathJax{\newcommand{\bfy}{\abcbf y}}
64 \CustomizeMathJax{\newcommand{\bfz}{\abcbf z}}
65
66 \LWR@mathjax@addgreek@l@bfit{bf}{}% Greek lowercase bold face italic
67 \LWR@mathjax@addgreek@u@bfup*{bf}{}% Greek uppercase bold face upright, cap macros.
68
69 \CustomizeMathJax{\newcommand{\bfzero}{\greekbf 0}}
70
71 \CustomizeMathJax{\DeclareMathOperator{\cov}{Cov}}
72 \CustomizeMathJax{\DeclareMathOperator{\E}{E}}
73 \CustomizeMathJax{\DeclareMathOperator{\V}{V}}
74 \CustomizeMathJax{\newcommand{\inas}{\overset{a.s.}{\to}}}
75 \CustomizeMathJax{\newcommand{\indist}{\overset{d}{\to}}}
76 \CustomizeMathJax{\newcommand{\inprob}{\overset{p}{\to}}}
77 \CustomizeMathJax{\DeclareMathOperator{\plim}{plim}}
78 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
79 \CustomizeMathJax{\DeclareMathOperator{\vc}{vec}}
80 \CustomizeMathJax{\DeclareMathOperator{\vcs}{vecs}}
81 \CustomizeMathJax{\DeclareMathOperator{\vch}{vech}}
82 \CustomizeMathJax{\DeclareMathOperator{\diag}{diag}}
83 \CustomizeMathJax{\DeclareMathOperator{\argmin}{arg\,min}}
84 \CustomizeMathJax{\DeclareMathOperator{\argmax}{arg\,max}}
85 \end{warpMathJax}

```

---

File 454 **lwarp-steinmetz.sty**

§ 561 Package **steinmetz**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg steinmetz **steinmetz** is patched for use by **lwarp**. Emulation is provided for MATHJAX

for HTML output:

```

1 \LWR@ProvidesPackagePass{steinmetz}[2009/06/14]
2 \renewcommand{\phase}[2][{}]{%
3 \begin{lateximage}*[steinmetz\{\detokenize{#2}\}]
4 \ensuremath{\underline{/#2}}
5 \end{lateximage}
6 }
7
8 \begin{warpMathJax}
9 \CustomizeMathJax{\newcommand{\phase}[2][{}]{\underline{/#2}}}
10 \end{warpMathJax}

```

---

File 455 **lwarp-stfloats.sty**

§ 562      Package **stfloats**

Pkg    stfloats    stfloats is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{stfloats}[2017/03/27]

stfloats may have been preloaded by a `ltj*` class.

The following are provided in case they have not yet been defined:

```
2 \providecommand*\fnbelowfloat{}
3 \providecommand*\fnunderfloat{}
4 \providecommand*\setbaselinefloat{}
5 \providecommand*\setbaselinefixed{}
```

Nullified for HTML:

```
6 \renewcommand*\fnbelowfloat{}
7 \renewcommand*\fnunderfloat{}
8 \renewcommand*\setbaselinefloat{}
9 \renewcommand*\setbaselinefixed{}
```

---

File 456 **lwarp-struktex.sty**

§ 563      Package **struktex**

*(Emulates or patches code by JOBST HOFFMANN.)*

Pkg    struktex    struktex is patched for use by lwarp.

for HTML output:    1 \LWR@ProvidesPackagePass{struktex}

2 \BeforeBeginEnvironment{struktogramm}{%
3     \begin{lateximage}[-struktex-~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{struktogramm}{\end{lateximage}}
6
7 \newenvironment{LWR@HTML@centernss}{\begin{center}}{\end{center}}
8 \LWR@formattedenv{centernss}
9
10 \newcommand{\LWR@HTML@CenterNssFile}[1]{%
11     \begin{center}
12     \input{#1.nss}
13     \end{center}
14 }
15 \LWR@formatted{CenterNssFile}
16

---

```
17 \newcommand{\LWR@HTML@centernssfile}{\LWR@HTML@CenterNssFile}
18 \LWR@formatted{centernssfile}
```

---

File 457 **lwarp-subcaption.sty**

§ 564      Package **subcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg    subcaption    **subcaption** is patched for use by **lwarp**.

**for HTML output:**    1 \LWR@ProvidesPackagePass{subcaption}[2018/05/01]

Tells **lwarp** to ignore minipage widths inside a subfigure or subtable. In print mode the minipages are used to place the items next to each other. In HTML they are placed side-by-side automatically.

```
2 \xpretocmd{\subcaption@iiminipage}
3 {\minipagefullwidth}
4 {}
5 {\LWR@patcherror{subcaption}{subcaption@iiminipage}}
```

Likewise for a \subcaptionbox:

```
6 \xpretocmd{\subcaptionbox}
7 {\minipagefullwidth}
8 {}
9 {\LWR@patcherror{subcaption}{subcaptionbox}}
```

---

File 458 **lwarp-subfig.sty**

§ 565      Package **subfig**

*(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)*

Pkg    subfig    **subfig** is supported and patched by **lwarp**.

⚠ **table numbering**    To have correct sub table numbers:

```
\usepackage{caption}
\captionsetup[table]{position=top}
```

⚠ **lof/lotdepth**    At present, the package options for lofdepth and lotdepth are not working. These counters must be set separately after the package has been loaded.

⚠ **horizontal spacing**    In the document source, use \hfill and \hspace\* between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

**for HTML output:**



Accept all options for `lwarp-subfig`:

```
1 \LWR@ProvidesPackagePass[subfig][2005/06/28]
```

```
\sf@@@subfloat {<1 type>} [<2 LOF entry>] [<3 caption>] {<4 contents>}
```

The outer minipage allows side-by-side subfloats with `\hfill` between.

```
2 \long\def\sf@@@subfloat#1[#2][#3]#4{%
3 \begin{minipage}{\linewidth}% lwarp
```

```
4 \IfValueTF{#2}{%
5 \LWR@setlatestname{#2}%
6 }{%
7 \IfValueTF{#3}{%
8 \LWR@setlatestname{#3}%
9 }{%
10 }%
11 \LWR@stoppars% lwarp
12 \@ifundefined{FBsc@max}{}%
13 {\FB@readaux{\let\FBsuboheight\relax}}%
14 \@tempcnta=\@ne
15 \if@minipage
16 \@tempcnta=\z@
17 \else\ifdim \lastskip=\z@ \else
18 \@tempcnta=\tw@
19 \fi\fi
20 \ifmaincaptiontop
21 \sf@top=\sf@nearskip
22 \sf@bottom=\sf@farskip
23 \else
24 \sf@top=\sf@farskip
25 \sf@bottom=\sf@nearskip
26 \fi
27 \leavevmode
```

```
28 % \setbox\@tempboxa \hbox{#4}%
29 % \@tempdima=\wd\@tempboxa
30 % \@ifundefined{FBsc@max}{}%
31 % {\global\advance\Xhsize-\wd\@tempboxa
32 % \dimen@=\ht\@tempboxa
33 % \advance\dimen@\dp\@tempboxa
34 % \ifdim\dimen@>\FBso@max
35 % \global\FBso@max\dimen@
36 % \fi}%
```

Do not use boxes, which interfere with `lateximages`:

```
37 % \vtop%
38 \bgroup
39 % \vbox%
40 \bgroup
41 \ifcase\@tempcnta
42 \@minipagefalse
43 \or
44 \vskip\sf@top
```

```

45 \or
46 \ifdim \lastskip=\z@ \else
47 % \@tempskipb\sf@top\relax\@xaddvskip
48 \fi
49 \fi
50 \sf@ifpositiontop{%
51 \ifx \@empty#3\relax \else
52 \sf@subcaption{#1}{#2}{#3}%
53 % \vskip\sf@capskip
54 % \vskip\sf@captopadj
55 \fi\egroup
56 % \hrule width0pt height0pt depth0pt
57 \LWR@startpars% lwarp
58 % \box\@tempboxa
59 #4
60 \LWR@stoppars% lwarp
61 }{%
62 \LWR@startpars% lwarp
63 \ifundefined{FBsc@max}%
64 {
65 % \box\@tempboxa
66 #4
67 }%
68 {\ifx\FBsuboheight\relax
69 % \box\@tempboxa
70 #4
71 \else
72 % \vbox to \FBsuboheight{\FBafil\box\@tempboxa\FBbfil}%
73 #4
74 \fi}%
75 \LWR@stoppars% lwarp
76 \egroup
77 \ifx \@empty#3\relax \else
78 % \vskip\sf@capskip
79 % \hrule width0pt height0pt depth0pt
80 \sf@subcaption{#1}{#2}{#3}%
81 \fi
82 }%
83 % \vskip\sf@bottom
84 \egroup
85 \ifundefined{FBsc@max}{}%
86 {\addtocounter{FRobj}{-1}%
87 \ifnum\c@FRobj=0\else
88 \subfloatrowsep
89 \fi}%
90 \ifmaincaptiontop\else
91 \global\advance\@nameuse{c@\@captype}\m@ne
92 \fi
93 \end{minipage}% lwarp
94 \LWR@startpars% lwarp
95 \endgroup\ignorespaces%
96 }%

```

\sf@subcaption    {<1 type>} {<2 LOF entry>} {<3 caption>}

```

97 \long\def\sfs@subcaption#1#2#3{%
98 \LWR@stoppars% lwarp
99 \ifx \relax#2\relax \else
100 \bgroup
101 \let\label=\@gobble
102 \let\protect=\string
103 \def\@subcaplabel{%
104 \caption@lstfmt{\@nameuse{p@#1}}{\@nameuse{the#1}}}%
105 \sf@updatecaptionlist{#1}{#2}{\the\value{\@capytype}}{\the\value{#1}}%
106 \egroup
107 \fi
108 \bgroup
109 \ifx \relax#3\relax
110 \let\captionlabelsep=\relax
111 \fi
112 % \setbox0\vbox{%
113 % \hbext@\the\@tempdima{%
114 %
115 % \hss
116 % \parbox[t]{\the\@tempdima}{%
117 % \caption@make
118 % {\@nameuse{sub\@capytype name}}%
119 % {\@nameuse{thesub\@capytype}}%
120 % {#3}
121 % }%
122 % \hss
123 % }
124 % }%
125 \@ifundefined{FBsc@max}%
126 { \box0}%
127 {
128 % \parbox[t]{\the\@tempdima}{%
129 \LWR@traceinfo{sfs@subcap B1}% lwarp
130 \LWR@figcaption% lwarp
131 \caption@make
132 {\@nameuse{sub\@capytype name}}%
133 {\@nameuse{thesub\@capytype}}%
134 {\LWR@isolate{#3}}%
135 \endLWR@figcaption% lwarp
136 \LWR@traceinfo{sfs@subcap B2}% lwarp
137 % }%
138 % }%
139 % {\dimen@ht0%
140 % \advance\dimen@dp0%
141 % \ifdim\dimen@>\FBsc@max
142 % \global\FBsc@max\dimen@
143 % \fi
144 % \FB@readaux{\let\FBsubcheight\relax}%
145 % \ifx\FBsubcheight\relax
146 % \def\next{
147 % \parbox[t]{\the\@tempdima}
148 % }%
149 % \else
150 % \def\next{
151 % \parbox[t][\FBsubcheight][t]{\the\@tempdima}

```

```

152 }%
153 \fi
154 % \vbox{%
155 % \hb@xt@{the\@tempdima{%
156
157 % \hss
158 % \next{%
159 \LWR@traceinfo{sfsubcap C1}% lwarp
160 \caption@make
161 {\@nameuse{sub\@capttype name}}%
162 {\@nameuse{thesub\@capttype}}%
163 {#3}
164 \LWR@traceinfo{sfsubcap C1}% lwarp
165 % }%
166 % \hss
167
168 % }
169 % }
170 % }%
171 \egroup
172 \LWR@startpars% lwarp
173 }

```

\subfloat@label Patches for \sf@sub@label:

```

174 \def\subfloat@label{%
175 \LWR@ensuredoingapar% lwarp
176 \ifnextchar(% %) match left parenthesis
177 {\sf@sub@label}
178 {\sf@sub@label(Sub\@capttype\space
179 \ifundefined{thechapter}}{\@nameuse{thechapter}\space}%
180 \@nameuse{p@sub\@capttype}%
181 \@nameuse{thesub\@capttype}.)}}

```

Patches for \subref.

\sf@subref {\langle label \rangle}

The unstarred version uses a \ref link whose printed text comes from the sub@<label>:

```

182 \renewcommand{\sf@subref}[1]{%
183 \LWR@subnewref{#1}{sub@#1}%
184 }

```

\sf@@subref {\langle label \rangle}

The starred version uses the printed sub@<label> which is stored as if it were a page number:

```

185 \renewcommand{\sf@@subref}[1]{\LWR@orig@pageref{sub@#1}}

```

Defining new subfloats. The l@sub<type> for each is redefined.

\@newsubfloat [{\langle keys/values \rangle}] {\langle float name \rangle}

```

186 \LetLtxMacro\LWR@orig@newsubfloat\@newsubfloat

```

```

187
188 \def\@newsubfloat[#1]#2{%
189 \LWR@orig@newsubfloat[#1]{#2}%
190 \renewcommand{\l@sub#2}[2]{\hypertocfloat{2}{sub#2}{\ext@sub#2}{##1}{##2}}%
191 }

```

Pre-defined for figures and tables:

```

\l@subfigure {\text} {\pagemum}
192 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}}

```

```

\l@subtable {\text} {\pagemum}
193 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}

```

---

File 459 **lwarp-subfigure.sty**

§ 566      Package **subfigure**

Pkg    subfigure    subfigure is emulated by subfig.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{subfigure}[2002/03/15]
2 \RequirePackage{subfig}

3 \LetLtxMacro\subfigure\subfloat
4 \LetLtxMacro\subtable\subfloat
5 \LetLtxMacro\Subref\subref
6 \@ifundefined{figuretopcaptrue}{\newif\iffiguretopcap}{}
7 \newif\ifsubfiguretopcap
8 \newif\ifsubcaphang
9 \newif\ifsubcapcenter
10 \newif\ifsubcapcenterlast
11 \newif\ifsubcapnooneline
12 \newif\ifsubcapraggedright
13 \newskip\subfigtopskip
14 \newskip\subfigcapskip
15 \newdimen\subfigcaptopadj
16 \newskip\subfigbottomskip
17 \newdimen\subfigcapmargin
18 \newskip\subfiglabelskip
19 \newcommand*{\subcapsize}{}
20 \newcommand*{\subcaplabelfont}{}
21 \newcommand*{\subcapfont}{}

```

---

File 460 **lwarp-subsubscripts.sty**

§ 567      Package **subsubscripts**

*(Emulates or patches code by RICCARDO BRESCIANI.)*

Pkg subscripts **subscripts** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{subscripts}[2009/10/27]

The larger skips are used here.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \newcommand{\fourscriptsC}[7]{%
5 {}^{#2}_{#3}\hspace{#6}#1\hspace{#7}{}^{#4}_{#5}%
6 }
7 }
8 \CustomizeMathJax{%
9 \newcommand{\lrsubscriptsC}[5]{%
10 \fourscriptsC{#1}{}{#2}{}{#3}{#4}{#5}%
11 }
12 }
13 \CustomizeMathJax{%
14 \newcommand{\lrsuperscriptsC}[5]{%
15 \fourscriptsC{#1}{#2}{}{#3}{}{#4}{#5}%
16 }
17 }
18 \CustomizeMathJax{%
19 \newcommand{\fourscripts}[5]{%
20 \fourscriptsC{#1}{#2}{#3}{#4}{#5}{0ex}{0ex}%
21 }
22 }
23 \CustomizeMathJax{%
24 \newcommand{\lrsubscripts}[3]{\fourscripts{#1}{}{#2}{}{#3}}
25 }
26 \CustomizeMathJax{%
27 \newcommand{\lrsuperscripts}[3]{\fourscripts{#1}{#2}{}{#3}{}{}}
28 }
29 \CustomizeMathJax{%
30 \newcommand{\twoscripts}[4][-.16ex]{{}^{#3}_{#4}\hspace{#1}#2}
31 }
32 \CustomizeMathJax{%
33 \newcommand{\twoscripts}[4][-.07ex]{#2\hspace{#1}{}^{#3}_{#4}}
34 }
35 \CustomizeMathJax{%
36 \newcommand{\lsubscript}[3][-.16ex]{\twoscripts[#1]{#2}{}{#3}}
37 }
38 \CustomizeMathJax{%
39 \newcommand{\lsuperscript}[3][-.16ex]{\twoscripts[#1]{#2}{#3}{}{}}
40 }
41 \CustomizeMathJax{%
42 \newcommand{\rsubscript}[3][-.07ex]{\twoscripts[#1]{#2}{}{#3}}
43 }
44 \CustomizeMathJax{%
45 \newcommand{\rsuperscript}[3][-.07ex]{\twoscripts[#1]{#2}{#3}{}{}}
46 }
47 \end{warpMathJax}

```

## § 568 Package **supertabular**

(Emulates or patches code by JOHANNES BRAAMS, THEO JURRIENS.)

Pkg supertabular **supertabular** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{supertabular}[2004/02/20]

⚠ Misplaced alignment tab character &

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ lateximage **supertabular** and **xtab** are not supported inside a lateximage.

```
2 \newcommand{\LWRST@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRST@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9 \newcommand{\tabletail}[1]{}
10
11 \newcommand{\LWRST@lasttail}{}
12
13 \newcommand{\tablelasttail}[1]{%
14 \long\gdef\LWRST@lasttail{#1}%
15 }

16 \newcommand{\tablecaption}[2][{}]{%
17 \long\gdef\LWRST@caption{%
18 \ifblank{#1}%
19 {\caption{#2}}%
20 {\caption[#1]{#2}}%
21 }%
22 }
23
24 \let\topcaption\tablecaption
25 \let\bottomcaption\tablecaption

26 \newcommand*{\LWRST@caption}{}
27
28 \newcommand*{\shrinkheight}[1]{}
29
30 \NewDocumentEnvironment{supertabular}{s o m}
31 {%
32 \LWR@traceinfo{supertabular}%
33 \begin{table}%
34 \LWRST@caption%
35 \begin{tabular}{#3}%
```

```

36 \TabularMacro\ifdefvoid{\LWRST@firsthead}%
37 {\LWR@getmynexttoken}%
38 {\expandafter\LWR@getmynexttoken\LWRST@firsthead}%
39 }%
40 {%
41 \ifdefvoid{\LWRST@lasttail}%
42 {}%
43 {%
44 \TabularMacro\ResumeTabular%
45 \LWRST@lasttail%
46 }%
47 \end{tabular}%
48 \end{table}%

49 \gdef\LWRST@caption{}%

50 \LWR@traceinfo{supertabular done}%
51 }
52
53 \NewDocumentEnvironment{mpsupertabular}{s o m}
54 {\minipage{\linewidth}\supertabular{#3}}
55 {\endsupertabular\endminipage}

```

---

File 462 **lwarp-svg.sty**

§ 569 Package **svg**

(Emulates or patches code by PHILIP ILTEN, FALK HANISCH.)

Pkg svg **svg** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{svg}[2020/10/23]

```

2 \xpretocmd{\includesvg}%
3 {\begin{lateximage}}%
4 {}%
5 {\LWR@patcherror{svg}{includesvg}}
6
7 \xapptocmd{\includesvg}%
8 {\end{lateximage}}%
9 {}%
10 {\LWR@patcherror{svg}{includesvg}}
11
12 \xpretocmd{\includeinkscape}%
13 {\begin{lateximage}}%
14 {}%
15 {\LWR@patcherror{svg}{includeinkscape}}
16
17 \xapptocmd{\includeinkscape}%
18 {\end{lateximage}}%
19 {}%
20 {\LWR@patcherror{svg}{includeinkscape}}

```



---

File 463 **lwarp-swfigure.sty**

§ 570     Package **swfigure**

*(Emulates or patches code by CLAUDIO BECCARI.)*

Pkg    swfigure    swfigure is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{swfigure}[2020-11-10]

2 \NewDocumentEnvironment{DFimage}%
3 {O{SW} m O{#4} m o D(){0.8} D<>{0} D||{0.25} D!!{}}%
4 {%
5 \begin{figure}
6 \centering
7 \includegraphics{#2}
8 \caption[3]{#4}
9 \IfValueT{#5}{\label{#5}}
10 \end{figure}
11 }%
12 {}%
```

---

File 464 **lwarp-syntonly.sty**

§ 571     Package **syntonly**

*(Emulates or patches code by FRANK MITTELBACH, RAINER SCHÖPF.)*

Pkg    syntonly    syntonly is ignored.

**for HTML output:** Discard all options for lwarp-syntonly:

```

1 \LWR@ProvidesPackageDrop{syntonly}[2017/06/30]

2 \newif\ifsyntax@
3 \syntax@false
4
5 \newcommand*{\syntonly}{}
6
7 \@onlypreamble\syntonly

8 \def\nopages@{}
```

---

File 465 **lwarp-tabfigures.sty**

§ 572     Package    **tabfigures**

Pkg    tabfigures    tabfigures is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

File 466    **lwarp-tablefootnote.sty**

§ 573     Package    **tablefootnote**

Pkg    tablefootnote    tablefootnote is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{tablefootnote}[2014/01/26]

This works because in HTML tables are no longer floats.

2 \LetLtxMacro\tablefootnote\footnote

File 467    **lwarp-tabls.sty**

§ 574     Package    **tabls**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg    tabls    tabls is emulated. \LWR@hline is used to handle the optional argument when tabls is loaded.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{tabls}

2 \newdimen\tablinesep  
3 \newdimen\arraylinesep  
4 \newdimen\extrarulesep

File 468    **lwarp-tabularx.sty**

§ 575     Package    **tabularx**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg    tabularx    tabularx is emulated by lwarp.

**for HTML output:**    Discard all options for lwarp-tabularx:

1 \LWR@ProvidesPackageDrop{tabularx}[2016/02/03]  
2 \RequirePackage{array}

---

```

3 \DeclareDocumentEnvironment{tabularx}{m o m}
4 {\tabular{#3}}
5 {\endtabular}
6
7 \DeclareDocumentEnvironment{tabularx*}{m o m}
8 {\tabular{#3}}
9 {\endtabular}

```

---

File 469 **lwarp-tabulary.sty**

§ 576 Package **tabulary**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg tabulary **tabulary** is emulated by **lwarp**.

**for HTML output:** Discard all options for **lwarp-tabulary**.

Column types L, C, R, and J are emulated by **lwarp** core code.

```

1 \LWR@ProvidesPackageDrop{tabulary}[2014/06/11]
2 \RequirePackage{array}

3 \NewDocumentEnvironment{tabulary}{m o m}
4 {\tabular{#3}}
5 {\endtabular}
6
7 \NewDocumentEnvironment{tabulary*}{m o m}
8 {\tabular{#3}}
9 {\endtabular}
10
11 \newdimen\tymin
12 \newdimen\tymax
13 \def\tyformat{}

```

---

File 470 **lwarp-tagpdf.sty**

§ 577 Package **tagpdf**

Pkg tagpdf **tagpdf** is mostly ignored, but emulates alt text, for images only. (HTML only has alternate text for images.)

(If left enabled for HTML output, **tagpdf** errors when producing HTML, somehow due to the HTML page numbers.)

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tagpdf}[2019/07/02]

2 \ExplSyntaxOn
3
4 \tl_new:N \l__uftag_mc_key_label_tl

```

```

5
6 \keys_define:nn { uftag / mc }
7 {
8 tag .code:n = % the name (H,P,Span etc
9 {} ,
10 raw .code:n =
11 {}
12 ,
13 alttext .code:n = % Alt property
14 {
15 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%
16 },
17 alttext-o .code:n = % Alt property
18 {
19 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%
20 },
21 actualtext .code:n = % ActualText property
22 {},
23 actualtext-o .code:n = % ActualText property
24 {},
25 label .tl_set:N = \l__uftag_mc_key_label_tl,
26 artifact .code:n = {},
27 artifact .default:n = {notype}
28 }
29
30 \keys_define:nn { uftag / struct }
31 {
32 label .tl_set:N = \l__uftag_struct_key_label_tl,
33 stash .bool_set:N = \l__uftag_struct_elem_stash_bool,
34 tag .code:n = % S property
35 {},
36 title .code:n = % T property
37 {},
38 title-o .code:n = % T property
39 {},
40 alttext .code:n = % Alt property
41 {
42 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%
43 },
44 alttext-o .code:n = % Alt property
45 {
46 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%
47 },
48 actualtext .code:n = % ActualText property
49 {},
50 actualtext-o .code:n = % ActualText property
51 {},
52 }
53
54 \NewDocumentCommand \tagpdfsetup { m }{}
55
56 \cs_set_eq:NN\tagpdfifluatexTF \sys_if_engine luatex:TF
57 \cs_set_eq:NN\tagpdfifluatexT \sys_if_engine luatex:T
58 \cs_set_eq:NN\tagpdfifpdfTexT \sys_if_engine pdfTex:T
59 \cs_new:Npn \tagpdfget #1 {}

```

```

60 \cs_new:Npn \uftag_get:n #1 {}
61
62 \NewDocumentCommand \tagmcifinTF { m m }{}
63
64 \NewDocumentCommand \tagmcbegin { m }{\uftag_mc_begin:n {#1}\ignorespaces}
65 \cs_new_protected:Nn \uftag_mc_begin:n {
66 \group_begin:
67 \keys_set:nn { uftag / mc } {#1}
68 \group_end:
69 }
70
71 \NewDocumentCommand \tagmcend {}{\ThisAltText{}}
72
73 \cs_new_protected:Nn \uftag_mc_end: {\ThisAltText{}}
74
75 \NewDocumentCommand \tagmcuse { m }{}
76
77 \cs_new_protected:Nn \uftag_mc_use:n {}
78
79 \NewDocumentCommand \tagstructbegin { m }{
80 \uftag_struct_begin:n {#1}
81 }
82
83 \cs_new_protected:Nn \uftag_struct_begin:n
84 {
85 \group_begin:
86 \keys_set:nn {uftag / struct} { #1 }
87 \group_end:
88 }
89
90 \NewDocumentCommand \tagstructend { }{\ThisAltText{}}
91
92 \cs_new_protected:Nn \uftag_struct_end: {\ThisAltText{}}
93
94 \NewDocumentCommand \tagstructuse { m }{}
95
96 % \NewDocumentCommand\showtagpdfmcdata { 0 {__uftag_get_mc_abs_cnt:} }{}
97 % What is the second argument?
98
99 \NewDocumentCommand\showtagpdfattributes { }{}
100
101 \sys_if_engine luatex:T
102 {
103 \NewDocumentCommand\pdfdfakespace { }
104 {
105 __uftag_fakespace:
106 }
107 }
108
109 \ExplSyntaxOff

```

§ 578 Package **tascmac**

Pkg tascmac tascmac is emulated.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{tascmac}[2018/03/09]

2 \newenvironment*{boxnote}
3 {
4 \BlockClass[
5 padding: .5ex ;
6 border: 1px solid black ;
7 border-top: 1px dashed black ;
8]{boxnote}
9 }
10 {\endBlockClass}
11
12 \newenvironment*{screen}[1][]
13 {
14 \BlockClass[
15 padding: .5ex ;
16 border: 1px solid gray ;
17 border-radius: 8pt
18]{boxnote}
19 }
20 {\endBlockClass}
21
22 \newenvironment*{itembox}[2][]
23 {
24 \BlockClass[
25 padding: .5ex ;
26 border: 1px solid gray ;
27 border-radius: 8pt
28]{boxnote}
29 \InlineClass{itemboxtitle}{#2}\par
30 }
31 {\endBlockClass}
32
33 \newenvironment*{shadebox}
34 {
35 \BlockClass[
36 padding: .5ex ;
37 border: 1px solid black ;
38 box-shadow: 3px 3px 3px \#808080 ;
39]{boxnote}
40 }
41 {\endBlockClass}
42
43 \newcommand*{\mask}[2]{%
44 \InlineClass[background: lightgray]{mask}{#1}%
45 }
46
47 \newcommand*{\maskbox}[5]{%
48 \InlineClass[background: lightgray]{mask}{#5}%
49 }
50

```

---

```

51 \newcommand*{\Maskbox}[6]{%
52 \InlineClass[
53 background: lightgray ;
54 border: #5 solid black
55]{mask}{#6}%
56 }
57
58 \newcommand*{\keytop}[2][{}]{%
59 \InlineClass[%
60 padding: .2ex ;
61 border: 1px solid black ;
62 border-radius: .7ex ;
63]{keytop}{#2}%
64 }
65
66 \def\yen{\HTMLUnicode{00A5}}
67
68 \def\return{\HTMLUnicode{23CE}}
69
70 \def\Return{\HTMLUnicode{23CE}}
71
72 \def\ascii{ASCII Corporation}
73
74 \def\Ascii{ASCII Corporation}
75
76 \def\ASCII{ASCII Corporation}

```

---

File 472 **lwarp-tcolorbox.sty**

§ 579 Package **tcolorbox**

(Emulates or patches code by THOMAS F. STURM.)

Pkg tcolorbox tcolorbox is patched for use by lwarp.

See section 8.3.8 for limitations.

for HTML output: 1 \LWR@ProvidesPackagePass{tcolorbox}[2020/04/28]

```

2 \newbool{LWR@havetcblower}
3 \boolfalse{LWR@havetcblower}

```

Colors are supported via HTML styles:

```

4 \newcommand{\LWR@tcolorbox@findcolors}{%
5 \convertcolorspec{named}{tcbcolback}{HTML}\LWR@tcbcolback
6 \convertcolorspec{named}{tcbcolframe}{HTML}\LWR@tcbcolframe
7 \iftcb@titlefilled%
8 \convertcolorspec{named}{tcbcolbacktitle}{HTML}\LWR@tcbcolbacktitle
9 \else
10 \convertcolorspec{named}{tcbcolframe}{HTML}\LWR@tcbcolbacktitle
11 \fi
12 \convertcolorspec{named}{tcbcoltitle}{HTML}\LWR@tcbcoltitle

```

```

13 \convertcolorspec{named}{tcbcolupper}{HTML}\LWR@tcbcolupper
14 \convertcolorspec{named}{tcbcollower}{HTML}\LWR@tcbcollower
15 }
16
17 \newcommand*\LWR@tcolorbox@titlecolorstyles{%
18 border-top: 1px solid \LWR@origpound\LWR@tcbcolframe ;
19 border-bottom: 1px solid \LWR@origpound\LWR@tcbcolframe ;
20 background: \LWR@origpound\LWR@tcbcolbacktitle ;
21 color: \LWR@origpound\LWR@tcbcoltitle ;
22 }

```

The title is placed inside its own <div> of class tcolorboxtitle.

```

23 \newcommand*\LWR@showtitle@[1]{%
24 \begin{BlockClass}[
25 \LWR@tcolorbox@titlecolorstyles
26]{tcolorboxtitle}
27 %
28 \cmdKV@LWR@tcolorbox@title\par
29 \kv tcb@before@title#1\kv tcb@after@title
30 \end{BlockClass}

```

If no title, a non-breakable space is used to take some vertical space.

```

31 \newcommand*\LWR@showtitle@[1]{%
32 \iftcb@titlevisible
33 \LWR@showtitle@{#1}
34 \else
35 \LWR@showtitle@{~}
36 \fi
37 }
38
39 \newcommand*\LWR@tcolorbox@dophantom{%
40 % \sbox\tcb@phantombox{\kv tcb@phantom}%
41 % \iftcb@hasPhantom%
42 % \box\tcb@phantombox%
43 % \tcb@hasPhantomfalse%
44 % \fi%
45 \kv tcb@phantom
46 \let\kv tcb@phantom\@empty%
47 }

```

The tcolorbox is placed inside an external <div> of class #1, which is tcolorbox or tcolorbox inlineminipage. The upper and lower parts are placed into their own internal <div>s of class tcolorboxupper and tcolorboxlower.

```

48 \newcommand*\LWR@tcolorboxstart@[1]{
49 \LWR@tcolorbox@findcolors
50 \begin{BlockClass}[
51 border: 1px solid \LWR@origpound\LWR@tcbcolframe ;
52 background: \LWR@origpound\LWR@tcbcolback ;
53]{#1}
54 \LWR@tcolorbox@dophantom%
55 \ifdefined\kv tcb@title}
56 {}

```



```

57 {
58 \LWR@showtitle{\kv tcb@title}
59 }
60 \begin{BlockClass}[
61 color: \LWR@origpound\LWR@tcbcolupper ;
62]{tcolorboxupper}
63 }

```

Floats enclose the tcolorbox.

```

64 \newcommand*{\LWR@tcolorbox@dostartfloat}{%
65 \ifx\kv tcb@float\@empty%
66 % \tcb@set@normal@unbroken@beforeafter%
67 \else%
68 % \edef\tcb@before@unbroken{%
69 % \noexpand\tcb@float@env@begin{tcbfloat}[\kv tcb@float]%
70 % \noexpand\kv tcb@everyfloat%
71 % }%
72 % \let\tcb@after@unbroken=\tcb@float@env@end%
73 \tcb@float@env@begin{tcbfloat}[\kv tcb@float]
74 \noexpand\kv tcb@everyfloat
75 \fi%
76 }
77
78 \newcommand*{\LWR@tcolorbox@doendfloat}{%
79 \ifx\kv tcb@float\@empty%
80 \else%
81 \tcb@float@env@end%
82 \fi%
83 }

```

Footnotes are handled via the main footnote mechanism, and pending notes are printed before and after each tcolorbox. Footnote numbering will not match the print output.

```

84 \renewenvironment{tcolorbox}[1][
85 {
86 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
87 {
88 \PackageError{lwarp}
89 {%
90 Lwarp cannot process a tcolorbox inside a lateximage\MessageBreak
91 or SVG math.\MessageBreak
92 Enter 'H' for possible solutions%
93 }
94 {%
95 Use \protect\tcbbox, \protect\tcbboxmath, or
96 \protect\tcbhighmath\space instead.\MessageBreak%
97 (Inside math, you probably want to use these anyhow.)%
98 }
99 }{\relax}
100 \LWR@printpendingfootnotes
101 \tcb@layer@inc
102 \tcb@apply@box@options{#1}
103 \LWR@tcolorbox@dostartfloat%
104 % \tcbset{title=#1}

```

```

105 \boolfalse{LWR@havetcblower}
106 \LWR@tcolorboxstart{tcolorbox}
107 \tcb@insert@before@upper%
108 }
109 {
110 \ifbool{LWR@havetcblower}{%
111 \tcb@insert@after@lower%
112 }{%
113 \tcb@insert@after@upper%
114 }%
115 \end{BlockClass}
116 \LWR@printpendingfootnotes
117 \tcb@layer@dec
118 \end{BlockClass}
119 \LWR@tcolorbox@doendfloat%
120 }

```

For the lower part, the upper part is finished then the lower is started. `\tcblower` is only temporarily defined where appropriate, so the HTML version is defined globally via `\newcommand` instead of `\renewcommand`.

```

121 \newcommand{\tcblower}{
122 \tcb@insert@after@upper%
123 \end{BlockClass}
124 \begin{BlockClass}[%
125 border-top: 1px dashed \LWR@origpound\LWR@tcbcolframe ;
126 color: \LWR@origpound\LWR@tcbcollower ;
127]{tcolorboxlower}
128 \tcb@insert@before@lower%
129 }

```

Starred and unstarred `\tcbline` are simple `\hrules`.

```

130 \AtBeginDocument{
131 \ifdef{\tcbline}{
132 \newcommand*\LWR@sub@tcbline{%
133 \begin{BlockClass}{hrule}
134 \end{BlockClass}
135 }
136 \newcommand{\LWR@HTML@tcbline}{\@ifstar\LWR@sub@tcbline\LWR@sub@tcbline}
137 \LWR@formatted{tcbline}
138 }{}
139 }
140
141 \newcommand{\LWR@HTML@tcbbox}[2][{}]{
142 \LWR@printpendingfootnotes
143 \LWR@tcolorbox@dostartfloat%
144 \begin{group}
145 \tcb@layer@inc
146 \tcb@apply@box@options{#1}
147 % \tcbset{title=, #1}
148 \boolfalse{LWR@havetcblower}
149 \LWR@tcolorboxstart{tcolorbox inlineminipage}
150 \tcb@insert@before@upper%
151 #2

```

```

152 \ifbool{LWR@havetcblower}{%
153 \tcb@insert@after@lower%
154 }{%
155 \tcb@insert@after@upper%
156 }%
157 \end{BlockClass}
158 \LWR@printpendingfootnotes
159 \end{BlockClass}
160 \tcb@layer@dec%
161 \endgroup%
162 \LWR@tcolorbox@dostartfloat%
163 \global\booltrue{LWR@minipagethispar}%
164 }
165 \LWR@formatted{tcbbox}
166
167 \appto\LWR@restoreMathJaxformatting{%
168 \renewcommand{\tcbbox}[2][\#2]%
169 }

```

Patches for the subtitle, which is placed inside a <div> of class tcolorboxsubtitle.

```

170 \xpatchcmd{\tcbsubtitle}
171 {\begin{group}}
172 {\begin{group}\let\kv tcb@title\relax\begin{BlockClass}{tcolorboxsubtitle}}
173 {}
174 {\LWR@patcherror{tcolorbox}{tcbsubtitle}}
175
176 \xpatchcmd{\tcbsubtitle}
177 {\end{group}}
178 {\end{BlockClass}\end{group}}
179 {}
180 {\LWR@patcherror{tcolorbox}{tcbsubtitleB}}

```

\tcbboxfit is the same as \tcbbox.

```

181 \AtBeginDocument{
182 \ifdef{\tcbboxfit}{%
183 \let\LWR@HTML@tcbboxfit\tcbbox%
184 \LWR@formatted{tcbboxfit}
185 }{}
186 }

```

\tcbtitle is patched to support the text font.

```

187 \LetLtxMacro\LWR@HTML@tcbtitle\tcbtitle
188 \xpatchcmd{\LWR@HTML@tcbtitle}
189 {\kv tcb@before@title\tcbtitletext}
190 {\kv tcb@before@title\LWR@textcurrentfont{\LWR@textcurrentcolor{\tcbtitletext}}}
191 {}
192 {\LWR@patcherror{tcolorbox}{LWR@HTML@tcbtitle}}
193 \LWR@formatted{tcbtitle}

```

List-of:

```

194 \renewcommand*\l@tcolorbox[2]{\hypertocfloat{1}{tcolorbox}{lof}{\#1}{\#2}}

```

Theorem limitations. An error is printed if the document uses `math`, `ams equation`, etc. `\tcboxmath` and `\tcbhighmath` are ignored for HTML.

```

195 \AtBeginDocument{
196 \pgfkeysifdefined{/tcb/libload/theorems}{
197
198 \def\LWR@HTML@tcb@hack@amsmath{%
199 \PackageError{lwarp}
200 {%
201 tcolorbox ‘‘math’’, ‘‘ams equation’’, and related\MessageBreak
202 are not supported.\MessageBreak
203 \protect\tcbboxmath\space and
204 \protect\tcbhighmath\space are emulated.\MessageBreak
205 Enter ‘H’ for possible solutions%
206 }
207 {%
208 Remove tcolorbox math-related options, and instead\MessageBreak
209 use the usual math environments inside each tcolorbox.%
210 }
211 }
212 \LWR@formatted{tcb@hack@amsmath}
213
214 % Cause an error if using math:
215 \tcbset{%
216 math upper/.style={before upper*=\tcb@hack@amsmath,after upper*=$},%
217 math lower/.style={before lower*=\tcb@hack@amsmath,after lower*=$},%
218 }
219
220 \appto\LWR@restoreorigformatting{%
221 \tcbset{%
222 math upper/.style={before upper*=$\displaystyle,after upper*=$},%
223 math lower/.style={before lower*=$\displaystyle,after lower*=$},%
224 }%
225 }
226
227 \newcommand{\LWR@HTML@tcbboxmath}[2][\#2]
228 \LWR@formatted{tcbboxmath}
229 \newcommand{\LWR@HTML@tcbhighmath}[2][\#2]
230 \LWR@formatted{tcbhighmath}
231 \appto\LWR@restoreMathJaxformatting{%
232 \renewcommand{\tcbboxmath}[2][\#2]%
233 \renewcommand{\tcbhighmath}[2][\#2]%
234 }
235 }{}% theorems loaded
236}% \AtBeginDocument

```

For MATHJAX:

```

237 \CustomizeMathJax{\newcommand{\tcbset}[1]{} }
238 \CustomizeMathJax{\newcommand{\tcbsetforeverylayer}[1]{} }
239 \CustomizeMathJax{\newcommand{\tcbbox}[2][\boxed{\text{\#2}}]}
240 \CustomizeMathJax{\newcommand{\tcbboxfit}[2][\boxed{\#2}}]
241 \CustomizeMathJax{\newcommand{\tcblower}{} }
242 \CustomizeMathJax{\newcommand{\tcbline}{} }
243 \CustomizeMathJax{\newcommand{\tcbtitle}{} }

```

---

```

244 \CustomizeMathJax{\newcommand{\tcbsubtitle}[2][\mathrm{#2}]}
245 \CustomizeMathJax{\newcommand{\tcboxmath}[2][\boxed{#2}]}
246 \CustomizeMathJax{\newcommand{\tcbhighmath}[2][\boxed{#2}]}

```

---

File 473 **lwarp-tensor.sty**

§ 580 Package **tensor**

(Emulates or patches code by PHILIP G. RATCLIFFE.)

Pkg tensor tensor is used as-is for SVG math, and is emulated for MATHJAX.

 spacing Compressed spacing and left justification are not possible with MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{tensor}[2004/12/20]

For MATHJAX. Special handling is required to parse the superscript and subscript arguments.

When a superscript or subscript is seen, it is processed and then the remainder is processed recursively.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\LWRtensorindicesthreesub#1#2{{_{#2}}\LWRtensorindicesthree}}
4 \CustomizeMathJax{\def\LWRtensorindicesthreesup#1#2{{^{#2}}\LWRtensorindicesthree}}

```

If not a superscript nor a subscript, processing stops.

```
5 \CustomizeMathJax{\newcommand{\LWRtensorindicesthreenotsup}{}}
```

Check ahead for a superscript or a subscript.

```

6 \CustomizeMathJax{\newcommand{\LWRtensorindicesthreenotsub}{
7 \ifnextchar ^ \LWRtensorindicesthreesup \LWRtensorindicesthreenotsup
8 }}
9
10 \CustomizeMathJax{\newcommand{\LWRtensorindicesthree}{
11 \ifnextchar _ \LWRtensorindicesthreesub \LWRtensorindicesthreenotsub
12 }}

```

Ignore star.

```

13 \CustomizeMathJax{\newcommand{\LWRtensorindicestwo}{
14 \ifstar\LWRtensorindicesthree\LWRtensorindicesthree
15 }}

```

Remove the outer brace of the argument.

```
16 \CustomizeMathJax{\newcommand{\indices}[1]{\LWRtensorindicestwo#1}}
```

Attempting to use \vphantom here does not work:

```
17 \CustomizeMathJax{\newcommand{\LWRtensortwo}[3][\{\}\indices{#1}{#2}\indices{#3}}}
```

Ignore star.

```
18 \CustomizeMathJax{\newcommand{\tensor}{\ifstar\LWRtensortwo\LWRtensortwo}}
```

In text mode, `\nuclide` is converted to an svg image.

```
19 \CustomizeMathJax{%
20 \newcommand{\LWRnuclidetwo}[2][]{%
21 {%
22 \vphantom{\mathrm{#2}}%
23 {}^{\LWRtensornucleonnumber}_{#1}%
24 \mathrm{#2}%
25 }%
26 }%
27 }

28 \CustomizeMathJax{%
29 \newcommand{\nuclide}[1][]{%
30 \def\LWRtensornucleonnumber{#1}%
31 \LWRnuclidetwo%
32 }%
33 }
34 \end{warpMathJax}
```

---

File 474 **lwarp-termcal.sty**

§ 581     Package **termcal**

*(Emulates or patches code by BILL MITCHELL.)*

Pkg    termcal    **termcal** is patched for use by **lwarp**.

**for HTML output:**    1 \LWR@ProvidesPackagePass{termcal}% questionable date in the .sty file

Nullify the @ because everything is being done in a token list.

```
2 \xpatchcmd{\endcalendar}
3 {@{}}
4 {}
5 {}
6 {\LWR@patcherror{termcal}{endcalendar}}
```

Remove the hbox:

```
7 \xpatchcmd{\ca@doaday}
8 {\hbox to \size{\calprintdate\hfill\ifclassday\calprintclass\fi}}
9 {%
10 \calprintdate\hfill\ifclassday\calprintclass\fi%
11 }
12 {}
13 {\LWR@patcherror{termcal}{ca@doaday}}
```

Change each of two ampersands to call the lwarp tabular version:

```

14 \xpatchcmd{\calday}
15 {\&}
16 {\LWR@tabularampersand}
17 {}
18 {\LWR@patcherror{termcal}{calday}}
19
20 \xpatchcmd{\calday}
21 {\&}
22 {\LWR@tabularampersand}
23 {}
24 {\LWR@patcherror{termcal}{calday B}}
```

---

File 475 **lwarp-textarea.sty**

§ 582      Package **textarea**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg    textarea    **textarea** is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{textarea}[2005/12/26]

```

2 \newcommand\StartFromTextArea{}
3 \newcommand\StartFromHeaderArea{}
4 \newcommand*\RestoreTextArea{}
5 \newcommand*\ExpandTextArea[1][*]{}
6 \let\NCC@restoretextarea\empty
```

---

File 476 **lwarp-textcomp.sty**

§ 583      Package **textcomp**

*(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)*

Pkg    textcomp    **textcomp** is patched for use by lwarp.

#### § 583.1 **Limitations**

Some **textcomp** symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many **textcomp** symbols are not supported by many system/browser fonts. In the css try referencing fonts which are more complete, but expect to see gaps in coverage.

## § 583.2 Package loading

for HTML output: `1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]`

## § 583.3 HTML symbols

For HTML, use HTML entities or direct Unicode, depending on the engine.

`\AtBeginDocument` improves support for `Lua®TeX` and `XYTeX`.

### § 583.3.1 pdf<sup>®</sup>TeX symbols

```
2 \AtBeginDocument{
3 \ifPDFTeX% pdflatex or dvi latex
4 \newcommand*\LWR@HTML@textdegree{\HTMLentity{deg}}
5 \newcommand*\LWR@HTML@textcelsius{\HTMLUnicode{2103}}
6 \newcommand*\LWR@HTML@textohm{\HTMLUnicode{2126}}
7 \newcommand*\LWR@HTML@textmu{\HTMLUnicode{00B5}}
8 \newcommand*\LWR@HTML@textlquill{\HTMLUnicode{2045}}
9 \newcommand*\LWR@HTML@extrquill{\HTMLUnicode{2046}}
10 \newcommand*\LWR@HTML@textcircledP{\HTMLUnicode{2117}}
11 \newcommand*\LWR@HTML@texttwelveudash{\HTMLUnicode{2014}}% emdash
12 \newcommand*\LWR@HTML@textthreequartersemdash{\HTMLUnicode{2014}}% emdash
13 \newcommand*\LWR@HTML@textmho{\HTMLUnicode{2127}}
14 \newcommand*\LWR@HTML@textnaira{\HTMLUnicode{20A6}}
15 \newcommand*\LWR@HTML@textpeso{\HTMLUnicode{20B1}}
16 \newcommand*\LWR@HTML@textrecipe{\HTMLUnicode{211E}}
17 \newcommand*\LWR@HTML@textinterrobang{\HTMLUnicode{203D}}
18 \newcommand*\LWR@HTML@textinterrobangdown{\HTMLUnicode{2E18}}
19 \newcommand*\LWR@HTML@textperthousand{\HTMLUnicode{2030}}
20 \newcommand*\LWR@HTML@textpertenthousand{\HTMLUnicode{2031}}
21 \newcommand*\LWR@HTML@textbaht{\HTMLUnicode{0E3F}}
22 \newcommand*\LWR@HTML@textdiscount{\}%
23 \newcommand*\LWR@HTML@textservicemark{\HTMLUnicode{2120}}
24 \else
```

### § 583.3.2 X<sub>Y</sub>TeX and Lua<sup>®</sup>TeX symbols

NOTE: Some of the following do not print well in the listing. Consult the .dtx or .sty file for the actual characters.

```
25 \newcommand*\LWR@HTML@textdegree{\^{\circ}}
26 \newcommand*\LWR@HTML@textcelsius{\^{\C}}
27 \newcommand*\LWR@HTML@textohm{\^{\Omega}}
28 \newcommand*\LWR@HTML@textmu{\^{\mu}}
29 \newcommand*\LWR@HTML@textlquill{\^{\{}}
30 \newcommand*\LWR@HTML@extrquill{\^{\}}
31 \newcommand*\LWR@HTML@textcircledP{\^{\P}}
32 \newcommand*\LWR@HTML@texttwelveudash{\^{\-}}% emdash
33 \newcommand*\LWR@HTML@textthreequartersemdash{\^{\-}}% emdash
34 \newcommand*\LWR@HTML@textmho{\^{\U}}
35 \newcommand*\LWR@HTML@textnaira{\^{\N}}
36 \newcommand*\LWR@HTML@textpeso{\^{\P}}
```



```

37 \newcommand*\LWR@HTML@textrecipe}{\R}
38 \newcommand*\LWR@HTML@textinterrobang}{\P}
39 \newcommand*\LWR@HTML@textinterrobangdown}{\d}
40 \newcommand*\LWR@HTML@textperthousand}{\P}
41 \newcommand*\LWR@HTML@textpertenthousand}{\M}
42 \newcommand*\LWR@HTML@textbaht}{\B}
43 \newcommand*\LWR@HTML@textdiscount}{\%}
44 \newcommand*\LWR@HTML@textservicemark}{\SM}
45 \fi
46
47 \LWR@formatted{textdegree}
48 \LWR@formatted{textcelsius}
49 \LWR@formatted{textohm}
50 \LWR@formatted{textmu}
51 \LWR@formatted{textlquill}
52 \LWR@formatted{textrquill}
53 \LWR@formatted{textcircledP}
54 \LWR@formatted{texttwelveudash}
55 \LWR@formatted{textthreequartersemdash}
56 \LWR@formatted{textmho}
57 \LWR@formatted{textnaira}
58 \LWR@formatted{textpeso}
59 \LWR@formatted{textrecipe}
60 \LWR@formatted{textinterrobang}
61 \LWR@formatted{textinterrobangdown}
62 \LWR@formatted{textperthousand}
63 \LWR@formatted{textpertenthousand}
64 \LWR@formatted{textbaht}
65 \LWR@formatted{textdiscount}
66 \LWR@formatted{textservicemark}

```

#### § 583.4 HTML diacritics

For HTML, Unicode diacritical marks are used:

```

67 \newcommand*\LWR@HTML@capitalcedilla}[1]{\#1\HTMLUnicode{0327}}
68 \newcommand*\LWR@HTML@capitalogonek}[1]{\#1\HTMLUnicode{0328}}
69 \newcommand*\LWR@HTML@capitalgrave}[1]{\#1\HTMLUnicode{0300}}
70 \newcommand*\LWR@HTML@capitalacute}[1]{\#1\HTMLUnicode{0301}}
71 \newcommand*\LWR@HTML@capitalcircumflex}[1]{\#1\HTMLUnicode{0302}}
72 \newcommand*\LWR@HTML@capitaltilde}[1]{\#1\HTMLUnicode{0303}}
73 \newcommand*\LWR@HTML@capitaldieresis}[1]{\#1\HTMLUnicode{0308}}
74 \newcommand*\LWR@HTML@capitalhungarumlaut}[1]{\#1\HTMLUnicode{30B}}
75 \newcommand*\LWR@HTML@capitalring}[1]{\#1\HTMLUnicode{30A}}
76 \newcommand*\LWR@HTML@capitalcaron}[1]{\#1\HTMLUnicode{30C}}
77 \newcommand*\LWR@HTML@capitalbreve}[1]{\#1\HTMLUnicode{306}}
78 \newcommand*\LWR@HTML@capitalmacron}[1]{\#1\HTMLUnicode{304}}
79 \newcommand*\LWR@HTML@capitaldotaccent}[1]{\#1\HTMLUnicode{307}}

```

\textcircled becomes a span with a rounded border. \providecommand is used to avoid conflict with xunicode.

```

80 \providecommand*\LWR@HTML@textcircled}[1]{%
81 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{\#1}%
82 }

```

```

83
84 \LWR@formatted{capitalcedilla}
85 \LWR@formatted{capitalogonek}
86 \LWR@formatted{capitalgrave}
87 \LWR@formatted{capitalacute}
88 \LWR@formatted{capitalcircumflex}
89 \LWR@formatted{capitaltilde}
90 \LWR@formatted{capitaldieresis}
91 \LWR@formatted{capitalhungarumlaut}
92 \LWR@formatted{capitalring}
93 \LWR@formatted{capitalcaron}
94 \LWR@formatted{capitalbreve}
95 \LWR@formatted{capitalmacron}
96 \LWR@formatted{capitaldotaccent}
97
98 \LWR@formatted{textcircled}

```

Nullify textcomp macros when generating filenames:

```

99 \FilenameNullify{%
100 \renewcommand*{\textdegree}{}%
101 \renewcommand*{\textcelsius}{}%
102 \renewcommand*{\textohm}{}%
103 \renewcommand*{\textmu}{}%
104 \renewcommand*{\textlquill}{}%
105 \renewcommand*{\textrquill}{}%
106 \renewcommand*{\textcircledP}{}%
107 \renewcommand*{\texttwelveudash}{}%
108 \renewcommand*{\textthreequartersemdash}{}%
109 \renewcommand*{\textmho}{}%
110 \renewcommand*{\textnaira}{}%
111 \renewcommand*{\textpeso}{}%
112 \renewcommand*{\textrecipe}{}%
113 \renewcommand*{\textinterrobang}{}%
114 \renewcommand*{\textinterrobangdown}{}%
115 \renewcommand*{\textperthousand}{}%
116 \renewcommand*{\textpertenthousand}{}%
117 \renewcommand*{\textbaht}{}%
118 \renewcommand*{\textdiscount}{}%
119 \renewcommand*{\textservicemark}{}%
120 \renewcommand*{\textcircled}[1]{#1}%
121 \renewcommand*{\capitalcedilla}[1]{#1}%
122 \renewcommand*{\capitalogonek}[1]{#1}%
123 \renewcommand*{\capitalgrave}[1]{#1}%
124 \renewcommand*{\capitalacute}[1]{#1}%
125 \renewcommand*{\capitalcircumflex}[1]{#1}%
126 \renewcommand*{\capitaltilde}[1]{#1}%
127 \renewcommand*{\capitaldieresis}[1]{#1}%
128 \renewcommand*{\capitalhungarumlaut}[1]{#1}%
129 \renewcommand*{\capitalring}[1]{#1}%
130 \renewcommand*{\capitalcaron}[1]{#1}%
131 \renewcommand*{\capitalbreve}[1]{#1}%
132 \renewcommand*{\capitalmacron}[1]{#1}%
133 \renewcommand*{\capitaldotaccent}[1]{#1}%
134 }% \FilenameNullify

```

```

135
136 }% AtBeginDocument

```

---

File 477 **lwarp-textfit.sty**

§ 584     Package **textfit**

Pkg    textfit    **textfit** is emulated.

Text is placed into a <span> of class textfit. Sizes are approximated, and also limited by browser min/max font-size settings.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{textfit}[1994/04/15]

2 \newsavebox{\LWR@textfitbox}
3
4 \newcommand*\LWR@textfitscale[2]{%
5 \setlength{\LWR@templengthone}{#1}%
6 \setlength{\LWR@templengthone}{%
7 1em*\ratio{\LWR@templengthone}{\LWR@templengthtwo}%
8 }%
9 \InlineClass[font-size:\LWR@printlength{\LWR@templengthone}]{textfit}{#2}%
10 }
11
12 \newcommand*\scaletowidth[2]{%
13 \sbox{\LWR@textfitbox}{#2}%
14 \settowidth{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
15 \LWR@textfitscale{#1}{#2}%
16 }
17
18 \newcommand*\scaletoheight[2]{%
19 \sbox{\LWR@textfitbox}{#2}%
20 \settoheight{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
21 \LWR@textfitscale{#1}{#2}%
22 }

```

---

File 478 **lwarp-textpos.sty**

§ 585     Package **textpos**

*(Emulates or patches code by NORMAN GRAY.)*

Pkg    textpos    **textpos** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{textpos}[2020/09/26]

2 \NewDocumentEnvironment{textblock}{m o r()}{}{}
3 \NewDocumentEnvironment{textblock*}{m o r()}{}{}
4 \newcommand*\TPGrid[3]{}{}
5 \def\TPShowGrid{\@ifstar{\@TPShowGrid}{\@TPShowGrid}}

```

---

```

6 \def\TPShowGrid#1#2{}
7 \NewDocumentCommand{\TPMargin}{s o}{}
8 \newcommand*{\textblockcolour}[1]{}
9 \newcommand*{\textblockrulecolour}[1]{}
10 \newcommand*{\textblockcolor}[1]{}
11 \newcommand*{\textblockrulecolor}[1]{}
12 \newcommand*{\tekstblokkulur}[1]{}
13 \newcommand*{\tekstblokkulekulur}[1]{}
14 \newlength{\TPHorizModule}
15 \newlength{\TPVertModule}
16 \newlength{\TPboxrulesize}
17 \newcommand{\textblocklabel}[1]{}
18 \newcommand*{\showtextsize}{}
19 \newcommand{\textblockorigin}[2]{}
20 \newcommand*{\TPoptions}[1]{}
21 \newcommand*{\TPReferencePosition}[1]{}

```

---

File 479 **lwarp-theorem.sty**

§ 586 Package **theorem**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg theorem theorem is patched for use by lwarp.

---

Table 19: Theorem package — css styling of theorems and proofs

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader

where <theoremstyle> is plain, break, etc.

---

for HTML output: 1 \LWR@ProvidesPackagePass{theorem}[2014/10/28]

### § 586.1 Remembering the theorem style

Storage for the style being used for new theorems:

```
2 \newcommand{\LWR@newtheoremstyle}{plain}
```

Patched to remember the style being used for new theorems:

```

3 \gdef\theoremstyle#1{%
4 \ifundefined{th@#1}{\@warning
5 {Unknown theoremstyle ‘#1’. Using ‘plain’}%
6 \theorem@style{plain}%
7 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
8 }%
9 {%
10 \theorem@style{#1}%

```

```

11 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
12 }%
13 \begingroup
14 \csname th@the\theorem@style \endcsname
15 \endgroup}

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

16 \gdef\xnthm#1#2[#3]{%
17 \expandafter\ifdefinable\csname #1\endcsname
18 {%
19 \csedef\LWR@thmstyle#1{\LWR@newtheoremstyle}% lwarp
20 \definecounter{#1}\@newctr{#1}[#3]%
21 \expandafter\xdef\csname the#1\endcsname
22 {\expandafter \noexpand \csname the#3\endcsname
23 \@thmcountersep \@thmcounter{#1}}}%
24 \def\@tempa{\global\@namedef{#1}}%
25 \expandafter \@tempa \expandafter{%
26 \csname th@the \theorem@style
27 \expandafter \endcsname \the \theorem@bodyfont
28 \@thm{#1}{#2}}}%
29 \global \expandafter \let \csname end#1\endcsname \@endtheorem
30 \AtBeginEnvironment{#1}{\edef\LWR@thismstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
31 }}
32
33 \gdef\ynthm#1#2{%
34 \expandafter\ifdefinable\csname #1\endcsname
35 {
36 \csedef\LWR@thmstyle#1{\LWR@newtheoremstyle}% lwarp
37 \definecounter{#1}%
38 \expandafter\xdef\csname the#1\endcsname{\@thmcounter{#1}}%
39 \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
40 \expandafter{\csname th@the \theorem@style \expandafter
41 \endcsname \the\theorem@bodyfont \@thm{#1}{#2}}%
42 \global \expandafter \let \csname end#1\endcsname \@endtheorem
43 \AtBeginEnvironment{#1}{\edef\LWR@thismstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
44 }}
45
46 \gdef\othm#1[#2]#3{%
47 \expandafter\ifx\csname c@#2\endcsname\relax
48 \nocounterr{#2}%
49 \else
50 \expandafter\ifdefinable\csname #1\endcsname
51 {
52 \csedef\LWR@thmstyle#1{\LWR@newtheoremstyle}% lwarp
53 \expandafter \xdef \csname the#1\endcsname
54 {\expandafter \noexpand \csname the#2\endcsname}%
55 \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
56 \expandafter{\csname th@the \theorem@style \expandafter
57 \endcsname \the\theorem@bodyfont \@thm{#2}{#3}}%
58 \global \expandafter \let \csname end#1\endcsname \@endtheorem
59 \AtBeginEnvironment{#1}{\edef\LWR@thismstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
60 }%
61 \fi}

```

§ 586.2 **css patches**

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader.

```

62 \gdef\th@plain{%
63 \def\@begintheorem##1##2{%
64 \item[
65 \InlineClass{theoremheader}{##1\ ##2}
66]
67 }%
68 \def\@opargbegintheorem##1##2##3{%
69 \item[
70 \InlineClass{theoremheader}{##1\ ##2\ (##3)}
71]
72 }
73 }
74
75 \gdef\th@break{%
76 \def\@begintheorem##1##2{%
77 \item[
78 \InlineClass{theoremheader}{##1\ ##2}\newline%
79]
80 }%
81 \def\@opargbegintheorem##1##2##3{%
82 \item[
83 \InlineClass{theoremheader}{##1\ ##2\ (##3)}\newline
84]
85 }
86 }
87
88 \gdef\th@marginbreak{%
89 \def\@begintheorem##1##2{
90 \item[
91 \InlineClass{theoremheader}{##2 \quad ##1}\newline
92]
93 }%
94 \def\@opargbegintheorem##1##2##3{%
95 \item[
96 \InlineClass{theoremheader}{##2 \quad ##1\ %
97 (##3)}\newline
98]
99 }
100 }
101
102 \gdef\th@changebreak{%
103 \def\@begintheorem##1##2{
104 \item[
105 \InlineClass{theoremheader}{##2\ ##1}\newline
106]

```

```

107 }%
108 \def\@opargbegintheorem##1##2##3{%
109 \item[
110 \InlineClass{theoremheader}{ ##2\ ##1\ %
111 (##3)}\newline
112]
113 }
114 }
115
116 \gdef\th@change{%
117 \def\@begintheorem##1##2{
118 \item[
119 \InlineClass{theoremheader}{##2\ ##1}
120]
121 }%
122 \def\@opargbegintheorem##1##2##3{%
123 \item[
124 \InlineClass{theoremheader}{##2\ ##1\ (##3)}
125]
126 }
127 }
128
129 \gdef\th@margin{%
130 \def\@begintheorem##1##2{
131 \item[
132 \InlineClass{theoremheader}{##2 \quad ##1}
133]
134 }%
135 \def\@opargbegintheorem##1##2##3{%
136 \item[
137 \InlineClass{theoremheader}{##2 \quad ##1\ (##3)}
138]
139 }
140 }

```

Patched for css:

```

141 \gdef\@thm#1#2{\refstepcounter{#1}%
142 \LWR@forcenewpage% lwarp
143 \BlockClass{theorembody\LWR@thisthmstyle}% lwarp
144 \trivlist
145 \@topsep \theorempreskipamount % used by first \item
146 \@topsepadd \theorempostskipamount % used by \@endparenv
147 \@ifnextchar [%
148 {\@ythm{#1}{#2}}%
149 {\@begintheorem{#2}{\csname the#1\endcsname}\ignorespaces}}
150
151 \gdef\@endtheorem{%
152 \endtrivlist
153 \endBlockClass
154 }

```

## § 587 Package **thinsp**

Pkg **thinsp** **thinsp** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{thinsp}[2016/10/02]

2 \AtBeginDocument{
3 \let\thinthinspace\relax% defined by some packages
4 \newcommand*{\thinthinspace}{\thinspace}
5 }
6
7 \newcommand*{\stretchthinspace}{\thinspace}
8 \newcommand*{\stretchthinthinspace}{\thinthinspace}
9 \newcommand*{\stretchnegthinspace}{\negthinspace}

```

---

### File 481 **lwarp-thm-listof.sty**

## § 588 Package **thm-listof**

*(Emulates or patches code by ULRICH M. SCHWARZ, YUKAI CHOU.)*

Pkg **thm-listof** **thm-listof** is part of **thmtools**, and is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thm-listof}[2019/12/22]

```

For font control, see the generated HTML and use CSS per **amsthm** or **ntheorem**.

Other **thm-\*** package may be loaded by **thm-listof**.

```

2 \@ifpackagelater{thm-listof}{2020/08/01}{% v0.72
3 \def\thmtlo@newentry{%
4 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
5 }
6 }{% earlier than v0.72
7 \xpatchcmd{\listoftheorems}
8 {%
9 \@xa\protected@edef\csname l@thmt@envname\endcsname{%
10 \@nx\@dottedtocline{1}{1.5em}{\@nx\thmt@listnumwidth}%
11 }%
12 }
13 {%
14 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
15 }
16 {}
17 {\LWR@patcherror{thm-listof}{listoftheorems}}
18
19 \xpatchcmd{\thmt@mklistcmd}
20 {%
21 \@xa\protected@edef\csname l@thmt@envname\endcsname{%
22 \@nx\@dottedtocline{1}{1.5em}{\@nx\thmt@listnumwidth}%
23 }%
24 }

```



---

```

25 {%
26 \csdef{l@{thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
27 }
28 {}
29 {\LWR@patcherror{thm-listof}{thmt@mklistcmd}}
30 }

```

---

File 482 **lwarp-thm-restate.sty**

§ 589 Package **thm-restate**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

Pkg thm-restate **thm-restate** is part of thmtools, and is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thm-restate}[2020/08/01]

2 \xpatchcmd{\thmt@restatable}
3 {\@ifstar}
4 {\edef\LWR@thisthmstyle{#2}\@ifstar}
5 {}
6 {\LWR@patcherror{thm-restate}{thmt@restatable}}

```

---

File 483 **lwarp-thmbox.sty**

§ 590 Package **thmbox**

*(Emulates or patches code by EMMANUEL BEFFARA.)*

Pkg thmbox **thmbox** is emulated for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thmbox}[2005/04/24]

2 \renewenvironment{thmbox}[2][]{%
3 {%
4 \begin{BlockClass}{thmbox}
5 \begin{BlockClass}{thmboxtitle}
6 #2
7 \end{BlockClass}
8 }
9 {\end{BlockClass}}
10
11 \renewenvironment{proof}[1][]{%
12 {%
13 \begin{BlockClass}{thmboxproof}%
14 \InlineClass{thmboxproofname}{\proofname\ #1\unskip\,:}
15 }
16 {%
17 \quad\HTMLUnicode{220E}% end of proof symbol
18 \end{BlockClass}

```

---

```

19 }
20
21 \renewenvironment{example}[1][\examplename]%
22 {%
23 \begin{BlockClass}{thmboxexample}%
24 \InlineClass{thmboxexamplename}{#1\, :}
25 }
26 {\end{BlockClass}}
27
28 \renewenvironment{leftbar}[1][%
29 {\begin{BlockClass}{thmboxleftbar}}
30 {\end{BlockClass}}

```

---

File 484 **lwarp-thmtools.sty**

§ 591     Package **thmtools**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

Pkg    thmtools    **thmtools** is patched for use by **lwarp**.

Also see **thm-listof** and **thm-restate**.

**for HTML output:**    1 \LWR@ProvidesPackagePass{thmtools}[2020/08/01]

The following patches either **thm-amsthm** or **thm-ntheorem**.

```

2 \def\thmt@headstyle@margin{%
3 \InlineClass{amsthmnnumbertheorem}{\NUMBER}
4 \
5 \InlineClass{amsthmnametheorem}{\NAME}
6 \InlineClass{amsthmnotetheorem}{\NOTE}
7 }
8
9 \let\thmt@headstyle@swapnumber\thmt@headstyle@margin

```

---

File 485 **lwarp-threadcol.sty**

§ 592     Package **threadcol**

Pkg    threadcol    **threadcol** is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]

```

2 \newcommand{\setthreadname}[1]{}

```

---

File 486 **lwarp-threeparttable.sty**

## § 593 Package **threeparttable**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg threeparttable **threeparttable** is emulated.

Table note are contained inside a css <div> of class tnotes. If **enumitem** is used, the note item labels are also individually highlighted with an additional css <span> of class tnoteitemheader, otherwise they are plain text.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threeparttable}[2003/06/13]

Env threeparttable [*<alignment>*]

```
2 \newenvironment*{threeparttable}[1][b]
3 {\def\@captype{table}}
4 {}
```

Env tablenotes [*<options>*]

```
5 \newenvironment*{tablenotes}[1][]
6 {%
7 \LWR@forcenewpage
8 \BlockClass{tnotes}%
9 \description%
10 }
11 {%
12 \enddescription%
13 \endBlockClass%
14 }
```

\tnote {*<text>*}

```
15 \newcommand{\tnote}[1]{\LWR@htmlspan{sup}{#1}}
```

Env measuredfigure [*<alignment>*]

```
16 \newenvironment*{measuredfigure}[1][t]
17 {\def\@captype{figure}}
18 {}
```

---

File 487 **lwarp-threeparttablex.sty**

## § 594 Package **threeparttablex**

Pkg threeparttablex **threeparttablex** is patched for use by lwarp.

**threeparttablex** is used with **longtable** and **booktabs** as follows:

```

\begin{longtable}{ [column specifiers] }
[. . .] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[. . .] \endhead % or \endfirsthead
[. . .] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warppHTMLonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}

```

**table width** The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

**for HTML output:** 1 \LWR@ProvidesPackagePass{threeparttablex}[2013/07/23]

The width is guessed depending on the number of columns, then limited to a min/max.

```

2 \renewcommand\insertTableNotes{%
3 \setlength{\LWR@templelengthone}{.375in*\value{\LWR@tabletotalLaTeXcols}}%
4 \setlength{\LWR@templelengthone}{\minof{\textwidth}{\LWR@templelengthone}}%
5 \setlength{\LWR@templelengthone}{\maxof{2.5in}{\LWR@templelengthone}}%
6 \multicolumn{\value{\LWR@tabletotalLaTeXcols}}{c}{%
7 \parbox{\LWR@templelengthone}{%
8 \begin{tablenotes}[\TPTL@optarg]%
9 \TPTL@font%
10 \TPTL@body%
11 \end{tablenotes}%
12 }%
13 }%
14 }
15
16 \renewcommand\TPTL@tnotex[2]{\tnote{\nameref{#2}}}

```

---

File 488 **lwarp-thumb.sty**

§ 595 Package **thumb**

Pkg thumb thumb is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thumb}[1997/12/24]

---

```

2 \newcommand*{\Overviewpage}{}
3 \newlength{\thumbheight}
4 \newlength{\thumbwidth}

```

---

File 489 **lwarp-thumbs.sty**

§ 596 Package **thumbs**

Pkg thumbs thumbs is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{thumbs}[2014/03/09]

```

2 \newcommand{\addthumb}[4]{}
3 \newcommand{\addtitlethumb}[5]{}
4 \newcommand{\stopthumb}{}
5 \newcommand{\continuethumb}{}
6 \newcommand{\thumbsoverview}[1]{}
7 \newcommand{\thumbsoverviewback}[1]{}
8 \newcommand{\thumbsoverviewverso}[1]{}
9 \newcommand{\thumbsoverviewdouble}[1]{}
10 \newcommand{\thumbnewcolumn}{}
11 \newcommand{\addthumbsoverviewtocontents}[2]{}
12 \newcommand{\thumbsnophantom}{}

```

---

File 490 **lwarp-tikz.sty**

§ 597 Package **tikz**

(Emulates or patches code by TILL TANTAU.)

Pkg tikz tikz is supported.

⚠ **displaymath and matrices** If using display math with `tikzpicture` or `\tikz`, along with matrices with the `&` character, the document must be modified as follows:

```

\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}

```

and each instance of `&` in the `tikz` expression must be replaced with `\&`.

Accept all options for `lwarp-tikz`:

```

1 \LWR@ProvidesPackagePass{tikz}[2015/08/07]

```

**catcodes** `lwarp` changes the catcode of `$` for its own use. The `Tikz babel` library temporarily changes catcodes back to normal for `Tikz`'s use. `tikz v3.0.0` introduced the `babel` library which handles catcode changes. For older versions, `lwarp` must change `$`'s catcode itself.

Also see:

[https://tex.stackexchange.com/questions/16199/  
test-if-a-package-or-package-option-is-loaded](https://tex.stackexchange.com/questions/16199/test-if-a-package-or-package-option-is-loaded)

```
2 \newbool{LWR@tikzbabel}
3
4 \@ifpackagelater{tikz}{2013/12/20}% Test for Tikz version v3.0.0
5 {\usetikzlibrary{babel}\booltrue{LWR@tikzbabel}}
6 {\boolfalse{LWR@tikzbabel}}
```

Env `pgfpicture` The `\pgfpicture` environment is enclosed inside a `\lateximage`. Enclose the low-level `\pgfpicture` in a `lateximage`. This is also used by the higher-level `\tikz` and `\tikzpicture`.

```
7 \preto\pgfpicture{%
8 \begin{lateximage}[-tikz-~\PackageDiagramAltText]%
9 \ifbool{LWR@tikzbabel}% Test for Tikz version v3.0.0
10 {}%
11 {\catcode'\$=3}% dollar sign is math shift
12 }
13
14 \appto\endpgfpicture{\end{lateximage}}
```

Tikz is placed inside an svg image, so use the original meanings of the following:

```
15 \LetLtxMacro\pgfutil@minipage\LWR@print@minipage
16 \let\pgfutil@endminipage\endLWR@print@minipage
17
18 \let\pgfutil@raggedleft\LWR@print@raggedleft
19 \let\pgfutil@raggedright\LWR@print@raggedright
20
21 \def\pgfutil@font@tiny{\LWR@print@tiny}
22 \def\pgfutil@font@scriptsize{\LWR@print@scriptsize}
23 \def\pgfutil@font@footnotesize{\LWR@print@footnotesize}
24 \def\pgfutil@font@small{\LWR@print@small}
25 \def\pgfutil@font@normalsize{\LWR@print@normalsize}
26 \def\pgfutil@font@large{\LWR@print@large}
27 \def\pgfutil@font@Large{\LWR@print@Large}
28 \def\pgfutil@font@huge{\LWR@print@huge}
29 \def\pgfutil@font@Huge{\LWR@print@Huge}
30
31 \def\pgfutil@font@itshape{\LWR@print@itshape}
32 \def\pgfutil@font@bfseries{\LWR@print@bfseries}
33 \def\pgfutil@font@normalfont{\LWR@print@normalfont}
```

---

File 491 **lwarp-tikz-imagelabels.sty**

§ 598 Package **tikz-imagelabels**

(Emulates or patches code by TOBIAS PLÜSS.)

Pkg tikz-imagelabels tikz-imagelabels is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{tikz-imagelabels}[2019/06/27]

2 \BeforeBeginEnvironment{annotationimage}{%
3 \begin{lateximage}[-tikz-imagelabels~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{annotationimage}{\end{lateximage}}
```

---

File 492 **lwarp-titles.sty**

§ 599 Package **titles**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg titles titles is loaded and used by lwarp during HTML output. All user options and macros are ignored and disabled.

Discard all options for lwarp-titles:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{titles}[2016/03/15]
```

\pagestyle and \thispagestyle are already disabled in the lwarp code.

```

\newpagestyle {<name>} [<style>] {<commands>}
2 \NewDocumentCommand{\newpagestyle}{m o m}{}

```

```

\renewpagestyle {<name>} [<style>] {<commands>}
3 \NewDocumentCommand{\renewpagestyle}{m o m}{}

```

```

\sethead [<el>] [<ec>] [<er>] {} {<oc>} {<or>}
4 \NewDocumentCommand{\sethead}{o o o m m m}{}

```

```

\setfoot [<el>] [<ec>] [<er>] {} {<oc>} {<or>}
5 \NewDocumentCommand{\setfoot}{o o o m m m}{}

```

```

\settitlemarks * {<names>}
6 \NewDocumentCommand{\settitlemarks}{s m}{}

```

```

\headrule
7 \newcommand*{\headrule}{}

```

```

\footrule
8 \newcommand*{\footrule}{}

```

---

|                                                     |                        |
|-----------------------------------------------------|------------------------|
| <code>\setheadrule</code>                           | <code>{\length}</code> |
| 9 \newcommand*\setheadrule[1]{}<br>                 |                        |
| <code>\setfootrule</code>                           | <code>{\length}</code> |
| 10 \newcommand*\setfootrule[1]{}<br>                |                        |
| <code>\makeheadrule</code>                          |                        |
| 11 \newcommand*\makeheadrule{}<br>                  |                        |
| <code>\makefootrule</code>                          |                        |
| 12 \newcommand*\makefootrule{}<br>                  |                        |
| <code>\setmarkboth</code>                           | <code>{\code}</code>   |
| 13 \newcommand\setmarkboth[1]{}<br>                 |                        |
| <code>\widenhead</code>                             |                        |
| 14 \NewDocumentCommand{\widenhead}{s o o m m}{}<br> |                        |
| <code>\bottitlemarks</code>                         |                        |
| 15 \newcommand*\bottitlemarks{}<br>                 |                        |
| <code>\toptitlemarks</code>                         |                        |
| 16 \newcommand*\toptitlemarks{}<br>                 |                        |
| <code>\firsttitlemarks</code>                       |                        |
| 17 \newcommand*\firsttitlemarks{}<br>               |                        |
| <code>\nexttitlemarks</code>                        |                        |
| 18 \newcommand*\nexttoptitlemarks{}<br>             |                        |
| <code>\outertitlemarks</code>                       |                        |
| 19 \newcommand*\outertitlemarks{}<br>               |                        |
| <code>\innertitlemarks</code>                       |                        |
| 20 \newcommand*\innertitlemarks{}<br>               |                        |
| <code>\newtitlemark</code>                          | <code>*{\name}</code>  |
| 21 \NewDocumentCommand{\newtitlemark}{s m}{}<br>    |                        |



---

```

\pretitlemark * {\section} {\text}
22 \NewDocumentCommand{\pretitlemark}{s m m}{}

\ifsamemark {\group} {\command} {\true} {\false}
23 \newcommand{\ifsamemark}[4]{}

\setfloathead * [\<.\>] [\<.\>] [\<.\>] {\<.\>} {\<.\>} {\<.\>} {\<extra>} [\<which>]
24 \NewDocumentCommand{\setfloathead}{s o o m m m m m}{}

\setfloatfoot * [\<.\>] [\<.\>] [\<.\>] {\<.\>} {\<.\>} {\<.\>} {\<extra>} [\<which>]
25 \NewDocumentCommand{\setfloatfoot}{s o o m m m m m}{}

\nextfloathead * [\<.\>] [\<.\>] [\<.\>] {\<.\>} {\<.\>} {\<.\>} {\<extra>} [\<which>]
26 \NewDocumentCommand{\nextfloathead}{s o o m m m m m}{}

\nextfloatfoot * [\<.\>] [\<.\>] [\<.\>] {\<.\>} {\<.\>} {\<.\>} {\<extra>} [\<which>]
27 \NewDocumentCommand{\nextfloatfoot}{s o o m m m m m}{}

\newmarkset {\markset}
28 \newcommand{\newmarkset}[1]{}

\newextramark * {\markset} {\macro-name}
29 \NewDocumentCommand{\newextramarkset}{s m m}{}

\botextramarks {\markset}
30 \newcommand{\botextramarks}[1]{}

\topextramarks {\markset}
31 \newcommand{\topextramarks}[1]{}

\firstextramarks {\markset}
32 \newcommand{\firstextramarks}[1]{}

\nextextramarks {\markset}
33 \newcommand{\nexttopextramarks}[1]{}

\outerextramarks {\markset}
34 \newcommand{\outerextramarks}[1]{}

```

```
\innerextramarks {\langle markset\rangle}
35 \newcommand{\innerextramarks}[1]{}

```

---

File 493 **lwarp-titleref.sty**

§ 600     Package **titleref**

Pkg    titleref    **titleref** is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{titleref}[2001/04/05]
2
3 \LetLtxMacro\titleref\nameref
4
5 \providecounter{LWR@currenttitle}
6
7 \newcommand*{\currenttitle}{%
8 \addtocounter{LWR@currenttitle}{1}%
9 \label{currenttitle\arabic{LWR@currenttitle}}%
10 \nameref{currenttitle\arabic{LWR@currenttitle}}%
11 }
12
13 \newcommand*{\theTitleReference}[2]{}

```

---

File 494 **lwarp-titlesec.sty**

§ 601     Package **titlesec**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg    titlesec    **titlesec** is emulated. All user options and macros are ignored and disabled.

Discard all options for **lwarp-titlesec**:

**for HTML output:**

```
1 \PackageInfo{lwarp}{Using the lwarp version of package ‘titlesec’.%}
2 \ProvidesPackage{lwarp-titlesec}[2016/03/21]
3
4 \newbool{LWR@loadtitles}
5 \boolfalse{LWR@loadtitles}
6
7 \DeclareOption{pagestyles}{
8 \booltrue{LWR@loadtitles}
9 }
10
11 \DeclareOption*{}
12
13 \ProcessOptions\relax
14
15 \ifbool{LWR@loadtitles}{
16 \RequirePackage{lwarp-titles}
17 }{}

```

```
\titlelabel {\label-format}
18 \newcommand*{\titlelabel}[1]{}
```

```
\titleformat* {\command} {\format}
```

```
\titleformat {\command} [\shape] {\format} {\label} {\sep} {\begfore} [\after]
19 \newcommand\titleformat{%
20 \ifstar{\ttl@format@s}%
21 {\ttl@format@i}}
22 \newcommand{\ttl@format@s}[1]{ }
23 \NewDocumentCommand{\ttl@format@i}{m o m m m o}{ }
```

```
\chaptertitlename
24 \@ifundefined{@chapapp}{\let\@chapapp\chaptername}{ }
25 \newcommand\chaptertitlename{\@chapapp}
```

```
\titlespacing * {\command} {\left} {\before} {\after} [\right]
26 \NewDocumentCommand{\titlespacing}{s m m m m o}{ }
```

```
\filright
27 \newcommand*{\filright}{ }
```

```
\filcenter
28 \newcommand*{\filcenter}{ }
```

```
\filleft
29 \newcommand*{\filleft}{ }
```

```
\fillast
30 \newcommand*{\fillast}{ }
```

```
\filinner
31 \newcommand*{\filinner}{ }
```

```
\filouter
32 \newcommand*{\filouter}{ }
```

```
\wordsep
33 \newcommand\wordsep{\fontdimen\tw@\font \@plus
34 \fontdimen\thr@@\font \@minus \fontdimen4\font}
```

```

\titeline * [\align] {\material}
35 \NewDocumentCommand{\titeline}{s o m}{}

\titlerule [\height]
36 \providecommand*\titlerule{\@ifstar{\ttl@row}{\ttl@rule}}
37 \newcommand*{\ttl@rule}[1][{}]{
38 \newcommand*{\ttl@row}[2][{}]{

\iftitlemeasuring {\true} {\false}
39 \newcommand{\iftitlemeasuring}[2]{#2}

\assignpagestyle {\command} {\pagestyle}
40 \newcommand{\assignpagestyle}[2]{#2}

\titleclass {\name} [\startlevel] {\class} [\cmd]
41 \NewDocumentCommand{\titleclass}{m o m o}{}

```

---

## File 495 **lwarp-titletoc.sty**

### § 602 Package **titletoc**

(Emulates or patches code by JAVIER BEZOS.)

Pkg titletoc **titletoc** is emulated. All user options and macros are ignored and disabled.

Discard all options for **lwarp-titletoc**:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{titletoc}[2011/12/15]

```

\dottedcontents {\section} [\left] {\above} {\label} {\leader}
2 \NewDocumentCommand{\dottedcontents}{m o m m m}{}

```

```

\titlecontents * {\section} [\left] {\above} {\numbered} {\numberless} {\filler} [\below or
begin] [\separator] [\end]
3 \newcommand{\titlecontents}{\@ifstar{\ttl@tcstar}{\ttl@tcnostar}}
4 \NewDocumentCommand{\ttl@tcstar}{m o m m m o o o}{}
5 \NewDocumentCommand{\ttl@tcnostar}{m o m m m m o}{}

```

```

\contentsmargin [\correction] {\right}
6 \newcommand{\contentsmargin}[2][{}]{

```

```

\thecontentslabel

```

```

7 \newcommand*{\thecontentslabel}{thecontentslabel}

\thecontentspage
8 \newcommand*{\thecontentspage}{thecontentspage}

\contentslabel [⟨format⟩] {⟨space⟩}
9 \newcommand{\contentslabel}[2][\thecontentslabel]

\contentspage [⟨format⟩]
10 \newcommand{\contentspage}[1][\thecontentspage]

\contentspush {⟨text⟩}
11 \newcommand{\contentspush}[1]{ }

\contentsuse {⟨name⟩} {⟨text⟩}
12 \newcommand{\contentsuse}[2]{ }

\startcontents [⟨name⟩]
13 \newcommand*{\startcontents}[1][]{ }

\stopcontents [⟨name⟩]
14 \newcommand*{\stopcontents}[1][]{ }

\resumecontents [⟨name⟩]
15 \newcommand*{\resumecontents}[1][]{ }

\printcontents [⟨name⟩] {⟨prefix⟩} {⟨start⟩} {⟨code⟩}
16 \newcommand{\printcontents}[4][]{ }

\startlist [⟨name⟩] {⟨list⟩}
17 \newcommand{\startlist}[2][]{ }

\stoplist [⟨name⟩] {⟨list⟩}
18 \newcommand{\stoplist}[2][]{ }

\resumelist [⟨name⟩] {⟨list⟩}
19 \newcommand{\resumelist}[2][]{ }

\printlist [⟨name⟩] {⟨list⟩} {⟨prefix⟩} {⟨code⟩}
20 \newcommand{\printlist}[4][]{ }

```

---

File 496 **lwarp-titling.sty**

§ 603      Package **titling**
*(Emulates or patches code by PETER WILSON.)*

Pkg    titling

**package support**    **lwarp** supports the native  $\LaTeX$  titling commands, and also supports the packages **authblk** and **titling**. If both are used, **authblk** should be loaded before **titling**.

 **load order**

**\published and \subtitle**    If using the **titling** package, additional titlepage fields for **\published** and **\subtitle** may be added by using **\AddSubtitlePublished** in the preamble. See section 68.8.

The various **titling** footnote restyling commands have no effect.

Pass all options to **lwarp-titling**:

**for HTML output:**    1 \LWR@ProvidesPackagePass{titling}[2009/09/04]

**\bsmtitleempty**    Patch \bsmtitleempty:

```
2 \let\LWR@orig@bsmtitleempty\bsmtitleempty
3 \renewcommand*{\bsmtitleempty}{%
4 \LWR@orig@bsmtitleempty%
5 }
```

**\keepthetitle**    Patch \keepthetitle:

```
6 \let\LWR@origkeepthetitle\keepthetitle
7 \renewcommand*{\keepthetitle}{%
8 \LWR@orig@keepthetitle%
9 }
```

**\killtitle**    Patch \killtitle:

```
10 \let\LWR@origkilltitle\killtitle
11 \renewcommand*{\killtitle}{%
12 \LWR@orig@killtitle%
13 }
```

Env    titlingpage

```
14 \renewenvironment*{titlingpage}
15 {%
```

Start an HTML titlepage div:

```
16 \LWR@printpendingfootnotes
17 \begin{titlepage}
```

Prepare for a custom version of `\maketitle` inside the `titlingpage`:

```
18 \LWR@maketitlesetup
19 \let\maketitle\LWR@titlingmaketitle
20 }
21 {
```

At the end of the environment, end the `HTML` `titlepage` div:

```
22 \end{titlepage}
23 }
```

Patch the `pre/post title/author/date` to add `HTML` tags, then initialize:

```
24 \AtBeginDocument{
25 \pretitle{}
26 \posttitle{}
27
28 \preauthor{}
29 \postauthor{}
30
31 \predate{}
32 \postdate{}
33 }
```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```
34 \renewcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
35 \def\@makefnmark{\@thefnmark}%

 \thefootnote ⇒ \nameuse{arabic}{footnote}, or
 \thefootnote ⇒ \nameuse{fnsymbol}{footnote}
```

Redefine the footnote text:

```
36 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
37 \makethanksmark~%

 \makethanksmark ⇒ \thanksfootmark ⇒ \tamark ⇒
 \@thefnmark ⇒ \itshape a (or similar)
```

Print the text:

```
38 ##1%
39 }% \@makefntext
40 }
```

\thanksfootmark

```

41 \renewcommand{\thanksfootmark}{%
42 % \hb@xt@\thanksmarkwidth{\hfil\normalfont%
43 \thanksscript{%
44 \thanksfootpre \tamark \thanksfootpost%
45 }%
46 % }%
47 }
```

\maketitle HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the **titling** package is adapted, simplified, and modified for HTML output.

```

48 \renewcommand*\maketitle{%
```

An HTML titlepage <div> is used for all classes.

```

49 \begin{titlepage}
```

Select which kind of footnote marks to use:

```

50 \@bsmarkseries
```

Set up special patches:

```

51 \LWR@maketitlesetup
```

Typeset the title, etc:

```

52 \@maketitle
```

Immediately generate any \thanks footnotes:

```

53 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div:

```

54 \end{titlepage}
```

Reset the footnote counter:

```

55 \@bscontmark
56 }
```

\@maketitle Typesets the title, etc. Patched for HTML.

```

57 \DeclareDocumentCommand{\@maketitle}{}{%
58 \maketitlehooka
59 {
60 \LWR@stoppars\LWR@htmltag{\LWR@tagtitle}%
61 \@bspretitle \@title \@bsposttitle%
```



```

62 \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars%
63 }
64 \maketitlehookb
65 {
66 \begin{BlockClass}{author}
67 \renewcommand{\and}{%
68 \end{BlockClass}%
69 \begin{BlockClass}{oneauthor}%
70 }
71 \begin{BlockClass}{oneauthor}%
72 \@bspreauthor \@author \@bspostauthor%
73 \end{BlockClass}%
74 \end{BlockClass}%
75 }
76 \maketitlehookc
77 {
78 \begin{BlockClass}{titledate}%
79 \@bspredate \@date \@bspostdate%
80 \end{BlockClass}%
81 }
82 \maketitlehookd
83 }

```

`\LWR@titlingmaketitle` \maketitle for use inside an HTML titlingpage environment.

```
84 \renewcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
85 \LWR@stoppars\@thanks\LWR@startpars
```

Select which kind of footnote marks to use:

```
86 \@bsmarkseries
```

Set up special patches:

```
87 \LWR@maketitlesetup
```

Typeset the title, etc:

```
88 \@maketitle
```

Immediately generate any \thanks footnotes:

```
89 \LWR@stoppars\@thanks\LWR@startpars
```

Reset the footnote counter:

```
90 \@bscontmark
91 }
```

`\thanksmarkseries` {(*series*)}

Sets the type of footnote marks used by `\thanks`, where type is ‘arabic’, ‘roman’, ‘fnsymbol’, etc.

```
92 \renewcommand{\thanksmarkseries}[1]{%
93 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}{footnote}}}%
94 }
```

Set default titlepage thanks footnote marks. See section 68.7.

```
95 \@ifclassloaded{memoir}{
96 \thanksmarkseries{arabic}
97 }{% not memoir
98 \if@titlepage
99 \thanksmarkseries{arabic}
100 \else
101 \thanksmarkseries{fnsymbol}
102 \fi
103 }% not memoir
```

---

File 497 **lwarp-tocbasic.sty**

§ 604 Package **tocbasic**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg tocbasic **tocbasic** is nullified for **lwarp**.

This package may be loaded standalone, but is also loaded automatically if **koma-script** classes are in use. `\DeclareDocumentCommand` is used to overwrite the **koma-script** definitions.

for HTML output: 1 \LWR@ProvidesPackagePass{tocbasic}[2018/12/30]

```
2 \DeclareDocumentCommand{\usetocbasicnumberline}{o}{}
3 \DeclareDocumentCommand{\DeclareTOCStyleEntry}{o m}{}
4 \DeclareDocumentCommand{\DeclareTOCStyleEntries}{o m m}{}
5 \DeclareDocumentCommand{\DeclareTOCEntryStyle}{m o m}{}
6 \DeclareDocumentCommand{\DefineTOCEntryOption}{m o m}{}
7 \DeclareDocumentCommand{\DefineTOCEntryBooleanOption}{m o m m m}{}
8 \DeclareDocumentCommand{\DefineTOCEntryCommandOption}{m o m m m}{}
9 \DeclareDocumentCommand{\DefineTOCEntryIfOption}{m o m m m}{}
10 \DeclareDocumentCommand{\DefineTOCEntryLengthOption}{m o m m m}{}
11 \DeclareDocumentCommand{\DefineTOCEntryNumberOption}{m o m m m}{}
12 \DeclareDocumentCommand{\CloneTOCEntryStyle}{m m}{}
13 \DeclareDocumentCommand{\TOCEntryStyleInitCode}{m m}{}
14 \DeclareDocumentCommand{\TOCEntryStyleStartInitCode}{m m}{}

```

---

File 498 **lwarp-tocbibind.sty**

## § 605 Package **tocbibind**

(Emulates or patches code by PETER WILSON.)

Pkg tocbibind **tocbibind** is patched for use by lwarp.

placement and toc options An index may be placed inline with other HTML text, or on its own HTML page:

Pkg makeidx **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a  $\LaTeX$  document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex
```

Pkg makeidx **On its own HTML page, with a manual toc entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

Pkg tocbibind **Inline, with an automatic toc entry:**

The **tocbibind** package may be used to automatically place an entry in the toc.

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex
```

Pkg tocbibind **On its own HTML page, with an automatic toc entry:**

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex
```

Opt [tocbibind] numindex Use the **tocbibind** numindex option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as **imakeidx**, may also have options for including the index in the Table of Contents.

for HTML output:

```
1 \let\simplechapterdelim\relax
2
3 \LWR@ProvidesPackagePass{tocbibind}[2010/10/13]
```

```

4 \renewenvironment{theindex}%
5 {%
6 \if@bibchapter
7 \if@donumindex
8 \chapter{\indexname}
9 \else
10 \if@dotocind
11 \chapter*{\indexname}
12 \addcontentsline{toc}{chapter}{\LWR@isolate{\indexname}}
13 \else
14 \chapter*{\indexname}
15 \fi
16 \fi
17 \else
18 \if@donumindex
19 \section{\indexname}
20 \else
21 \if@dotocind
22 \section*{\indexname}
23 \addcontentsline{toc}{\@tocextra}{\LWR@isolate{\indexname}}
24 \else
25 \section*{\indexname}
26 \fi
27 \fi
28 \fi
29 \let\item\LWR@indexitem%
30 \let\subitem\LWR@indexsubitem%
31 \let\subsubitem\LWR@indexsubsubitem%
32 }{}

```

The following code is shared by anonchap.

```

33 \DeclareDocumentCommand{\simplechapter}{O{\@empty}}{%
34 \def\@chapcntformat##1{%
35 #1~\csname the##1\endcsname\simplechapterdelim\quad%
36 }%
37 }
38
39 \DeclareDocumentCommand{\restorechapter}{}{%
40 \let\@chapcntformat\@secntformat%
41 }

```

---

File 499 **lwarp-tocdata.sty**

§ 606      Package **tocdata**

*(Emulates or patches code by BRIAN DUNN.)*

Pkg    tocdata    **tocdata** is patched for use by **lwarp**.

for HTML output:    1 \LWR@ProvidesPackagePass{tocdata}[2019/07/06]

```

2 \renewcommand*{\LWR@maybetocdata}{%
3 \ifdefempty{\TD@thistocdata}{}%
4 \quad \InlineClass{authorartist}{\tocdataformat{\TD@thistocdata}}%
5 \def\TD@thistocdata{}
6 }
7 }

8 \renewrobustcmd{\tocdatapartprint}[4]
9 {%
10 \InlineClass{authorartist}{%
11 \quad --- %
12 \TDOptionalnameprint{#1}\TDOptionalnameprint{#2}#3#4%
13 }%
14 }
15
16 \@ifundefined{chapter}{}{
17 \let\tocdatachapterprint\tocdatapartprint
18 }
19 \let\tocdatasectionprint\tocdatapartprint
20 \let\tocdatasubsectionprint\tocdatapartprint
21
22 \newcommand*{\LWR@TD@settextalign}[1]{%
23 \def\LWR@TD@textalign{justify}%
24 \ifcsstring{TD@#1align}{\centering}%
25 {\def\LWR@TD@textalign{center}}%
26 {}%
27 \ifcsstring{TD@#1align}{\raggedleft}%
28 {\def\LWR@TD@textalign{right}}%
29 {}%
30 \ifcsstring{TD@#1align}{\raggedright}%
31 {\def\LWR@TD@textalign{left}}%
32 {}%
33 }
34
35 \renewcommand{\TDartistauthorprint}[5]{%
36 \LWR@TD@settextalign{#1}%
37 \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
38 \InlineClass{authorartist}{\TDOptionalnameprint{#2}\TDOptionalnameprint{#3}#4#5}%
39 \end{BlockClass}%
40 }
41
42 \newcommand*{\LWR@TD@setnamealign}[1]{%
43 \def\LWR@TD@textalign{justify}%
44 \ifcsstring{TD@#1textalign}{\centering}%
45 {\def\LWR@TD@textalign{center}}%
46 {}%
47 \ifcsstring{TD@#1textalign}{\raggedleft}%
48 {\def\LWR@TD@textalign{right}}%
49 {}%
50 \ifcsstring{TD@#1textalign}{\raggedright}%
51 {\def\LWR@TD@textalign{left}}%
52 {}%
53 }
54
55 \renewcommand{\TDartistauthortextprint}[2]{%

```

```
56 \LWR@TD@setnamealign{#1}%
57 \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58 #2%
59 \end{BlockClass}%
60 }
```

File 500

lwarp-tocenter.sty

§ 607

Package

tocenter

Pkg

tocenter

tocenter is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{tocenter}[2004/12/09]

2 \NewDocumentCommand{\ToCenter}{s o m m}{}
3 \NewDocumentCommand{\FromMargins}{s o m m m}{}

```

File 501

lwarp-tocloft.sty

§ 608

Package

tocloft

(Emulates or patches code by PETER WILSON.)

Pkg

tocloft

tocloft is emulated. Most user options and macros are ignored and disabled. \newlistof and \cftchapterprecis are supported.

Pkg

tocloft

If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

 tocloft & other packages

Discard all options for lwarp-tocloft:

for HTML output:

```
1 \LWR@ProvidesPackageDrop{tocloft}[2017/08/31]

```

```
\tocloftpagestyle {<style>}
2 \newcommand{\tocloftpagestyle}[1]{}

```

```
\cftmarktoc
3 \newcommand*\cftmarktoc{}

```

```
\cfttoctitlefont
4 \newcommand*\cfttoctitlefont{}

```

```
\cftaftertoctitle
5 \newcommand*\cftaftertoctitle{}

```

```
6 \newlength{\cftbeforetoctitleskip}
7 \newlength{\cftaftertoctitleskip}
```

\cftmarklof

```
8 \newcommand*\cftmarklof{}
```

\cftloftitlefont

```
9 \newcommand*\cftloftitlefont{}
```

\cftafterloftitle

```
10 \newcommand*\cftafterloftitle{}
```

```
11 \newlength{\cftbeforeloftitleskip}
12 \newlength{\cftafterloftitleskip}
```

\cftmarklot

```
13 \newcommand*\cftmarklot{}
```

\cftlottitlefont

```
14 \newcommand*\cftlottitlefont{}
```

\cftafterlottitle

```
15 \newcommand*\cftafterlottitle{}
```

```
16 \newlength{\cftbeforelottitleskip}
17 \newlength{\cftafterlottitleskip}
```

\cftdot

```
18 \providecommand*\cftdot{.}
```

\cftdotsep

```
19 \providecommand*\cftdotsep{1}
```

\cftnodots

```
20 \providecommand*\cftnodots{5000}
```

\cftdotfill     $\{\langle sep \rangle\}$

```
21 \providecommand{\cftdotfill}[1]{}
```

\cftsetpnumwidth     $\{\langle length \rangle\}$

```
22 \DeclareDocumentCommand{\cftsetpnumwidth}{m}{}
```

```
\cftsetrmarg {\length}
23 \DeclareDocumentCommand{\cftsetrmarg}{m}{}

```

```
\cftpnumalign {\alignment}
24 \DeclareDocumentCommand{\cftpnumalign}{m}{}

25 \LWR@providelength{\cftparskip}

```

The part-related items are also provided by memoir:

```
26 \LWR@providelength{\cftbeforepartskip}
27 \LWR@providelength{\cftpartindent}
28 \LWR@providelength{\cftpartnumwidth}
29 \providecommand*\cftpartfont{}
30 \providecommand*\cftpartpresnum{}
31 \providecommand*\cftpartaftersnum{}
32 \providecommand*\cftpartaftersnumb{}
33 \providecommand*\cftpartleader{}
34 \providecommand*\cftpartdotsep{1}
35 \providecommand*\cftpartpagefont{}
36 \providecommand*\cftpartafterpnum{}

```

memoir uses the full name “chapter” instead of “chap”:

```
37 \LWR@providelength{\cftbeforechapskip}
38 \LWR@providelength{\cftchapindent}
39 \LWR@providelength{\cftchapnumwidth}
40 \newcommand*\cftchapfont{}
41 \newcommand*\cftchappresnum{}
42 \newcommand*\cftchapaftersnum{}
43 \newcommand*\cftchapaftersnumb{}
44 \newcommand*\cftchapleader{}
45 \newcommand*\cftchapdotsep{1}
46 \newcommand*\cftchappagefont{}
47 \newcommand*\cftchapafterpnum{}

```

The following do not appear in memoir:

```
48 \LWR@providelength{\cftbeforesecskip}
49 \LWR@providelength{\cftsecindent}
50 \LWR@providelength{\cftsecnumwidth}
51 \newcommand*\cftsecfont{}
52 \newcommand*\cftsecpresnum{}
53 \newcommand*\cftsecaftersnum{}
54 \newcommand*\cftsecaftersnumb{}
55 \newcommand*\cftsecleader{}
56 \newcommand*\cftsecdotsep{1}
57 \newcommand*\cftsecpagefont{}
58 \newcommand*\cftsecafterpnum{}

59 \LWR@providelength{\cftbeforesubsecskip}

```



```
60 \LWR@providelength{\cftsubsecindent}
61 \LWR@providelength{\cftsubsecnumwidth}
62 \newcommand*{\cftsubsecfont}{}
63 \newcommand*{\cftsubsecpresnum}{}
64 \newcommand*{\cftsubsecaftersnum}{}
65 \newcommand*{\cftsubsecaftersnumb}{}
66 \newcommand*{\cftsubsecleader}{}
67 \newcommand*{\cftsubsecdotsep}{1}
68 \newcommand*{\cftsubsecpagefont}{}
69 \newcommand*{\cftsubsecafterpnum}{}

70 \LWR@providelength{\cftbeforesubsubsecskip}
71 \LWR@providelength{\cftsubsubsecindent}
72 \LWR@providelength{\cftsubsubsecnumwidth}
73 \newcommand*{\cftsubsubsecfont}{}
74 \newcommand*{\cftsubsubsecpresnum}{}
75 \newcommand*{\cftsubsubsecaftersnum}{}
76 \newcommand*{\cftsubsubsecaftersnumb}{}
77 \newcommand*{\cftsubsubsecleader}{}
78 \newcommand*{\cftsubsubsecdotsep}{1}
79 \newcommand*{\cftsubsubsecpagefont}{}
80 \newcommand*{\cftsubsubsecafterpnum}{}

81 \LWR@providelength{\cftbeforeparaskip}
82 \LWR@providelength{\cftparaindent}
83 \LWR@providelength{\cftparanumwidth}
84 \newcommand*{\cftparafont}{}
85 \newcommand*{\cftparapresnum}{}
86 \newcommand*{\cftparaaftersnum}{}
87 \newcommand*{\cftparaaftersnumb}{}
88 \newcommand*{\cftparaleader}{}
89 \newcommand*{\cftparadotsep}{1}
90 \newcommand*{\cftparapagefont}{}
91 \newcommand*{\cftparaafterpnum}{}

92 \LWR@providelength{\cftbeforesubparaskip}
93 \LWR@providelength{\cftsubparaindent}
94 \LWR@providelength{\cftsubparanumwidth}
95 \newcommand*{\cftsubparafont}{}
96 \newcommand*{\cftsubparapresnum}{}
97 \newcommand*{\cftsubparaaftersnum}{}
98 \newcommand*{\cftsubparaaftersnumb}{}
99 \newcommand*{\cftsubparaleader}{}
100 \newcommand*{\cftsubparadotsep}{1}
101 \newcommand*{\cftsubparapagefont}{}
102 \newcommand*{\cftsubparaafterpnum}{}

103 \LWR@providelength{\cftbeforefigskip}
104 \LWR@providelength{\cftfigindent}
105 \LWR@providelength{\cftfignumwidth}
106 \newcommand*{\cftfigfont}{}
107 \newcommand*{\cftfigpresnum}{}
108 \newcommand*{\cftfigaftersnum}{}
109 \newcommand*{\cftfigaftersnumb}{}
110 \newcommand*{\cftfigleader}{}

```

```

111 \newcommand*{\cftfigdotsep}{1}
112 \newcommand*{\cftfigpagefont}{}
113 \newcommand*{\cftfigafterpnum}{}

114 \LWR@providelength{\cftbeforesubfigskip}
115 \LWR@providelength{\cftsubfigindent}
116 \LWR@providelength{\cftsubfignumwidth}
117 \newcommand*{\cftsubfigfont}{}
118 \newcommand*{\cftsubfigpresnum}{}
119 \newcommand*{\cftsubfigaftersnum}{}
120 \newcommand*{\cftsubfigaftersnumb}{}
121 \newcommand*{\cftsubfigleader}{}
122 \newcommand*{\cftsubfigdotsep}{1}
123 \newcommand*{\cftsubfigpagefont}{}
124 \newcommand*{\cftsubfigafterpnum}{}

125 \LWR@providelength{\cftbeforetabskip}
126 \LWR@providelength{\cfttabindent}
127 \LWR@providelength{\cfttabnumwidth}
128 \newcommand*{\cfttabfont}{}
129 \newcommand*{\cfttabpresnum}{}
130 \newcommand*{\cfttabaftersnum}{}
131 \newcommand*{\cfttabaftersnumb}{}
132 \newcommand*{\cfttableader}{}
133 \newcommand*{\cfttabdotsep}{1}
134 \newcommand*{\cfttabpagefont}{}
135 \newcommand*{\cfttabafterpnum}{}

136 \LWR@providelength{\cftbeforesubtabskip}
137 \LWR@providelength{\cftsubtabindent}
138 \LWR@providelength{\cftsubtabnumwidth}
139 \newcommand*{\cftsubtabfont}{}
140 \newcommand*{\cftsubtabpresnum}{}
141 \newcommand*{\cftsubtabaftersnum}{}
142 \newcommand*{\cftsubtabaftersnumb}{}
143 \newcommand*{\cftsubtableader}{}
144 \newcommand*{\cftsubtabdotsep}{1}
145 \newcommand*{\cftsubtabpagefont}{}
146 \newcommand*{\cftsubtabafterpnum}{}

147 \DeclareDocumentCommand{\cftsetindents}{m m m}{}

148 \newcommand{\pagenumbersoff}[1]{}
149 \newcommand{\pagenumberson}[1]{}

\newlistentry [(<within>)] {(<counter>)} {(<ext>)} {(<level-1>)}

150 \DeclareDocumentCommand{\newlistentry}{o m m m}
151 {%
152 \LWR@traceinfo{newlistentry #2 #3 #4}%
153 \IfValueTF{#1}%
154 {%
155 \@ifundefined{c@#2}{%
156 \newcounter{#2}[#1]%

```

```

157 \expandafter\edef\csname the#2\endcsname{%
158 \expandafter\noexpand\csname the#1\endcsname.\noexpand\arabic{#2}%
159 }%
160 }{}%
161 }%
162 {%
163 \@ifundefined{c@#2}{%
164 \newcounter{#2}%
165 }{}%
166 }%
167 \@namedef{l@#2}##1##2{%
168 \hypertocfloat{1}{#2}{#3}{##1}{##2}%
169 \def\cftwhatismyname{#2}% from memoir
170 }%
171 \expandafter\newlength\csname cftbefore#2skip\endcsname%
172 \expandafter\newlength\csname cft#2indent\endcsname%
173 \expandafter\newlength\csname cft#2numwidth\endcsname%
174 \@namedef{cft#2font}{}%
175 \@namedef{cft#2presnum}{}%
176 \@namedef{cft#2aftersnum}{}%
177 \@namedef{cft#2aftersnumb}{}%
178 \@namedef{cft#2leader}{}%
179 \@namedef{cft#2dotsep}{1}%
180 \@namedef{cft#2pagefont}{}%
181 \@namedef{cft#2afterpnum}{}%
182 \@namedef{toclevel@#2}{#4}%
183 \@namedef{cft#2fillnum}##1{}%
184 \LWR@traceinfo{newlistentry done}%
185 }

```

`\newlistof` [*<within>*] [*<type>*] [*<ext>*] [*<listofname>*]

Emulated through the `\newfloat` mechanism.

```

186 \DeclareDocumentCommand{\newlistof}{o m m}
187 {%
188 \IfValueTF{#1}%
189 {\newlistentry[#1]{#2}{#3}{0}}%
190 {\newlistentry{#2}{#3}{0}}%
191 \@namedef{ext@#2}{#3}%
192 \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
193 \setcounter{#3depth}{1}%
194 \@namedef{cftmark#3}{}%
195 \@namedef{listof#2}{\listof{#2}{#4}}%
196 \@namedef{@cftmake#3title}{}%
197 \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
198 \expandafter\newlength\csname cftafter#3titleskip\endcsname%
199 \@namedef{cft#3titlefont}{}%
200 \@namedef{cftafter#3title}{}%
201 \@namedef{cft#3prehook}{}%
202 \@namedef{cft#3posthook}{}%
203 }

```

`\cftchapterprecis` [*<text>*]

```

204 \newcommand{\cftchapterprecis}[1]{%

```

---

```

205 \cftchapterprecishere{#1}
206 \cftchapterprecistoc{#1}}
207 \newcommand{\cftchapterprecishere}[1]{%
208 \begin{quote}\textit{#1}\end{quote}}
209 \newcommand{\cftchapterprecistoc}[1]{
210 \addtocontents{toc}{%
211 {
212 \protect\begin{quote}#1\protect\end{quote}}
213 }
214 }
```

---

## File 502 **lwarp-tocstyle.sty**

§ 609 Package **tocstyle**

Pkg tocstyle **tocstyle** is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tocstyle}[2017/02/23]

```

2 \newcommand*{\usetocstyle}[2][]{ }
3 \newcommand*{\deactivatetocstyle}[1][]{ }
4 \newcommand*{\reactivatetocstyle}[1][]{ }
5 \NewDocumentCommand{\settocfeature}{o o m m}{}
6 \NewDocumentCommand{\settocstylefeature}{o m m}{}
7 \NewDocumentCommand{\newtocstyle}{o o m m}{}
8 \newcommand*{\aliastoc}[2]{}
9 \newcommand*{\showtoc}[2]{}
10 \newcommand{\iftochasdepth}[4]{}

```

---

## File 503 **lwarp-todo.sty**

§ 610 Package **todo**

*(Emulates or patches code by FEDERICO GARCIA.)*

Pkg todo **todo** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{todo}[2010/03/31]

```

2 \renewcommand\todoitem[2]{%
3 \refstepcounter{todo}%
4 \item[%
5 \HTMLUnicode{2610} \quad
6 \ref{todopage:\thetodo}
7] : {\todoformat\ifx#1\todotmark\else\textbf{#1} \fi}#2%
8 \label{todolbl:\thetodo}%
9}%
10
11 \renewcommand\doneitem[2]{%

```

---

```

12 \stepcounter{todo}%
13 \item[%
14 \HTMLUnicode{2611} \quad
15 \ref{todopage:\thetodo}
16] \@nameuse{@done\the\c@todo}:
17 {\todoformat\ifx#1\todotocmark\else\textbf{#1} \fi}#2%
18 }
19
20 \xpatchcmd{\@displaytodo}
21 {\todoformat #1}{\todoformat \textbf{#1}}{}
22 {\PackageWarning{lwarp-todo}{Unable to patch @displaytodo.}}
23
24 \xpatchcmd{\@displayfulltodo}
25 {\todoformat #1}{\todoformat \textbf{#1}}{}
26 {\PackageWarning{lwarp-todo}{Unable to patch @displayfulltodo.}}
27
28 \patchcmd{\todoenv}{\itshape see text.}{\textit{see text.}}{}
29 {\PackageWarning{lwarp-todo}{Unable to patch todoenv.}}
30
31 \patchcmd{\astodos}{\todoformat #1}{\todoformat \textbf{#1}}{}
32 {\PackageWarning{lwarp-todo}{Unable to patch astodos.}}
33
34 \AtBeginDocument{
35 \crefname{todo}{todo}{todos}
36 \Crefname{todo}{Todo}{Todos}
37 }

```

---

File 504 **lwarp-todonotes.sty**

## § 611 Package **todonotes**

(Emulates or patches code by HENRIK SKOV MIDTIBY.)

Pkg todonotes **todonotes** is emulated.

The documentation for **todonotes** and **luatodonotes** have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{todonotes}[2012/07/25]

2 \if@todonotes@disabled
3 \else
4
5 \newcommand{\ext@todo}{tdo}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\todo}{ldo}{#1}{#2}}

8 \let\LWRTODONOTES@orig@todotoc\todotoc
9
10 \renewcommand*\@todotoc{%
11 \LWR@phantomsection%

```

```

12 \LWRTODONOTES@orig@todototoc%
13 }
14
15 \renewcommand{\@todonotes@drawMarginNoteWithLine}{
16 \fcolorbox
17 {\@todonotes@currentbordercolor}
18 {\@todonotes@currentbackgroundcolor}
19 {\arabic{\@todonotes@numberoftodonotes}}
20 \marginpar{\@todonotes@drawMarginNote}
21 }
22
23 \renewcommand{\@todonotes@drawInlineNote}{%
24 \fcolorboxBlock%
25 {\@todonotes@currentbordercolor}%
26 {\@todonotes@currentbackgroundcolor}%
27 {%
28 \if@todonotes@authorgiven%
29 {\@todonotes@author:\,%}
30 \fi%
31 \@todonotes@text%
32 }%
33 }
34
35 \renewcommand{\@todonotes@drawMarginNote}{%
36 \if@todonotes@authorgiven%
37 \@todonotes@author\par%
38 \fi%
39 \arabic{\@todonotes@numberoftodonotes}: %
40 \fcolorbox%
41 {\@todonotes@currentbordercolor}%
42 {\@todonotes@currentbackgroundcolor}%
43 {%
44 \@todonotes@sizecommand%
45 \@todonotes@text %
46 }%
47 }%
48
49 \renewcommand{\@todonotes@drawLineToRightMargin}{ }
50
51 \renewcommand{\@todonotes@drawLineToLeftMargin}{ }
52
53 \renewcommand{\missingfigure}[2][]{%
54 \setkeys{todonotes}{#1}%
55 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
56 \fcolorboxBlock%
57 {\@todonotes@currentbordercolor}%
58 {\@todonotes@currentfigcolor}%
59 {%
60 \setlength{\fboxrule}{4pt}%
61 \fcolorbox{red}{white}{Missing figure} \quad #2%
62 }
63 }
64
65 \LetLtxMacro\LWRTODONOTES@orig@todo\@todo
66

```

---

```

67 \RenewDocumentCommand{\@todo}{o m}{%
68 \begingroup%
69 \renewcommand*{\phantomsection}{}%
70 \IfValueTF{#1}{%
71 \LWRTODONOTES@orig@todo[#1]{#2}%
72 }{%
73 \LWRTODONOTES@orig@todo{#2}%
74 }
75 \endgroup%
76 }
77
78 \fi% \if@todonotes@disabled

```

---

File 505 **lwarp-topcapt.sty**

§ 612    Package **topcapt**

Pkg    topcapt    topcapt is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]

2 \LetLtxMacro\topcaption\caption

```

---

File 506 **lwarp-tram.sty**

§ 613    Package **tram**

Pkg    tram    tram is emulated.

 **block only**    The HTML emulation uses a <div>, which must not appear inside an HTML <span> or an HTML paragraph. For this reason, the tram environment should only be used to contain paragraphs inside a \parbox or minipage. tram should not be used to mark up inline text.

To disable tram, allowing source compatibility with inline uses:

```

\begin{warpHTML}
\renewenvironment{tram}[1][{}]{%
\end{warpHTML}

```

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tram}[2013/04/04]

2 \newenvironment{tram}[1][{}]{%
3 {\BlockClass[background:lightgray]{tram}}
4 {\endBlockClass}

```

---

File 507 **lwarp-transparent.sty**

## § 614 Package **transparent**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg transparent **transparent** is emulated. `\texttransparent` works for inline objects. `\transparent` only works for `\includegraphics`.

 **Not X<sub>Y</sub>TeX!** Note that **transparent** does not work with X<sub>Y</sub>TeX.

for HTML output:

```
1 \LWR@ProvidesPackagePass{transparent}[2019/11/29]

2 \newcommand*\LWR@HTML@transparent}[1]{\edef\LWR@opacity{#1}}
3
4 \LWR@formatted{transparent}
5
6
7 \newcommand*\LWR@HTML@texttransparent}[2]{%
8 \begingroup%
9 \transparent{#1}%
10 \InlineClass[opacity: #1]{transparent}{#2}%
11 \endgroup%
12 }
13
14 \LWR@formatted{texttransparent}
```

---

File 508 **lwarp-trimclip.sty**

## § 615 Package **trimclip**

Pkg trimclip **trimclip** is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{trimclip}[2018/04/08]
```

The third argument, the text, is not touched. This allows `\bgroup / \egroup`, and verbatim content.

```
2 \csdef{trimbox}{\@ifstar\@gobble\@gobble}
3 \csletcs{trimbox*}{trimbox}
4 \def\endtrimbox{}
5 \csletcs{endtrimbox*}{endtrimbox}
6
7 \csletcs{clipbox}{trimbox}
8 \csletcs{clipbox*}{trimbox}
9 \csletcs{endclipbox}{endtrimbox}
10 \csletcs{endclipbox*}{endtrimbox}
11
12 \csletcs{marginbox}{trimbox}
13 \csletcs{marginbox*}{trimbox}
14 \csletcs{endmarginbox}{endtrimbox}
15 \csletcs{endmarginbox*}{endtrimbox}
```



---

File 509 **lwarp-trivfloat.sty**

§ 616      Package **trivfloat**

*(Emulates or patches code by JOSEPH WRIGHT.)*

Pkg    trivfloat    **trivfloat** is forced to use the built-in **lwarp** emulation for floats.

To create a new float type and change its name:

---

```
\trivfloat{example}
\renewcommand{\examplename}{Example Name}
\crefname{example}{example}{examples}
\Crefname{example}{Example}{Examples}
```

---

Discard all options for **lwarp-trivfloat**. This tells **trivfloat** not to use **floatrow** or **memoir**.

```
1 \LWR@ProvidesPackageDrop{trivfloat}[2009/04/23]
2 \LWR@origRequirePackage{trivfloat}
```

\tfl@chapter@fix    Nullified at the beginning of the document. Is used by **trivfloat** to correct float chapter numbers, but is not needed for **lwarp**.

```
3 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{}}
```

### § 616.1 **Combining \newfloat, \trivfloat, and algorithmicx**

**For both print and HTML output:**



When using **float**, **trivfloat**, or **algorithmicx** at the same time, be aware of conflicting file usage. **algorithmicx** uses **.loa**. **trivfloat** by default starts with **.loa** and goes up for additional floats, skipping **.lof** and **.lot**.



When using **\newfloat**, be sure to manually assign higher letters to the **\newfloat** files to avoid **.loa** used by **algorithmicx**, and any files used by **trivfloat**. Also avoid using **.lof** and **.lot**.



When using **\trivfloat**, you may force it to avoid conflicting with **algorithmicx** by starting **trivfloat**'s file extensions with **.lob**:

---

```
\makeatletter
\setcounter{tfl@float@cnt}{1} % start trivfloats with .lob
\makeatletter
```

---



---

File 510 **lwarp-truncate.sty**

## § 617 Package **truncate**

Pkg truncate truncate is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{truncate}[2001/08/20]

2 \providecommand{\TruncateMarker}{}
3 \newcommand{\truncate}[3][\TruncateMarker]{#3}
```

---

### File 511 **lwarp-turnthepage.sty**

## § 618 Package **turnthepage**

Pkg turnthepage turnthepage is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]

2 \newcommand{\turnthepage}{}

```

---

### File 512 **lwarp-twoup.sty**

## § 619 Package **twoup**

Pkg twoup twoup is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]

2 \newcommand{\cleartolastpage}{}

```

---

### File 513 **lwarp-txfonts.sty**

## § 620 Package **txfonts**

*(Emulates or patches code by YOUNG RYU.)*

Pkg txfonts txfonts is used as-is for svg math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{txfonts}[2008/01/22]
```

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@info{processingmathjax}{txfonts}
6
7 \LWR@mathjax@addgreek@l@up{}{}{}
8 \end{warpMathJax}
```

---

File 514 **lwarp-txgreek.sty**

§ 621      Package **txgreek**

*(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)*

Pkg txgreek txgreek is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors all package options.

for HTML output:

```

1 \LWR@ProvidesPackagePass{txgreek}[2011/03/16]
2
3 \LWR@infoprocessingmathjax{txgreek}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7 \iftgs@uplower% upright lowercase Greek
8 \LWR@mathjax@addgreek@l@up{}{}
9 \LWR@mathjax@addgreek@l@it{other}{}
10 \else% italic lowercase Greek
11 \LWR@mathjax@addgreek@l@it{}{}
12 \LWR@mathjax@addgreek@l@up{other}{}
13 \fi
14
15 \iftgs@itupper % italic uppercase Greek
16 \LWR@mathjax@addgreek@u@it*{}{}
17 \LWR@mathjax@addgreek@u@up*{other}{}
18 \LWR@mathjax@addgreek@u@up*{var}{}
19 \else% upright uppercase Greek
20 \LWR@mathjax@addgreek@u@up*{}{}
21 \LWR@mathjax@addgreek@u@it*{other}{}
22 \LWR@mathjax@addgreek@u@it*{var}{}
23 \fi
24 \end{warpMathJax}

```

---

File 515 **lwarp-typearea.sty**

§ 622      Package **typearea**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg typearea typearea is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. \DeclareDocumentCommand is used to overwrite the koma-script definitions.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{typearea}[2018/03/30]

```

---

```

2 \DeclareDocumentCommand{\typearea}{o m}{}
3 \DeclareDocumentCommand{\recalc\typearea}{}{}
4 \@ifundefined{footheight}{\newlength\footheight}{}
5 \DeclareDocumentCommand{\areaset}{o m m}{}
6 \DeclareDocumentCommand{\activateareas}{}{}
7 \DeclareDocumentCommand{\storeareas}{m}{}
8 \DeclareDocumentCommand{\BeforeRestoreareas}{s m}{}
9 \DeclareDocumentCommand{\AfterRestoreareas}{s m}{}
10 \DeclareDocumentCommand{\AfterCalculatingTypearea}{s m}{}
11 \DeclareDocumentCommand{\AfterSettingArea}{s m}{}

```

---

File 516 **lwarp-typicons.sty**

§ 623 Package **typicons**

*(Emulates or patches code by ARTHUR VIGIL, XAVIER DANAUX.)*

Pkg typicons typicons is patched for use by lwarp.

If `\ticon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{typicons}[2015/05/20]

2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@orig@typicon@TI\TI
5
6 \newcommand*{\LWR@typicon@symbol}[1]{%
7 \begin{lateximage}*[\typicon][typicon#1]%
8 \begingroup%
9 \LWR@orig@typicon@TI%
10 \LWR@orig@symbol{#1}%
11 \endgroup%
12 \end{lateximage}%
13 }
14
15 \renewcommand*{\TI}{%
16 \LetLtxMacro\symbol\LWR@typicon@symbol%
17 }
18
19 \renewcommand*{\ticon}[1]
20 {%
21 \begin{lateximage}*[#1 icon][typicon#1]%
22 \TI\csname ticon@#1\endcsname%
23 \end{lateximage}%
24 }

```

---

File 517 **lwarp-ulem.sty**

§ 624 Package **ulem**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg ulem Patched for use by lwarp.

for HTML output: Use the original package:

```
1 \LWR@ProvidesPackagePass{ulem}[2012/05/18]
```

Basic markup commands, using CSS:

```
2 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
3 \InlineClass%
4 (text-decoration:underline; text-decoration-skip: auto)%
5 {uline}{\LWR@isolate{#1}}%
6 }
7 \LWR@formatted{uline}
8
9 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
10 \InlineClass%
11 (%
12 text-decoration:underline; text-decoration-skip: auto;%
13 text-decoration-style:double%
14)%
15 {uuline}{\LWR@isolate{#1}}%
16 }
17 \LWR@formatted{uuline}
18
19 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
20 \InlineClass%
21 (%
22 text-decoration:underline; text-decoration-skip: auto;%
23 text-decoration-style:wavy%
24)%
25 {uwave}{\LWR@isolate{#1}}%
26 }
27 \LWR@formatted{uwave}
28
29 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
30 \InlineClass%
31 (text-decoration:line-through)%
32 {sout}{\LWR@isolate{#1}}%
33 }
34 \LWR@formatted{sout}
35
36 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
37 \InlineClass%
38 (text-decoration:line-through)%
39 {xout}{\LWR@isolate{#1}}%
40 }
41 \LWR@formatted{xout}
42
43 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
44 \InlineClass%
```

```

45 (%)
46 text-decoration:underline;%
47 text-decoration-skip: auto;%
48 text-decoration-style:dashed%
49)%
50 {dashuline}{\LWR@isolate{#1}}%
51 }
52 \LWR@formatted{dashuline}
53
54 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
55 \InlineClass%
56 (%)
57 text-decoration:underline;%
58 text-decoration-skip: auto;%
59 text-decoration-style: dotted%
60)%
61 {dotuline}{\LWR@isolate{#1}}%
62 }
63 \LWR@formatted{dotuline}

```

Nullified/emulated macros:

```

64 \NewDocumentCommand{\LWR@HTML@markoverwith}{m}{}
65 \LWR@formatted{markoverwith}
66
67 \NewDocumentCommand{\LWR@HTML@ULon}{+m}{\uline{#1}\egroup}
68 \LWR@formatted{ULon}

```

---

File 518 **lwarp-umoline.sty**

§ 625     Package **umoline**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg    umoline    umoline is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{umoline}[2000/07/11]

2 \newcommand*{\LWR@HTML@Underline}[1]{%
3 \InlineClass{uline}{#1}%
4 }
5 \LWR@formatted{Underline}
6
7 \newcommand*{\LWR@HTML@Midline}[1]{%
8 \InlineClass{sout}{#1}%
9 }
10 \LWR@formatted{Midline}
11
12 \newcommand*{\LWR@HTML@Overline}[1]{%
13 \InlineClass{oline}{#1}%
14 }
15 \LWR@formatted{Overline}
16

```

---

```

17 \newcommand*{\LWR@HTML@UMoline}[2]{%
18 \InlineClass{uline}{#2}%
19 }
20 \LWR@formatted{UMoline}
21
22 \NewDocumentCommand{\LWR@HTML@UMospace}{s m o}{\hspace*{#2}}
23 \LWR@formatted{UMospace}
24
25 \NewDocumentCommand{\LWR@HTML@UMonewline}{s}{\newline}
26 \LWR@formatted{UMonewline}

```

---

File 519 **lwarp-underscore.sty**

§ 626    Package **underscore**

Pkg    underscore    underscore is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]

---

File 520 **lwarp-unicode-math.sty**

§ 627    Package **unicode-math**

(Emulates or patches code by WILL ROBERTSON.)

Pkg    unicode-math    unicode-math is supported as-is for HTML with SVGmath.

 **MATHJAX** If the document source includes embedded Unicode characters, these may not be reproduced correctly for *pdftotext*, and thus not display correctly in MATHJAX.

Symbol font commands are emulated, but not all combinations are supported by MATHJAX, especially with the dedicated Greek macros. Symbol macros such as `\sympfsf` may not be sans or bold. For Greek, use the Unicode equivalent, if necessary.

 **\mathversion** The MATHJAX emulation does not change with the use of `\mathversion`. Whatever emulation is established at the begin of the document will remain.

The option `sans-style` honors `upright` and `italic`, but `italic` will not be sans, in order to support Greek macros.

Greek macros such as `\alpha` respond to the `math-style` option. Latin symbols does not, per MATHJAX limitations, unless placed inside `\sympit` or similar.

Macros from the categories `\mathopen`, `\mathclose`, and `\mathfence` are emulated. Due to current MATHJAX limitations, not all stretch to the correct height.

Also emulated are macros from the categories `\mathpunct`, `\mathover`, `\mathunder`, `\mathaccent`, `\mathbotaccent`, and `\mathop`.

The individual **unicode-math** macros of categories `\mathbin`, `\mathord`, and `\mathrel` are not emulated for MATHJAX, as there are more than two thousand of them, but they

may be added as needed. Place the following in the document preamble after loading `unicode-math`, including a definition for each macro which is used in the document but undefined in `MATHJAX`:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\uplus}{\mathbin{\unicode{x0228E}}}}
...
\end{warpMathJax}
```

Use `\mathrel`, `\mathbin`, etc. depending on the category of each macro. For a list of macro names and symbols, see **texdoc unimath-symbols**.

for HTML output:

```
1 \LWR@ProvidesPackagePass{unicode-math}[2019/09/26]

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{unicode-math}
6
7 % Not all are possible in MathJax.
8 \CustomizeMathJax{\let\symnormal\mathit}
9 \CustomizeMathJax{\let\symliteral\mathrm}
10 \CustomizeMathJax{\let\sybbb\mathbb}
11 \CustomizeMathJax{\let\sybbbit\mathbb}% not italic
12 \CustomizeMathJax{\let\symcal\mathcal}
13 \CustomizeMathJax{\let\symscr\mathscr}
14 \CustomizeMathJax{\let\symfrac\mathfrak}
15
16 \CustomizeMathJax{\let\symsfup\mathsf}
17
18 \CustomizeMathJax{\let\symsfit\mathit}% not sans
19 % \CustomizeMathJax{\newcommand{\symsfit}[1]{%
20 % \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}% not greek
21 % }
22
23 \CustomizeMathJax{\let\sybfsf\mathbf}% not sans
24 % \CustomizeMathJax{\newcommand{\sybfsf}[1]{%
25 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
26 % }
27
28 \CustomizeMathJax{\let\sybfup\mathbf}
29 \CustomizeMathJax{\newcommand{\sybfup}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\let\sybfcal\mathcal}% not bold
31
32 \CustomizeMathJax{\let\sybfscr\mathscr}% not bold
33 % \CustomizeMathJax{\newcommand{\sybfscr}[1]{%
34 % \mmlToken{mi}[mathvariant="math-bold-script"]{#1}}% not greek
35 % }
36
37 \CustomizeMathJax{\let\sybffrac\mathfrak}% not bold
38 % \CustomizeMathJax{\newcommand{\sybffrac}[1]{%
39 % \mmlToken{mi}[mathvariant="math-bold-fraktur"]{#1}}% not greek
40 % }
41
```



```

42 \CustomizeMathJax{\let\symsfsfup\mathbf}% not sans
43 % \CustomizeMathJax{\newcommand{\symsfsfup}[1]{%
44 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
45 % }
46
47 \CustomizeMathJax{\newcommand{\symsfsfit}[1]{\boldsymbol{#1}}}% not sans
48 % \CustomizeMathJax{\newcommand{\symsfsfit}[1]{%
49 % \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}}% not greek
50 % }
51
52 % Duplicates below are commented out.
53 \CustomizeMathJax{\let\symup\mathrm}
54 \CustomizeMathJax{\let\symsf\mathbf}% \symsfup defined above
55 \CustomizeMathJax{\let\symsfit\mathit}
56 % \CustomizeMathJax{\let\symsffit\mathit}% not bold

57 \ExplSyntaxOn
58 \AtBeginDocument{
59 \bool_if:NTF \g__um_sfliteral_bool
60 { \CustomizeMathJax{\let\symsf\symsfup}}
61 {
62 \bool_if:NTF \g__um_upsans_bool
63 { \CustomizeMathJax{\let\symsf\symsfup}}
64 { \CustomizeMathJax{\let\symsf\symsffit}}
65 }
66 }
67 \ExplSyntaxOff

68 % \CustomizeMathJax{\let\symsfsfup\mathbf}% not sans
69 % \CustomizeMathJax{\let\symsffit\mathit}% not sans
70 % \CustomizeMathJax{\let\symsfsfit\mathit}% not bold nor sans
71 \CustomizeMathJax{\let\symsftt\mathtt}
72 % \CustomizeMathJax{\let\symsbb\mathbb}
73 % \CustomizeMathJax{\let\symsbbit\mathbb}% not italic
74 % \CustomizeMathJax{\let\symscr\mathscr}
75 % \CustomizeMathJax{\let\symsfscr\mathscr}% not bold
76 % \CustomizeMathJax{\let\symsfrak\mathfrak}
77 \CustomizeMathJax{\let\symsbffrac\mathbbffrac}

```

Some symbol categories defined by `unicode-math`, in case they are used inside custom macros:

```

78 \CustomizeMathJax{\newcommand{\mathfence}[1]{\mathord{#1}}}
79 \CustomizeMathJax{\newcommand{\mathover}[1]{#1}}
80 \CustomizeMathJax{\newcommand{\mathunder}[1]{#1}}
81 \CustomizeMathJax{\newcommand{\mathaccent}[1]{#1}}
82 \CustomizeMathJax{\newcommand{\mathbotaccent}[1]{#1}}
83 \CustomizeMathJax{\newcommand{\mathalpha}[1]{\mathord{#1}}}

```

`math-style` is one of: ISO, TeX, french, upright, or literal, which set `\g__um_upGreek_bool` and `\g__um_upgreek_bool`.

```

84 \ExplSyntaxOn
85

```

Many `\mathopen/\mathclose` delimiters are defined in `lwarp_mathjax.txt`, where `\left/\right` support is added.

```

107 \CustomizeMathJax{\newcommand{\longdivision}[1]{\mathord{\unicode{x027CC}#1}}}
108
109 \CustomizeMathJax{\newcommand{\mathcomma}{,}}
110 \CustomizeMathJax{\newcommand{\mathcolon}{:}}
111 \CustomizeMathJax{\newcommand{\mathsemicolon}{;}}
112
113 \CustomizeMathJax{\newcommand{\overbracket}[1]{\mathinner{\overline{\ulcorner{#1}\urcorner}}}}
114 \CustomizeMathJax{\newcommand{\underbracket}[1]{\mathinner{\underline{\llcorner{#1}\lrcorner}}}}
115
116 \CustomizeMathJax{\newcommand{\overbar}[1]{\mathord{#1\unicode{x00305}}}}
117 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{#1\unicode{x00309}}}}
118 \CustomizeMathJax{\newcommand{\ocirc}[1]{\mathord{#1\unicode{x0030A}}}}
119 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{#1\unicode{x00310}}}}
120 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{#1\unicode{x00312}}}}
121 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{#1\unicode{x00315}}}}
122 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{#1\unicode{x0031A}}}}
123 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{#1\unicode{x020D0}}}}
124 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{#1\unicode{x020D1}}}}
125 \CustomizeMathJax{\newcommand{\vertoverlay}[1]{\mathord{#1\unicode{x020D2}}}}
126 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{#1\unicode{x020D0}}}}
127 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{#1\unicode{x020E7}}}}
128 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{#1\unicode{x020E9}}}}
129 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{#1\unicode{x020F0}}}}
130 \CustomizeMathJax{\newcommand{\threeunderdot}[1]{\mathord{#1\unicode{x020E8}}}}
131
132 \CustomizeMathJax{\newcommand{\Bbbsum}{\mathop{\unicode{x2140}}\limits}}
133 \CustomizeMathJax{\newcommand{\oint}{\mathop{\unicode{x222F}}\limits}}
134 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
135 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
136 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}

```

```

137 \CustomizeMathJax{\newcommand{\ointctrclockwise}{\mathop{\unicode{x2233}}\limits}}
138 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
139 \CustomizeMathJax{\newcommand{\leftouterjoin}{\mathop{\unicode{x27D5}}\limits}}
140 \CustomizeMathJax{\newcommand{\rightouterjoin}{\mathop{\unicode{x27D6}}\limits}}
141 \CustomizeMathJax{\newcommand{\fullouterjoin}{\mathop{\unicode{x27D7}}\limits}}
142 \CustomizeMathJax{\newcommand{\bigbot}{\mathop{\unicode{x27D8}}\limits}}
143 \CustomizeMathJax{\newcommand{\bigtop}{\mathop{\unicode{x27D9}}\limits}}
144 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}\limits}}
145 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}\limits}}
146 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}\limits}}
147 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}\limits}}
148 \CustomizeMathJax{\newcommand{\conjquant}{\mathop{\unicode{x2A07}}\limits}}
149 \CustomizeMathJax{\newcommand{\disjquant}{\mathop{\unicode{x2A08}}\limits}}
150 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}\limits}}
151 \CustomizeMathJax{\newcommand{\modtwosum}{\mathop{\unicode{x2A0A}}\limits}}
152 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
153 \CustomizeMathJax{\newcommand{\intbar}{\mathop{\unicode{x2A0D}}\limits}}
154 \CustomizeMathJax{\newcommand{\intBar}{\mathop{\unicode{x2A0E}}\limits}}
155 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
156 \CustomizeMathJax{\newcommand{\cirfnint}{\mathop{\unicode{x2A10}}\limits}}
157 \CustomizeMathJax{\newcommand{\awint}{\mathop{\unicode{x2A11}}\limits}}
158 \CustomizeMathJax{\newcommand{\rppolint}{\mathop{\unicode{x2A12}}\limits}}
159 \CustomizeMathJax{\newcommand{\scpolint}{\mathop{\unicode{x2A13}}\limits}}
160 \CustomizeMathJax{\newcommand{\npolint}{\mathop{\unicode{x2A14}}\limits}}
161 \CustomizeMathJax{\newcommand{\pointint}{\mathop{\unicode{x2A15}}\limits}}
162 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
163 \CustomizeMathJax{\newcommand{\intlarhk}{\mathop{\unicode{x2A17}}\limits}}
164 \CustomizeMathJax{\newcommand{\intx}{\mathop{\unicode{x2A18}}\limits}}
165 \CustomizeMathJax{\newcommand{\intcap}{\mathop{\unicode{x2A19}}\limits}}
166 \CustomizeMathJax{\newcommand{\intcup}{\mathop{\unicode{x2A1A}}\limits}}
167 \CustomizeMathJax{\newcommand{\upint}{\mathop{\unicode{x2A1B}}\limits}}
168 \CustomizeMathJax{\newcommand{\lowint}{\mathop{\unicode{x2A1C}}\limits}}
169 \CustomizeMathJax{\newcommand{\bigtriangleleftleft}{\mathop{\unicode{x2A1E}}\limits}}
170 \CustomizeMathJax{\newcommand{\zcmp}{\mathop{\unicode{x2A1F}}\limits}}
171 \CustomizeMathJax{\newcommand{\zpipe}{\mathop{\unicode{x2A20}}\limits}}
172 \CustomizeMathJax{\newcommand{\zproject}{\mathop{\unicode{x2A21}}\limits}}
173 \CustomizeMathJax{\newcommand{\biginterleave}{\mathop{\unicode{x2AFC}}\limits}}
174 \CustomizeMathJax{\newcommand{\bigtalloblong}{\mathop{\unicode{x2AFF}}\limits}}
175 \CustomizeMathJax{\newcommand{\arabicmaj}{\mathop{\unicode{x1EEF0}}\limits}}
176 \CustomizeMathJax{\newcommand{\arabichad}{\mathop{\unicode{x1EEF1}}\limits}}
177
178 \end{warpMathJax}

```

---

File 521 **lwarp-units.sty**

§ 628    Package **units**

(Emulates or patches code by AXEL REICHERT.)

Pkg    units    units is patched for use by lwarp.

Values are not styled by css, and take the style of the surrounding HTML text.

Units are styled according to the print version, so they will be forced to upright roman in HTML if the print version does so. It may be necessary to adjust the document's body css to match the print version.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{units}[1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@unit}[2][]{%
3 \ifblank{#1}%
4 {\LWR@textcurrentfont{#2}}%
5 {%
6 #1%
7 \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
8 \LWR@textcurrentfont{#2}}%
9 }%
10 }
11 \LWR@formatted{unit}

12 \DeclareRobustCommand*\LWR@HTML@unitfrac}[3][]{%
13 \ifblank{#1}%
14 {%
15 \nicefrac{#2}{#3}%
16 }%
17 {%
18 #1%
19 \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
20 \nicefrac{#2}{#3}}%
21 }%
22 }
23
24 \LWR@formatted{unitfrac}

```

For MATHJAX:

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\unit}[2][]{#1 \mathinner{#2}}}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][]{#1 \mathinner{{}^{\#2}\!/_{\#3}}}}
28 \end{warpMathJax}

```

---

File 522 **lwarp-unitsdef.sty**

§ 629      Package **unitsdef**

*(Emulates or patches code by PATRICK HAPPEL.)*

Pkg    unitsdef    **unitsdef** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{unitsdef}[2005/01/04]

2 \renewcommand{\unitvaluesep}{\,%}
3
4 \renewcommand{\unittimes}{\@@setunitsepfalse\HTMLUnicode{22c5}}% \cdot
5

```

---

```

6 \renewunit{\arcmin}{%
7 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8 {\ensuremath{{}^{\prime}}}%
9 {\HTMLUnicode{2032}}% prime
10 }
11
12 \renewunit{\arcsec}{%
13 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
14 {\ensuremath{{}^{\prime\prime}}}%
15 {\HTMLUnicode{2033}}% dbl prime
16 }
17
18 \renewrobustcmd{\SI}[2]{%
19 \begingroup%
20 \let\unit@@xspace\relax%
21 \unitSIdf\selectfont%
22 \LWR@textcurrentfont{#1#2}% lwarp
23 \endgroup%
24 }

```

---

File 523 **lwarp-upgreek.sty**

§ 630     Package **upgreek**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg   upgreek   **upgreek** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**     1 \LWR@ProvidesPackagePass{upgreek}[2003/02/12]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{upgreek}
6
7 \LWR@mathjax@addgreek@l@up{up}{}
8 \LWR@mathjax@addgreek@u@up{Up}{}
9
10 \end{warpMathJax}

```

---

File 524 **lwarp-upref.sty**

§ 631     Package **upref**

Pkg   upref   **upref** is ignored.

**for HTML output:**     Discard all options for lwarp-upref:

```

1 \LWR@ProvidesPackageDrop{upref}[2007/03/14]

```

---

File 525 **lwarp-url.sty**

§ 632    Package **url**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg   url   url is patched for use by lwarp.

**for HTML output:**

```

1 \LetLtxMacro\LWR@url@orig@url\LWR@url
2
3 \LWR@ProvidesPackagePass{url}[2013/09/16]

4 \newcommand*\LWR@HTML@Url@FormatString{%
5 \expandafter\LWR@url@orig@url\expandafter\@Url@String}%
6 }
7 \LWR@formatted{Url@FormatString}
```

---

File 526 **lwarp-ushort.sty**

§ 633    Package **ushort**

*(Emulates or patches code by MARTIN VÄTH.)*

Pkg   ushort   ushort is used as-is, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{ushort}[2001/06/13]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\ushortdline}[1]{%
4 \kern{.1em}\underline{\underline{#1}}\kern{.1em}%
5 }}
6 \CustomizeMathJax{\newcommand{\ushort}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
7 \CustomizeMathJax{\newcommand{\ushortd}[1]{\ushortdline{#1}}}
8 \CustomizeMathJax{\newcommand{\ushortw}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
9 \CustomizeMathJax{\newcommand{\ushortdw}[1]{\ushortdline{#1}}}
10 \end{warpMathJax}
```

---

File 527 **lwarp-ospace.sty**

§ 634    Package **ospace**

Pkg   ospace   ospace is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ospace}[2016/11/06]
```

---

File 528 **lwarp-varioref.sty**

§ 635 Package **varioref**

*(Emulates or patches code by FRANK MITTELBACH.)*

Pkg varioref **varioref** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{varioref}[2020/01/23]

Page-related output is not used for HTML output.

```
2 \def\reftextfaceafter {\unskip}%
3 \def\reftextfacebefore{\unskip}%
4 \def\reftextafter {\unskip}%
5 \def\reftextbefore {\unskip}%
6 \def\reftextcurrent {\unskip}%
7 \def\reftextfaraway#1{\unskip}%
8 \def\reftextpagerange#1#2{\unskip}%
```

---

File 529 **lwarp-verse.sty**

§ 636 Package **verse**

*(Emulates or patches code by PETER WILSON.)*

Pkg verse **verse** is supported and patched by **lwarp**.

for HTML output: Pass all options for **lwarp-verse**:

```
1 \LWR@ProvidesPackagePass{verse}[2009/09/04]
```

When using **verse** or **memoir**, always place a `\\` after each line.

`\attrib` The documentation for the **verse** and **memoir** packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. **lwarp** provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

Len `\vleftskip` These lengths are used by **verse** and **memoir** to control the left margin, and they  
 Len `\vleftmargini` may already be set by the user for print output. New lengths `\HTMLvleftskip` and  
 Len `\HTMLvleftskip` `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths  
 Len `\HTMLleftmargini` may be set by the user before any **verse** environment, and persist until they are manually  
 changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse`  
 in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should

be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

⚠ spacing Horizontal spacing relies on *pdfotext*’s ability to discern the layout (-layout option) of the text in the HTML-tagged PDF output. For some settings of \HTMLleftmargini or \HTMLleftskip the horizontal alignment may not work out exactly, in which case a label

⚠ verse margin may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdfotext* to shift everything over.

Env verse The verse environment will be placed inside a HTML <pre>.

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching verse.}
```

At the beginning of the verse environment:

```
4 \AtBeginEnvironment{verse}
5 {%
```

Use the original list environment inside a <pre> to attempt to preserve formatting.

```
6 \LWR@restoreoriglists%
```

Pkg verse The *verse* or *memoir* packages can place stanza numbers to the left with their \flagverse command. The following does not allow them to go into the left margin, which would cause *pdfcrop* to crop the entire page further to the left.

Cls memoir

\flagverse

Len \vleftskip

```
7 \ifdef{\vleftskip}{%
8 \setlength{\vleftskip}{\HTMLvleftskip}
9 \setlength{\leftmargini}{\HTMLleftmargini}
10 }{}
11 \LWR@forcenewpage
12 \LWR@atbeginverbatim{verse}%
13 }
```

After the end of the verse environment, which places the <pre> tag at the regular left margin:

```
14 \AtEndEnvironment{verse}{%
15 \leavevmode%
16 \LWR@afterendverbatim%
17 }
```

Patch to place poemtitle inside an HTML <span> of class poemtitle:

```
18 \ifdef{\poemtitle}{
19 \DeclareDocumentCommand{\@vstypeptitle}{m}{%
20 \vspace{\beforepoemtitleskip}%
21 {\InlineClass{poemtitle}{\poemtitlefont #1}\par}%
22 \vspace{\afterpoemtitleskip}%
23 }
24 }{}
25 }
```



---

```

26 \LWR@traceinfo{Finished patching verse.}
27}% AfterEndPreamble

```

---

File 530 **lwarp-versednotes.sty**

§ 637     Package **versednotes**

*(Emulates or patches code by NORMAN GRAY.)*

Pkg   versednotes   **versednotes** is emulated.

**for HTML output:**     1 \LWR@ProvidesPackageDrop{versednotes}[2019/07/06]

```

2 \newcommand{\versednote}[1]{\marginpar{#1}}
3 \newdimen\versedtextwidth
4 \newdimen\versedleftmargin
5 \newcommand*{\versedlayout}{}

```

In case the user changed the page number before loading **versednotes**:

```

6 \setcounter{page}{1}

```

---

File 531 **lwarp-vertbars.sty**

§ 638     Package **vertbars**

*(Emulates or patches code by PETER WILSON.)*

Pkg   vertbars   **vertbars** is emulated.

**for HTML output:**     1 \LWR@ProvidesPackageDrop{vertbars}[2010/11/27]

```

2 \newlength{\barwidth}
3 \setlength{\barwidth}{0.4pt}
4 \newlength{\barspace}
5 \setlength{\barspace}{1em}
6
7 \newenvironment{vertbar}{
8 \LWR@forcenewpage
9 \LWR@forceminwidth{\barwidth}
10 \begin{BlockClass}[%
11 border-left: \LWR@printlength{\LWR@atleastonept} solid black ; %
12 padding-left: \LWR@printlength{\barspace}%
13]{vertbar}
14 }{
15 \end{BlockClass}
16 }

```

---

File 532 **lwarp-vmargin.sty**

## § 639 Package **vmargin**

Pkg vmargin vmargin is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{vmargin}[2004/07/15]

2 \newcommand*{\LWRVM@customsize}[2]{}
3 \newcommand*{\setpapersize}[2][\ifstrequal{#2}{custom}{\LWRVM@customsize}{}]}
4 \newcommand*{\setmargins}[8]{}
5 \newcommand*{\setmarginsrb}[8]{}
6 \newcommand*{\setmargnohf}[4]{}
7 \newcommand*{\setmargnohfrb}[4]{}
8 \newcommand*{\setmarg}[4]{}
9 \newcommand*{\setmargrb}[4]{}
10 \newlength{\PaperWidth}
11 \setlength{\PaperWidth}{8.5in}
12 \newlength{\PaperHeight}
13 \setlength{\PaperHeight}{11in}
14 \newif\ifLandscape
```

---

File 533 **lwarp-vowel.sty**

## § 640 Package **vowel**

(Emulates or patches code by FUKUI REI.)

Pkg vowel vowel is patched for use by lwarp.

This package has been tested with *pdf<sub>l</sub>atex* and the Type 1 TIPA fonts using the following package load sequence:

```

\usepackage[T3,T1]{fontenc}
\usepackage[utf8]{inputenc}
\usepackage[noenc]{tipa}
\usepackage{vowel}
```

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{vowel}[2002/08/08]

2 \renewenvironment{vowel}[1][]
3 {%
4 \begin{lateximage}[-vowel-~\PackageDiagramAltText]%
5 \@vowel[#1]%
6 }
7 {%
8 \@@vowel%
9 \end{lateximage}%
10 }
```

---

File 534 **lwarp-vpe.sty**

§ 641 Package **vpe**

Pkg vpe vpe is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

File 535 **lwarp-vwcol.sty**§ 642 Package **vwcol**

(Emulates or patches code by WILL ROBERTSON.)

Pkg vwcol vwcol is patched for use with lwarp.

The width option is ignored. All vwcol environments adjust to 1–3 equal-width columns, depending on the width of the browser window.

The remaining options are supported, except for lines and maxrecursion.

for HTML output: 1 \LWR@ProvidesPackagePass{vwcol}[2015/02/10]

Factored from \vwcol. Each is given a style tag to append to the final style.

```
\LWR@vwcol@addrule {\langle style tag \rangle}
2 \newcommand*{\LWR@vwcol@addrule}[1]{%
3 \appto{\LWR@vwcolstyle}{%
4 #1: %
5 \LWR@printlength{\vwcol@rule} solid \LWR@origpound\LWR@vwcol@rulecolor ; %
6 }%
7 }
```

```
\LWR@vwcol@addrule {\langle style tag \rangle}
8 \newcommand*{\LWR@vwcol@addgap}[1]{%
9 \appto{\LWR@vwcolstyle}{%
10 #1: %
11 \LWR@printlength{\vwcol@sep} ; %
12 }%
13 }
```

Env vwcol {\langle key/values \rangle}

Redefine the environment to add a HTML style. The style is built depending on the required options.

```
14 \renewenvironment*{vwcol}[1][1]{%
```

New paragraph, and process the options:

```
15 \LWR@stoppars%
16 \vwcolsetup{#1}%
```

Begin with no style:

```
17 \newcommand*{\LWR@vwcolstyle}{}{}
```

presep and postsep are created with HTML margins:

```
18 \if@vwcol@presep
19 \appto{\LWR@vwcolstyle}{margin-left: 1em ; padding-left: .5em ; }
20 \fi
21 \if@vwcol@postsep
22 \appto{\LWR@vwcolstyle}{margin-right: 1em ; padding-right: .5em ; }
23 \fi
```

sep becomes column-gap:

```
24 \ifdimgreater{\vwcol@sep}{1sp}{
25 \LWR@vwcol@addgap{column-gap}
26 \LWR@vwcol@addgap{-moz-column-gap}
27 \LWR@vwcol@addgap{-webkit-column-gap}
28 }{}
```

rule become column-rule, while prerule and postrule become HTML borders:

```
29 \convertcolorspec{named}{\vwcol@rulecol}{HTML}\LWR@vwcol@rulecolor%
30 \ifdimgreater{\vwcol@rule}{0pt}{
31 \ifdimless{\vwcol@rule}{1pt}{
32 \setlength{\vwcol@rule}{1pt}
33 }{
34 \LWR@vwcol@addrule{column-rule}
35 \LWR@vwcol@addrule{-moz-column-rule}
36 \LWR@vwcol@addrule{-webkit-column-rule}
37 \if@vwcol@prerule\LWR@vwcol@addrule{border-left}\fi
38 \if@vwcol@postrule\LWR@vwcol@addrule{border-right}\fi
39 }{}
```

Each of the justify options becomes a text-align. Indentation is added where appropriate.

```
40 \ifdefequal{\vwcol@justify}{\RaggedRight}{
41 \appto{\LWR@vwcolstyle}{text-align: left ; }
42 \ifdimgreater{\vwcol@parindent}{0pt}{
43 \appto{\LWR@vwcolstyle}{%
44 text-indent: \LWR@printlength{\vwcol@parindent} ; %
45 }
46 }{
47 }{

48 \ifdefequal{\vwcol@justify}{\RaggedLeft}{
49 \appto{\LWR@vwcolstyle}{text-align: right ; }
50 }{

51 \ifdefequal{\vwcol@justify}{\Centering}{
52 \appto{\LWR@vwcolstyle}{text-align: center ; }
53 }{

54 \ifdefequal{\vwcol@justify}{\justifying}{
55 \appto{\LWR@vwcolstyle}{text-align: justify ; }
56 \ifdimgreater{\vwcol@parindent}{0pt}{
57 \appto{\LWR@vwcolstyle}{%
58 text-indent: \LWR@printlength{\vwcol@parindent} ; %
59 }
56 }
```

```

60 }{}
61 }{}

```

Create the <div> with the assembled style:

```

62 \BlockClass[\LWR@vwcolstyle]{multicols}
63 }

```

When the environment ends:

```

64 {
65 \endBlockClass
66 \LWR@startpars
67 }

```

---

File 536 **lwarp-wallpaper.sty**

§ 643      Package **wallpaper**

*(Emulates or patches code by MICHAEL H.F. WILKINSON.)*

Pkg    wallpaper    **wallpaper** is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{wallpaper}[2005/01/18]

```

2 \newcommand*{\CenterWallPaper}[2]{}
3 \newcommand*{\ThisCenterWallPaper}[2]{}
4 \newcommand*{\TileWallPaper}[3]{}
5 \newcommand*{\ThisTileWallPaper}[3]{}
6 \newcommand*{\TileSquareWallPaper}[2]{}
7 \newcommand*{\ThisTileSquareWallPaper}[2]{}
8 \newcommand*{\ULCornerWallPaper}[2]{}
9 \newcommand*{\ThisULCornerWallPaper}[2]{}
10 \newcommand*{\LLCornerWallPaper}[2]{}
11 \newcommand*{\ThisLLCornerWallPaper}[2]{}
12 \newcommand*{\URCornerWallPaper}[2]{}
13 \newcommand*{\ThisURCornerWallPaper}[2]{}
14 \newcommand*{\LRCornerWallPaper}[2]{}
15 \newcommand*{\ThisLRCornerWallPaper}[2]{}
16 \newcommand*{\ClearWallPaper}{}
17 \newlength{\wpXoffset}
18 \newlength{\wpYoffset}

```

---

File 537 **lwarp-watermark.sty**

§ 644      Package **watermark**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg    watermark    **watermark** is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{watermark}[2004/12/09]

---

```

2 \newcommand{\watermark}[1]{}
3 \newcommand{\leftwatermark}[1]{}
4 \newcommand{\rightwatermark}[1]{}
5 \newcommand{\thiswatermark}[1]{}
6 \newcommand{\thispageheading}[1]{}

```

---

File 538 **lwarp-widetable.sty**

§ 645      Package **widetable**

*(Emulates or patches code by CLAUDIO BECCARI.)*

Pkg    widetable    **widetable** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{widetable}[2019-06-25]

2 \newenvironment{widetable}{\begin{tabular*}}{\end{tabular*}}

```

---

File 539 **lwarp-widows-and-orphans.sty**

§ 646      Package **widows-and-orphans**

Pkg    widows-and-orphans    **widows-and-orphans** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{widows-and-orphans}[2018/09/01]

2 \NewDocumentCommand\Wa0setup{m}{}
3 \NewDocumentCommand\Wa0parameters{}{}
4 \NewDocumentCommand\Wa0ignorenext{}{}

```

---

File 540 **lwarp-witharrows.sty**

§ 647      Package **witharrows**

*(Emulates or patches code by F. PANTIGNY.)*

Pkg    witharrows    **witharrows** is patched for use by **lwarp**. Emulation is provided for **MATHJAX**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{witharrows}[2019/12/27]

2 \ifbool{mathjax}{
3 % For the hidden print version in the HTML:
4 \newcommand{\Arrow}[2][{}]{
5 \newcommand{\unicode}[1]{}
6 \NewDocumentEnvironment { DispWithArrows } { ! d < > ! 0 { } +b}
7 {
8 \IfValueTF{#1}{

```

```

9 \begin{displaymath}
10 #1 \left\lbrace
11 \begin{align}
12 #3
13 \end{align}
14 \right .
15 \end{displaymath}
16 }{
17 \begin{displaymath}
18 \begin{align}
19 #3
20 \end{align}
21 \end{displaymath}
22 }
23 }
24 {}
25 \NewDocumentEnvironment { DispWithArrows* } { ! d < > ! 0 { } } +b)
26 {
27 \IfValueTF{#1}{
28 \begin{displaymath}
29 #1 \left\lbrace
30 \begin{align*}
31 #3
32 \end{align*}
33 \right .
34 \end{displaymath}
35 }{
36 \begin{displaymath}
37 \begin{align*}
38 #3
39 \end{align*}
40 \end{displaymath}
41 }
42 }
43 {}
44 }{
45 % If not MathJax, use SVG images.
46 \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknownmathsize}}
47 \BeforeBeginEnvironment{DispWithArrows}{%
48 \begin{BlockClass}{displaymathnumbered}%
49 \begin{lateximage}%
50 }
51 \AfterEndEnvironment{DispWithArrows}{\end{lateximage}\end{BlockClass}}
52 \BeforeBeginEnvironment{DispWithArrows*}{%
53 \begin{BlockClass}{displaymath}%
54 \begin{lateximage}%
55 }
56 \AfterEndEnvironment{DispWithArrows*}{\end{lateximage}\end{BlockClass}}
57 }
58
59 \begin{warpMathJax}
60 \CustomizeMathJax{\newenvironment{WithArrows}[1][\begin{aligned}]{\end{aligned}}}
61 % Unable to make a sized box.
62 \CustomizeMathJax{\newcommand{\Arrow}[2][\&\Large\unicode{x2938}}{\textit{#2}}}
63 \end{warpMathJax}

```

File 541 **lwarp-wrapfig.sty**

§ 648 Package **wrapfig**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg wrapfig wrapfig is emulated.

```

for HTML output: 1 \LWR@ProvidesPackageDrop{wrapfig}[2003/01/31]

2 \newcommand*{\LWR@wrapposition}{}
3
4 \newcommand*{\LWR@subwrapfigure}[2]{%
5 \renewcommand*{\LWR@wrapposition}{}%
6 \ifthenelse{%
7 \equal{#1}{r}\OR\equal{#1}{R}\OR%
8 \equal{#1}{o}\OR\equal{#1}{O}%
9 }%
10 {\renewcommand*{\LWR@wrapposition}{float:right}}%
11 {\renewcommand*{\LWR@wrapposition}{float:left}}%
12 \setlength{\LWR@templengthone}{#2}%
13 \LWR@BlockClassWP{%
14 width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %
15 margin:10pt%
16 }%
17 {%
18 width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %
19 }%
20 {marginblock}%

21 \setlength{\linewidth}{\LWR@templengthone}%
22 }
23
24
25 \NewDocumentEnvironment{wrapfigure}{o m o m}
26 {%
27 \begin{LWR@setvirtualpage}%
28 \LWR@subwrapfigure{#2}{#4}%
29 \renewcommand*{\@capttype}{figure}%
30 }
31 {%
32 \endLWR@BlockClassWP%
33 \end{LWR@setvirtualpage}%
34 }
35
36
37 \NewDocumentEnvironment{wraptable}{o m o m}
38 {%
39 \begin{LWR@setvirtualpage}%
40 \LWR@subwrapfigure{#2}{#4}%
41 \renewcommand*{\@capttype}{table}%

```



---

```

42 }
43 {%
44 \endLWR@BlockClassWP%
45 \end{LWR@setvirtualpage}%
46 }
47
48
49 \NewDocumentEnvironment{wrapfloat}{m o m o m}
50 {%
51 \begin{LWR@setvirtualpage}*%
52 \LWR@subwrapfigure{#3}{#5}%
53 \renewcommand*{\@capttype}{#1}%
54 }
55 {%
56 \endLWR@BlockClassWP%
57 \end{LWR@setvirtualpage}%
58 }
59
60 \newlength{\wrapoverhang}

```

---

File 542 **lwarp-xbmks.sty**

§ 649      Package **xbmks**

Pkg    xbmks    xbmks is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{xbmks}[2018/07/04]

```

2 \newcommand{\xbmksetup}[1]{}
3 \NewDocumentCommand{\pdfbookmarkx}{o m o m}{}
4 \NewDocumentCommand{\currentpdfbookmarkx}{m o m}{}
5 \NewDocumentCommand{\subpdfbookmarkx}{m o m}{}
6 \NewDocumentCommand{\belowpdfbookmarkx}{m o m}{}

```

---

File 543 **lwarp-xcolor.sty**

§ 650      Package **xcolor**

*(Emulates or patches code by DR. UWE KERN.)*

Pkg    xcolor    xcolor is supported by lwarp.

### § 650.1 Limitations

`\colorboxBlock` and `\fcolorboxBlock` are provided for increased HTML compatibility, and they are identical to `\colorbox` and `\fcolorbox` in print mode. In HTML mode they place their contents into a `<div>` instead of a `<span>`. These `<div>`s are set to display: inline-block so adjacent `\colorboxBlock`s appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for `\colorboxBlock` and `\fcolorboxBlock` are created by `lwarp`'s core if `xcolor` is loaded.

**background: none** `\fcolorbox` and `\fcolorboxBlock` allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.

**color support** Color definitions, models, and mixing are fully supported without any changes required.

**colored tables** `\rowcolors` is supported, except that the optional argument is ignored so far.

**colored text and boxes** `\textcolor`, `\colorbox`, and `\fcolorbox` are supported.

**\color and \pagecolor** `\color` and `\pagecolor` are ignored. Use `css` or `\textcolor` where possible.

### § 650.2 xcolor definitions: location and timing

The `lwarp` core and its `lwarp-xcolor` package are tightly integrated to allow comparable results for print, HTML, and print inside an HTML `lateximage`. This requires a number of definitions and redefinitions depending on whether each of `xcolor` and `lateximage` is being used, and whether print or HTML is being generated. Some of these actions are one-time when `xcolor` is loaded, and others are temporary as `lateximage` is used.

**When `xcolor` is loaded in print mode:** No special actions are taken at the time that `xcolor` is loaded in print mode, but see `\AtBeginDocument` below.

**When `lwarp-xcolor` is loaded in HTML mode:** `xcolor`'s original definitions are saved for later restoration. `\LWR@restoreorigformatting` is appended to restore these definitions for use inside a `lateximage`. New HTML-mode definitions are created for `\textcolor`, `\pagecolor`, `\nopagecolor`, `\colorbox`, `\colorboxBlock`, `\fcolorbox`, `\fcolorboxBlock`, and `fcolorminipage`.

**`\AtBeginDocument` in print or HTML mode:** See Section 88. If `xcolor` has been loaded, the print-mode `\fcolorbox` is modified to accept a background color of none, and additional definitions are created for `lwarp`'s new macros print-mode macros `\colorboxBlock`, `\fcolorboxBlock`, and `fcolorminipage`. The HTML versions of these macros will already have been created by `lwarp-xcolor` if it has been loaded.

For use inside an HTML `lateximage`, `\LWR@restoreorigformatting` is appended to temporarily set these functions to their print-mode versions.

**In a `lateximage` in HTML mode:** `\LWR@restoreorigformatting` temporarily restores the print-mode definitions of `xcolor`'s functions. See `\LWR@restoreorigformatting` on page 535.

**`\color`:**

**Print:** Used as-is.

**HTML:** Ignored by *pdftotext*, and will not appear.

**HTML lateximage:** Colors will appear in a lateximage.

**\textcolor:**

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1214.

**HTML lateximage:** Remembers and reuses the print version.

**\pagecolor:**

**Print:** Used as-is.

**HTML:** Ignored.

**HTML lateximage:** Colors will be picked up in a lateximage.

**\nopagecolor:**

**Print:** Used as-is.

**HTML:** Ignored.

**HTML lateximage:** Colors will be picked up in a lateximage.

**\colorbox:**

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1215.

**HTML lateximage:** Remembers and reuses the print version.

**\colorboxBlock:**

**Print:** Becomes \colorbox.

**HTML:** Newly defined by lwarp-xcolor to use a <div>, page 1215.

**HTML lateximage:** Remembers and reuses the print version \colorbox.

**\fcolorbox:**

**Print:** Modified to allow a background of none.

\LWR@print@fcolorbox at section 88

**HTML:** Redefined by lwarp-xcolor, page 1215.

**HTML lateximage:** Remembers and reuses the print version.

**\fcolorboxBlock:**

**Print:** Becomes \fcolorbox. Section 88

**HTML:** Newly defined by lwarp-xcolor to use a <div>, page 1216.

**HTML lateximage:** Remembers and reuses the print version \fcolorbox.

**fcolorminipage:**

**Print:** Newly defined in the lwarp core.

\LWR@print@fcolorminipage at section 88

**HTML:** Newly defined by lwarp-xcolor, page 1217.

**HTML lateximage:** Uses the print version.

**\boxframe:**

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1218.

**HTML lateximage:** Remembers and reuses the print version.

### § 650.3 Package loading

for HTML output: 1 \LWR@ProvidesPackagePass{xcolor}[2016/05/11]

### § 650.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a lateximage environment:

```
2 \LetLtxMacro\LWR@print@pagecolor\pagecolor
3 \LetLtxMacro\LWR@print@nopagecolor\nopagecolor
```

**\LWR@restoreorigformatting** Inside a lateximage the following gets restored to their print-mode actions:

```
4 \appto\LWR@restoreorigformatting{%
5 \LetLtxMacro\pagecolor\LWR@print@pagecolor%
6 \LetLtxMacro\nopagecolor\LWR@print@nopagecolor%
7 }
```

### § 650.5 \normalcolor

**\normalcolor**

```
8 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%
9
10 \LWR@formatted{normalcolor}
```

### § 650.6 HTML color style

**\LWR@findcurrenttextcolor** Sets \LWR@tempcolor to the current color.

```
11 \renewcommand*{\LWR@findcurrenttextcolor}{%
12 \protect\colorlet{\LWR@current@color}{.}%
13 \protect\convertcolorspec{named}{\LWR@current@color}{HTML}\LWR@tempcolor%
14 }
```

Prints a color style for the current color.

**\LWR@currenttextcolorstyle**

```
15 \newcommand*{\LWR@currenttextcolorstyle}{%
16 \LWR@findcurrenttextcolor%
17 \ifdefstring{\LWR@tempcolor}{000000}%
18 {}%
19 {color: \LWR@origpound\LWR@tempcolor ; }%
20 }
```

`\LWR@textcurrentcolor` `{\text}` Like `\textcolor` but uses the current `\color` instead.

```

21 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
22 \begingroup%
23 \LWR@hook@processingtags%
24 \LWR@findcurrenttextcolor%
25 \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
26 \renewcommand*{\LWR@currenttextcolor}{\LWR@origpound\LWR@tempcolor}%
27 #1%
28 }%
29 \endgroup%
30 }
```

`\LWR@colorstyle` `{\{1: model\}}{\{2: color\}}`

For a color style, prints the color converted to HTML colors.

```

31 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
32 \begingroup%
33 \LWR@hook@processingtags%
```

Use the `xcolor` package to convert to an HTML color space:

```

34 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
```

Print the converted color:

```

35 \LWR@origpound\LWR@tempcolor%
36 \endgroup%
37 }
```

`\LWR@backgroundcolor` `[\{model\}]{\{color\}}{\{text\}}`

Similar to `\textcolor`, but prints black text against a color background.

Converted into an HTML hex color span.

```

38 \NewDocumentCommand{\LWR@backgroundcolor}{O{named} m m}{%
39 \begingroup%
40 \LWR@hook@processingtags%
41 \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
42 #3%
43 }%
44 \endgroup%
45 }
```

§ 650.7 **HTML border**

`\LWR@borderpadding` `{\colorstyle}{\color}` Prints the HTML attributes for a black border and padding.  
`\LWR@forceminwidth` must be used first in order to set the border width.

```
46 \newcommand*\LWR@borderpadding[2]{%
47 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
48 padding:\LWR@printlength{\fboxsep}%
49 }
```

§ 650.8 **High-level macros**

`\color` `[\model]` `{\color}`



The current `\color` is used by HTML rules and frames, but does not affect the current HTML text output, due to the lack of HTML states and scoping limitations. Use `\textcolor` if possible.

```
50 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
51 \IfValueTF{#1}{%
52 \LWR@print@color[#1]{#2}%
53 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
54 }{%
55 \LWR@print@color{#2}%
56 \convertcolorspec{named}{#2}{HTML}\LWR@tempcolor%
57 }%
58 \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
59 }
60
61 \LWR@formatted{color}
```

`\textcolor` `[\model]` `{\color}` `{\text}`

Converted into an HTML hex color span.

```
62 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
63 \begingroup%
64 \LWR@hook@processingtags%
65 \IfValueTF{#1}{%
66 \color[#1]{#2}%
67 }{%
68 \color{#2}%
69 }%
70 \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%
71 \endgroup%
72 }%
73
74 \LWR@formatted{textcolor}
```

`\pagecolor` `[\model]` `{\color}`

Ignored. Use CSS instead.

```
75 \renewcommand*\pagecolor[2][named]{}
```

`\nopagecolor` Ignored.

```
76 \renewcommand*{\nopagecolor}{}

```

`\colorbox` [*<model>*] {<color>} {<text>}

Converted into an HTML hex background color <span>.

```
77 \NewDocumentCommand{\LWR@HTML@colorbox}{O{named} m +m}{%
78 \begingroup%
79 \LWR@hook@processingtags%
80 \InlineClass[%
81 background:\LWR@colorstyle{#1}{#2} ; %
82 padding:\LWR@printlength{\fboxsep}%
83]{colorbox}{#3}%
84 \endgroup%
85 }
86
87 \AtBeginDocument{
88 \LWR@formatted{colorbox}
89 }

```

`\colorboxBlock` [*<model>*] {<color>} {<text>}

Converted into an HTML hex background color <div>.

```
90 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%
91 \begingroup%
92 \LWR@hook@processingtags%
93 \LWR@stoppars%
94 \begin{BlockClass}[%
95 background:\LWR@colorstyle{#1}{#2} ; %
96 padding:\LWR@printlength{\fboxsep}%
97]{colorboxBlock}
98 #3
99 \end{BlockClass}%
100 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
101 \global\booltrue{\LWR@minipagethispar}%
102 }
103
104 \AtBeginDocument{
105 \LWR@formatted{colorboxBlock}
106 }

```

`\fcolorbox` [*<framemodel>*] [*<framecolor>*] [*<boxmodel>*] [*<boxcolor>*] [*<text>*]

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```

107 \NewDocumentCommand{\LWR@HTML@fcolorbox}{O{named} m O{#1} m +m}{%
108 \LWR@traceinfo{HTML fcolorbox #2 #4}%
109 \begingroup%
110 \LWR@hook@processingtags%
111 \LWR@forceminwidth{\fboxrule}%
112 \ifthenelse{\equal{#4}{none}}{%
113 {% no background color
114 \InlineClass[%
115 \LWR@borderpadding{#1}{#2}%
116]{fcolorbox}{#5}%
117 }%
118 {% yes background color
119 \InlineClass[%
120 \LWR@borderpadding{#1}{#2} ; %
121 background:\LWR@colorstyle{#3}{#4}%
122]{fcolorbox}{#5}%
123 }%
124 \endgroup%
125 }
126
127 \AtBeginDocument{
128 \LWR@formatted{fcolorbox}
129 }
```

`\fcolorboxBlock` [*<framemodel>*] [*<framecolor>*] [*<boxmodel>*] [*<boxcolor>*] [*<text>*]

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```

130 \NewDocumentCommand{\LWR@HTML@fcolorboxBlock}{O{named} m O{#1} m +m}{%
131 \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
132 \begingroup%
133 \LWR@hook@processingtags%
134 \LWR@forceminwidth{\fboxrule}%

135 \LWR@stoppars%

136 \ifthenelse{\equal{#4}{none}}{%
137 {% no background color
138 \begin{BlockClass}[%
139 \LWR@borderpadding{#1}{#2}%
140]{fcolorboxBlock}
141 #5
142 \end{BlockClass}%
143 }%
144 {% yes background color
145 \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
```



```

146 \begin{BlockClass}[%
147 background:\LWR@origpound\LWR@tempcolortwo\ ; %
148 \LWR@borderpadding{#1}{#2}%
149]{fcolorboxBlock}
150 #5
151 \end{BlockClass}%
152 }%
153 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

154 \global\booltrue{LWR@minipagethispar}%
155 \LWR@traceinfo{HTML fcolorboxBlock done}%
156 }
157
158 \AtBeginDocument{
159 \LWR@formatted{fcolorboxBlock}
160 }

```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the **lwarp** core: section 88

```

\LWR@subfcolorminipage {<framemodel>} {<framecolor>} {<background tag>} {<height>}

161 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%

162 \LWR@stoppars%

163 \begin{BlockClass}[%
164 #3%
165 \LWR@borderpadding{#1}{#2} ; %
166 \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
167 width:\LWR@printlength{\LWR@tempwidth}%
168]{fcolorminipage}%
169 }

Env fcolorminipage [<1:framemodel>] { <2:framecolor> } [<3:boxmodel>] { <4:boxcolor> } [<5:align>] [<6:height>]
[<7:inner-align>] { <8:width> }

170 \NewDocumentEnvironment{LWR@HTML@fcolorminipage}{O{named} m O{#1} m O{c} o o m}
171 {%
172 \LWR@hook@processingtags%
173 \setlength{\LWR@tempwidth}{#8}%
174 \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
175 \LWR@forceminwidth{\fboxrule}%
176 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
177 \ifthenelse{\equal{#4}{none}}{%
178 {\LWR@subfcolorminipage{#1}{#2}{#6}}%
179 {%
180 \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
181 \LWR@subfcolorminipage{#1}{#2}%
182 {background:\LWR@origpound\LWR@tempcolortwo\ ; }%

```

```

183 {#6}%
184 }%
185 }%
186 {%
187 \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

188 \global\booltrue{LWR@minipagethispar}%
189 }
190
191 \AtBeginDocument{
192 \LWR@formattedenv{fcolorminipage}
193 }

```

`\boxframe` {<width>} {<height>} {<depth>}

The depth is added to the height, but the box is not decended below by the depth.  
`\textcolor` is honored.

```

194 \newcommand*{\LWR@HTML@boxframe}[3]{%
195 {%
196 \setlength{\LWR@tempwidth}{#1}%
197 \setlength{\LWR@tempheight}{#2}%
198 \addtolength{\LWR@tempheight}{#3}%
199 \LWR@forceminwidth{\fboxrule}%
200 \LWR@findcurrenttextcolor%
201 \InlineClass[%
202 display:inline-block ; %
203 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@currenttextcolor{} ; %
204 width:\LWR@printlength{\LWR@tempwidth} ; %
205 height:\LWR@printlength{\LWR@tempheight}%
206]{\boxframe}{}%
207 }%
208 }
209
210 \LWR@formatted{boxframe}

```

## § 650.9 Row colors

`\rowcolor` [ <cmds> ] { <startrow> } { <odd color> } { <even color> }

```

211 \newcommand*{\LWR@xcolortempcolor}{}
212
213 \def\rowcolor[#1]#2#3#4%
214 {
215 \rownum=1%
216 \@rowcolorstrue%
217 \@ifxempty{#3}%
218 { \def\@oddrowcolor{\@norowcolor} }%
219 {%
220 \convertcolorspec{named}{#3}{HTML}\LWR@xcolortempcolor%
221 \edef\@oddrowcolor{%

```

```

222 \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
223 }%
224 }%
225 \@ifxempty{#4}%
226 { \def\@evenrowcolor{\@norowcolor}}%
227 {%
228 \convertcolorspec{named}{#4}{HTML}\LWR@xcolortempcolor%
229 \edef\@evenrowcolor{%
230 \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
231 }%
232 }%
233 \if@rowcmd
234 \def\@rowcolors
235 {%
236 % #1%
237 \if@rowcolors
238 % \noalign{%
239 \relax\ifnum\rownum<#2\@norowcolor\else
240 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
241 % }%
242 \fi%
243 }%
244 \else
245 \def\@rowcolors
246 {%
247 \if@rowcolors
248 \ifnum\rownum<#2%
249 % \noalign{%
250 \@norowcolor
251 % }
252 \else
253 % #1%
254 % \noalign{%
255 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
256 % }%
257 \fi
258 \fi%
259 }%
260 \fi
261 \ignorespaces%
262 }

```

`\@norowcolor` Turns off color for this row.

```

263 \def\@norowcolor{%
264 \renewcommand{\LWR@xcolorrowHTMLcolor}{}%
265 }

```

`\@rowc@lors` Executed at the end of each row.

```

266 \def\@rowc@lors{%
267 % \noalign{%
268 \advance\rownum\@ne%
269 % }%
270 \@rowcolors%

```

---

271 }

---

File 544 **lwarp-xexchangebar.sty**

§ 651      Package **xexchangebar**

Pkg   xexchangebar   xexchangebar is ignored

**for HTML output:**    1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]  
                          2 \LWR@origRequirePackage{lwarp-changebar}

---

File 545 **lwarp-xellipsis.sty**

§ 652      Package **xellipsis**

*(Emulates or patches code by DONALD P. GOODMAN III.)*

Pkg   xellipsis   xellipsis is patched for use by lwarp.

When non-zero, each of the spaces is converted to an HTML thin unbreakable space.

**for HTML output:**    1 \LWR@ProvidesPackagePass{xellipsis}[2015/11/01]

```

2 \newcommand*{\LWR@xellipsespace}[1]{%
3 \ifdim#1=0pt\else%
4 \ifdim#1<\fontdimen2\font%
5 \,%
6 \else%
7 ~%
8 \fi%
9 \fi%
10 }
11
12 \def\xelip{%
13 \mbox{%
14 \LWR@xellipsespace{\xelipprebef}%
15 \xelipprechar%
16 \LWR@xellipsespace{\xelippreaft}%
17 \LWR@xellipsespace{\xelipbef}%
18 \xelipchar%
19 \xel@loopi = 1%
20 \loop\ifnum\xelipnum>\xel@loopi%
21 \advance\xel@loopi by1%
22 \LWR@xellipsespace{\xelipgap}%
23 \xelipchar%
24 \repeat%
25 \LWR@xellipsespace{\xelipaft}%
26 \LWR@xellipsespace{\xelippostbef}%
27 \xelippostchar%
28 \LWR@xellipsespace{\xelippostaft}%
29 }%

```

---

30 }%

---

File 546 **lwarp-xetexko-vertical.sty**

§ 653      Package **xetexko-vertical**

*(Emulates or patches code by DOHYUN KIM.)*

Pkg    xetexko-vertical    xetexko-vertical is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@loadbefore{xetexko-vertical}
2
3 \LWR@ProvidesPackagePass{xetexko-vertical}[2018/04/06]

4 \renewcommand{\verticaltypesetting}{}
5 \renewenvironment{vertical}[1]{\BlockClass{verticalrl}}{\endBlockClass}
6 \renewenvironment{horizontal}[1]{\BlockClass{horizontaltb}}{\endBlockClass}
7 \renewcommand{\vertlatin}[1]{#1}
```

---

File 547 **lwarp-xevlna.sty**

§ 654      Package **xevlna**

*(Emulates or patches code by ZDENĚK WAGNER.)*

Pkg    xevlna    xevlna is patched for use by lwarp.

Non-breakable spaces are inserted into HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xevlna}[2016/09/05]

2 \def\ProcessCSpreposition{\ifx\next\xevlnaXeTeXspace\HTMLentity{nbsp}\fi}
3
4 \appto{\LWR@hook@processingtags}{\xevlnaDisable}%
```

---

File 548 **lwarp-xfakebold.sty**

§ 655      Package **xfakebold**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg    xfakebold    xfakebold is patched for use by lwarp, and additional underlying support is found in the lwarp core.

 **text mode**    xfakebold is only used in svg math and lateximages. Text mode is not set bold, but \setBold in text will be applied to any following svg math.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xfakebold}[2020/06/24]
```

```

2 \newcommand*\LWR@HTML@setBold{\booltrue{LWR@xfakebold}}
3 \LWR@formatted{setBold}
4
5 \newcommand*\LWR@HTML@unsetBold{\boolfalse{LWR@xfakebold}}
6 \LWR@formatted{unsetBold}
7
8 \renewcommand*\LWR@applyxfakebold{%
9 \ifbool{LWR@xfakebold}{\LWR@print@setBold}{\LWR@print@unsetBold}%
10 }

```

For MATHJAX, `xfakebold` is ignored.

```

11 \begin{warpMathJax}
12 \CustomizeMathJax{\newcommand{\setBold}[1][{}]}
13 \CustomizeMathJax{\newcommand{\unsetBold}{} }
14 \end{warpMathJax}

```

---

File 549 **lwarp-xfrac.sty**

§ 656 Package **xfrac**

(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

Pkg xfrac Supported by adding `xfrac` instances, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{xfrac}[2018-08-23]



#### font size

In the user's document preamble, `lwarp` should be loaded after font-related setup. During HTML conversion, this font is used by `lwarp` to generate its initial PDF output containing HTML tags, later to be converted by *pdftotext* to a plain text file. While the text may be in any font which *pdftotext* can read, the math is directly converted into SVG images using this same user-selected font. `xfrac` below is set for the Latin Modern (l<sup>a</sup>m<sup>r</sup>) font. If another font is used, it may be desirable to redefine `\xfracHTMLfontsize` with a different em size.

`\sfrac` [*instance*] [*num*] [*sep*] [*denom*]

A text-mode instance for the default font is provided below. The numerator and denominator formats are adjusted to encase everything in HTML tags. `\scalebox` is made null inside the numerator and denominator, since the HTML tags should not be scaled, and we do not want to introduce additional HTML tags for scaling.

In math mode, which will appear inside a `lateximage`, no adjustments are necessary.

`\xfracHTMLfontsize` User-redefinable macro which controls the font size of the fraction.

```
2 \newcommand*\xfracHTMLfontsize{.6em}
```

instances Instances of `xfrac` for various font choices:

Produce CSS for a small raised numerator and a small denominator.

Scaling is turned off so that *pdftotext* correctly reads the result.

```

3 \DeclareInstance{xfrac}{default}{text}{
4 numerator-format = {%
5 \begingroup%
6 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
7 \InlineClass{numerator}{#1}\,%
8 \endgroup%
9 },
10 denominator-format = {%
11 \begingroup%
12 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
13 \InlineClass{denominator}{#1}%
14 \endgroup%
15 },

```

For *pdftotext*, do not scale the text:

```

16 scaling = false
17 }
18
19 \DeclareInstance{xfrac}{lmr}{text}{
20 numerator-format = {%
21 \begingroup%
22 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
23 \InlineClass{numerator}{#1}\,%
24 \endgroup%
25 },
26 denominator-format = {%
27 \begingroup%
28 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
29 \InlineClass{denominator}{#1}%
30 \endgroup%
31 },

```

For *pdftotext*, do not scale the text:

```

32 scaling = false
33 }
34
35 \DeclareInstance{xfrac}{lmss}{text}{
36 numerator-format = {%
37 \begingroup%
38 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
39 \InlineClass{numerator}{#1}\,%
40 \endgroup%
41 },
42 denominator-format = {%
43 \begingroup%
44 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
45 \InlineClass{denominator}{#1}%
46 \endgroup%
47 },

```

For *pdftotext*, do not scale the text:

```

48 scaling = false
49 }
50
51 \DeclareInstance{xfrac}{lmtt}{text}{
52 numerator-format = {%
53 \begingroup%
54 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
55 \InlineClass{numerator}{#1}\,%
56 \endgroup%
57 },
58 denominator-format = {%
59 \begingroup%
60 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
61 \InlineClass{denominator}{#1}%
62 \endgroup%
63 },

```

For *pdftotext*, do not scale the text:

```

64 scaling = false
65 }

```

For MATHJAX:

```

66 \begin{warpMathJax}
67 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][\]{\{}^{\LWRsfracnumerator\!#1}_{\!#2}}
68 \CustomizeMathJax{\newcommand{\sfrac}[2][\]{\def\LWRsfracnumerator{#2}\LWRsfrac}}
69 \end{warpMathJax}

```

---

File 550 **lwarp-xltabular.sty**

§ 657    Package **xltabular**

(Emulates or patches code by ROLF NIEPRASCHK, HERBERT VOSS.)

Pkg    xltabular    xltabular is emulated by lwarp.

for HTML output:    Relies on tabularx.

⚠    **table numbering**    At present, an xltabular without a caption or with only a \caption\* may be misnumbered in HTML, so it may be necessary to place at the end of the table:

```
\warpHTMLonly{\addtocounter{table}{-1}}
```

```

1 \RequirePackage{tabularx}
2 \RequirePackage{ltablex}
3
4 \LWR@ProvidesPackageDrop{xltabular}[2018/05/23]
5
6 \DeclareDocumentEnvironment{xltabular}{o m m}
7 {\longtable{#3}}
8 {\endlongtable}

```



---

File 551 **lwarp-xltextra.sty**

§ 658 Package **xltextra**

*(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)*

Pkg xltextra xltextra is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xltextra}[2016/01/21]

2 \RequirePackage{realscripts}
3 \RequirePackage{metalogo}
4 \newcommand*\TeX@logo@spacing[6]{}
5
6 \newcommand*\vfrac[2]{%
7 #1/\textsubscript{#2}%
8 }
9
10 \newcommand\namedglyph[1]{%
11 \@tempcnta=\XeTeXglyphindex " #1 "\relax
12 \ifnum\@tempcnta>0
13 \XeTeXglyph\@tempcnta
14 \else
15 \xxt@namedglyph@fallback{#1}%
16 \fi}
17
18 \newcommand\xxt@namedglyph@fallback[1][[#1]]
19
20 \DeclareDocumentCommand{\showhyphens}{m}{}

```

---

File 552 **lwarp-xmpincl.sty**

§ 659 Package **xmpincl**

*(Emulates or patches code by MAARTEN SNEEP.)*

Pkg xmpincl xmpincl is ignored.

**for HTML output:** Discard all options for lwarp-xmpincl:

```

1 \LWR@ProvidesPackageDrop{xmpincl}[2008/05/10]

2 \newcommand*\includexp[1]{}

```

---

File 553 **lwarp-xpiano.sty**

## § 660 Package **xpiano**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg xpiano xpiano is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{xpiano}

2 \ExplSyntaxOn
3 \NewDocumentCommand{\LWR@print@keyboard}{ O{}m }
4 {
5 \xpiano_keyboard:nn { #1 } { #2 }
6 }
7
8 \NewDocumentCommand{\LWR@HTML@keyboard}{ O{}m }
9 {
10 \begin{lateximage}*
11 [%
12 -xpiano-~\PackageDiagramAltText{}: \detokenize\expandafter{#2}%
13]
14 [\detokenize\expandafter{#1}]
15 \xpiano_keyboard:nn { #1 } { #2 }
16 \end{lateximage}
17 }
18 \ExplSyntaxOff
19
20 \LWR@formatted{keyboard}
```

---

File 554 **lwarp-xpinyin.sty**

## § 661 Package **xpinyin**

(Emulates or patches code by SOBEN LEE.)

Pkg xpinyin xpinyin is supported.

Pinyin is disabled for file names, the sideroc, and regular footnotes, but is left enabled for minipage footnotes, as per the print mode.

for HTML output:

```

1 \LWR@ProvidesPackagePass{xpinyin}[2019-04-07]
```

The original's boxes are not used, instead the contents are used with <ruby>, <rb>, and <rt> tags per modern HTML. Color is detected. ratio is ignored for *pdfotext* to work correctly. Extra spaces are placed inside the tags to allow line breaks in the HTML text.

```

2 \ExplSyntaxOn
3 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_make_pinyin_box:nnn #1#2#3
4 {
5 \color_group_begin: \color_ensure_current:
6 \l__xpinyin_pinyin_box_hook_tl
7 \renewcommand*{\l__xpinyin_ratio_tl}{1}% for pdfotext
8 __xpinyin_select_font:
```

```

9 \clist_if_exist:cTF { c__xpinyin_multiple_ #1 _clist }
10 { \l__xpinyin_multiple_tl \l__xpinyin_format_tl }
11 { \l__xpinyin_format_tl }
12 \ifdefempty{\l__xpinyin_format_tl}
13 {#3}
14 {\LWR@textcurrentcolor{#3}}
15 \color_group_end:
16 }
17 \LWR@formatted{__xpinyin_make_pinyin_box:nnn}
18
19 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn #1#2
20 {
21 __xpinyin_leavevmode:
22 \LWR@htmltagc{ruby}
23 \LWR@htmltagc{rb}
24 __xpinyin_save_CJKsymbol:n {#2}\null% \null removes extra space
25 \LWR@htmltagc{/rb\space}
26 \LWR@htmltagc{rp}(\LWR@htmltagc{/rp\space}
27 \LWR@htmltagc{rt}
28 __xpinyin_make_pinyin_box:nnn {#1} {#2} { \use:c { c__xpinyin_ #1 _tl } }
29 \LWR@htmltagc{/rt\space}
30 \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
31 \LWR@htmltagc{/ruby\space}\null
32 }
33 \LWR@formatted{__xpinyin_CJKsymbol:nn}
34
35 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_single_CJKsymbol:nn #1#2
36 {
37 __xpinyin_leavevmode:
38 \LWR@htmltagc{ruby}
39 \LWR@htmltagc{rb}
40 __xpinyin_save_CJKsymbol:n {#1}\null% \null removes extra space
41 \LWR@htmltagc{/rb\space}
42 \LWR@htmltagc{rp}(\LWR@htmltagc{/rp\space}
43 \LWR@htmltagc{rt}
44 __xpinyin_make_pinyin_box:xnn
45 { __xpinyin_to_unicode:n {#1} } {#1} { __xpinyin_pinyin:n {#2} }
46 \LWR@htmltagc{/rt\space}
47 \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
48 \LWR@htmltagc{/ruby\space}\null
49 }
50 \LWR@formatted{__xpinyin_single_CJKsymbol:nn}
51
52 \ExplSyntaxOff

```

The **lwarp** core uses the following to disable CJK xpinyin for filenames, sideroc, and footnotes.

```

53 \renewcommand*{\LWR@disablepinyin}{\disablepinyin}
54
55 \FilenameNullify{\LWR@disablepinyin}

```

§ 662 Package **xr**

(Emulates or patches code by JEAN-PIERRE DRUCBERT, DAVID CARLISLE.)

Pkg xr xr is patched for use by **lwarp**. The `*_html.aux` file is used. `\externaldocument` is modified to also accept the optional arguments for **xr-hyper**, which currently uses **xr** for HTML output.

See section 5.17.

for HTML output:

```
1 \LWR@ProvidesPackagePass{xr}[2019/07/22]%

2 \LetLtxMacro\LWR@orig@externaldocument\externaldocument
3
4 \RenewDocumentCommand{\externaldocument}{0{} 0{} m O{}}{%
5 \ifblank{#1}{%
6 \LWR@orig@externaldocument{#3_html}%
7 }{%
8 \LWR@orig@externaldocument[#1]{#3_html}%
9 }%
10 }
```

---

File 556 **lwarp-xr-hyper.sty**

§ 663 Package **xr-hyper**

(Emulates or patches code by DAVID CARLISLE.)

Pkg xr-hyper **xr-hyper** is replaced by **xr**, which is modified to accept the optional arguments for `\externaldocument`. So far, no hyperlinks are provided for citations.

See section 5.17.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{xr-hyper}[2019/10/03]%
2
3 \LWR@origRequirePackage{lwarp-xr}
```

---

File 557 **lwarp-xtab.sty**

§ 664 Package **xtab**

(Emulates or patches code by PETER WILSON.)

Pkg xtab **xtab** is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{xtab}[2011/07/31]
```

⚠ Misplaced alignment tab character & For `\tablefirsthead`, etc., enclose them as follows:

```

\StartDefiningTabulars
\tablefirsthead
. . .
\StopDefiningTabulars

```

See section 8.10.1.

△ **lateximage** `supertabular` and `xtab` are not supported inside a `lateximage`.

```

2 \newcommand{\LWRXT@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRXT@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9
10 \newcommand{\tablelasthead}[1]{}
11
12 \newcommand{\notablelasthead}{}
13
14 \newcommand{\tabletail}[1]{}
15
16 \newcommand{\LWRXT@lasttail}{}
17
18 \newcommand{\tablelasttail}[1]{%
19 \long\gdef\LWRXT@lasttail{#1}%
20 }

21 \newcommand{\tablecaption}[2][1]{%
22 \long\gdef\LWRXT@caption{%
23 \ifblank{#1}%
24 {\caption{#2}}%
25 {\caption[#1]{#2}}%
26 }%
27 }
28
29 \let\topcaption\tablecaption
30 \let\bottomcaption\tablecaption

31 \newcommand*{\LWRXT@caption}{}
32
33 \newcommand*{\shrinkheight}[1]{}
34
35 \newcommand*{\xentrystretch}[1]{}
36
37 \NewDocumentEnvironment{xtabular}{s o m}
38 {%
39 \LWR@traceinfo{xtabular}%
40 \table%
41 \LWRXT@caption%
42 \begin{tabular}{#3}%
43 \TabularMacro\ifdefvoid{\LWRXT@firsthead}%
44 {\LWR@getmynexttoken}%
45 {\expandafter\LWR@getmynexttoken\LWRXT@firsthead}%

```

---

```

46 }%
47 {%
48 \ifdefvoid{\LWRXT@lasttail}%
49 }%
50 {%
51 \TabularMacro\ResumeTabular%
52 \LWRXT@lasttail%
53 }%
54 \end{tabular}%
55 \endtable%

56 \gdef\LWRXT@caption{%

57 \LWR@traceinfo{xtabular done}%
58 }
59
60 \NewDocumentEnvironment{mpxtabular}{s o m}
61 {\minipage{\linewidth}\xtabular{#3}}
62 {\endxtabular\endminipage}

```

---

File 558 **lwarp-xunicode.sty**

## § 665 Package **xunicode**

Pkg xunicode Error if xunicode is loaded after lwarp.

Patch lwarp-xunicode, but also verify that it was loaded before lwarp:

**for HTML output:**

```

1 \LWR@loadbefore{xunicode}%
2
3 \LWR@ProvidesPackagePass{xunicode}[2011/09/09]

```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with `textcomp`.

```

4 \providecommand*\LWR@HTML@textcircled[1]{%
5 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
6 }
7
8 \LWR@formatted{textcircled}

```

Nullify xunicode macros when generating filenames:

```

9 \FilenameNullify{%
10 \renewcommand*\textdegree{}%
11 \renewcommand*\textcelsius{}%
12 \renewcommand*\textohm{}%
13 \renewcommand*\textmu{}%
14 \renewcommand*\textlquill{}%
15 \renewcommand*\textrquill{}%
16 \renewcommand*\textcircledP{}%
17 \renewcommand*\texttwelveudash{}%

```

---

```

18 \renewcommand*{\textthreequartersemdash}{}%
19 \renewcommand*{\textmho}{}%
20 \renewcommand*{\textnaira}{}%
21 \renewcommand*{\textpeso}{}%
22 \renewcommand*{\textrecipe}{}%
23 \renewcommand*{\textinterrobang}{}%
24 \renewcommand*{\textinterrobangdown}{}%
25 \renewcommand*{\textperthousand}{}%
26 \renewcommand*{\textpertenthousand}{}%
27 \renewcommand*{\textbaht}{}%
28 \renewcommand*{\textdiscount}{}%
29 \renewcommand*{\textservicemark}{}%
30 \renewcommand*{\textcircled}[1]{#1}%
31 \renewcommand*{\capitalcedilla}[1]{#1}%
32 \renewcommand*{\capitalogonek}[1]{#1}%
33 \renewcommand*{\capitalgrave}[1]{#1}%
34 \renewcommand*{\capitalacute}[1]{#1}%
35 \renewcommand*{\capitalcircumflex}[1]{#1}%
36 \renewcommand*{\capitaltilde}[1]{#1}%
37 \renewcommand*{\capitaldieresis}[1]{#1}%
38 \renewcommand*{\capitalhungarumlaut}[1]{#1}%
39 \renewcommand*{\capitalring}[1]{#1}%
40 \renewcommand*{\capitalcaron}[1]{#1}%
41 \renewcommand*{\capitalbreve}[1]{#1}%
42 \renewcommand*{\capitalmacron}[1]{#1}%
43 \renewcommand*{\capitaldotaccent}[1]{#1}%
44 }% FilenameNullify

```

---

### File 559 **lwarp-xurl.sty**

§ 666 Package **xurl**

Pkg xurl xurl is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]
2
3 \def\useOriginalUrlSetting{

```

---

### File 560 **lwarp-xy.sty**

§ 667 Package **xy**

(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)

Pkg xy xy is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{xy}[2013/10/06]

```

After xy modules have been loaded:

```

2 \AtBeginDocument{

```

The original definitions without a `lateximage`:

```
3 \LetLtxMacro\LWR@orig@xy\xy
4 \LetLtxMacro\LWR@orig@endxy\endxy
```

The outer-most `xy` environment is placed in a `lateximage`, but not more than one level deep, which would conflict with `xy`:

```
5 \renewcommand*{\xy}{%
6 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7 {\addtocounter{LWR@lateximagedepth}{1}}%
8 {\begin{lateximage}[-xy-~\PackageDiagramAltText]}%
9 \LWR@orig@xy%
10 }
11
12 \renewcommand*{\endxy}{%
13 \LWR@orig@endxy%
14 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
15 {\addtocounter{LWR@lateximagedepth}{-1}}%
16 {\end{lateximage}}%
17 }
```

The `\xybox` must use the original definitions of `\xy`, `\endxy`:

```
18 \def\xybox#1{%
19 \LWR@orig@xy#1\LWR@orig@endxy%
20 \Edge@c={\rectangleEdge}\computeLeftUpness%
21 }
```

If `\xygraph` is used, it is placed inside a `lateximage`:

```
22 \@ifundefined{xygraph}{}{
23
24 \LetLtxMacro\LWR@origxygraph\xygraph
25
26 \renewcommand{\xygraph}[1]{%
27 \begin{lateximage}[-xy- xygraph \PackageDiagramAltText]
28 \LWR@origxygraph{#1}
29 \end{lateximage}
30 }
31
32 }% xygraph defined
33
34 }% AtBeginDocument
```

---

File 561 **lwarp-zhlineskip.sty**

§ 668      Package **zhlineskip**

Pkg    zhlineskip    zhlineskip is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{zhlineskip}[2019/05/15]



---

```

2 \newcommand*\SetTextEnvironmentSinglespace[1]{}
3 \newcommand*\RestoreTextEnvironmentLeading[1]{}
4 \newcommand*\SetMathEnvironmentSinglespace[1]{}
5 \newcommand*\RestoreMathEnvironmentLeading[1]{}

```

---

File 562 **lwarp-zwpagelayout.sty**

§ 669      Package **zwpagelayout**

*(Emulates or patches code by ZDENĚK WAGNER.)*

Pkg    zwpagelayout    zwpagelayout is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{zwpagelayout}[2013/01/13]

2 \def\noBboxes{}
3 \@onlypreamble\noBboxes
4
5 \expandafter\ifx\csname definecolor\endcsname\relax \else
6 \definecolor{cmykblack}{cmyk}{0,0,0,1}
7 \definecolor{grblack}{gray}{0}
8 % \ifzwpl@redefineblack
9 % \definecolor{black}{cmyk}{0,0,0,1}\color{black}
10 % \fi
11 \definecolor{cmykred}{cmyk}{0,1,1,0}
12 \definecolor{cmykgreen}{cmyk}{1,0,1,0}
13 \definecolor{cmykblue}{cmyk}{1,1,0,0}
14 \definecolor{rgbred}{rgb}{1,0,0}
15 \definecolor{rgbgreen}{rgb}{0,1,0}
16 \definecolor{rgbblue}{rgb}{0,0,1}
17 % \ifzwpl@redefinetcmyk
18 % \definecolor{red}{cmyk}{0,1,1,0}
19 % \definecolor{green}{cmyk}{1,0,1,0}
20 % \definecolor{blue}{cmyk}{1,1,0,0}
21 % \fi
22 \fi
23
24 \let\OverprintXeTeXExtGState\relax
25
26 \DeclareRobustCommand\SetOverprint{\ignorespaces}
27 \DeclareRobustCommand\SetKnockout{\ignorespaces}
28 \DeclareRobustCommand\textoverprint[1]{\SetOverprint#1}}
29 \DeclareRobustCommand\textknockout[1]{\SetKnockout#1}}
30
31 \def\SetPDFminorversion#1{}
32 \@onlypreamble\SetPDFminorversion
33
34 \newcommand*\Vcorr{}
35
36 \DeclareRobustCommand\vb[1][{}]{
37 \NewDocumentCommand{\NewOddPage}{* o}{
38 \NewDocumentCommand{\NewEvenPage}{* o}{
39 \def\SetOddPageMessage#\gdef\ZW@oddwarning}

```

---

```

40 \def\SetEvenPageMessage#{\gdef\Z@evenwarning}
41 \def\ZW@oddwarning{Empty page inserted}\let\ZW@evenwarning\ZW@oddwarning
42
43 \def\clap#1{#1}
44
45 \def\CropFlap{2in}
46 \def\CropSpine{1in}
47 \def\CropXSpine{1in}
48 \def\CropXtrim{.25in}
49 \def\CropYtrim{.25in}
50 \def\UserWidth{5in}
51 \def\UserLeftMargin{1in}
52 \def\UserRightMargin{1in}
53 \def\UserTopMargin{1in}
54 \def\UserBotMargin{1in}
55 \def\thePageNumber{\LWR@origpound\,\arabic{page}}
56 \ifXeTeX
57 \def\ifcaseZWdriver{\ifcase2}
58 \else
59 \def\ifcaseZWdriver{\ifcase1}
60 \fi
61 \DeclareRobustCommand\ZWifdriver[2]{}

```

---

File 563 **lwarp-patch-komascript.sty**

§ 670      Package **patch-komascript**

Pkg    lwarp-patch-komascript    Patches for komascript classes.

lwarp loads this package when scrbook, scrartcl, or screprt classes are detected.

Many features are ignored during the HTML conversion. The goal is source-level compatibility.

\captionformat, \figureformat, and \tableformat are not yet emulated.

 **Not fully tested! Please send bug reports!**

Some features have not yet been tested. Please contact the author with any bug reports.

**for HTML output:**    1 \ProvidesPackage{lwarp-patch-komascript}

typearea is emulated.

2 \RequirePackage{lwarp-typearea}

tocbasic is emulated.

3 \RequirePackage{lwarp-tocbasic}

scrextend patches most of the new macros.

4 \RequirePackage{lwarp-scrextend}

Indexing macros, simplified for lwarp:

```

5 \AtBeginDocument{
6
7 \renewcommand*{\idx@heading}{%
8 \idx@@heading{\indexname}%
9 }
10
11 \renewenvironment{theindex}{%
12 \idx@heading%
13 \index@preamble\par\nobreak
14 \let\item\LWR@indexitem%
15 \let\subitem\LWR@indexsubitem%
16 \let\subsubitem\LWR@indexsubsubitem%
17 }
18 {}
19
20 \renewcommand*\indexspace{}
21
22}% AtBeginDocument

```

The \minisec is placed inside a <div> of class minisec.

```

23 \renewcommand*\minisec}[1]{
24 \begin{BlockClass}{minisec}
25 #1
26 \end{BlockClass}
27 }

```

The part and chapter preambles are placed as plain text just after each heading.

```

28 \ifundefined{setpartpreamble}{}{
29 \RenewDocumentCommand{\setpartpreamble}{o o +m}{%
30 \renewcommand{\part@preamble}{#3}%
31 }
32 }
33
34 \ifundefined{setchapterpreamble}{}{
35 \RenewDocumentCommand{\setchapterpreamble}{o o +m}{%
36 \renewcommand{\chapter@preamble}{#3}%
37 }
38 }

```

Do not use \chaptername:

```

39 \renewcommand*\LWR@printchaptername{}{}

```

Simple captions are used in all cases.

```

40 \AtBeginDocument{
41 \AtBeginDocument{
42 \LetLtxMacro\captionbelow\caption
43 \LetLtxMacro\captionabove\caption
44
45 \LetLtxMacro\captionofbelow\captionof

```

```

46 \LetLtxMacro\captionofabove\captionof
47 }
48 }
49
50 \RenewDocumentEnvironment{captionbeside}{o m o o o s}
51 {}
52 {%
53 \IfValueTF{#1}%
54 {\caption[#1]{#2}}%
55 {\caption{#2}}%
56 }
57
58 \RenewDocumentEnvironment{captionofbeside}{m o m o o o s}
59 {}
60 {%
61 \IfValueTF{#2}%
62 {\captionof{#1}[#2]{#3}}%
63 {\captionof{#1}{#3}}%
64 }
65
66 \RenewDocumentCommand{\setcapindent}{s m}{}
67 \renewcommand*{\setcaphanging}{}
68 \renewcommand*{\setcapwidth}[2]{}{}
69 \renewcommand*{\setcapdynwidth}[2]{}{}
70 \RenewDocumentCommand{\setcapmargin}{s o m}{}

```

---

File 564 **lwarp-patch-memoir.sty**

§ 671 Package **patch-memoir**

*(Emulates or patches code by PETER WILSON.)*

Pkg lwarp-patch-memoir Patches for memoir class.

 **Not fully tested!** [Please send bug reports!](#)

lwarp loads this package when the memoir class is detected.

 **captions** lwarp uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.

 **options clash** While emulating `memoir`, lwarp pre-loads a number of packages (section 671.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading lwarp:

```

\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}

```

 **version numbers** memoir emulates a number of packages, and declares a version date for each which

often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since **lwarp** is intended to support the freestanding packages, which are often newer than the date declared by **memoir**, it is hoped that **memoir** will update and change its emulated version numbers to match.

`\label{bookmark}{tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in HTML.

 **comment** The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

`\newcomment` Comments defined with `\newcomment` use **memoir**'s definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

 **verbatim footnotes** `\verbfootnote` is not supported.

 `\newfootnoteseries` `\newfootnoteseries`, etc. are not supported.

 **page notes** **lwarp** loads **pagenote** to perform **memoir**'s pagenote functions, but there are minor differences in `\pagenotesubhead` and related macros.

**page notes with cleveref** To add support for pagenotes with **cleveref**, add:

```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```

**page note \nameref** Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

 **poems** Poem numbering is not supported.

 **verbatim** The `verbatim` environment does not yet support the **memoir** enhancements. It is currently recommended to load and use **fancyvrb** instead.

 **glossaries** The **memoir** glossary system is not yet supported by *lwarpmk*. The **glossaries** package may be used instead, but does require the glossary entries be changed from the **memoir** syntax to the **glossaries** syntax.

**for HTML output:** 1 `\ProvidesPackage{lwarp-patch-memoir}`

## § 671.1 Packages

These are pre-loaded to provide emulation for many of **memoir**'s functions. **memoir** pretends that **abstract**, etc. are already loaded, via its “emulated” package mechanism, but **lwarp** is directly loading the “lwarp-” version of each, which happens to avoid **memoir**'s emulation system.

```
2 \RequirePackage{lwarp-abstract}% req'd
3 % \RequirePackage{lwarp-array}% no longer req'd
4 \RequirePackage{lwarp-booktabs}% req'd
5 % \RequirePackage{lwarp-ccaption}% emulated below
6 \RequirePackage{lwarp-changepage}% req'd
7 \RequirePackage{lwarp-crop}
8 % \RequirePackage{lwarp-dcolumn}% no longer req'd
```

```

9 \RequirePackage{lwarp-enumerate}% req'd
10 \RequirePackage{lwarp-epigraph}% req'd
11 \RequirePackage{lwarp-fancyvrb}% req'd
12 \RequirePackage{lwarp-footmisc}% req'd

13 \let\framed\relax \let\endframed\relax
14 \let\shaded\relax \let\endshaded\relax
15 \let\leftbar\relax \let\endleftbar\relax
16 \let\snugshade\relax \let\endsnugshade\relax
17 \RequirePackage{lwarp-framed}% req'd
18
19 \RequirePackage{lwarp-hanging}% req'd
20 \RequirePackage{lwarp-makeidx}% req'd
21 \DisemulatePackage{moreverb}
22 \RequirePackage{lwarp-moreverb}
23 \RequirePackage{lwarp-mparhack}
24 \RequirePackage{lwarp-needspace}% req'd
25 \RequirePackage{lwarp-nextpage}% req'd
26 \RequirePackage{lwarp-pagenote}% req'd
27 \RequirePackage{lwarp-parskip}
28 \RequirePackage{lwarp-setspace}% req'd
29 \RequirePackage{lwarp-showidx}

30 \makeindex

31% \RequirePackage{lwarp-tabularx}% no longer req'd
32 \RequirePackage{lwarp-titling}% req'd
33% \RequirePackage{lwarp-tocbibind}% not emulated by memoir
34 \RequirePackage{lwarp-tocloft}% req'd
35 \RequirePackage{lwarp-verse}% req'd

```

## § 671.2 Label handling

Insert the `lwarp` label mechanism into the `memoir` package mechanism:

- `\@mem@old@label` is the  $\LaTeX$  definition of `\label`.
- `\LWR@orig@label` adds the `memoir` definition.
- `lwarp`'s `\LWR@new@label` uses `\LWR@orig@label`.
- Want `memoir`'s `\label` to use `lwarp`'s `\label`, which then would use  $\LaTeX$ 's `\label`.
- So:
  - `\@mem@old@label` becomes `\LWR@new@label`.
  - `\LWR@orig@label` becomes `\@mem@old@label`.
- `cleveref` then encapsulates all the above.
- For a subcaption, `cleveref` modifies `memoir`'s `\sf@memsub@label`.

```

36 \let\LWR@orig@label\@mem@old@label
37 \let\@mem@old@label\LWR@new@label

```

Patches for subfloats to support additional `lwarp` labels:

```

38 \AtBeginDocument{
39 \renewcommand*\sf@memsub@label}[1]{%
40 \@bsphack
41 \sf@memsub@label@hook{#1}%
42 \@memoldlabel{#1}%
43 \LWR@label@createtag{sub@#1}%
44 \protected@write\auxout{}\{%
45 \string\newlabel{sub@#1}%
46 {\@nameuse{@thesub\@capttype}}%
47 {\thepage}}}%
48 \LWR@write@lwarp@label{sub@#1}%
49 \@esphack
50 }
51 }

```

### § 671.3 Page layout

`memoir` already set the page size to a default, so it must be forced large for `lwarp`'s use, to avoid tag overflows off the page.

```

52 \setstocksize{190in}{20in}
53 \setlrmarginsandblock{2in}{2in}{*}
54 \setulmarginsandblock{1in}{1in}{*}

55 \renewcommand*\stockavi{}
56 \renewcommand*\stockav{}
57 \renewcommand*\stockaiv{}
58 \renewcommand*\stockaiii{}
59 \renewcommand*\stockavii{}
60 \renewcommand*\stockbvi{}
61 \renewcommand*\stockbv{}
62 \renewcommand*\stockbiv{}
63 \renewcommand*\stockbiii{}
64 \renewcommand*\stockbvii{}
65 % \renewcommand*\stockmetriccrownvo{}% in docs but not in the package
66 \renewcommand*\stockmlargecrownvo{}
67 \renewcommand*\stockmdemyvo{}
68 \renewcommand*\stockmsmallroyalvo{}
69 \renewcommand*\pageavi{}
70 \renewcommand*\pageavii{}
71 \renewcommand*\pageav{}
72 \renewcommand*\pageaiv{}
73 \renewcommand*\pageaiii{}
74 \renewcommand*\pagebvi{}
75 \renewcommand*\pagebvii{}
76 \renewcommand*\pagebv{}
77 \renewcommand*\pagebiv{}
78 \renewcommand*\pagebiii{}
79 % \renewcommand*\pagemetriccrownvo{}% in docs but not in the package
80 \renewcommand*\pagemlargecrownvo{}
81 \renewcommand*\pagemdemyvo{}
82 \renewcommand*\pagemsmallroyalvo{}
83

```

```
84 \renewcommand*{\stockdbill}{}
85 \renewcommand*{\stockstatement}{}
86 \renewcommand*{\stockexecutive}{}
87 \renewcommand*{\stockletter}{}
88 \renewcommand*{\stockold}{}
89 \renewcommand*{\stocklegal}{}
90 \renewcommand*{\stockledger}{}
91 \renewcommand*{\stockbroadsheet}{}
92 \renewcommand*{\pagedbill}{}
93 \renewcommand*{\pagestatement}{}
94 \renewcommand*{\pageexecutive}{}
95 \renewcommand*{\pageletter}{}
96 \renewcommand*{\pageold}{}
97 \renewcommand*{\pagelegal}{}
98 \renewcommand*{\pageledger}{}
99 \renewcommand*{\pagebroadsheet}{}
100
101 \renewcommand*{\stockpottvo}{}
102 \renewcommand*{\stockfoolscapvo}{}
103 \renewcommand*{\stockcrownvo}{}
104 \renewcommand*{\stockpostvo}{}
105 \renewcommand*{\stocklargecrownvo}{}
106 \renewcommand*{\stocklargepostvo}{}
107 \renewcommand*{\stocksmalldemyvo}{}
108 \renewcommand*{\stockdemyvo}{}
109 \renewcommand*{\stockmediumvo}{}
110 \renewcommand*{\stocksmallroyalvo}{}
111 \renewcommand*{\stockroyalvo}{}
112 \renewcommand*{\stocksuperroyalvo}{}
113 \renewcommand*{\stockimperialvo}{}
114 \renewcommand*{\pagepottvo}{}
115 \renewcommand*{\pagefoolscapvo}{}
116 \renewcommand*{\pagecrownvo}{}
117 \renewcommand*{\pagepostvo}{}
118 \renewcommand*{\pagelargecrownvo}{}
119 \renewcommand*{\pagelargepostvo}{}
120 \renewcommand*{\pagesmalldemyvo}{}
121 \renewcommand*{\pagedemyvo}{}
122 \renewcommand*{\pagemediumvo}{}
123 \renewcommand*{\pagesmallroyalvo}{}
124 \renewcommand*{\pageroyalvo}{}
125 \renewcommand*{\pagesuperroyalvo}{}
126 \renewcommand*{\pageimperialvo}{}
127
128 \renewcommand*{\memfontfamily}{}
129 \renewcommand*{\memfontenc}{}
130 \renewcommand*{\memfontpack}{}
131
132 \renewcommand*{\anyptfilebase}{}
133 \renewcommand*{\anyptsize}[10]
134
135 \renewcommand*{\setstocksize}[2]{}
136 \renewcommand*{\settrimmedsize}[3]{}
137 \renewcommand*{\settrims}[2]{}
138
```



```
139 % \newlength{\lxvchars}
140 % \setlength{\lxvchars}{305pt}
141 % \newlength{\xlvcchars}
142 % \setlength{\xlvcchars}{190pt}
143 \renewcommand*{\setxlvchars}[1]{}
144 \renewcommand*{\setlxvchars}[1]{}
145
146 \renewcommand*{\settypeblocksize}[3]{}
147 \renewcommand*{\setlrmargins}[3]{}
148 \renewcommand*{\setlrmarginsandblock}[3]{}
149 \renewcommand*{\setbinding}[1]{}
150 \renewcommand*{\setulmargins}[3]{}
151 \renewcommand*{\setulmarginsandblock}[3]{}
152 \renewcommand*{\setcolsepandrule}[2]{}
153
154 \renewcommand*{\setheadfoot}[2]{}
155 \renewcommand*{\setheaderspaces}[3]{}
156 \renewcommand*{\setmarginnotes}[3]{}
157 \renewcommand*{\setfootins}[2]{}
158 \renewcommand*{\checkandfixthelayout}[1][{}]{ }
159 \renewcommand*{\checkthelayout}[1]{}
160 \renewcommand*{\fixthelayout}{}
161 %
162 % \newlength{\stockheight}
163 % \newlength{\trimtop}
164 % \newlength{\trimedge}
165 % \newlength{\stockwidth}
166 % \newlength{\spinemargin}
167 % \newlength{\foremargin}
168 % \newlength{\uppermargin}
169 % \newlength{\headmargin}
170 %
171 \renewcommand*{\typeoutlayout}{}
172 \renewcommand*{\typeoutstandardlayout}{}
173 \renewcommand*{\settypeoutlayoutunit}[1]{}
174 \renewcommand*{\fixpdflayout}{}
175 \renewcommand*{\fixdvipslayout}{}
176
177 \renewcommand*{\medievalpage}[1][{}]{ }
178 \renewcommand*{\isopage}[1][{}]{ }
179 \renewcommand*{\semiisopage}[1][{}]{ }
180
181 \renewcommand{\setpagebl}[3]{}
182 \renewcommand{\setpageml}[3]{}
183 \renewcommand{\setpagetl}[3]{}
184 \renewcommand{\setpagetm}[3]{}
185 \renewcommand{\setpagetr}[3]{}
186 \renewcommand{\setpagemr}[3]{}
187 \renewcommand{\setpagebr}[3]{}
188 \renewcommand{\setpagebm}[3]{}
189 \renewcommand{\setpageecc}[3]{}

```

## § 671.4 Text and fonts

```

190 \let\miniscule\tiny
191 \let\HUGE\Huge
192
193 \renewcommand*{\abnormalparskip}[1]{}
194 \renewcommand*{\nonzeroparskip}{}
195 \renewcommand*{\traditionalparskip}{}
196
197 \let\onelineskip\baselineskip
198
199 \let\OnehalfSpacing\onehalfspacing
200 \let\DoubleSpacing\doublespacing
201 \renewcommand*{\setPagenoteSpacing}[1]{}
202 \renewcommand*{\setFloatSpacing}[1]{}

203 \renewcommand{\SingleSpacing}{\@ifstar\singlespacing\singlespacing}

204 \let\setSingleSpace\SetSinglespace
205 \let\SingleSpace\singlespace
206 \let\endSingleSpace\endsinglespace
207 \let\Spacing\spacing
208 \let\endSpacing\endspacing
209 \let\OnehalfSpace\onehalfspace
210 \let\endOnehalfSpace\endonehalfspace
211 \csletcs{OnehalfSpace*}{onehalfspace}
212 \csletcs{endOnehalfSpace*}{endonehalfspace}
213 \let\DoubleSpace\doublespace
214 \let\endDoubleSpace\enddoublespace
215 \csletcs{DoubleSpace*}{doublespace}
216 \csletcs{endDoubleSpace*}{enddoublespace}
217 \renewcommand*{\setDisplayskipStretch}[1]{}
218 \renewcommand*{\memdskipstretch}{}
219 \renewcommand*{\noDisplayskipStretch}{}
220 \renewcommand*{\memdskips}{}
221
222 \renewcommand*{\midslippy}{}
223 \renewenvironment*{\midslippy}{\relax}{}{}
224
225 \renewcommand*{\slippybottom}{}

```

## § 671.5 Titles

```

226 \csletcs{titlingpage*}{titlingpage}
227 \csletcs{endtitlingpage*}{endtitlingpage}
228 \let\titlingpageend\relax
229 \newcommand{\titlingpageend}[2]{}
230 \let\andnext\and
231 \renewcommand*{\thanksmarkstyle}[1]{}
232
233 \renewcommand{\thanksfootmark}{%
234 \thanksscript{\tmark}%
235 }
236
237 % \newlength{\thanksmarksep}% already provided by memoir

```

```
238 \renewcommand\titlingpageend[2]{}

```

## § 671.6 Abstracts

```
239 % \newlength{\absindent}
240 % \newlength{\absparsep}
241 \renewcommand*\abstractcol{}
242 \renewcommand*\abstractintoc{}
243 \renewcommand*\abstractnum{}
244 \renewcommand*\abstractrunin{}

```

## § 671.7 Document divisions

```
\book * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

```

```
245 \DeclareDocumentCommand{\book}{s d() o o d() m}{%
246 \LWR@section{#1}{#3}{#6}{book}%
247 }

```

```
248 \def\@apppage{%
249 \part*\appendixpagename}
250 }
251 \renewcommand\mempreaddapppagetotochook{}
252 \renewcommand\mempostaddapppagetotochook{}
253
254 \def\@sapppage{%
255 \part*\appendixpagename}
256 }

```

```
257 \DeclareDocumentCommand{\mainmatter}{s}{%
258 \booltrue{LWR@mainmatter}%
259 }
260
261 \DeclareDocumentCommand{\frontmatter}{s}{%
262 \boolfalse{LWR@mainmatter}%
263 }

```

```
264 \renewcommand*\raggedbottomsection{}
265 \renewcommand*\normalbottomsection{}
266 \renewcommand*\bottomsectionskip{}
267 \renewcommand*\bottomsectionpenalty{}
268 \csletcs{appendixpage*}{appendixpage}
269 \renewcommand*\namedsubappendices{}
270 \renewcommand*\unnamedsubappendices{}
271 \renewcommand*\beforebookskip{}
272 \renewcommand*\afterbookskip{}
273 \renewcommand*\beforepartskip{}
274 \renewcommand*\afterpartskip{}
275 \renewcommand*\midbookskip{}
276 \renewcommand*\midpartskip{}
277 \renewcommand*\printbookname{}
278 \renewcommand*\booknamefont{}
279 \renewcommand*\booknamenum{}
280 \renewcommand*\printbooknum{}

```

```

281 \renewcommand*{\booknumfont}{}
282 \renewcommand*{\printpartname}{}
283 \renewcommand*{\partnamefont}{}
284 \renewcommand*{\partnamenum}{}
285 \renewcommand*{\printpartnum}{}
286 \renewcommand*{\partnumfont}{}
287 \renewcommand*{\printbooktitle}[1]{}
288 \renewcommand*{\booktitlefont}{}
289 \renewcommand*{\printparttitle}[1]{}
290 \renewcommand*{\parttitlefont}{}
291 \renewcommand*{\bookpageend}{}
292 \renewcommand*{\bookblankpage}{}
293 \renewcommand*{\nobookblankpage}{}
294 \renewcommand*{\partpageend}{}
295 \renewcommand*{\partblankpage}{}
296 \renewcommand*{\nopartblankpage}{}
297 \RenewDocumentCommand{\newleadpage}{s o m m}{}% todo
298 \RenewDocumentCommand{\renewleadpage}{s o m m}{}% todo
299 \renewcommand*{\leadpagetoclevel}{chapter}
300
301 \renewcommand*{\openright}{}
302 \renewcommand*{\openleft}{}
303 \renewcommand*{\openany}{}
304 \renewcommand*{\clearforchapter}{}
305 \renewcommand*{\memendofchapterhook}{}
306 \renewcommand*{\chapterheadstart}{}
307 % \newlength{\beforechapskip}
308 \renewcommand*{\afterchapternum}{}
309 % \newlength{\midchapskip}
310 \renewcommand*{\afterchaptertitle}{}
311 % \newlength{\afterchapskip}
312 \renewcommand*{\printchaptername}{}
313 \renewcommand*{\chapnamefont}{}
314 \renewcommand*{\chapternamenum}{}
315 \renewcommand*{\printchapternum}{}
316 \renewcommand*{\chapnumfont}{}
317 \renewcommand*{\printchaptertitle}[1]{}
318 \renewcommand*{\chapttitlefont}{}
319 \renewcommand*{\printchapternonum}{}
320 \renewcommand*{\indentafterchapter}{}
321 \renewcommand*{\noindentafterchapter}{}
322 \renewcommand*{\insertchapterspace}{}
323
324 \renewcommand*{\chapterstyle}[1]{}
325 \renewcommand*{\makechapterstyle}[2]{}
326 \renewcommand*{\chapindent}{}
327 \let\chapterprecis\cftchapterprecis
328 \let\chapterprecishere\cftchapterprecishere
329 \let\chapterprecistoc\cftchapterprecistoc
330 \renewcommand*{\precisfont}{}
331 \renewcommand*{\prechapterprecis}{}
332 \renewcommand*{\postchapterprecis}{}
333 \renewcommand*{\precistocetext}[1]{}
334 \renewcommand*{\precistocfont}{}
335 \renewcommand*{\precistocformat}{}

```

```

336 % \newlength{\prechapterprecisshift}
337
338 \renewcommand*{\setbeforesecskip}[1]{ }
339 \renewcommand*{\setaftersecskip}[1]{ }
340 \renewcommand*{\setsecindent}[1]{ }
341 \renewcommand*{\setsecheadstyle}[1]{ }
342 \renewcommand*{\setbeforesubsecskip}[1]{ }
343 \renewcommand*{\setaftersubsecskip}[1]{ }
344 \renewcommand*{\setsubsecindent}[1]{ }
345 \renewcommand*{\setsubsecheadstyle}[1]{ }
346 \renewcommand*{\setbeforesubsubsecskip}[1]{ }
347 \renewcommand*{\setaftersubsubsecskip}[1]{ }
348 \renewcommand*{\setsubsubsecindent}[1]{ }
349 \renewcommand*{\setsubsubsecheadstyle}[1]{ }
350 \renewcommand*{\setbeforeparaskip}[1]{ }
351 \renewcommand*{\setafterparaskip}[1]{ }
352 \renewcommand*{\setparaindent}[1]{ }
353 \renewcommand*{\setparaheadstyle}[1]{ }
354 \renewcommand*{\setbeforesubparaskip}[1]{ }
355 \renewcommand*{\setaftersubparaskip}[1]{ }
356 \renewcommand*{\setsubparaindent}[1]{ }
357 \renewcommand*{\setsubparaheadstyle}[1]{ }
358 \renewcommand{\@hangfrom}[1]{#1}
359 \renewcommand{\sethangfrom}[1]{ }
360 \renewcommand{\setsecnumformat}[1]{ }
361
362 \renewcommand*{\hangsecnum}{ }
363 \renewcommand*{\defaultsecnum}{ }
364
365 \renewcommand*{\sechook}{ }
366 \renewcommand{\setsechook}[1]{ }
367 \renewcommand*{\subsechook}{ }
368 \renewcommand{\setsubsechook}[1]{ }
369 \renewcommand*{\subsubsechook}{ }
370 \renewcommand{\setsubsubsechook}[1]{ }
371 \renewcommand*{\parahook}{ }
372 \renewcommand{\setparahook}[1]{ }
373 \renewcommand*{\subparahook}{ }
374 \renewcommand{\setsubparahook}[1]{ }
375
376 \RenewDocumentCommand{\plainbreak}{s m}{\begin{center}~\end{center}}
377
378 \RenewDocumentCommand{\fancybreak}{s +m}{%
379 \begin{center}#2\end{center}%
380 }
381
382 \RenewDocumentCommand{\plainfancybreak}{s m m +m}{%
383 \begin{center}#4\end{center}%
384 }
385
386 \RenewDocumentCommand{\pfbreak}{s}{%
387 \begin{center}
388 \pfbreakdisplay
389 \end{center}
390 }

```

```

391
392 % \newlength{\pfbreakskip}
393 \renewcommand{\pfbreakdisplay}{*\quad*\quad*}
394
395 \renewcommand{\makeheadstyles}[2]{}
396 \renewcommand*\headstyles[1]{}

```

## § 671.8 **Pagination and headers**

```

397 \renewcommand*\savepagenumber{}
398 \renewcommand*\restorepagenumber{}
399 \renewcommand*\uppercaseheads{}
400 \renewcommand*\nouppercaseheads{}
401
402 \renewcommand*\bookpagemark}[1]{}
403 \renewcommand*\partmark}[1]{}
404 \renewcommand*\bibmark{}
405 \renewcommand*\indexmark{}
406 \renewcommand*\glossarymark{}
407
408 \LWR@origpagestyle{empty}
409 \renewcommand*\ps@empty{}
410 \renewcommand*\makepagestyle}[1]{}
411 \renewcommand*\emptyshook{}%
412 % \renewcommand*\empty@oddhead{}
413 % \renewcommand*\empty@oddfoot{}
414 % \renewcommand*\empty@evenhead{}
415 % \renewcommand*\empty@evenfoot{}
416 \renewcommand*\@oddhead{}
417 \renewcommand*\@oddfoot{}
418 \renewcommand*\@evenhead{}
419 \renewcommand*\@evenfoot{}
420 \renewcommand*\aliaspagestyle}[2]{}
421 \renewcommand*\copypagestyle}[2]{}
422
423 \renewcommand*\makeevenhead}[4]{}
424 \renewcommand*\makeoddhead}[4]{}
425 \renewcommand*\makeevenfoot}[4]{}
426 \renewcommand*\makeoddfoot}[4]{}
427 \renewcommand*\makerunningwidth}[3]{}
428 % \newlength{\headwidth}
429 \renewcommand*\makeheadrule}[3]{}
430 \renewcommand*\makefootrule}[3]{}
431 \renewcommand*\makeheadfootruleprefix}[3]{}
432 % \newlength{\normalrulethickness}
433 % \setlength{\normalrulethickness}{.4pt}
434 % \newlength{\footruleheight}
435 % \newlength{\footruleskip}
436 \renewcommand*\makeheadposition}[5]{}
437 \renewcommand*\makepsmarks}[2]{}
438 \renewcommand*\makeheadfootstrut}[3]{}

439 \renewcommand{\createmark}[5]{\csdef{#1mark}[1]{} }
440 \renewcommand{\createplainmark}[3]{\csdef{#1mark}{} }

441 \renewcommand{\memUChad}[1]{}

```

```

442 \renewcommand*\clearplainmark}[1]{}
443 \renewcommand*\clearmark}[1]{}
444 \renewcommand\addtopsmarks[3]{}
445 \renewcommand\ifonlyfloats[2]{#2}
446 \renewcommand*\mergepagefloatstyle[3]{}
447
448 \renewcommand*\framepichead{}
449 \renewcommand*\framepictextfoot{}
450 \renewcommand*\framepichook{}
451 \renewcommand*\showheadfootlocoff{}
452 \renewcommand*\showtextblocklocoff{}

```

### § 671.9 Paragraphs and lists

```

453 \renewcommand\hangfrom[1]{#1}
454 \let\centerfloat\centering
455 \renewcommand*\raggedyright[1]{}
456 % \newlength\ragrparindent
457 \renewcommand\sourceatright[2][\attribution{#2}]
458 \let\memorigdbs\LWR@endofline
459 \let\memorigpar\par
460 \let\atcentercr\LWR@endofline
461
462 \renewcommand*\linenottooshort[1]{}
463 \renewcommand*\russianpar{}
464 \renewcommand*\lastlinerulefill{}
465 \renewcommand*\lastlineparrule{}
466 \renewcommand*\justlastraggedleft{}
467 \renewcommand*\raggedrightthenleft{}
468 \renewcommand*\leftcenterright{}
469
470 \renewcommand\leftspringright[4]{%
471 \begin{minipage}{#1\linewidth}#3\end{minipage}\qqquad%
472 \begin{minipage}{#2\linewidth}\begin{flushright}#4\end{flushright}\end{minipage}%
473 }
474
475 \renewenvironment*{blockdescription}
476 {\LWR@descriptionstart\LWR@origdescription}
477 {\enddescription}
478
479 \renewcommand*\blockdescriptionlabel[1]{\textbf{#1}}
480 \renewenvironment*{labelled}[1]{\begin{description}}{\end{description}}
481 \renewenvironment*{flexlabelled}[6]{\begin{description}}{\end{description}}
482 \renewcommand*\tightlists{}
483 \renewcommand*\defaultlists{}
484 \RenewDocumentCommand\firmlists{s}{}
485 \renewcommand*\firmlist{}
486 \renewcommand*\tightlist{}
487 \renewcommand*\zerotrivseps{}
488 \renewcommand*\savetrivseps{}
489 \renewcommand*\restoretrivseps{}

```

### § 671.10 Contents lists

```

490 \csletcs{tableofcontents*}{tableofcontents}

```

```

491 \csletcs{listoffigures*}{listoffigures}
492 \csletcs{listoftables*}{listoftables}
493 \renewenvironment{KeepFromToc}{}{}
494 \renewcommand*{\onecoltocetc}{}
495 \renewcommand*{\twocoltocetc}{}
496 \renewcommand*{\ensureonecol}{}
497 \renewcommand*{\restorefromonecol}{}
498 \renewcommand*{\doccoltocetc}{}
499
500 \renewcommand{\toheadstart}{}
501 \renewcommand{\printtoctitle}[1]{}
502 \renewcommand{\tocmark}{}
503 \renewcommand{\aftertoctitle}{}
504 \renewcommand{\lofheadstart}{}
505 \renewcommand{\printloftitle}[1]{}
506 \renewcommand{\lofmark}{}
507 \renewcommand{\afterloftitle}{}
508 \renewcommand{\lotheadstart}{}
509 \renewcommand{\printlottitle}[1]{}
510 \renewcommand{\lotmark}{}
511 \renewcommand{\afterlottitle}{}
512
513 \renewcommand*{\setpnumwidth}[1]{}
514 \renewcommand*{\setrmarg}[1]{}
515 \renewcommand*{\cftbookbreak}{}
516 \renewcommand*{\cftpartbreak}{}
517 \renewcommand*{\cftchapterbreak}{}

518 % \newlength{\cftbeforebookskip}
519 % \newlength{\cftbookindent}
520 % \newlength{\cftbooknumwidth}
521 \renewcommand*{\cftbookfont}{}
522 \renewcommand*{\cftbookname}{}
523 \renewcommand*{\cftbookpresnum}{}
524 \renewcommand*{\cftbookaftersnum}{}
525 \renewcommand*{\cftbookaftersnumb}{}
526 \renewcommand*{\cftbookleader}{}
527 \renewcommand*{\cftbookdotsep}{1}
528 \renewcommand*{\cftbookpagefont}{}
529 \renewcommand*{\cftbookafterpnum}{}
530 \renewcommand*{\cftbookformatpnum}[1]{}
531 \renewcommand*{\cftbookformatpnumhook}[1]{}

```

Part is already defined by `tocloft`.

```

532 % \newlength{\cftbeforechapterskip}
533 % \newlength{\cftchapterindent}
534 % \newlength{\cftchapternumwidth}
535 \renewcommand*{\cftchapterfont}{}
536 \renewcommand*{\cftchaptername}{}
537 \renewcommand*{\cftchapterpresnum}{}
538 \renewcommand*{\cftchapteraftersnum}{}
539 \renewcommand*{\cftchapteraftersnumb}{}
540 \renewcommand*{\cftchapterleader}{}
541 \renewcommand*{\cftchapterdotsep}{1}
542 \renewcommand*{\cftchapterpagefont}{}

```



```

543 \renewcommand*{\cftchapterafterpnum}{\}
544 \renewcommand*{\cftchapterformatpnum}[1]{\}
545 \renewcommand*{\cftchapterformatpnumhook}[1]{\}

546 % \newlength{\cftbeforesectionskip}
547 % \newlength{\cftsectionindent}
548 % \newlength{\cftsectionnumwidth}
549 \renewcommand*{\cftsectionfont}{\}
550 \renewcommand*{\cftsectionname}{\}
551 \renewcommand*{\cftsectionpresnum}{\}
552 \renewcommand*{\cftsectionaftersnum}{\}
553 \renewcommand*{\cftsectionaftersnumb}{\}
554 \renewcommand*{\cftsectionleader}{\}
555 \renewcommand*{\cftsectiondotsep}{1}
556 \renewcommand*{\cftsectionpagefont}{\}
557 \renewcommand*{\cftsectionafterpnum}{\}
558 \renewcommand*{\cftsectionformatpnum}[1]{\}
559 \renewcommand*{\cftsectionformatpnumhook}[1]{\}

560 % \newlength{\cftbeforesubsectionskip}
561 % \newlength{\cftsubsectionindent}
562 % \newlength{\cftsubsectionnumwidth}
563 \renewcommand*{\cftsubsectionfont}{\}
564 \renewcommand*{\cftsubsectionname}{\}
565 \renewcommand*{\cftsubsectionpresnum}{\}
566 \renewcommand*{\cftsubsectionaftersnum}{\}
567 \renewcommand*{\cftsubsectionaftersnumb}{\}
568 \renewcommand*{\cftsubsectionleader}{\}
569 \renewcommand*{\cftsubsectiondotsep}{1}
570 \renewcommand*{\cftsubsectionpagefont}{\}
571 \renewcommand*{\cftsubsectionafterpnum}{\}
572 \renewcommand*{\cftsubsectionformatpnum}[1]{\}
573 \renewcommand*{\cftsubsectionformatpnumhook}[1]{\}

574 % \newlength{\cftbeforesubsubsectionskip}
575 % \newlength{\cftsubsubsectionindent}
576 % \newlength{\cftsubsubsectionnumwidth}
577 \renewcommand*{\cftsubsubsectionfont}{\}
578 \renewcommand*{\cftsubsubsectionname}{\}
579 \renewcommand*{\cftsubsubsectionpresnum}{\}
580 \renewcommand*{\cftsubsubsectionaftersnum}{\}
581 \renewcommand*{\cftsubsubsectionaftersnumb}{\}
582 \renewcommand*{\cftsubsubsectionleader}{\}
583 \renewcommand*{\cftsubsubsectiondotsep}{1}
584 \renewcommand*{\cftsubsubsectionpagefont}{\}
585 \renewcommand*{\cftsubsubsectionafterpnum}{\}
586 \renewcommand*{\cftsubsubsectionformatpnum}[1]{\}
587 \renewcommand*{\cftsubsubsectionformatpnumhook}[1]{\}

588 % \newlength{\cftbeforeparagraphskip}
589 % \newlength{\cftparagraphindent}
590 % \newlength{\cftparagraphnumwidth}
591 \renewcommand*{\cftparagraphfont}{\}
592 \renewcommand*{\cftparagraphname}{\}
593 \renewcommand*{\cftparagraphpresnum}{\}
594 \renewcommand*{\cftparagraphaftersnum}{\}

```

```
595 \renewcommand*{\cftpgraphaftersnumb}{}
596 \renewcommand*{\cftpgraphleader}{}
597 \renewcommand*{\cftpgraphdotsep}{1}
598 \renewcommand*{\cftpgraphpagefont}{}
599 \renewcommand*{\cftpgraphafterpnum}{}
600 \renewcommand*{\cftpgraphformatpnum}[1]{}
601 \renewcommand*{\cftpgraphformatpnumhook}[1]{}

602 % \newlength{\cftbeforesubparagraphskip}
603 % \newlength{\cftsubparagraphindent}
604 % \newlength{\cftsubparagraphnumwidth}
605 \renewcommand*{\cftsubparagraphfont}{}
606 \renewcommand*{\cftsubparagraphname}{}
607 \renewcommand*{\cftsubparagraphpresnum}{}
608 \renewcommand*{\cftsubparagraphaftersnum}{}
609 \renewcommand*{\cftsubparagraphaftersnumb}{}
610 \renewcommand*{\cftsubparagraphleader}{}
611 \renewcommand*{\cftsubparagraphdotsep}{1}
612 \renewcommand*{\cftsubparagraphpagefont}{}
613 \renewcommand*{\cftsubparagraphafterpnum}{}
614 \renewcommand*{\cftsubparagraphformatpnum}[1]{}
615 \renewcommand*{\cftsubparagraphformatpnumhook}[1]{}

616 % \newlength{\cftbeforefigureskip}
617 % \newlength{\cftfigureindent}
618 % \newlength{\cftfigurenumwidth}
619 \renewcommand*{\cftfigurefont}{}
620 \renewcommand*{\cftfigurename}{}
621 \renewcommand*{\cftfigurepresnum}{}
622 \renewcommand*{\cftfigureaftersnum}{}
623 \renewcommand*{\cftfigureaftersnumb}{}
624 \renewcommand*{\cftfigureleader}{}
625 \renewcommand*{\cftfiguredotsep}{1}
626 \renewcommand*{\cftfigurepagefont}{}
627 \renewcommand*{\cftfigureafterpnum}{}
628 \renewcommand*{\cftfigureformatpnum}[1]{}
629 \renewcommand*{\cftfigureformatpnumhook}[1]{}

630 % \newlength{\cftbeforesubfigureskip}
631 % \newlength{\cftsubfigureindent}
632 % \newlength{\cftsubfigurenumwidth}
633 \newcommand*{\cftsubfigurefont}{}
634 \newcommand*{\cftsubfigurename}{}
635 \newcommand*{\cftsubfigurepresnum}{}
636 \newcommand*{\cftsubfigureaftersnum}{}
637 \newcommand*{\cftsubfigureaftersnumb}{}
638 \newcommand*{\cftsubfigureleader}{}
639 \newcommand*{\cftsubfiguredotsep}{1}
640 \newcommand*{\cftsubfigurepagefont}{}
641 \newcommand*{\cftsubfigureafterpnum}{}
642 \newcommand*{\cftsubfigureformatpnum}[1]{}
643 \newcommand*{\cftsubfigureformatpnumhook}[1]{}

644 % \newlength{\cftbeforetableskip}
645 % \newlength{\cfttableindent}
646 % \newlength{\cfttablenumwidth}
```

```

647 \renewcommand*\cfttablefont{}{}
648 \renewcommand*\cfttablename{}{}
649 \renewcommand*\cfttablepresnum{}{}
650 \renewcommand*\cfttableaftersnum{}{}
651 \renewcommand*\cfttableaftersnumb{}{}
652 \renewcommand*\cfttableleader{}{}
653 \renewcommand*\cfttabledotsep{1}{}
654 \renewcommand*\cfttablepagefont{}{}
655 \renewcommand*\cfttableafterpnum{}{}
656 \renewcommand*\cfttableformatpnum[1]{}{}
657 \renewcommand*\cfttableformatpnumhook[1]{}{}

658 % \newlength{\cftbeforesubtableskip}
659 % \newlength{\cftsubtableindent}
660 % \newlength{\cftsubtablenumwidth}
661 \newcommand*\cftsubtablefont{}{}
662 \newcommand*\cftsubtablename{}{}
663 \newcommand*\cftsubtablepresnum{}{}
664 \newcommand*\cftsubtableaftersnum{}{}
665 \newcommand*\cftsubtableaftersnumb{}{}
666 \newcommand*\cftsubtableleader{}{}
667 \newcommand*\cftsubtabledotsep{1}{}
668 \newcommand*\cftsubtablepagefont{}{}
669 \newcommand*\cftsubtableafterpnum{}{}
670 \newcommand*\cftsubtableformatpnum[1]{}{}
671 \newcommand*\cftsubtableformatpnumhook[1]{}{}

672 \renewcommand*\booknumberline[1]{}{}
673 \renewcommand*\partnumberline[1]{}{}
674 \renewcommand*\chapternumberline[1]{}{}
675 \renewcommand*\numberlinehook[1]{}{}
676 % \renewcommand*\cftwhatismyname{}{}%
677 \renewcommand*\booknumberlinehook[1]{}{}
678 \renewcommand*\partnumberlinehook[1]{}{}
679 \renewcommand*\chapternumberlinehook[1]{}{}
680 \renewcommand{\numberlinebox}[2]{}{}
681 \renewcommand{\booknumberlinebox}[2]{}{}
682 \renewcommand{\partnumberlinebox}[2]{}{}
683 \renewcommand{\chapternumberlinebox}[2]{}{}
684 %
685 % \newlength{\cftparfillskip}
686 \renewcommand*\cftpagenumbersoff[1]{}{}
687 \renewcommand*\cftpagenumberon[1]{}{}
688 \renewcommand*\cftlocalchange[3]{}{}
689 \renewcommand*\cftaddtitleline[4]{}{}
690 \renewcommand*\cftaddnumtitleline[4]{}{}
691 \renewcommand{\cftinsertcode}[2]{}{}
692 \renewcommand{\cftinserthook}[2]{}{}
693 \renewcommand{\settocpreprocessor}[2]{}{}
694 \DeclareRobustCommand{\cftpagenumbersoff}[1]{}{}
695 \DeclareRobustCommand{\cftpagenumberon}[1]{}{}

```

## § 671.11 Floats and captions

\@xfloat

\@xdblfloat     Reestablish lwarp's takeover the float handing, which memoir tried to grab:

```

696 \AtBeginDocument{
697 \def\@xfloat #1[#2]{%
698 \LWR@floatbegin{#1}[#2]
699 \normalsize
700 \@nameuse{#1adjustment}%
701 \LWR@futurenonSPACElet\LWR@mynexttoken\LWR@floatalignment%
702 }
703 \def\@xdblfloat #1[#2]{%
704 \LWR@floatbegin{#1}[#2]
705 \normalsize
706 \@nameuse{#1adjustment}%
707 \LWR@futurenonSPACElet\LWR@mynexttoken\LWR@floatalignment%
708 }
709 }

```

`\newfloat` [*<1: within>*] [*<2: type>*] [*<3: ext>*] [*<4: capname>*]

```

710 \RenewDocumentCommand{\newfloat}{o m m m}{%
711 \def\LWR@tempone{#4}%
712 \def\LWR@temptwo{\@nameuse{#2name}}%
713 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{% recursive name, already defined
714 \IfValueTF{#1}%
715 {\DeclareFloatingEnvironment[fileext=#3,within=#1]{#2}}%
716 {\DeclareFloatingEnvironment[fileext=#3]{#2}}%
717 }{% not recursive name
718 \IfValueTF{#1}%
719 {\DeclareFloatingEnvironment[fileext=#3,within=#1,name={#4}]{#2}}%
720 {\DeclareFloatingEnvironment[fileext=#3,name={#4}]{#2}}%
721 }%

```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```

722 \cslet{listof#2s}\relax%
723 \cslet{listof#2es}\relax%
724 }

```

`\newlistof` [*<within>*] [*<type>*] [*<ext>*] [*<listofname>*]

Emulated through the `\newfloat` mechanism. Note that `memoir` uses a different syntax than `tocloft` for the name.

```

725 \RenewDocumentCommand{\newlistof}{o m m m}
726 {%
727 \IfValueTF{#1}%
728 {\newlistentry{#1}{#2}{#3}{0}}%
729 {\newlistentry{#2}{#3}{0}}%
730 \@namedef{ext@#2}{#3}%
731 \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
732 \setcounter{#3depth}{1}%
733 \@namedef{#3mark}{}%
734 \@namedef{#2}{\listof{#2}{#4}}%
735 \@namedef{@cftmake#3title}{}%
736 \@ifundefined{cftbefore#3titleskip}{%
737 \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
738 \expandafter\newlength\csname cftafter#3titleskip\endcsname%
739 }{}%

```

```

740 \namedef{cft#3titlefont}{}%
741 \namedef{cftafter#3title}{}%
742 \namedef{cft#3prehook}{}%
743 \namedef{cft#3posthook}{}%
744 }

745 \renewcommand{\setfloatadjustment}[2]{}

```

Borrowed from the `lwarp` version of `keyfloat`:

```

746 \NewDocumentEnvironment{KFLTmemoir@marginfloat}{0{-1.2ex} m}
747 {% start
748 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}{marginblock}%
749 \renewcommand*{\@capttype}{#2}%
750 }
751 {%
752 \endLWR@BlockClassWP%
753 }
754
755 \DeclareDocumentEnvironment{marginfigure}{o}
756 {\begin{KFLTmemoir@marginfloat}{figure}}
757 {\end{KFLTmemoir@marginfloat}}
758
759 \DeclareDocumentEnvironment{margintable}{o}
760 {\begin{KFLTmemoir@marginfloat}{table}}
761 {\end{KFLTmemoir@marginfloat}}

762 \renewcommand{\setmarginfloatcaptionadjustment}[2]{}
763 \renewcommand{\setmpjustification}[2]{}
764 \renewcommand*{\mpjustification}{}
765 \renewcommand*{\setfloatlocations}[2]{}
766 \DeclareDocumentCommand{\suppressfloats}{o}{}
767 \renewcommand*{\FloatBlock}{}
768 \renewcommand*{\FloatBlockAllowAbove}{}
769 \renewcommand*{\FloatBlockAllowBelow}{}
770 \renewcommand*{\setFloatBlockFor}{}
771
772 \renewcommand{\captiontitlefinal}[1]{}

```

`\flegtable`, `\flegfigure`, `\flegtocfigure` are defined by `memoir` using `\newfloat`. These are defined with an @ in `ccaption`.

```

773 \renewcommand{\flegtable}{\tablename}
774 \renewcommand{\flegfigure}{\figurename}
775 \renewcommand{\flegtocfigure}{}
776 \renewcommand{\flegtocfigure}{}

777 \renewcommand{\@makesubfloatcaption}[2]{%
778 \minipagefullwidth
779 \begin{minipage}{\linewidth}%
780 #1 \ignorespaces #2 \unskip%
781 \end{minipage}
782 }
783

```

```

784 \renewcommand*{\tightsubcaptions}{}
785 \renewcommand*{\loosesubcaptions}{}
786
787 \renewcommand*{\subcaptionsize}[1]{}
788 \renewcommand*{\subcaptionlabelfont}[1]{}
789 \renewcommand*{\subcaptionfont}[1]{}
790 \renewcommand*{\subcaptionstyle}[1]{}
791
792 \renewcommand*{\hangsubcaption}{}
793 \renewcommand*{\shortsubcaption}{}
794 \renewcommand*{\normalsubcaption}{}
795
796 \RenewDocumentEnvironment{sidecaption}{o m o}
797 {}
798 {%
799 \IfValueTF{#1}{\caption[#1]{#2}}{\caption{#2}}%
800 \IfValueT{#3}{\label{#3}}%
801 }
802
803 % \newlength{\sidecapwidth}
804 % \newlength{\sidecapsep}
805 \renewcommand*{\setsidecaps}[2]{}
806 \renewcommand*{\sidecapmargin}[1]{}
807 % \newif\ifscapmargleft
808 \scapmargleftfalse
809 \renewcommand*{\setsidecappos}[1]{}

```

Env sidecontcaption

```

810 \RenewDocumentEnvironment{sidecontcaption}{m o}
811 {}
812 {%
813 \ifdef{\ContinuedFloat}%
814 {\ContinuedFloat}%
815 {\addtocounter{\@captype}{-1}}%
816 \caption{#1}%

```

Without \@captype, the section is referred to instead.

```

817 \IfValueT{#2}{\label[\@captype]{#2}}%
818 }

```

\sidenamedlegend does not appear to use the toc argument.

```

819 \renewenvironment{sidenamedlegend}[2][{}
820 \begin{center}
821 \@nameuse{\@captype name}\CaptionSeparator#2
822 \end{center}
823 }
824 {}
825
826 \renewenvironment{sidelegend}[1]
827 {\begin{center}
828 #1
829
830 }

```

```

831 {\end{center}}
832
833 \renewcommand*{\sidecapstyle}{}
834 \renewcommand*{\overridescapmargin}[1]{}
835 % \newlength{\sidecapraise}
836 \renewcommand*{\sidecapfloatwidth}{\linewidth}
837
838 \LetLtxMacro\ctabular\tabular
839 \LetLtxMacro\endctabular\endtabular
840
841 \renewcommand{\autorows}[5][]{%
842 #5%
843 }
844
845 \renewcommand{\autocol}[5][]{%
846 #5%
847 }

```

## § 671.12 Footnotes and page notes

```

848 \renewcommand*{\feetabovelfloat}{}
849 \renewcommand*{\feetbelowfloat}{}
850 \renewcommand*{\feetatbottom}{}
851
852 \renewcommand*{\verbfootnote}[2][]{%
853 \PackageError{lwarp, memoir}%
854 {Verbatim footnotes are not yet supported by lwarp}%
855 {This may be improved some day.}%
856 }
857
858 \renewcommand*{\plainfootnotes}{}
859 \renewcommand*{\twocolumnfootnotes}{}
860 \renewcommand*{\threecolumnfootnotes}{}
861 \renewcommand*{\paragraphfootnotes}{}
862 \renewcommand*{\footfudgefiddle}{}
863
864 \renewcommand*{\newfootnoteseries}[1]{%
865 \PackageError{lwarp, memoir}%
866 {Memoir footnote series are not yet supported by lwarp}%
867 {This may be improved some day.}%
868 }
869
870 \renewcommand*{\plainfootstyle}[1]{}
871 \renewcommand*{\twocolumnfootstyle}[1]{}
872 \renewcommand*{\threecolumnfootstyle}[1]{}
873 \renewcommand*{\paragraphfootstyle}[1]{}
874
875 \renewcommand*{\footfootmark}{}
876 \renewcommand*{\footmarkstyle}[1]{}
877
878 % \newlength{\footmarkwidth}
879 % \newlength{\footmarksep}
880 % \newlength{\footparindent}
881
882 \renewcommand*{\foottextfont}{}
883

```

```

884 \renewcommand*{\marginparmargin}[1]{}
885 \renewcommand*{\sideparmargin}[1]{}
886
887 \LetLtxMacro\sidepar\marginpar
888 \renewcommand*{\sideparfont}{}
889 \renewcommand*{\sideparform}{}
890 \LWR@providelength{\sideparvshift}
891
892 \renewcommand*{\parnopar}{}
893
894 \renewcommand{\sidebar}[1]{\begin{quote}#1\end{quote}}
895 \renewcommand*{\sidebarmargin}[1]{}
896 \renewcommand*{\sidebarfont}{}
897 \renewcommand*{\sidebarform}{}
898 % \newlength{\sidebarhsep}
899 % \newlength{\sidebarvsep}
900 % \newlength{\sidebarwidth}
901 % \newlength{\sidebartopsep}
902 \renewcommand{\setsidebarheight}[1]{}
903 \renewcommand*{\setsidebars}[6]{}
904 \renewcommand*{\footnotesatfoot}{}
905 \renewcommand*{\footnotesinmargin}{}
906
907 \LetLtxMacro\sidefootnote\footnote
908 \LetLtxMacro\sidefootnotemark\footnotemark
909 \LetLtxMacro\sidefootnotetext\footnotetext
910
911 \renewcommand*{\sidefootmargin}[1]{}
912 % \newlength{\sidefoothsep}
913 % \newlength{\sidefootvsep}
914 % \newlength{\sidefootwidth}
915 % \newlength{\sidefootadjust}
916 % \newlength{\sidefootheight}
917 \renewcommand*{\setsidefootheight}[1]{}
918 % \renewcommand*{\sidefootfont}{}% in docs but not in the package
919 \renewcommand*{\setsidefeet}[6]{}
920 \renewcommand*{\sidefootmarkstyle}[1]{}
921 \renewcommand*{\sidefoottextfont}{}
922 \renewcommand*{\sidefootform}{}

923 \renewcommand*{\continuousnotenums}{\pncontopttrue}% from pagenote
924 \renewcommand*{\notepageref}{}
925 \renewcommand*{\prenotetext}{}
926 \renewcommand*{\postnotetext}{}
927 \LetLtxMacro\printpageinnoteshyperref\printpageinnotes
928 \renewcommand*{\foottopagenote}{}
929 \renewcommand*{\pagetofootnote}{}

```

\m@m@wrpnote

\startnoteentrystart

To have **cleveref** work with page note labels, the following patch writes \thepagenote and also adds \arabic{pagenote} to the first argument written to the .ent file:

```
\startnoteentry{\thepagenote}{\arabic{pagenote}} . . .
```



The arabic value is required for `cleveref`. `\thepagenote` becomes `\@firstoftwo#1` and the arabic value becomes `\@secondoftwo#1`.

⚠ `\nameref` Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

```

930 \xpatchcmd{\m@m@wrpnote}
931 {\string\startnoteentry{\thepagenote}}
932 {\string\startnoteentry{{\thepagenote}{\arabic{pagenote}}}}
933 {}
934 {\LWR@patcherror{memoir}{m@m@wrpnote}}
935
936 \renewcommand\startnoteentrystart[4]{%
937 \prenoteinnotes%
938 \noteidinnotes{\@firstoftwo#1}{#2}%
939 \@ifmtarg{#2}{%
940 \phantomsection\def\@currentlabel{#1}% original
941 \def\@currentlabel{\@firstoftwo#1}% lwarp
942 \def\cref@currentlabel{% lwarp
943 [pagenote][\@secondoftwo#1][\@firstoftwo#1% lwarp
944]}%
945 }%
946 \pagenoteanchor{#4}%
947 \pageinnotes{#3}%
948 \prenotetext%
949 }
```

### § 671.13 Decorative text

```

950 \renewcommand*\epigraphposition[1]{%
951 \renewcommand*\epigraphtextposition[1]{%
952 \renewcommand*\epigraphsourceposition[1]{%
953 \renewcommand*\epigraphfontsize[1]{%
954 \renewcommand*\epigraphforheader[2][{}]{%
955 \renewcommand*\epigraphpicture{}
```

### § 671.14 Poetry

```

956 \renewcommand*\vinphantom{}
957 \renewcommand*\vleftofline[1]{#1}
958 % \let\linenumberfrequency\poemlines
959 % \renewcommand*\linenumberfont[1]{%
960
961 \DeclareDocumentCommand{\PoemTitle}{s o m}{%
962 \IfValueTF{#2}%
963 {\poemtitle[#2]{#4}}%
964 {\poemtitle{#4}}%
965 }
966
967 \renewcommand*\NumberPoemTitle{}
968 \renewcommand*\PlainPoemTitle{}
969 \renewcommand*\poemtitlestyle{}
970 \renewcommand*\poemtitlestarmark[1]{%
971 \renewcommand*\poemtitlestarpstyle{}
972 \renewcommand*\PoemTitleheadstart{}
973 \renewcommand*\printPoemTitlenonum{}
974 \renewcommand*\printPoemTitlenum{}
```

```

975 \renewcommand*{\afterPoemTitlenum}{}
976 \renewcommand*{\printPoemTitletitle}[1]{}
977 \renewcommand*{\afterPoemTitle}{}
978 \newlength{\midpoemtitleskip}
979 \renewcommand*{\PoemTitlenumfont}{}
980 \renewcommand*{\PoemTitlefont}{}

```

### § 671.15 Boxes, verbatims and files

```

981 \renewenvironment{qframe}{\fboxed}{\endfboxed}
982 \renewenvironment{qshade}{\shaded}{\endshaded}

983 \renewcommand*{\setverbatimfont}[1]{}
984 \renewcommand*{\tabson}[1]{}
985 \renewcommand*{\tabsoff}{}
986 \renewcommand*{\wrappingon}{}
987 \renewcommand*{\wrappingoff}{}
988 \renewcommand*{\verbatimindent}{}
989 \renewcommand*{\verbatimbreakchar}[1]{}

990 \DefineVerbatimEnvironment{fboxverbatim}{Verbatim}{frame=single}

```

`boxedverbatim` is already defined by `moreverb`. `boxedverbatim*` does not appear to work at all, even in a minimal print memoir document.

```

991 \renewcommand*{\bvbox}{}
992 \renewcommand*{\bvtopandtail}{}
993 \renewcommand*{\bvside}{}
994 \renewcommand*{\nobvbox}{}
995 % \newlength\bvboxsep
996 \renewcommand*{\bvtoprulehook}{}
997 \renewcommand*{\bvtopmidhook}{}
998 \renewcommand*{\bvendrulehook}{}
999 \renewcommand*{\bvleftsidehook}{}
1000 \renewcommand*{\bvrighsidehook}{}
1001 \renewcommand*{\bvperpagetrue}{}
1002 \renewcommand*{\bvperpagefalse}{}
1003 \renewcommand*{\bvtopofpage}[1]{}
1004 \renewcommand*{\bvendofpage}[1]{}
1005 \renewcommand*{\linenumberfrequency}[1]{}
1006 \renewcommand*{\resetbvlینumber}{}
1007 \renewcommand*{\setbvlینums}[2]{}
1008 \renewcommand*{\linenumberfont}[1]{}
1009 \renewcommand*{\bvnumbersinside}{}
1010 \renewcommand*{\bvnumbersoutside}{}

```

### § 671.16 Cross referencing

```

1011 \renewcommand*{\fref}[1]{\cref{#1}}
1012 \renewcommand*{\tref}[1]{\cref{#1}}
1013 \renewcommand*{\pref}[1]{\cpageref{#1}}
1014 \renewcommand*{\Aref}[1]{\cref{#1}}
1015 \renewcommand*{\Bref}[1]{\cref{#1}}
1016 \renewcommand*{\Pref}[1]{\cref{#1}}
1017 \renewcommand*{\Sref}[1]{\cref{#1}}

```

```

1018 \renewcommand*{\figurerefname}{Figure}
1019 \renewcommand*{\tablerefname}{Table}
1020 \renewcommand*{\pagerefname}{page}
1021 \renewcommand*{\bookrefname}{Book~}
1022 \renewcommand*{\partrefname}{Part~}
1023 \renewcommand*{\chapterrefname}{Chapter~}
1024 \renewcommand*{\sectionrefname}{\S}
1025 \renewcommand*{\appendixrefname}{Appendix~}
1026 \let\ltxMacro\titleref\nameref
1027 \renewcommand*{\headnameref}{}
1028 \renewcommand*{\tocnameref}{}
1029
1030 \providecounter{LWR@currenttitle}
1031
1032 \renewcommand*{\currenttitle}{%
1033 \addtocounter{LWR@currenttitle}{1}%
1034 \label{currenttitle\arabic{LWR@currenttitle}}%
1035 \nameref{currenttitle\arabic{LWR@currenttitle}}%
1036 }
1037
1038 \renewcommand*{\theTitleReference}[2]{%
1039 \renewcommand*{\namerefon}{}
1040 \renewcommand*{\namerefoff}{}

```

### § 671.17 Back matter

`\@@wrindexhyp` Redefined to write the `LWR@autoindex` counter instead of page. Note that `memoir` has two versions, depending on the use of `hyperref`.

```

1041 \AtBeginDocument{
1042
1043 \def\@@wrindexhyp#1||\{%
1044 \addtocounter{LWR@autoindex}{1}%
1045 \label{LWRindex-\arabic{LWR@autoindex}}%
1046 % \ifshowindexmark\@showidx{#1}\fi
1047 \protected@write\@auxout{%
1048 % {\string\@@wrindexm@{\@idxfile}{#1}{\thepage}}%
1049 {\string\@@wrindexm@{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%
1050 \endgroup
1051 \@esphack}%

```

`\@@wrspindexhyp` `\specialindex` behaves like a regular `\index`, pointing to where `\specialindex` is used. If `\specialindex` is used inside a figure or table after the `\caption`, then the hyperlink will be given the name of that particular figure or table.

```

1052 \def\@@wrspindexhyp#1||\{%
1053 \addtocounter{LWR@autoindex}{1}%
1054 \label{LWRindex-\arabic{LWR@autoindex}}%
1055 % \ifshowindexmark\@showidx{#1}\fi
1056 \protected@write\@auxout{%
1057 % {\string\@@wrindexm@{\@idxfile}{#1}{\@nameuse{the\@sptheidx}}}%
1058 {\string\@@wrindexm@{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%
1059 \endgroup
1060 \@esphack}%
1061
1062 }% \AtBeginDocument

```

\@spindex    Patched to append \_html to the file:

```

1063 \renewcommand{\@spindex}[2]{%
1064 \@ifundefined{#1idxfile}%
1065 {\ifreportnoidxfile
1066 \@memwarn{Undefined index file #1}%
1067 \fi
1068 \begingroup
1069 \@sanitize
1070 \@nowrindex}%
1071 {\def\@idxfile{#1_html}%
1072 \def\@sptheidx{#2}%
1073 \begingroup
1074 \@sanitize
1075 \@wrrspindex}}

```

\makeindex    Patched to use \_html filename and \BaseJobname:

```

1076 \catcode'_ =12%
1077 \renewcommand*\makeindex[1][\BaseJobname]{%
1078 \if@filesw
1079 \def\gindex{\@bsphack%
1080 \@ifnextchar [{\@index}{\@index[\BaseJobname]}}
1081 \def\specialindex{\@bsphack\@spindex}%
1082 \makememindexhook
1083 \expandafter\newwrite\csname #1idxfile\endcsname
1084 \expandafter\immediate\openout \csname #1idxfile\endcsname #1_html.idx\relax
1085 \typeout{Writing index file #1_html.idx }%
1086 \fi}
1087 \catcode'_ =8%

```

\printindex    Patched to use \_html filename and \BaseJobname. This will later be patched by the lwarp core.

```

1088 \catcode'_ =12%
1089 \renewcommand{\printindex}[1][\BaseJobname]{\@input@{#1_html.ind}}
1090 \catcode'_ =8%

1091 \DeclareDocumentCommand{\newblock}{}{}
1092 %
1093 \renewcommand*\showindexmarks{}
1094 \renewcommand*\hideindexmarks{}
1095
1096 \renewcommand*\xindyindex{}

```

§ 671.18 **Miscellaneous**

```

1097 \renewcommand*{\changemarks}{}
1098 \renewcommand*{\nochangemarks}{}
1099 \renewcommand*{\added}[1]{}
1100 \renewcommand*{\deleted}[1]{}
1101 \renewcommand*{\changed}[1]{}
1102
1103 \renewcommand*{\showtrimsoff}{}
1104 \renewcommand*{\showtrimson}{}
1105 \renewcommand*{\trimXmarks}{}
1106 \renewcommand*{\trimLmarks}{}
1107 \renewcommand*{\trimFrame}{}
1108 \renewcommand*{\trimNone}{}
1109 \renewcommand*{\trimmarkscolor}{}
1110 \renewcommand*{\trimmarks}{}
1111 \renewcommand*{\marktl}{}
1112 \renewcommand*{\marktr}{}
1113 \renewcommand*{\markbr}{}
1114 \renewcommand*{\markbl}{}
1115 \renewcommand*{\marktm}{}
1116 \renewcommand*{\markmr}{}
1117 \renewcommand*{\markbm}{}
1118 \renewcommand*{\markml}{}
1119 \renewcommand*{\trimmark}{}
1120 \renewcommand*{\quarkmarks}{}
1121 \renewcommand*{\registrationColour}[1]{}
1122
1123 \renewcommand*{\leavespergathering}[1]{}
1124
1125 \renewcommand*{\noprelistbreak}{}
1126
1127 \renewcommand*{\cleartorecto}{}
1128 \renewcommand*{\cleartoverso}{}
1129
1130 \renewenvironment{vplace}[1][1]{}{}

```

§ 671.19 **ccaption emulation**

```

1131 \renewcommand*{\captiondelim}[1]{\renewcommand*{\CaptionSeparator}{#1}}
1132 \renewcommand*{\captionnamefont}[1]{}
1133 \renewcommand*{\captiontitlefont}[1]{}
1134 \renewcommand*{\flushleft}{}
1135 \renewcommand*{\centerlastline}{}
1136 \renewcommand*{\captionstyle}[2][1]{}
1137 \DeclareDocumentCommand{\captionwidth}{m}{}
1138 \renewcommand*{\changeccaptionwidth}{}
1139 \renewcommand*{\normalcaptionwidth}{}
1140 \renewcommand*{\hangcaption}{}
1141 \renewcommand*{\indentcaption}[1]{}
1142 \renewcommand*{\normalcaption}{}
1143 \renewcommand{\precaption}[1]{}
1144 \renewcommand{\postcaption}[1]{}
1145 \renewcommand{\midbicaption}[1]{}
1146 \renewcommand{\contcaption}[1]{%
1147 % \ContinuedFloat%

```

```

1148 % \caption{#1}%
1149 \begin{LWR@figcaption}% later becomes \caption*
1150 \LWR@isolate{\@nameuse{\@capttype name}}~%
1151 \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate{#1}%
1152 \end{LWR@figcaption}%
1153 }

1154 \newlength{\abovelegendskip}
1155 \setlength{\abovelegendskip}{0.5\baselineskip}
1156 \newlength{\belowlegendskip}
1157 \setlength{\belowlegendskip}{\abovelegendskip}

```

The extra `\\` here forces a `<br>` in HTML when `\legend` is used in a `\marginpar`.

```

1158 \renewcommand{\legend}[1]{\begin{center}#1\\end{center}}
1159
1160 \renewcommand{\namedlegend}[2][\%
1161 \begin{center}
1162 \@nameuse{fleg\@capttype}\CaptionSeparator#2\\
1163 \end{center}
1164 \@nameuse{flegtoc\@capttype}{#1}
1165 }

```

`\flegtable`, `\flegfigure`, `\flegtocfigure` are defined by `memoir` using `\newfloat`. These are defined with an `@` in `ccaption`.

```

1166 \renewcommand{\newfixedcaption}[3][\caption]{%
1167 \renewcommand{#2}{\def\@capttype{#3}#1}}
1168 \renewcommand{\renewfixedcaption}[3][\caption]{%
1169 \renewcommand{#2}{\def\@capttype{#3}#1}}
1170 \renewcommand{\providefixedcaption}[3][\caption]{%
1171 \providecommand{#2}{\def\@capttype{#3}#1}}
1172
1173 \renewcommand{\bitwonumcaption}[6][\%
1174 \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1175 \addtocounter{\@capttype}{-1}%
1176 \begingroup%
1177 \csdef{\@capttype name}{#4}%
1178 \ifblank{#5}{\caption{#6}}{\caption[#5]{#6}}%
1179 \endgroup%
1180 \ifblank{#1}{\label{#1}}%
1181 }
1182
1183 \LetLtxMacro\bionenumcaption\bitwonumcaption% todo
1184
1185 \renewcommand{\bicaption}[5][\%
1186 \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1187 \begin{LWR@figcaption}% later becomes \caption*
1188 \LWR@isolate{#4} % space
1189 \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate{#5}%
1190 \end{LWR@figcaption}%
1191 \ifblank{#1}{\label{#1}}%
1192 }
1193
1194 \renewcommand{\bicontcaption}[3]{%
1195 \contcaption{#1}%

```

```

1196 \begingroup%
1197 \csdef{\@capttype name}{#2}%
1198 \contcaption{#3}%
1199 \endgroup%
1200 }

```

Only in ccaption, not in memoir:

```

1201 % \LetLtxMacro\longbitwonumcaption\bitwonumcaption%
1202 % \LetLtxMacro\longbionumcaption\bitwonumcaption%
1203 % \LetLtxMacro\longbicaption\bicaption%

```

Patches for subfloats to support additional lwarp labels:

```

1204 \renewcommand{\@memsubbody}{%
1205 \bgroup
1206 \let\label=\memsub@label
1207 \ifdonemaincaption\else
1208 \advance\csname c@\@capttype\endcsname\@ne
1209 \fi
1210 % \refstepcounter{sub\@capttype}\@contkeep%
1211 % \leavevmode\lwarp
1212 \@ifnextchar [%
1213 {\@memsubfig}%
1214 {\@memsubfig[\@empty]}}
1215
1216 \renewcommand{\@memcontsubbody}{%
1217 \bgroup
1218 \let\label=\memsub@label
1219 \@contset
1220 % \refstepcounter{sub\@capttype}\@contkeep%
1221 % \leavevmode\lwarp
1222 \@ifnextchar [%
1223 {\@memsubfig}%
1224 {\@memsubfig[\@empty]}}
1225
1226
1227 \long\def\@memsubfloat#1[#2][#3]#4{%
1228 % \@tempcnta=\@ne
1229 % \if@tightsubcap
1230 % \if@minipage
1231 % \@tempcnta=\z@
1232 % \else
1233 % \ifdim\lastskip=\z@
1234 % \@tempcnta=\@ne
1235 % \else
1236 % \@tempcnta=\tw@
1237 % \fi
1238 % \fi
1239 % \fi
1240 % \if@contbotsub
1241 % \def\subfig@top{\subfloattopskip}%
1242 % \def\subfig@bottom{\subfloatbottomskip}%
1243 % \else
1244 % \def\subfig@top{\subfloatbottomskip}%
1245 % \def\subfig@bottom{\subfloattopskip}%

```

```

1246 % \fi
1247 % \setbox\@tempboxa \hbox{#4}%
1248 % \@tempdima=\wd\@tempboxa
1249 % \vbox
1250 \bgroup%
1251 \mem@step@subcounter%
1252 % \vbox
1253 \LWR@stoppars%
1254 \minipagefullwidth% lwarp
1255 \begin{minipage}{\linewidth}% lwarp
1256 \bgroup
1257 % \ifcase\@tempcnta
1258 % \@minipagefalse
1259 % \or
1260 % \vspace{\subfig@top}
1261 % \or
1262 % \ifdim \lastskip=\z@ \else
1263 % \@tempskipb\subfig@top\@xaddvskip
1264 % \fi
1265 % \fi
1266 \if@contbotsub
1267 #4% \box\@tempboxa
1268 \egroup
1269 \ifx \@empty#3\relax \else
1270 % \vskip\subfloatcapskip
1271 % \@memsubcaption{#1}{#2}{#3}%
1272 % \fi
1273 \else
1274 \ifx \@empty#3\relax \else
1275 % \@memsubcaption{#1}{#2}{#3}%
1276 % \vskip\subfloatcapskip
1277 % \vskip\subfloatcaptopadj
1278 \fi\egroup
1279 #4% \box\@tempboxa
1280 \fi
1281 % \vspace{\subfig@bottom}
1282 \end{minipage}% lwarp
1283 \LWR@startpars% lwarp
1284 \egroup
1285 \egroup
1286 }

```

## § 671.20 Final patchwork

```

1287 \newlistof{tableofcontents}{toc}{\contentsname}
1288 \newlistof{listoffigures}{lof}{\listfigurename}
1289 \newlistof{listoftables}{lot}{\listtablename}

```

---

File 565 **lwarp-common-multimedia.sty**

§ 672 Package **common-multimedia**

Pkg lwarp-common-multimedia Common code for multimedia, movie15, and media9.



The packages **multimedia**, **movie15**, and **media9** are supported.

HTML5 `<audio>` and `<video>` objects are created for .mp3 and .mp4 files.

HTML5 `<embed>` objects are created for http and ftp links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For **media9**, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For **movie15**, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

**media9** `\addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

**media9** slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

for HTML output:

```
1 \ProvidesPackage{lwarp-common-multimedia}[2019/04/22]
2 \RequirePackage{xkeyval}
3
4 \define@key{LWR@multimedia}{width}{\setlength{\LWR@multimedia@width}{#1}}
5 \define@key{LWR@multimedia}{height}{\setlength{\LWR@multimedia@height}{#1}}
6 \define@key{LWR@multimedia}{totalheight}{\setlength{\LWR@multimedia@height}{#1}}
7
8 \newlength{\LWR@multimedia@width}
9 \newlength{\LWR@multimedia@height}
10 \newlength{\LWR@multimedia@maxdimension}
```

`\LWR@multimedia@printsiz`

Proportional to `\linewidth` and the viewport’s smaller dimension. This scales each object such that it will always fit on the screen, even if a tall or wide object inside a tall or wide viewport.

```
10 \newcommand*{\LWR@multimedia@printsiz}{%
11 \setlength{\LWR@multimedia@maxdimension}{%
12 \maxof%
13 {\linewidth}%
```

```

14 {\maxof{\LWR@multimedia@width}{\LWR@multimedia@height}}}%
15 }%
16 \setlength{\LWR@multimedia@maxdimension}{1.1\LWR@multimedia@maxdimension}%
17 \ifdimgreater{\LWR@multimedia@width}{0pt}{%
18 width:%
19 \LWR@printpercentlength%
20 {\LWR@multimedia@width}%
21 {\LWR@multimedia@maxdimension}vmin ; % space
22 }{}%
23 \ifdimgreater{\LWR@multimedia@height}{0pt}{%
24 height:%
25 \LWR@printpercentlength%
26 {\LWR@multimedia@height}%
27 {\LWR@multimedia@maxdimension}vmin ; % space
28 }{}%
29 }

```

`\LWR@multimedia@fileAV`    `{\langle poster text \rangle}{\langle filename \rangle}{\langle audio/video \rangle}{\langle mimetype \rangle}`

Creates a video or audio from a file. The 2019/10 update of the L<sup>A</sup>T<sub>E</sub>X kernel may cause extra quotes to be added in the filenames. They are removed here.

```

30 \newcommand*{\LWR@multimedia@fileAV}[4]{%
31 \IfFileExists{#2}{% also sets \@filef@und
32 \StrSubstitute[100]{\@filef@und}{"}{ }[\LWR@parsedfilename]%

```

The container <div> is sized as desired.

```

33 \ifstrequal{#3}{audio}{%
34 \begin{BlockClass}{AVviewport}
35 }{%
36 \begin{BlockClass}[\LWR@multimedia@printsizel margin:auto]{AVviewport}
37 }

```

Paragraph tags are unnecessary for the A/v tags.

```

38 \LWR@stoppars

```

The A/v element is 100% of the container.

```

39 \LWR@htmltag{%
40 #3\ % space
41 \ifstrequal{#3}{audio}{%
42 width=\textquotedbl{}100%\textquotedbl\ % space
43 height=\textquotedbl{}100%\textquotedbl\ % space
44 }%
45 controls%
46 }\LWR@orignewline

```

The file source and type:

```

47 \LWR@htmltag{%
48 source % space
49 src=\textquotedbl%
50 \LWR@parsedfilename\unskip\textquotedbl\ % space
51 type=\textquotedbl{}#4\textquotedbl%

```

The poster text inside paragraph tags, along with a reference to the file.

```

52 \LWR@startpars

```

```

53 \LWR@href{\LWR@parsedfilename}{#1}
54 \LWR@stoppars

```

Finish.

```

55 \LWR@htmltag{/#3}\LWR@orignewline
56 \end{BlockClass}
57 }{%
58 \PackageError{lwarp-common-multimedia}
59 {File '#2' not found}
60 {Perhaps an incorrect path?}
61 }%
62 }

```

`\LWR@multimedia@httpAV`    `{\langle poster text \rangle}{\langle filename \rangle}{\langle audio/video \rangle}{\langle mimetype \rangle}`

Creates a video or audio from a URL link.

```

63 \newcommand*\LWR@multimedia@httpAV[4]{%

```

The container `<div>` is sized as desired.

```

64 \ifstrequal{#3}{audio}{%
65 \begin{BlockClass}{AVviewport}
66 }{%
67 \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{AVviewport}
68 }

```

Paragraph tags are unnecessary for the A/v tags.

```

69 \LWR@stoppars

```

The A/v element is 100% of the container.

```

70 \LWR@htmltag{%
71 #3\ % space
72 \ifstrequal{#3}{audio}{}{%
73 width=\textquotedbl{}100%\textquotedbl\ % space
74 height=\textquotedbl{}100%\textquotedbl\ controls%
75 }%
76 }\LWR@orignewline

```

The file source and type:

```

77 \LWR@htmltag{%
78 source % space
79 src=\textquotedbl#2\textquotedbl\ % space
80 type=\textquotedbl#4\textquotedbl}

```

The poster text inside paragraph tags, along with a reference to the URL.

```

81 \LWR@startpars
82 \LWR@href{#2}{#1}
83 \LWR@stoppars

```

Finish.

```

84 \LWR@htmltag{/#3}\LWR@orignewline
85 \end{BlockClass}
86 }

```

`\LWR@multimedia@AV`    `{<poster text>} {<filename>} {<audio/video>} {<mimetype>}`

Creates an audio or video from a file or a URL.

```

87 \newcommand*{\LWR@multimedia@AV}[4]{%
88 \IfBeginWith{#2}{http}%
89 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
90 {%
91 \IfBeginWith{#2}{HTTP}%
92 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
93 {\LWR@multimedia@fileAV{#1}{#2}{#3}{#4}}%
94 }%
95 }
```

`\LWR@multimedia@embed`    `{<poster text>} {<URL or filename>} {<mime type>}`

Embeds multimedia of an arbitrary type. The poster text is not used, as it would appear along with the video if the `<embed>` element is supported.

```

96 \newcommand*{\LWR@multimedia@embed}[3]{%
97 \begin{BlockClass}[width:100\%]{AVviewport}%
98 \LWR@stoppars
99 \LWR@htmltag{%
100 embed % space
101 \ifblank{#3}{\type=\textquotedbl#3\textquotedbl\ }%
102 style=\textquotedbl\LWR@multimedia@printsizel\ margin:auto\textquotedbl\ % space
103 src=\textquotedbl#2\textquotedbl\ % space
104 }%
105 \LWR@startpars
106 \end{BlockClass}
107 }
```

Error message if the comment character is used among the arguments of `\LWR@multimedia@b`.

`\LWR@multimedia@percenterror`

```

108 \newcommand*{\LWR@multimedia@percenterror}{%
109 \PackageError{lwarp-media9}
110 {%
111 Do not use a percent comment between\MessageBreak
112 \protect\includemedia\space arguments%
113 }
114 {%
115 Percent is changed to a regular character\MessageBreak
116 to allow its use inside a URL.%
117 }
118 }
```

`\LWR@multimedia@b`    `[<options>] {<poster text>} {<filename>}`

Creates multimedia. Examines the file extension to determine the type. If not a supported type, creates an embedded object if it has a URL. If neither, create a link to the unsupported object.

```

119 \newcommand*{\LWR@multimedia@b}[3][{}]{%
```

Error if the percent character appears among the arguments. This could happen since the comment character has been temporarily disabled, for use in a URL.

```

120 \if#1\@percentchar\LWR@multimedia@percenterror\fi%
121 \if#2\@percentchar\LWR@multimedia@percenterror\fi%
122 \if#3\@percentchar\LWR@multimedia@percenterror\fi%

```

Paragraph handling:

```
123 \LWR@stoppars%
```

Record the desired size.

```

124 \setlength{\LWR@multimedia@width}{0pt}%
125 \setlength{\LWR@multimedia@height}{0pt}%
126 \setkeys*{LWR@multimedia}{#1}%

```

If a known A/V type, create an HTML5 <video> or <audio>.

```

127 \IfEndWith{#3}{.mp4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
128 \IfEndWith{#3}{.MP4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
129 \IfEndWith{#3}{.mp3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%
130 \IfEndWith{#3}{.MP3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%

```

If an arbitrary URL, embed it.

```

131 \IfBeginWith{#3}{http}{\LWR@multimedia@embed{#2}{#3}}{%
132 \IfBeginWith{#3}{HTTP}{\LWR@multimedia@embed{#2}{#3}}{%
133 \IfBeginWith{#3}{ftp}{\LWR@multimedia@embed{#2}{#3}}{%
134 \IfBeginWith{#3}{FTP}{\LWR@multimedia@embed{#2}{#3}}{%

```

If unknown, create a link to it.

```

135 \LWR@href{#3}{#2}% unknown format
136 }}}}]]}%

```

Paragraph handling:

```

137 \LWR@startpars%
138 \endgroup%
139 }

```

Catcodes which may appear in a URL.

```

140 \newrobustcmd*{\LWR@multimedia}{%
141 \begingroup%
142 \LWR@linkmediacatcodes%
143 \LWR@multimediab%
144 }

```

---

File 566 **lwarp-common-mathjax-letters.sty**

§ 673 Package **common-mathjax-letters**

Pkg Common code used by a number of packages to generate Greek math characters for  
 lwarp-common-mathjax-letters MATHJAX.

for HTML output: 1 \ProvidesPackage{lwarp-common-mathjax-letters}[2020/08/10]

\LWR@mathjax@addletter \* {<2: capitalize name?>} {<3: prefix>} {<4: postfix>} {<5: name>} {<6: unicode>}

Star to italicize the result, used when the unicode character does not exist.

```

2 \begin{warpMathJax}
3
4 \NewDocumentCommand{\LWR@mathjax@addletter}{s m m m m}{
5 \IfBooleanTF{#2}%
6 {\edef\LWR@tempone{\LWRtexttitlecase{#5}}}%
7 {\edef\LWR@tempone{#5}}%
8 \xdef\LWR@customizedMathJax{%
9 \LWR@customizedMathJax%
10 \LWRbackslash(%
11 \LWRbackslash def\LWRbackslash%
12 #3% prefix
13 \LWR@tempone%name
14 #4% postfix
15 \LWRleftbrace%
16 }%
17 \IfBooleanTF{#1}{%
18 \xdef\LWR@customizedMathJax{%
19 \LWR@customizedMathJax%
20 \LWRbackslash mathit\LWRleftbrace%
21 \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
22 \LWRrightbrace%
23 }%
24 }{%
25 \xdef\LWR@customizedMathJax{%
26 \LWR@customizedMathJax%
27 \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
28 }%
29 }%
30 \xdef\LWR@customizedMathJax{%
31 \LWR@customizedMathJax%
32 \LWRrightbrace\LWRbackslash)\par%
33 }%
34 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase upright.

```

35 \NewDocumentCommand{\LWR@mathjax@addgreek@l@up}{s m m}{
36 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{03B1}
37 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{03B2}
38 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
39 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{03B3}
40 \LWR@mathjax@addletter{#1}{#2}{#3}{digamma}{03DD}
41 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{03B4}
42 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{03F5}
43 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{03B5}
44 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{03B6}
45 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{03B7}
46 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{03B8}
47 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{03D1}
48 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{03B9}

```

```

49 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{03BA}
50 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{03F0}
51 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{03BB}
52 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{03BC}
53 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{03BD}
54 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{03BE}
55 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{03BF}
56 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{03C0}
57 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{03D6}
58 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{03C1}
59 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{03F1}
60 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{03C3}
61 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{03C2}
62 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{03C4}
63 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{03C5}
64 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{03D5}
65 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{03C6}
66 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{03C7}
67 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{03C8}
68 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{03C9}
69 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@u@up

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase upright.

```

70 \NewDocumentCommand{\LWR@mathjax@addgreek@u@up}{s m m}{
71 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{0391}
72 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{0392}
73 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{0393}
74 \LWR@mathjax@addletter{#1}{#2}{#3}{digamma}{03DC}
75 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{0394}
76 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{0395}
77 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{0396}
78 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{0397}
79 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{0398}
80 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{03F4}
81 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{0399}
82 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{039A}
83 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{039B}
84 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{039C}
85 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{039D}
86 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{039E}
87 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{039F}
88 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{03A0}
89 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{03D6}
90 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{03A1}
91 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{03A3}
92 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{03A4}
93 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{03A5}
94 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{03A6}
95 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{03A7}
96 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{03A8}

```

```

97 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{03A9}
98 }

```

*\* {<2: prefix>} {<3: postfix>}*

`\LWR@mathjax@addgreek@l@it`

Star to capitalize the macro names.

Adds `\CustomizeMathjax` expressions to define a set of macros for Greek letters, lowercase italic.

```

99 \NewDocumentCommand{\LWR@mathjax@addgreek@l@it}{s m m}{
100 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6FC}
101 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6FD}
102 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
103 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6FE}
104 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DD}
105 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6FF}
106 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D716}
107 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{1D700}
108 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D701}
109 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D702}
110 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D703}
111 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D717}
112 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D704}
113 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D705}
114 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{1D718}
115 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D706}
116 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D707}
117 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D708}
118 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D709}
119 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D70A}
120 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D70B}
121 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{1D71B}
122 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D70C}
123 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{1D71A}
124 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D70E}
125 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{1D70D}
126 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D70F}
127 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D710}
128 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D719}
129 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{1D711}
130 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D712}
131 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D713}
132 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D714}
133 }

```

*\* {<2: prefix>} {<3: postfix>}*

`\LWR@mathjax@addgreek@u@it`

Star to capitalize the macro names.

Adds `\CustomizeMathjax` expressions to define a set of macros for Greek letters, uppercase italic.

```

134 \NewDocumentCommand{\LWR@mathjax@addgreek@u@it}{s m m}{
135 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6E2}
136 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6E3}
137 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6E4}

```



```

138 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DC}
139 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D6E5}
140 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D6E6}
141 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D6E7}
142 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D6E8}
143 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D6E9}
144 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D6F3}
145 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D6EA}
146 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D6EB}
147 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D6EC}
148 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D6ED}
149 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D6EE}
150 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D6EF}
151 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D6F0}
152 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D6F1}
153 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D6F2}
154 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{1D6F4}
155 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{1D6F5}
156 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{1D6F6}
157 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{1D6F7}
158 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{1D6F8}
159 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{1D6F9}
160 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{1D6FA}
161 }

```

\* {<2: prefix>} {<3: postfix>}

\LWR@mathjax@addgreek@l@bfit

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase boldface italic.

```

162 \NewDocumentCommand{\LWR@mathjax@addgreek@l@bfit}{s m m}{
163 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{1D736}
164 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{1D737}
165 \LWR@mathjax@addLetter{#1}{#2}{#3}{varbeta}{03D0}
166 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{1D738}
167 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DD}
168 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D739}
169 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D750}
170 \LWR@mathjax@addLetter{#1}{#2}{#3}{varepsilon}{1D73A}
171 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D73B}
172 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D73C}
173 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D73D}
174 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D751}
175 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D73E}
176 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D73F}
177 \LWR@mathjax@addLetter{#1}{#2}{#3}{varkappa}{1D752}
178 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D740}
179 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D741}
180 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D742}
181 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D743}
182 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D744}
183 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D745}
184 \LWR@mathjax@addLetter{#1}{#2}{#3}{varpi}{1D755}
185 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D746}

```

```

186 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{1D754}
187 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D748}
188 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{1D747}
189 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D749}
190 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D74A}
191 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D753}
192 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{1D74B}
193 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D74C}
194 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D74D}
195 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D74E}
196 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@u@bfit

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface italic.

```

197 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfit}{s m m}{
198 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D71C}
199 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D71D}
200 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D71E}
201 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
202 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D71F}
203 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D720}
204 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D721}
205 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D722}
206 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D723}
207 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D72D}
208 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D724}
209 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D725}
210 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D726}
211 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D727}
212 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D728}
213 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D729}
214 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D72A}
215 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D72B}
216 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D72C}
217 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D72E}
218 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D72F}
219 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D730}
220 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D731}
221 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D732}
222 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D733}
223 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D734}
224 }

```

\LWR@mathjax@addgreek@u@bfup is not needed.

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@u@bfup

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface upright.

```

225 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfup}{s m m}{

```

```

226 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6A8}
227 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6A9}
228 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6AA}
229 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
230 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6AB}
231 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D6AC}
232 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D6AD}
233 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D6AE}
234 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D6AF}
235 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D6B9}
236 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D6B0}
237 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D6B1}
238 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D6B2}
239 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D6B3}
240 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D6B4}
241 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D6B5}
242 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D6B6}
243 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D6B7}
244 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D6B8}
245 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D6BA}
246 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D6BB}
247 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D6BC}
248 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D6BD}
249 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D6BE}
250 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D6BF}
251 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D6C0}
252 }

```

$\{\langle prefix \rangle\}$

`\LWR@mathjax@addlatin@u@bfit`

Adds `\CustomizeMathjax` expressions to define a set of macros for bold-face italic Latin letters, upercase and lowercase.

```

253 \NewDocumentCommand{\LWR@mathjax@addlatin@u@bfit}{m}{
254 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\A}{1D468}
255 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\B}{1D469}
256 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\C}{1D46A}
257 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\D}{1D46B}
258 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\E}{1D46C}
259 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\F}{1D46D}
260 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\G}{1D46E}
261 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\H}{1D46F}
262 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\I}{1D470}
263 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\J}{1D471}
264 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\K}{1D472}
265 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\L}{1D473}
266 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\M}{1D474}
267 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\N}{1D475}
268 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\O}{1D476}
269 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\P}{1D477}
270 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\Q}{1D478}
271 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\R}{1D479}
272 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\S}{1D47A}
273 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\T}{1D47B}
274 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\U}{1D47C}
275 \LWR@mathjax@addletter{\BooleanFalse}{#1}{\V}{1D47D}

```

```

276 \LWR@mathjax@addletter{\BooleanFalse}{#1}{W}{1D47E}
277 \LWR@mathjax@addletter{\BooleanFalse}{#1}{X}{1D47F}
278 \LWR@mathjax@addletter{\BooleanFalse}{#1}{Y}{1D480}
279 \LWR@mathjax@addletter{\BooleanFalse}{#1}{Z}{1D481}
280 }

```

$\langle prefix \rangle$

`\LWR@mathjax@addlatin@l@bfit`

Adds `\CustomizeMathjax` expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

281 \NewDocumentCommand{\LWR@mathjax@addlatin@l@bfit}{m}{
282 \LWR@mathjax@addletter{\BooleanFalse}{#1}{a}{1D482}
283 \LWR@mathjax@addletter{\BooleanFalse}{#1}{b}{1D483}
284 \LWR@mathjax@addletter{\BooleanFalse}{#1}{c}{1D484}
285 \LWR@mathjax@addletter{\BooleanFalse}{#1}{d}{1D485}
286 \LWR@mathjax@addletter{\BooleanFalse}{#1}{e}{1D486}
287 \LWR@mathjax@addletter{\BooleanFalse}{#1}{f}{1D487}
288 \LWR@mathjax@addletter{\BooleanFalse}{#1}{g}{1D488}
289 \LWR@mathjax@addletter{\BooleanFalse}{#1}{h}{1D489}
290 \LWR@mathjax@addletter{\BooleanFalse}{#1}{i}{1D48A}
291 \LWR@mathjax@addletter{\BooleanFalse}{#1}{j}{1D48B}
292 \LWR@mathjax@addletter{\BooleanFalse}{#1}{k}{1D48C}
293 \LWR@mathjax@addletter{\BooleanFalse}{#1}{l}{1D48D}
294 \LWR@mathjax@addletter{\BooleanFalse}{#1}{m}{1D48E}
295 \LWR@mathjax@addletter{\BooleanFalse}{#1}{n}{1D48F}
296 \LWR@mathjax@addletter{\BooleanFalse}{#1}{o}{1D490}
297 \LWR@mathjax@addletter{\BooleanFalse}{#1}{p}{1D491}
298 \LWR@mathjax@addletter{\BooleanFalse}{#1}{q}{1D492}
299 \LWR@mathjax@addletter{\BooleanFalse}{#1}{r}{1D493}
300 \LWR@mathjax@addletter{\BooleanFalse}{#1}{s}{1D494}
301 \LWR@mathjax@addletter{\BooleanFalse}{#1}{t}{1D495}
302 \LWR@mathjax@addletter{\BooleanFalse}{#1}{u}{1D496}
303 \LWR@mathjax@addletter{\BooleanFalse}{#1}{v}{1D497}
304 \LWR@mathjax@addletter{\BooleanFalse}{#1}{w}{1D498}
305 \LWR@mathjax@addletter{\BooleanFalse}{#1}{x}{1D499}
306 \LWR@mathjax@addletter{\BooleanFalse}{#1}{y}{1D49A}
307 \LWR@mathjax@addletter{\BooleanFalse}{#1}{z}{1D49B}
308 }

```

```
309 \end{warpMathJax}
```

---

File 567 **lwarp-common-mathjax-newpctxmath.sty**

§ 674 Package **common-mathjax-newpctxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg Common code used by `newpxmath`, `newtxmath`, and `newtxsf` for MATHJAX.

lwarp-common-mathjax-newpctxmath

for HTML output: 1 \ProvidesPackage{lwarp-common-mathjax-newpctxmath}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
3 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
4
5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\fAlt}{f}}
7 \CustomizeMathJax{\newcommand{\rhoAlt}{\rho}}
8
9 \CustomizeMathJax{\newcommand{\imathscr}{\mathord{\mathscr{i}}}}
10 \CustomizeMathJax{\newcommand{\jmathscr}{\mathord{\mathscr{j}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

11 \CustomizeMathJax{\let\llbracket\lBrack}
12 \CustomizeMathJax{\let\rrbracket\rBrack}
13
14 \CustomizeMathJax{\let\smllbrace\{ }
15 \CustomizeMathJax{\let\smrbrace\} }
16 \CustomizeMathJax{\newcommand{\Perp}{\mathrel{\unicode{x02AEB}}}}
17 \CustomizeMathJax{\newcommand{\nPerp}{\mathrel{\not{\! \unicode{x02AEB}}}}}
18 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x01B5}}}}
19 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x212B}}}}
20 \CustomizeMathJax{\newcommand{\Euler}{\mathord{\unicode{x2107}}}}
21 \CustomizeMathJax{\newcommand{\transp}{\mathord{\unicode{xFF34}}}}
22 \CustomizeMathJax{\newcommand{\hermtransp}{\mathord{\unicode{xFF28}}}}
23 \CustomizeMathJax{\let\htransp=\hermtransp}
24 \CustomizeMathJax{\newcommand{\circledplus}{\mathbin{\unicode{x2295}}}}
25 \CustomizeMathJax{\newcommand{\circledminus}{\mathbin{\unicode{x2296}}}}
26 \CustomizeMathJax{\newcommand{\circledtimes}{\mathbin{\unicode{x2297}}}}
27 \CustomizeMathJax{\newcommand{\circledslash}{\mathbin{\unicode{x2298}}}}
28 %
29 \CustomizeMathJax{\newcommand{\circledcdot}{\mathbin{\unicode{x2299}}}}
30 \CustomizeMathJax{\let\overgroup\overparen}
31 \CustomizeMathJax{\let\overgrouppra\overrightarrow}
32 \CustomizeMathJax{\let\undergroup\underparen}
33 \CustomizeMathJax{\let\undergrouppla\underleftarrow}
34 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\unicode{x2218}}{\overgroup{#1}}}}
35 \CustomizeMathJax{\let\widearc\overparen}
36 \CustomizeMathJax{\let\wideOarc\overrightarrow}
37 \CustomizeMathJax{\newcommand{\LWRvvstar}[2]{\overrightarrow{#1}_{#2}}}
38 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWRvvstar\overrightarrow}}
39 %
40 \CustomizeMathJax{\let\smallintsl\smallint}
41 \CustomizeMathJax{\newcommand{\smallliintsl}{\mathop{\unicode{x222C}}\limits}}
42 \CustomizeMathJax{\newcommand{\smallliiintsl}{\mathop{\unicode{x222D}}\limits}}
43 \CustomizeMathJax{\newcommand{\smallliiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
44 \CustomizeMathJax{\newcommand{\smalllointsl}{\mathop{\unicode{x222E}}\limits}}
45 \CustomizeMathJax{\newcommand{\smalllooiintsl}{\mathop{\unicode{x222F}}\limits}}
46 \CustomizeMathJax{\newcommand{\smalllooiintsl}{\mathop{\unicode{x2230}}\limits}}
47 \CustomizeMathJax{\newcommand{\smallvarointclockwisesl}{\mathop{\unicode{x2232}}\limits}}
48 \CustomizeMathJax{\newcommand{\smalllointctrclockwisesl}{\mathop{\unicode{x2233}}\limits}}
49 \CustomizeMathJax{\newcommand{\smallsumintsl}{\mathop{\unicode{x2A0B}}\limits}}
50 \CustomizeMathJax{\newcommand{\smallfintsl}{\mathop{\unicode{x2A0F}}\limits}}
51 \CustomizeMathJax{\newcommand{\smallsqintsl}{\mathop{\unicode{x2A16}}\limits}}
52 %

```

```

53 \CustomizeMathJax{\let\smallintup\smallint}
54 \CustomizeMathJax{\newcommand{\smallliintup}{\mathop{\unicode{x222C}}\limits}}
55 \CustomizeMathJax{\newcommand{\smallliiintup}{\mathop{\unicode{x222D}}\limits}}
56 \CustomizeMathJax{\newcommand{\smallliiiintup}{\mathop{\unicode{x2A0C}}\limits}}
57 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\unicode{x222E}}\limits}}
58 \CustomizeMathJax{\newcommand{\smalloiintup}{\mathop{\unicode{x222F}}\limits}}
59 \CustomizeMathJax{\newcommand{\smalloiintup}{\mathop{\unicode{x2230}}\limits}}
60 \CustomizeMathJax{\newcommand{\smallvarointclockwiseup}{\mathop{\unicode{x2232}}\limits}}
61 \CustomizeMathJax{\newcommand{\smallointctrclockwiseup}{\mathop{\unicode{x2233}}\limits}}
62 \CustomizeMathJax{\newcommand{\smallsumintup}{\mathop{\unicode{x2A0B}}\limits}}
63 \CustomizeMathJax{\newcommand{\smallfintup}{\mathop{\unicode{x2A0F}}\limits}}
64 \CustomizeMathJax{\newcommand{\smallsqintup}{\mathop{\unicode{x2A16}}\limits}}
65 %
66 \CustomizeMathJax{\newcommand{\iint}{\mathop{\unicode{x222C}}\limits}}
67 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\unicode{x222D}}\limits}}
68 \CustomizeMathJax{\newcommand{\iiiiint}{\mathop{\unicode{x2A0C}}\limits}}
69 \CustomizeMathJax{\newcommand{\oint}{\mathop{\unicode{x222F}}\limits}}
70 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
71 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
72 \CustomizeMathJax{\newcommand{\ointctrclockwise}{\mathop{\unicode{x2233}}\limits}}
73 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
74 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
75 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
76 %
77 \CustomizeMathJax{\let\intsl\int}
78 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\unicode{x222C}}\limits}}
79 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\unicode{x222D}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
81 \CustomizeMathJax{\let\ointsl\oint}
82 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\unicode{x222F}}\limits}}
83 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\unicode{x2230}}\limits}}
84 \CustomizeMathJax{\newcommand{\varointclockwisesl}{\mathop{\unicode{x2232}}\limits}}
85 \CustomizeMathJax{\newcommand{\ointctrclockwisesl}{\mathop{\unicode{x2233}}\limits}}
86 \CustomizeMathJax{\newcommand{\sumintsl}{\mathop{\unicode{x2A0B}}\limits}}
87 \CustomizeMathJax{\newcommand{\fintsl}{\mathop{\unicode{x2A0F}}\limits}}
88 \CustomizeMathJax{\newcommand{\sqintsl}{\mathop{\unicode{x2A16}}\limits}}
89 %
90 \CustomizeMathJax{\let\intup\int}
91 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\unicode{x222C}}\limits}}
92 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\unicode{x222D}}\limits}}
93 \CustomizeMathJax{\newcommand{\iiiiintup}{\mathop{\unicode{x2A0C}}\limits}}
94 \CustomizeMathJax{\let\ointup\oint}
95 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\unicode{x222F}}\limits}}
96 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\unicode{x2230}}\limits}}
97 \CustomizeMathJax{\newcommand{\varointclockwiseup}{\mathop{\unicode{x2232}}\limits}}
98 \CustomizeMathJax{\newcommand{\ointctrclockwiseup}{\mathop{\unicode{x2233}}\limits}}
99 \CustomizeMathJax{\newcommand{\sumintup}{\mathop{\unicode{x2A0B}}\limits}}
100 \CustomizeMathJax{\newcommand{\fintup}{\mathop{\unicode{x2A0F}}\limits}}
101 \CustomizeMathJax{\newcommand{\sqintup}{\mathop{\unicode{x2A16}}\limits}}
102 %
103 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
104 \CustomizeMathJax{\newcommand{\bigcupplus}{\mathop{\unicode{x2A04}}}}
105 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
106 %

```

```

107 %
108 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}}}
109 \CustomizeMathJax{\let\varprod\bigtimes}
110 %

111 \CustomizeMathJax{\newcommand{\mappedfrom}{\mathrel{\unicode{x021A4}}}}
112 \CustomizeMathJax{\let\mappedfromchar\mappedfrom}
113 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
114 \CustomizeMathJax{\newcommand{\longmappedfrom}{\mathrel{\unicode{x027FB}}}}
115 %
116 \CustomizeMathJax{\newcommand{\Mapsto}{\mathrel{\unicode{x02907}}}}
117 \CustomizeMathJax{\let\Mapstochar\Mapsto}
118 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
119 \CustomizeMathJax{\newcommand{\Mappedfrom}{\mathrel{\unicode{x02906}}}}
120 \CustomizeMathJax{\let\Mappedfromchar\Mappedfrom}
121 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathrel{\unicode{x02906}}}}
122 \CustomizeMathJax{\newcommand{\Longmappedfrom}{\mathrel{\unicode{x27FD}}}}
123 %

124 \CustomizeMathJax{\newcommand{\medcirc}{\mathbin{\unicode{x025CB}}}}
125 \CustomizeMathJax{\newcommand{\medbullet}{\mathbin{\unicode{x025CF}}}}
126 \CustomizeMathJax{\newcommand{\varparallel}{\mathrel{\unicode{x02AFD}}}}
127 \CustomizeMathJax{\newcommand{\varparallelinv}{\mathrel{\unicode{x244A}}}}
128 \CustomizeMathJax{\newcommand{\nvarparallel}{\mathrel{\LWOverlaysymbols{-}{\unicode{x02AFD}}}}}
129 \CustomizeMathJax{\newcommand{\nvarparallelinv}{\mathrel{\LWOverlaysymbols{-}{\unicode{x244A}}}}}
130 %

131 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
132 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
133 %
134 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x22AB}}}}

135 %
136 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicode{x02AB3}}}}
137 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicode{x02AB4}}}}
138 %
139
140 \CustomizeMathJax{\newcommand{\nprecsim}{\mathrel{\LWOverlaysymbols{/}{\unicode{x0227E}}}}}
141 \CustomizeMathJax{\newcommand{\nsuccsim}{\mathrel{\LWOverlaysymbols{/}{\unicode{x0227F}}}}}
142 \CustomizeMathJax{\newcommand{\nlessim}{\mathrel{\unicode{x02274}}}}
143 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
144 %

145 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
146 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
147 \CustomizeMathJax{\newcommand{\notni}{\mathrel{\unicode{x220C}}}}
148 \CustomizeMathJax{\let\notowns\notni}
149 %
150 \CustomizeMathJax{\newcommand{\nlessapprox}{\mathrel{\LWOverlaysymbols{/}{\unicode{x02A85}}}}}
151 \CustomizeMathJax{\newcommand{\ngtrapprox}{\mathrel{\LWOverlaysymbols{/}{\unicode{x02A86}}}}}
152 %
153 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\LWOverlaysymbols{/}{\unicode{x0227C}}}}}

```

```

154 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0227D}}}}}
155 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
156 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x02278}}}}
157 \CustomizeMathJax{\newcommand{\nbumpeq}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0224F}}}}}
158 \CustomizeMathJax{\newcommand{\nBumpeq}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0224E}}}}}
159 %
160 \CustomizeMathJax{\newcommand{\nbacksim}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0223D}}}}}
161 \CustomizeMathJax{\newcommand{\nbacksimeq}{\mathrel{\LWROverlaysymbols{/}{\unicode{x022CD}}}}}
162 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x226D}}}}
163 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x2262}}}}
164 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x2249}}}}
165 %
166 \CustomizeMathJax{\newcommand{\nll}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0226A}}}}}
167 \CustomizeMathJax{\newcommand{\ngg}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0226B}}}}}
168 \CustomizeMathJax{\newcommand{\nthickapprox}{%
169 \mathrel{\LWROverlaysymbols{/}{\mathbf{\unicode{x02248}}}}}%
170 }}
171 \CustomizeMathJax{\newcommand{\napproxeq}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0224A}}}}}
172 \CustomizeMathJax{\newcommand{\nprecapprox}{\mathrel{\LWROverlaysymbols{/}{\unicode{x02AB7}}}}}
173 \CustomizeMathJax{\newcommand{\nsuccapprox}{\mathrel{\LWROverlaysymbols{/}{\unicode{x02AB8}}}}}
174 \CustomizeMathJax{\newcommand{\npreceqq}{\mathrel{\LWROverlaysymbols{/}{\unicode{x02AB3}}}}}
175 \CustomizeMathJax{\newcommand{\nsucceqq}{\mathrel{\LWROverlaysymbols{/}{\unicode{x02AB4}}}}}
176 \CustomizeMathJax{\newcommand{\nsimeq}{\mathrel{\unicode{x02244}}}}
177 %
178 \CustomizeMathJax{\newcommand{\nSubset}{\mathrel{\LWROverlaysymbols{/}{\unicode{x022D0}}}}}
179 \CustomizeMathJax{\newcommand{\nSupset}{\mathrel{\LWROverlaysymbols{/}{\unicode{x022D1}}}}}
180 \CustomizeMathJax{\newcommand{\nqsubseteq}{\mathrel{\unicode{x022E2}}}}
181 \CustomizeMathJax{\newcommand{\nqsupseteq}{\mathrel{\unicode{x022E3}}}}
182 %
183 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\unicode{x02254}}}}
184 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{\unicode{x02255}}}}
185 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\unicode{x02A74}}}}
186 \CustomizeMathJax{\newcommand{\Coloneq}{\mathrel{\unicode{x2237}-}}}
187 \CustomizeMathJax{\newcommand{\Eqcolon}{\mathrel{-\unicode{x2237}}}}
188 %
189 \CustomizeMathJax{\newcommand{\lvec}[1]{\mathord{\overset{\unicode{x02190}}{\#1}}}}
190 \CustomizeMathJax{\newcommand{\rvec}[1]{\mathord{\overset{\unicode{x2194}}{\#1}}}}
191 \CustomizeMathJax{\newcommand{\harpoonacc}[1]{\mathord{\overset{\unicode{x021C0}}{\#1}}}}
192 \CustomizeMathJax{\newcommand{\lharpoonacc}[1]{\mathord{\overset{\unicode{x021BC}}{\#1}}}}
193 \CustomizeMathJax{\newcommand{\rharpoonacc}[1]{\mathord{\overset{\unicode{x0294E}}{\#1}}}}
194 \CustomizeMathJax{\newcommand{\barbar}[1]{\mathord{\overset{=}{\#1}}}}
195 \CustomizeMathJax{\newcommand{\bartilde}[1]{\mathord{\overset{\simeq}{\#1}}}}
196 \CustomizeMathJax{\newcommand{\barhat}[1]{\mathord{\hat{\bar{\#1}}}}}
197 \CustomizeMathJax{\newcommand{\tildebar}[1]{\mathord{\overset{\eqsim}{\#1}}}}
198 \CustomizeMathJax{\newcommand{\tildetilde}[1]{\mathord{\overset{\approx}{\#1}}}}
199 \CustomizeMathJax{\newcommand{\tildehat}[1]{\mathord{\hat{\tilde{\#1}}}}}
200 \CustomizeMathJax{\newcommand{\hatbar}[1]{\mathord{\bar{\hat{\#1}}}}}
201 \CustomizeMathJax{\newcommand{\hattilde}[1]{\mathord{\tilde{\hat{\#1}}}}}
202 \CustomizeMathJax{\newcommand{\hathat}[1]{\mathord{\hat{\hat{\#1}}}}}
203
204 \CustomizeMathJax{\newcommand{\cdotB}{\mathord{\boldsymbol{\cdot}}}}
205 \CustomizeMathJax{\newcommand{\cdotBB}{\mathord{\unicode{x2022}}}}
206 \CustomizeMathJax{\newcommand{\circS}{\boldsymbol{\circ}}}
207 \CustomizeMathJax{\newcommand{\bulletSSS}{\bullet}}
208 \CustomizeMathJax{\newcommand{\bulletSS}{\mathord{\unicode{x025CF}}}}

```



```

209 \CustomizeMathJax{\newcommand{\bulletS}{\mathord{\unicode{x02B24}}}}
210 \CustomizeMathJax{\newcommand{\primeS}{\prime}}
211
212 \CustomizeMathJax{\newcommand{\invamp}{\mathbin{\unicode{x0214B}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

213 \CustomizeMathJax{\newcommand{\Lbag}{\mathopen{\large\unicode{x027C5}}}}
214 \CustomizeMathJax{\newcommand{\Rbag}{\mathclose{\large\unicode{x027C6}}}}
215 \CustomizeMathJax{\newcommand{\circledless}{\mathrel{\unicode{x029C0}}}}
216 \CustomizeMathJax{\newcommand{\circledgtr}{\mathrel{\unicode{x029C1}}}}
217 \CustomizeMathJax{\newcommand{\circledbslash}{\mathbin{\unicode{x029B8}}}}

218 \CustomizeMathJax{\newcommand{\lJoin}{\mathrel{\unicode{x22C9}}}}
219 \CustomizeMathJax{\newcommand{\rJoin}{\mathrel{\unicode{x22CA}}}}
220 \CustomizeMathJax{\newcommand{\lrJoin}{\mathrel{\unicode{x2A1D}}}}
221
222 \CustomizeMathJax{\newcommand{\lRtimes}{\mathrel{\unicode{x2A1D}}}}
223 \CustomizeMathJax{\newcommand{\Diamondblack}{\mathord{\unicode{x025C6}}}}
224 \CustomizeMathJax{\newcommand{\nplus}{\mathrel{\LWRoverlaysymbols{+}{\unicode{x02229}}}}}
225 \CustomizeMathJax{\newcommand{\nsqsubset}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0228F}}}}}
226 \CustomizeMathJax{\newcommand{\nsqsupset}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02290}}}}}
227 \CustomizeMathJax{\newcommand{\dasharrow}{\mathrel{\unicode{x021E2}}}}
228 \CustomizeMathJax{\newcommand{\leftsquigarrow}{\mathrel{\unicode{x021DC}}}}
229 \CustomizeMathJax{\newcommand{\twoheadrightarrow}{\mathrel{\unicode{x02900}}}}
230 \CustomizeMathJax{\newcommand{\twoheadleftarrow}{\mathrel{\unicode{x02B34}}}}
231 \CustomizeMathJax{\newcommand{\boxast}{\mathbin{\unicode{x029C6}}}}
232 \CustomizeMathJax{\newcommand{\boxbslash}{\mathbin{\unicode{x29C5}}}}
233 \CustomizeMathJax{\newcommand{\boxbar}{\mathbin{\unicode{x025EB}}}}
234 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x029C4}}}}
235
236 \CustomizeMathJax{\newcommand{\varclubsuit}{\mathord{\unicode{x02667}}}}
237 \CustomizeMathJax{\newcommand{\vardiamondsuit}{\mathord{\unicode{x02666}}}}
238 \CustomizeMathJax{\newcommand{\varheartsuit}{\mathord{\unicode{x02665}}}}
239 \CustomizeMathJax{\newcommand{\varspadesuit}{\mathord{\unicode{x02664}}}}
240
241 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
242 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
243 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
244 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
245 \CustomizeMathJax{\newcommand{\Top}{\mathord{\unicode{x02AEA}}}}
246 \CustomizeMathJax{\newcommand{\Bot}{\mathord{\unicode{x02AEB}}}}
247
248 \CustomizeMathJax{\newcommand{\leadstoext}{\mathrel{\unicode{xFF5E}}}}
249
250 \CustomizeMathJax{\newcommand{\sqcupplus}{\mathbin{\LWRoverlaysymbols{+}{\unicode{x02294}}}}}
251 \CustomizeMathJax{\newcommand{\sqcapplus}{\mathbin{\LWRoverlaysymbols{+}{\unicode{x02293}}}}}
252
253 \CustomizeMathJax{\newcommand{\dlb}{\mathopen{\unicode{x027E6}}}}
254 \CustomizeMathJax{\newcommand{\drb}{\mathopen{\unicode{x027E7}}}}
255
256 \CustomizeMathJax{\newcommand{\varg}{g}}
257 \CustomizeMathJax{\newcommand{\vary}{y}}
258 \CustomizeMathJax{\newcommand{\varv}{v}}
259 \CustomizeMathJax{\newcommand{\varw}{w}}

```

---

```

260
261 \CustomizeMathJax{\newcommand{\nexistsAlt}{\mathord{\unicode{x02204}}}}
262 \CustomizeMathJax{\newcommand{\existsAlt}{\mathord{\unicode{x02203}}}}
263 \CustomizeMathJax{\newcommand{\forallAlt}{\mathord{\unicode{x02200}}}}
264 \CustomizeMathJax{\newcommand{\emptysetAlt}{\mathord{\unicode{x02205}}}}
265
266 \CustomizeMathJax{\newcommand{\uppartial}{\mathord{\unicode{x02202}}}}% not upright
267
268 \CustomizeMathJax{\let\varmathbb\mathbb}
269 \CustomizeMathJax{\let\vmathbb\mathbb}
270 \CustomizeMathJax{\let\vvmathbb\mathbb}
271
272 \CustomizeMathJax{\let\smallprod\prod}
273 \CustomizeMathJax{\let\smallsum\sum}
274 \CustomizeMathJax{\let\smallcoprod\coprod}
275
276 \CustomizeMathJax{\newcommand{\openbox}{\mathord{\unicode{x25FD}}}}
277 \CustomizeMathJax{\let\textsquare\openbox}

278 \CustomizeMathJax{\let\varemptyset\emptyset}
279 %
280 % for newpxmath:
281 \CustomizeMathJax{\newcommand{\mathsterling}{\mathord{\unicode{x000A3}}}}
282 \CustomizeMathJax{\newcommand{\mathcent}{\mathord{\unicode{x000A2}}}}
283
284 \end{warpMathJax}

```

---

File 568 **lwarp-common-mathjax-nonunicode.sty**

§ 675 Package **common-mathjax-nonunicode**

*(Emulates or patches code by DANIEL FLIPO, MICHAEL SHARPE.)*

Pkg Common code used by newpxmath, newtxmath, newtxsf, kpfonts-otf for MATHJAX.

lwarp-common-mathjax-nonunicode These are symbols not found in UNICODE.

Factored from lwarp-common-mathjax-newpctxmath.

for HTML output:

```
1 \ProvidesPackage{lwarp-common-mathjax-nonunicode}[2020/09/20]
```

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\mmapsto}{\mathrel{\unicode{x021A6}}}}
6 \CustomizeMathJax{\let\mmapstochar\mmapsto}
7 \CustomizeMathJax{\newcommand{\longmmapsto}{\mathrel{\unicode{x021A6}}}}
8 \CustomizeMathJax{\newcommand{\mmappedfrom}{\mathrel{\unicode{x021A4}}}}
9 \CustomizeMathJax{\let\mmappedfromchar\mmappedfrom}
10 \CustomizeMathJax{\newcommand{\longmmappedfrom}{\mathrel{\unicode{x021A4}}}}
11 \CustomizeMathJax{\let\mmapsfrom\mmappedfrom}% from kpfonts-otf

```

```

12 \CustomizeMathJax{\let\longmmapsfrom\longmmapppedfrom}% from kpfonts-otf
13
14 \CustomizeMathJax{\newcommand{\Mmapsto}{\mathrel{\unicode{x02907}}}}
15 \CustomizeMathJax{\let\Mmapstochar\Mmapsto}
16 \CustomizeMathJax{\newcommand{\Longmmapsto}{\mathrel{\unicode{x027FE}}}}
17 \CustomizeMathJax{\newcommand{\Mmappedfrom}{\mathrel{\unicode{x02906}}}}
18 \CustomizeMathJax{\let\Mmappedfromchar\Mmappedfrom}
19 \CustomizeMathJax{\newcommand{\Longmmapppedfrom}{\mathrel{\unicode{x027FD}}}}
20 \CustomizeMathJax{\let\Mmapsfrom\Mmappedfrom}% from kpfonts-otf
21 \CustomizeMathJax{\let\Longmmapsfrom\Longmmapppedfrom}% from kpfonts-otf
22 %
23 \CustomizeMathJax{\newcommand{\boxright}{\mathrel{\unicode{x025A1}}\!\!\unicode{x02192}}}}
24 \CustomizeMathJax{\newcommand{\boxleft}{\mathrel{\unicode{x02190}}\!\!\unicode{x025A1}}}}
25 \CustomizeMathJax{\newcommand{\boxdotright}{\mathrel{\unicode{x022A1}}\!\!\unicode{x02192}}}}
26 \CustomizeMathJax{\newcommand{\boxdotleft}{\mathrel{\unicode{x02190}}\!\!\unicode{x022A1}}}}
27
28 \CustomizeMathJax{\newcommand{\Diamondright}{\mathrel{\unicode{x025C7}}\!\!\unicode{x02192}}}}
29 \CustomizeMathJax{\newcommand{\Diamondleft}{\mathrel{\unicode{x02190}}\!\!\unicode{x025C7}}}}
30 \CustomizeMathJax{\newcommand{\Diamonddotright}{\mathrel{\unicode{x027D0}}\!\!\unicode{x02192}}}}
31 \CustomizeMathJax{\newcommand{\Diamonddotleft}{\mathrel{\unicode{x02190}}\!\!\unicode{x027D0}}}}
32
33 \CustomizeMathJax{\newcommand{\boxRight}{\mathrel{\unicode{x025A1}}\!\!\unicode{x021D2}}}}
34 \CustomizeMathJax{\newcommand{\boxLeft}{\mathrel{\unicode{x021D0}}\!\!\unicode{x025A1}}}}
35 \CustomizeMathJax{\newcommand{\boxdotRight}{\mathrel{\unicode{x022A1}}\!\!\unicode{x021D2}}}}
36 \CustomizeMathJax{\newcommand{\boxdotLeft}{\mathrel{\unicode{x021D0}}\!\!\unicode{x022A1}}}}
37
38 \CustomizeMathJax{\newcommand{\DiamondRight}{\mathrel{\unicode{x025C7}}\!\!\unicode{x021D2}}}}
39 \CustomizeMathJax{\newcommand{\DiamondLeft}{\mathrel{\unicode{x021D0}}\!\!\unicode{x025C7}}}}
40 \CustomizeMathJax{\newcommand{\DiamonddotRight}{\mathrel{\unicode{x027D0}}\!\!\unicode{x021D2}}}}
41 \CustomizeMathJax{\newcommand{\DiamonddotLeft}{\mathrel{\unicode{x021D0}}\!\!\unicode{x027D0}}}}
42 \CustomizeMathJax{\newcommand{\Diamonddot}{\mathrel{\unicode{x027D0}}}}
43
44 \CustomizeMathJax{\newcommand{\circleright}{\mathrel{\unicode{x025CB}}\!\!\unicode{x02192}}}}
45 \CustomizeMathJax{\newcommand{\circleleft}{\mathrel{\unicode{x02190}}\!\!\unicode{x025CB}}}}
46 \CustomizeMathJax{\newcommand{\circledotright}{\mathrel{\unicode{x02299}}\!\!\unicode{x02192}}}}
47 \CustomizeMathJax{\newcommand{\circledotleft}{\mathrel{\unicode{x02190}}\!\!\unicode{x02299}}}}
48 \CustomizeMathJax{\let\circleddotright\circledotright}
49 \CustomizeMathJax{\let\circleddotleft\circledotleft}
50
51 \CustomizeMathJax{\newcommand{\multimapinv}{\mathrel{\unicode{x027DC}}}}
52 \CustomizeMathJax{\newcommand{\multimapboth}{\mathrel{\unicode{x029DF}}}}
53 \CustomizeMathJax{\newcommand{\multimapdot}{\mathrel{-\!\!\bullet}}}}
54 \CustomizeMathJax{\newcommand{\multimapdotinv}{\mathrel{\bullet\!-\!}}}}
55 \CustomizeMathJax{\newcommand{\multimapdotboth}{\mathrel{\{\!\!\bullet\!-\!\!\bullet\!\!\bullet}}}}
56 \CustomizeMathJax{\newcommand{\multimapdotbothA}{\mathrel{\unicode{x022B6}}}}
57 \CustomizeMathJax{\newcommand{\multimapdotbothB}{\mathrel{\unicode{x022B7}}}}
58
59 \CustomizeMathJax{\newcommand{\multimapbothvert}{%
60 \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CB}}{\!|\!}}}%
61 }}
62 \CustomizeMathJax{\newcommand{\multimapdotbothvert}{%
63 \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CF}}{\!|\!}}}%
64 }}
65 \CustomizeMathJax{\newcommand{\multimapdotbothBvert}{% bug in kpfonts-otf
66 \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CB}}{\!|\!}}}%

```

```

67 }}
68 \CustomizeMathJax{\newcommand{\multimapdotbothAvert}{% bug in kpfonts-otf
69 \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CF}}{}}}}%
70 }}
71
72 \CustomizeMathJax{\newcommand{\bignplus}{%
73 \mathop{\LWOverlaysymbols{\unicode{x025CB}}{\unicode{x025CF}}}%
74 }}
75 \CustomizeMathJax{\let\bigcapplus\bignplus}
76 \CustomizeMathJax{\let\capplus\bignplus}% from kpfonts-otf
77
78 \CustomizeMathJax{\newcommand{\bigsqcapplus}{%
79 \mathop{\LWOverlaysymbols{\unicode{x025CB}}{\unicode{x025CF}}}%
80 }}
81 \CustomizeMathJax{\let\squcapplus\bigsqcapplus}% from kpfonts-otf
82
83 \CustomizeMathJax{\newcommand{\bigsqcupplus}{%
84 \mathop{\LWOverlaysymbols{\unicode{x025CB}}{\unicode{x025CF}}}%
85 }}
86 \CustomizeMathJax{\let\squcupplus\bigsqcupplus}% from kpfonts-otf
87
88 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
89 \CustomizeMathJax{\newcommand{\parallelbackslant}{%
90 \mathrel{\unicode{x0005C}}\!\!\!\mathrel{\unicode{x0005C}}}%
91 }}
92
93 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{=\!\!\!\unicode{x02237}}}}
94 \CustomizeMathJax{\let\eqqColon\Eqqcolon}% for kpfonts-otf
95 \CustomizeMathJax{\newcommand{\dashColon}{\mathrel{-\!\!\!\unicode{x02237}}}}
96 \CustomizeMathJax{\newcommand{\Colondash}{\mathrel{\unicode{x02237}-}}}
97
98 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{: \approx}}}
99 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{: \sim}}}
100 \CustomizeMathJax{\newcommand{\Colonapprox}{\mathrel{\unicode{x02237}\!\!\!\approx}}}
101 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\unicode{x02237}\!\!\!\sim}}}
102
103 \CustomizeMathJax{\newcommand{\strictif}{\mathrel{\unicode{x0297D}}}}% right fish tail
104 \CustomizeMathJax{\newcommand{\strictfi}{\mathrel{\unicode{x0297C}}}}% left fish tail
105 \CustomizeMathJax{\newcommand{\strictiff}{%
106 \mathrel{\unicode{x0297C}}\!\!\!\mathrel{\unicode{x0297D}}}%
107 }}% left/right fish tails
108
109 \CustomizeMathJax{\newcommand{\circledwedge}{%
110 \mathbin{\LWOverlaysymbols{\unicode{x025EF}}{\unicode{x02227}}}%
111 }}
112 \CustomizeMathJax{\newcommand{\circledvee}{%
113 \mathbin{\LWOverlaysymbols{\unicode{x025EF}}{\unicode{x02228}}}%
114 }}
115 \CustomizeMathJax{\newcommand{\circledbar}{\mathbin{\unicode{x029B6}}}}
116
117 \CustomizeMathJax{\newcommand{\openJoin}{\mathrel{\unicode{x02AA4}}}}% overlapping ><
118 \CustomizeMathJax{\newcommand{\opentimes}{\mathrel{\unicode{x02AA4}}}}% overlapping ><
119
120 \CustomizeMathJax{\newcommand{\VvDash}{\mathrel{\unicode{x022AA}}}}
121

```

---

```

122 \CustomizeMathJax{\newcommand{\lambdabar}{%
123 \mathord{\LWRoverlaysymbols{\raise{.5ex}{-}}{\lambda}}}%
124 }}
125
126 \CustomizeMathJax{\newcommand{\lambdaslash}{\mathord{\unicode{x019B}}}}
127
128 \CustomizeMathJax{\newcommand{\Wr}{\mathbin{\unicode{x02240}\!\unicode{x02240}}}}
129
130 \CustomizeMathJax{\newcommand{\dashleftrightharrow}{%
131 \mathrel{\unicode{x021E0}\!\unicode{x021E2}}}%
132 }}
133 \CustomizeMathJax{\let\leftrightdasharrow\dashleftrightharrow}% for kpfonts-otf
134
135 \end{warpMathJax}

```

---

File 569 **lwarp-common-mathjax-overlaysymbols.sty**

§ 676      Package **common-mathjax-overlaysymbols**

Pkg      Common code used by a number of packages to overlay two symbols for MATHJAX.

lwarp-common-mathjax-overlaysymbols

for HTML output:      1 \ProvidesPackage{lwarp-common-mathjax-overlaysymbols}[2020/08/17]

\LWRoverlaysymbols       $\{\langle symbol \rangle\} \{\langle symbol \rangle\}$

Overlays one symbol over another.

```

2 \begin{warpMathJax}
3
4 \CustomizeMathJax{\newcommand{\LWRoverlaysymbols}[2]{%
5 \mathord{%
6 \smash{%
7 \mathop{\#2\strut}%
8 \limits^{\smash{\lower3ex{\#1}}}%
9 }%
10 \strut%
11 }%
12 }}
13
14 \end{warpMathJax}

```

# Change History

## § 677 Chg Hist

For the most recent changes, see page [1323](#).

|                                                                |       |                                                                                    |
|----------------------------------------------------------------|-------|------------------------------------------------------------------------------------|
| v0.0.895                                                       |       | Test Suite: Assigned cleveref name for Test Float. . . . . 1                       |
| General: <b>maybemath</b> : Added. . . . . 933                 |       | Test Suite: Floatrow . . . . . 1                                                   |
| v0.10                                                          |       |                                                                                    |
| General: 2016/03/08 Initial version . . . . 1                  | v0.15 |                                                                                    |
| v0.11                                                          |       | General: 2016/04/06 . . . . . 1                                                    |
| General: 2016/03/11 . . . . . 1                                |       | Added. . . . . 802                                                                 |
| Added section: Operating-System portability. . . . . 224       |       | Ampersand (&): Fixed handling when passed as an argument. . . . . 443              |
| Added section: Selecting the operating system. . . . . 117     |       | Docs: Added warning icons for items needing special attention. . . . . 201         |
| Test Suite: MS-WINDOWS in README.txt . . . . . 1               |       | Docs: Clarify print/HTML output. . . 117                                           |
| Test Suite: limages and index in README.txt . . . . . 1        |       | Docs: Moved the supported features table to the introduction. . . . . 66           |
| v0.12                                                          |       | Files: lwarp_formal.css added. . . . . 1                                           |
| \LWR@newhtmlfile: Bugfix: TOC with numbered files. . . . . 388 |       | Fix: steps counter . . . . . 802                                                   |
| General: 2016/03/14 . . . . . 1                                |       | Fixed & handling. . . . . 800                                                      |
| Global: Uses \p@(type) in float captions. . . . . 1            |       | Test Suite: test_suite_formal.css file added. . . . . 1                            |
| Test Suite: Sub-figures . . . . . 1                            | v0.16 |                                                                                    |
| v0.13                                                          |       | General: 2016/04/11 . . . . . 1                                                    |
| \CaptionSeparator: Fix for newer babel package. . . . . 513    |       | \titlingpage: Improved print-output spacing. . . . . 416                           |
| \LWR@LwarpStart: \up and \fup . . . 407                        |       | xfrac: Adjusted for the use of any font: . . . . . 1223                            |
| General: 2016/03/24 . . . . . 1                                |       | Added XeLaTeX, LuaLaTeX support. 202                                               |
| Fix dollar-redefined bug for newer package. . . . . 1158       |       | Docs: Font and UTF-8 support. . . 101                                              |
| Removed package: subfig . . . . . 1                            |       | Docs: Moved location of \usepackage{lwarp}. . . . . 104                            |
| Test Suite: Ordinals, Subcaption . . . . 1                     |       | Docs: Text not converting. . . . . 193                                             |
| v0.14                                                          |       | Lwarp no longer selects fonts. 101, 235                                            |
| \LWR@htmlsectionfilename: Fix: Links to home page. . . . . 342 |       | Removed package: suffix . . . . . 1                                                |
| General: 2016/03/31 . . . . . 1                                |       | Test Suite: Improved titlingpage. . 416                                            |
| <b>floatrow</b> : Added. . . . . 798                           |       | Test Suite: Lwarp no longer selects fonts. . . . . 1                               |
| Docs: Commands for a successful HTML conversion. . . . . 121   |       | Test Suite: Supports XeLaTeX, LuaLaTeX. . . . . 1                                  |
| Docs: Commands into a warpprint environment. . . . . 118       | v0.17 |                                                                                    |
| Docs: Newclude limitations. . . . . 172                        |       | \LWR@htmlsectionfilename: Fix: Links when entire doc is one HTML page. . . . . 342 |
| Docs: Table: Cross-referencing data structures. . . . . 496    |       | General: 2016/04/14 . . . . . 1                                                    |
| Docs: Table: Float data structures. 509                        |       | <b>mdframed</b> : Added. . . . . 933                                               |
| Docs: Trademarks section. . . . . 198                          |       | Test Suite: Fix: Print-version front-matter page numbers. . . . . 1                |
| Docs: Troubleshooting cross-references. . . . . 193            |       | Test Suite: Mdfamed . . . . . 1                                                    |

|                                                                                        |               |
|----------------------------------------------------------------------------------------|---------------|
| v0.18                                                                                  |               |
| \LWR@myshorttoc: Reorganize                                                            |               |
| \HomeHTMLFilename logic. . . . .                                                       | 518           |
| \LWR@newhtmlfile: sidetoc after title,<br>improving responsive design. . . .           | 387           |
| \LWR@requesttoc: Reorganize                                                            |               |
| \HomeHTMLFilename logic. . . . .                                                       | 409           |
| \LWR@subhyperref: Improved HTML<br>output linebreaks. . . . .                          | 505           |
| \LWR@subhyperrefclass: Improved<br>HTML output linebreaks. . . . .                     | 506           |
| \LWR@subinlineimage: Suppress extra<br>space. . . . .                                  | 507           |
| \hspace: \hspace supported. . . . .                                                    | 611           |
| General: 2016/05/19 . . . . .                                                          | 1             |
| graphics: Add: svg file extension. .                                                   | 834           |
| graphics: Fix: \linewidth,<br>\textwidth, \textheight inside a<br>minipage. . . . .    | 834           |
| graphics: Improved HTML output<br>linebreaks. . . . .                                  | 834           |
| graphics: em, ex, %, px dimensions<br>preserved. . . . .                               | 834           |
| File: lwarp.css: Improved TOC outline<br>display. . . . .                              | 1             |
| Files: lwarp.css and lwarp_formal.css:<br>Improved responsive design. . . . .          | 1             |
| Microtype disabled during HTML<br>generation . . . . .                                 | 235           |
| PDF Unicode input characters. . . .                                                    | 218           |
| Test Suite: Verse package . . . . .                                                    | 1             |
| lateximage: pdfcrop: --hires added. .                                                  | 570           |
| Reorganize \HomeHTMLFilename<br>logic. . . . .                                         | 570           |
| Suppress extra space. . . . .                                                          | 570           |
| verse: Supports verse, memoir<br>packages. . . . .                                     | 1200          |
| minipage: Fix: \linewidth,<br>\textwidth, \textheight inside a<br>minipage. . . . .    | 589           |
| v0.19                                                                                  |               |
| \HTMLFilename: Docs: Escape filename<br>underscores. . . . .                           | 341           |
| \HomeHTMLFilename: Docs: Escape<br>filename underscores. . . . .                       | 341           |
| \LWR@LwarpStart: Enabled \\equal to<br>\newline. . . . .                               | 406           |
| \LWR@doequation: MATHJAX support. .                                                    | 557           |
| \LWR@doubledollar: MATHJAX<br>support. . . . .                                         | 551           |
| \LWR@filestart: lwarp_mathjax.txt<br>loaded. . . . .                                   | 403           |
| \LWR@minipagestartpars: Suppresses<br>paragraph tags between minipages. .              | 610           |
| \LWR@subsingledollar: MATHJAX<br>support. . . . .                                      | 549           |
| \LateximageFontSizeName: Add:<br>User-adjustable math/lateximage<br>font size. . . . . | 567           |
| \hspace: Fix: \hspace length<br>computations. . . . .                                  | 611           |
| \minipagefullwidth: Added: No<br>width tag for the next minipage in<br>HTML. . . . .   | 588           |
| \warpHTMLonly: Added. . . . .                                                          | 233           |
| \warpprintonly: Replaces<br>\rowprintedonly. . . . .                                   | 233           |
| \xfracHTMLfontsize: Added. . . . .                                                     | 1222          |
| General: 2016/06/08 . . . . .                                                          | 1             |
| css for table note item. . . . .                                                       | 1155          |
| MATHJAX support added. . . . .                                                         | 554, 562, 563 |
| multirow: Added optional args. . .                                                     | 965           |
| xcolor: Supports colored \rule. . .                                                    | 1213          |
| Adapts to tikz version. . . . .                                                        | 1158          |
| Avoids MATHJAX. . . . .                                                                | 542           |
| cleveref: Loaded \AtEndPreamble. .                                                     | 586           |
| Docs: Math options. . . . .                                                            | 104           |
| Docs: Table: Cross-referencing data<br>structures, updated. . . . .                    | 496           |
| File: lwarp.css: tnoteitemheader<br>added. . . . .                                     | 1             |
| File: lwarp_mathjax.txt added. . . .                                                   | 1             |
| Introduction: MATHJAX support<br>mentioned. . . . .                                    | 63            |
| Options: mathsvg and mathjax . . .                                                     | 227           |
| titles: null \pagestyle and<br>\thispagestyle for HTML. . . . .                        | 1159          |
| v0.20                                                                                  |               |
| \BlockClassSingle: Renamed from<br>"LWR@htmldivclassline". . . . .                     | 357           |
| \HTMLDescription: Added<br>\NewHTMLdescription. (Renamed<br>in v0.30.) . . . . .       | 368           |
| \HTMLFilename: No longer escape<br>underscores. . . . .                                | 341           |
| \HomeHTMLFilename: No longer escape<br>underscores. . . . .                            | 341           |
| \InlineClass: Renamed from<br>"inlineclass". . . . .                                   | 357           |
| \LWR@closeparagraph: \unskip extra<br>spaces. . . . .                                  | 361           |
| No break tags in the start/end of a<br>tabular. . . . .                                | 361           |
| \LWR@endofline: Fix: \\ . . . . .                                                      | 610           |
| \LWR@filestart: Adds meta<br>description. . . . .                                      | 403           |
| \LWR@htmldivclass: Added optional<br>style. . . . .                                    | 355           |

|                                                                                                                |     |                                                                                 |      |
|----------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------|------|
| \LWR@htmlElementclass: Added<br>optional style. . . . .                                                        | 355 | microtype: User-interface emulated.                                             | 950  |
| \LWR@htmlSectionfilename:<br>HTMLFilename: removed<br>additional trailing '-', and may be<br>empty. . . . .    | 342 | needspace: Added. . . . .                                                       | 976  |
| Sections called "Index" or "index"<br>have an underscore prepended to<br>their filenames if no prefix. . . . . | 342 | nowidow: Added. . . . .                                                         | 993  |
| \LWR@hyperindexrefsubtwo: Print<br>mode provided in case <b>hyperref</b> not<br>used. . . . .                  | 533 | placeins: Added. . . . .                                                        | 1028 |
| \LWR@longtabledatacaptiontag: Fix:<br>Pars in captions. . . . .                                                | 480 | ragged2e: Added. . . . .                                                        | 1037 |
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| \LWR@indentHTMLtwo: Added. . . . .                                 | 351      | quotchap: Fix: Paragraph tags. . . . .                                 | 1036       |
| \LWR@indexitem: Fix: Avoid empty <span>. . . . .                   | 527      | quotchap: Updated to v1.2. . . . .                                     | 1035       |
| \LWR@indexsubitem: Fix: Avoid empty <span>. . . . .                | 527      | quoting: Fix: Paragraph tags. . . . .                                  | 1036       |
| \LWR@indexsubsubitem: Fix: Avoid empty <span>. . . . .             | 527      | scrextend: Fix: Paragraph tags. . . . .                                | 1052, 1053 |
| \LWR@newhtmlfile: Fix: Empty header/footer. . . . .                | 390      | stackengine: Added. . . . .                                            | 1105       |
| \LWR@nullfonts: Fix: \hspace in sectioning file name. . . . .      | 539      | threeparttable: Added measuredfigure. . . . .                          | 1155       |



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| tocdata: Honors \tocdataformat. . . . .  | 1172     | General: 2019/09/02 . . . . .                | 1             |
| tocdata: Improved formatting. . . . .    | 1173     | lwrap.css: Added lyluatex. . . . .           | 269           |
| tocdata: Updated to v2.03. . . . .       | 1172     | amsmath: Add \ThisAltText. . . . .           | 647           |
| versionotes: Updated to v0.4. . . . .    | 1201     | forest: alt text. . . . .                    | 811           |
| vwcol: Fix: Paragraph tags. . . . .      | 1203     | geometry: Remembers user's                   |               |
| xy: Fix for \xybox. . . . .              | 1231     | geometry. . . . .                            | 821           |
| xy: Improved xy, reverted                |          | graphics: Add                                |               |
| \xymatrix, for qcicuit. . . . .          | 1231     | \ThisAltText. . . . .                        | 829, 834, 835 |
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| tags. . . . .                            | 646      | \lyluateximagenam. . . . .                   | 911           |
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| dollar. . . . .                          | 542      | class. . . . .                               | 911           |
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| Paragraph tags. . . . .                  | 602      | size. . . . .                                | 1019          |
| LWR@nestspan: Fix: quote, quotation      |          | stackengine: alt tags. . . . .               | 1105          |
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| \AltTextClose: Added. . . . .            | 540      | add'l files. . . . .                         | 316           |
| \AltTextOpen: Added. . . . .             | 540      | lwrapmk: lwrapmk epstopdf and                |               |
| \ImageAltText: Added. . . . .            | 540      | pdftosvg honor directories. . . . .          | 316           |
| \LWR@ThisAltText: Add                    |          | Remembers user's geometry. . . . .           | 236           |
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| \LWR@addlinktitle: Added. . . . .        | 502      | Added second starred argument. . . . .       | 570, 575      |
| \LWR@doequation: Add                     |          | Improved alt text. . . . .                   | 571           |
| \ThisAltText. . . . .                    | 559      | New syntax for                               |               |
| \LWR@doubledollar: Add                   |          | \LWR@subinlineimage. . . . .                 | 574           |
| \ThisAltText. . . . .                    | 552      | eqnarray: Add \ThisAltText. . . . .          | 565           |
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| Factored from lateximage. . . . .        | 569      | \MathImageAltText. . . . .                   | 554           |
| \LWR@setcurrentfont: Factored. . . . .   | 542      | v0.75                                        |               |
| \LWR@singledollar: Add                   |          | \normalcolor: xcolor: Added for              |               |
| \ThisAltText. . . . .                    | 552      | HTML. . . . .                                | 1212          |
| \LWR@singledollarmeasure: Fix: Font      |          | General: 2019/09/23 . . . . .                | 1             |
| control. . . . .                         | 544      | lwrap.css: Improved marginblock. . . . .     | 269           |
| \LWR@subinlineimage: Add                 |          | keyfloat: Fix: \normalcolor. . . . .         | 871           |
| \ThisAltText. . . . .                    | 507      | wrapfig: Fix for \linewidth. . . . .         | 1208          |
| \LWR@subsingledollar: Add                |          | wrapfig: Fix for width. . . . .              | 1208          |
| \ThisAltText. . . . .                    | 550      | minipage: Fix: \linewidth. . . . .           | 591           |
| \LWR@subsingledollarsvg: Adds star       |          | v0.76                                        |               |
| argument for lateximage. . . . .         | 547      | General: 2019/10/08 . . . . .                | 1             |
| \LateximageFontScale: Adjusted svg       |          | lwrap.css: Fix for small caps. . . . .       | 269           |
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| \MathImageAltText: Renamed from          |          | xr-hyper: Updated for v6.1. . . . .          | 1228          |
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| \PackageDiagramAltText: Renamed          |          | v6.1. . . . .                                | 1228          |
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| \hspace: Ignore negative space. . . . .  | 611      | to MATHJAX v2.7.6. . . . .                   | 312           |

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| \LWR@nullifyNoAutoSpacing:             |          |
| babel-french: Fix: Hyperlinks.         | 491      |
| \LWR@subhyperrefclass: Remove          |          |
| extra space.                           | 506      |
| \normalfont: Uses \LWR@formatted.      | 605      |
| General: 2019/11/07                    | 1        |
| accessibility: Added.                  | 633      |
| babel-french: Fix: Hyperlinks.         | 349      |
| caption: Added warning regarding       |          |
| passing options.                       | 691      |
| filecontents: Fix to overwrite         |          |
| existing files using new               |          |
| filecontents environment.              | 239      |
| geometry: Cleaner option handling.     | 822      |
| graphics: Fix: alt tag expansion.      | 834      |
| lwarp-common-multimedia: Fix           |          |
| links with new LaTeX kernel.           | 1266     |
| titlesec: Fix for \titleclass.         | 1164     |
| v0.79                                  |          |
| \CustomizeMathJax: Fix: Sanitize for   |          |
| HTML.                                  | 384      |
| \LWR@ProvidesPackagePass: Fix:         |          |
| catoptions.                            | 245      |
| \LWR@checkloadfilename: Prevented      |          |
| bxckjatype, hangul.                    | 242      |
| \LWR@closetabledatcell: Fix:           |          |
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| Hide definitions.                      | 386      |
| \LWR@earlyloadnever: Factored.         | 205      |
| \LWR@forcenewautoidanchor:             |          |
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| \LWR@mathjaxwarn: Warn if using        |          |
| packages partially supported by        |          |
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| \LWR@parseaftercolumn: Remove          |          |
| outermost braces.                      | 450      |
| \LWR@parseatcolumn: Remove             |          |
| outermost braces.                      | 448      |
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| outermost braces.                      | 448      |
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| outermost braces.                      | 449      |
| \LWR@setexparray: Fix: Nested          |          |
| tabulars.                              | 337      |
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| Factored.                              | 544      |
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| Factored.                              | 382      |
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| unknown size.                          | 547      |
| Factored.                              | 546      |
| \LWR@tabularendofline: Fix: Nested     |          |
| tabulars.                              | 446      |
| \captionlistentry: Fix: Duplicate      |          |
| auto-id.                               | 516      |
| \macrotocontents: Added.               | 223      |
| \makebox: Fix: Adjust for virtual page |          |
| size.                                  | 593      |
| \multicolumnrow: multirow: Fix:        |          |
| Nested tabulars.                       | 967      |
| \noalign: Fix: Nested tabulars.        | 490      |
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| MATHJAX: Additional macros.            | 385      |
| lwarp.css: Fix: Nested tabulars.       | 269      |
| amsmath: Added MATHJAX                 |          |
| emulation.                             | 648      |
| arydshln: Added MATHJAX                |          |
| emulation.                             | 658      |
| ar: Added MATHJAX emulation.           | 656      |
| awesomebox: Added.                     | 666      |
| babel and polyglossia: Added info      |          |
| messages.                              | 624      |
| bigdelim: Added MATHJAX                |          |
| emulation.                             | 679      |
| bigstrut: Added MATHJAX emulation.     | 680      |
| bm: Added.                             | 681      |
| booktabs: Added MATHJAX                |          |
| emulation.                             | 684      |
| booktabs: Fix for memoir with          |          |
| lateximage.                            | 490, 683 |
| braket: Added.                         | 686      |
| floatflt: Improved width control.      | 796      |
| fontawesome5: Supports font size,      |          |
| color.                                 | 806      |
| fontawesome: Refactored with fix       |          |
| for \FAtthree.                         | 805      |
| fontawesome: Supports font size,       |          |
| color.                                 | 805      |
| geometry: Also save \textwidth,        |          |
| \textheight.                           | 237      |
| graphics: Factored from                |          |
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| graphics: Fix for negative angles.     | 830      |
| ifpdf, ifptex: Provided by iftex.      | 202      |
| ltablex: Fix: Require longtable.       | 903      |
| ltxtable: Fix: Required packages.      | 905      |
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| mathtools: Added MATHJAX emulation. . . . .                            | 926           | \fcolorbox: Made robust. . . . .                           | 583        |
| multirow: Add: MATHJAX emulation. . . . .                              | 967           | \fcolorboxBlock: Made robust. . . . .                      | 583        |
| multirow: Fix: Centered vertical alignment. . . . .                    | 966           | \includegraphics: Made robust. . . . .                     | 835        |
| niceframe: Fix: Adjust for virtual page size. . . . .                  | 987           | General: 2020/02/19 . . . . .                              | 1          |
| parallel: Added. . . . .                                               | 1008          | \textbf and related: Use HTML series, etc. . . . .         | 598        |
| parcolumns: Added. . . . .                                             | 1010          | accessibility: Added MATHJAX emulation. . . . .            | 633        |
| pdfcolfoot: Added. . . . .                                             | 1014          | accsupp: Added MATHJAX emulation. . . . .                  | 634        |
| pdfcolmk: Added. . . . .                                               | 1015          | autobreak: Added. . . . .                                  | 664        |
| pdfcolparallel: Added. . . . .                                         | 1015          | biblatex: Creates hyperlinks. . . . .                      | 675        |
| pdfcolparcolumns: Added. . . . .                                       | 1015          | centernot: Added. . . . .                                  | 696        |
| pdfcol: Added. . . . .                                                 | 1014          | chemmacros: Updated to v5.10. . . . .                      | 718, 725   |
| physics: Added. . . . .                                                | 1023          | extrarrows: Added. . . . .                                 | 773        |
| siunitx: Fix: \square, \cubed. . . . .                                 | 1083          | fewerfloatpages: Added. . . . .                            | 790        |
| siunitx: Improved MATHJAX. . . . .                                     | 1080, 1081    | fouridx: Added. . . . .                                    | 811        |
| slashed: Added. . . . .                                                | 1098          | gensymb: Added. . . . .                                    | 821        |
| steinmetz: Added. . . . .                                              | 1118          | ghsystem: Added. . . . .                                   | 822        |
| svg: Added. . . . .                                                    | 1128          | gmeometric: Requires geometry. . . . .                     | 826        |
| transparent: Supports lateximages. . . . .                             | 1184          | hhline: Added. . . . .                                     | 844        |
| unicode-math: Added. . . . .                                           | 1192          | leftidx: Added. . . . .                                    | 884        |
| widetable: Added. . . . .                                              | 1206          | mathcomp: Added. . . . .                                   | 919        |
| witharrows: Added. . . . .                                             | 1206          | mathdots: Added. . . . .                                   | 921        |
| xcolor: Fix: Nested tabulars. . . . .                                  | 1218, 1219    | mathfixs: Added. . . . .                                   | 921        |
| xltable: Fix: Require ltablex. . . . .                                 | 1224          | mismath: Added. . . . .                                    | 953        |
| xurl: Updated to v0.08. . . . .                                        | 1231          | nccmath: Added. . . . .                                    | 975        |
| AMS environments: Fix: Nested. . . . .                                 | 646           | noitcrul: Added. . . . .                                   | 990        |
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| Fix: Use newfloat instead of float. . . . .                            | 801           | resize: Added MATHJAX emulation. . . . .                   | 1043       |
| Fix: Use full \linewidth. . . . .                                      | 800           | rmathbr: Added. . . . .                                    | 1045       |
| Remember HTML font size. . . . .                                       | 608           | subsupscripts: Added. . . . .                              | 1126       |
| tabular: colortbl: Fix: Nested tabulars. . . . .                       | 493           | tagpdf: Added. . . . .                                     | 1131       |
| Fix: Nested tabulars. . . . .                                          | 495           | unicode-math: Improved MATHJAX. . . . .                    | 1192, 1193 |
| warpMathJax: Added. . . . .                                            | 235           | url: Creates hyperlinks. . . . .                           | 1198       |
| lateximage: Improved \linewidth. . . . .                               | 572           | xfrac: Added MATHJAX emulation. . . . .                    | 1224       |
| minipage: Fix: \linewidth frame padding. . . . .                       | 591           | AMS environments: Fix: Centering starred envs. . . . .     | 646, 647   |
| Fix: Adjust for virtual page size. . . . .                             | 589           | Improved math, displaymath. . . . .                        | 553        |
| fminipage: Fix: Adjust for virtual page size. . . . .                  | 596           | Prevented formula, shadethm, slashbox. . . . .             | 205        |
| LWR@setvirtualpage: Factored. . . . .                                  | 588           | lateximage: Fix: Rule color in lateximage. . . . .         | 573        |
| v0.80                                                                  |               | fcolorminipage: Made robust. . . . .                       | 584        |
| \CustomizeMathJax: Fix: Made \onlypreamble. . . . .                    | 384           | eqnarray: Fix: eqnarray*. . . . .                          | 564        |
| Warn of slow compile. . . . .                                          | 384           | v0.81                                                      |            |
| \LWR@checkloadfilename: Prevented formula, shadethm, slashbox. . . . . | 242           | \LWR@addbaselinemarker: Improved warning messages. . . . . | 543        |
| \LWR@infoprocessingmathjax: Add: Info message. . . . .                 | 384           | \LWR@checkloadfilename: Prevented statex. . . . .          | 242        |
| \LWR@restoreorigformatting: Improved math, displaymath. . . . .        | 536           | \LWR@replacestrings: Added. . . . .                        | 381        |
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| <code>\textcolor</code> : <code>xcolor</code> : <code>\textcolor</code> : |            | <code>nccfoots</code> : Added MATHJAX                                   |      |
| Spurious space. . . . .                                                   | 1214       | emulation. . . . .                                                      | 974  |
| General: 2020/03/04 . . . . .                                             | 1          | <code>pagenote</code> : Added MATHJAX                                   |      |
| <code>lwarp.css</code> : Added <code>nolbreaks</code> . . . . .           | 269        | emulation. . . . .                                                      | 1007 |
| <code>DotArrow</code> : Added. . . . .                                    | 747        | <code>parnotes</code> : Added MATHJAX                                   |      |
| <code>Slunits</code> : Improved <code>\unit</code> . Fixed in             |            | emulation. . . . .                                                      | 1013 |
| math mode. Added MATHJAX                                                  |            | <code>sidenotes</code> : Added MATHJAX                                  |      |
| emulation. . . . .                                                        | 1070       | emulation. . . . .                                                      | 1068 |
| <code>axessibility</code> : Added MATHJAX                                 |            | <code>soul</code> : Fixed: <code>\&lt;</code> . . . . .                 | 1099 |
| emulation. . . . .                                                        | 667        | <code>syntonly</code> : Added <code>\nopages@</code> . . . . .          | 1129 |
| <code>axessibility</code> : Updated to 2020/01/08                         |            | <code>syntonly</code> : Added to                                        |      |
| version. . . . .                                                          | 667        | <code>\LWR@loadafter</code> . . . . .                                   | 206  |
| <code>colonequals</code> : Added. . . . .                                 | 736        | <code>ulem</code> : Fixed: <code>\dashuline</code> . . . . .            | 1189 |
| <code>decimal</code> : Added. . . . .                                     | 745        | <code>xpinyin</code> : Added full pinyin support. . . . .               | 1226 |
| <code>dotlessi</code> : Added. . . . .                                    | 748        |                                                                         |      |
| <code>econometrics</code> : Added. . . . .                                | 751        | v0.83                                                                   |      |
| <code>engtlc</code> : Added. . . . .                                      | 758        | General: 2020/03/27 . . . . .                                           | 1    |
| <code>gridset</code> : Updated to v0.3. . . . .                           | 840        | <code>lwarp-patch-memoir</code> : Fixed                                 |      |
| <code>hyperref</code> : Added                                             |            | <code>framed</code> . . . . .                                           | 1238 |
| <code>\pdfstringdefDisableCommands</code> . . . . .                       | 854        | <code>lwarp-patch-memoir</code> : Fixed:                                |      |
| <code>luamplib</code> : Added. . . . .                                    | 906        | <code>\specialindex</code> . . . . .                                    | 1260 |
| <code>multiobjective</code> : Added. . . . .                              | 963        | <code>lwarp-patch-memoir</code> : No longer                             |      |
| <code>nolbreaks</code> : Added. . . . .                                   | 990        | requires <code>subfigure</code> . . . . .                               | 1238 |
| <code>physunits</code> : Added. . . . .                                   | 1024       | <code>lwarp-patch-memoir</code> : Updated for                           |      |
| <code>returntogrid</code> : Added. . . . .                                | 1044       | new sizes. . . . .                                                      | 1239 |
| <code>stackrel</code> : Added. . . . .                                    | 1106       | <code>lwarp-patch-memoir</code> : Updated. . . . .                      | 1242 |
| <code>statex2</code> : Added. . . . .                                     | 1107       | <code>physunits</code> : Updated to v1.0.4. . . . .                     | 1024 |
| <code>statmath</code> : Added. . . . .                                    | 1116       |                                                                         |      |
| <code>lwarpmk</code> : Improved error if in <code>lwarp</code>            |            | v0.84                                                                   |      |
| source directory. . . . .                                                 | 316        | <code>\@currentHref</code> : <code>backref</code> : Fixed from          |      |
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| v0.82                                                                     |            | <code>\@currentLabelname</code> : Default name                          |      |
| <code>\LWR@disablepinyin</code> : Added. . . . .                          | 221        | for previous/next links. . . . .                                        | 498  |
| <code>\LWR@doequation</code> : MATHJAX: Improved                          |            | <code>\@fnsymbol</code> : <code>\LWR@formatted</code> , fixed           |      |
| footnotes. . . . .                                                        | 559        | double bar. . . . .                                                     | 417  |
| <code>\LWR@syncmathjax</code> : Removed <code>&lt;par&gt;</code>          |            | <code>\@makecaption</code> : <code>caption</code> now optional. . . . . | 513  |
| tags. . . . .                                                             | 556        | Warn inside a <code>&lt;span&gt;</code> . . . . .                       | 514  |
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| MATHJAX: Improved footnotes. . . . .                                      | 385, 559   | <code>\LWR@formatted</code> . No longer                                 |      |
| <code>amsmath</code> : Fixed: <code>\intertext</code> for                 |            | <code>\AtBeginDocument</code> . . . . .                                 | 606  |
| MATHJAX. . . . .                                                          | 648        | <code>\@textsuperscript</code> : Use                                    |      |
| <code>chemfig</code> : Updated to v1.5. . . . .                           | 704        | <code>\LWR@formatted</code> . . . . .                                   | 606  |
| <code>draftwatermark</code> : Updated to v2.0. . . . .                    | 749        | <code>\@xdlbfloat</code> : <code>caption</code> now optional. . . . .   | 511  |
| <code>endnotes</code> : Added MATHJAX                                     |            | <code>\AddSubtitlePublished</code> : Added                              |      |
| emulation. . . . .                                                        | 758        | <code>\subtitle</code> , <code>\published</code> for                    |      |
| <code>endnotes</code> : Fix: Mark in print mode. . . . .                  | 758        | <code>koma*</code> . . . . .                                            | 420  |
| <code>etoc</code> : Added. . . . .                                        | 770        | Fixed <code>\subtitle</code> , <code>\prints subtitle</code>            |      |
| <code>luatexko</code> : Added. . . . .                                    | 906        | if no titling. . . . .                                                  | 420  |
| <code>lwarp-patch-memoir</code> : Supports                                |            | <code>\HTMLFirstPageBottom</code> : Added                               |      |
| <code>tocvsec2</code> . . . . .                                           | 1243, 1247 | <code>\FirstPageBottom</code> . . . . .                                 | 365  |
| <code>marginnote</code> : Added MATHJAX                                   |            | <code>\LWR@LwarpEnd</code> : Added prev/next links. . . . .             | 409  |
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# Troubleshooting Index

This index is a sorted reference of problems and solutions. In order to make it easier to locate a solution, the same issue may be addressed by more than one entry.

Entries with higher page numbers are often duplicates of entries with lower page numbers, as the same warning may occur within the user manual and again within the source code for a given package.

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