

Lwarp

LATEX HTML5

The lwarp package

LATEX to HTML

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Abstract

The `lwarp` package converts LATEX to HTML by using LATEX 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. Hundreds of LATEX packages are supported, including dozens with MATHJAX emulation.

Documents may be produced by DVI or PDF LATEX, LuaLATEX, XeLATEX; by several CJK engines, classes, and packages; or by customized systems such as `perltx` 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 MiKTEX) and PERL. Detailed installation instructions are included for each of the major operating systems and TEX 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 LATEX 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.

TEX is a self-modifying tokenized macro-expansion language. Since `lwarp` is written directly in LATEX, it is able to interpret the document's meaning at a deeper level than external conversions which merely approximate TEX. 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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1 Updates

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

For a detailed list of the most recent changes, see the end of the Change History on page 1204.

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**
 - fontspec: Fixed core font change macros for world languages.
- ⚠ acro formats**
 - 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 s. See section 7.8.
 - Added \LinkPrevious, \LinkNext page links. See section 7.6.
- ⚠ home page footer changed**
 - Added \FirstPageBottom. Home page no longer shares \PageBottom. See section 7.6.
- 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 L^AT_EX kernel.
 - Fixed `\itshape`, etc. Adapted to L^AT_EX `fontaxes` integration.
 - Fixed `\@fnsymbol`.
 - Warns about section names with dollar-delimited math.
 - Warns about a `` containing a float, caption, section, `mdframed`, or other `<div>` object.
 - Only warn about X^AT_EX logo and graphics if actually used `\Xe`.
- l warpmk***
- packages**
- `l warpmk 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`, `nfssext-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**
- packages**
- Improved footnotes with MATHJAX.
 - Added MATHJAX emulation for `endnotes`, `marginnote`, `nccfoots`, `pagenote`, `parnotes`, `sidenotes`.
 - `xpinyin`: Added pinyin with modern HTML.
 - `l uatexko`: 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`/`graphicx`. See section [8.7](#).
- MATHJAX**
 - Improved MATHJAX emulation processing speed.
 - Added MATHJAX emulation for `accsupp`, `axessibilty`, `colonequals`, `decimal`, `dotlessi`, `econometrics`, `englcc`, `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`, `returntoregrid`, `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`, `noitcrl`, `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 `latexitimage`.
 - `chemmacros`: Updated to v5.10.
 - Added `fewerfloatpages`, `ghsystem`, `hhline`, `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 `latexitimage`.

- `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, *l warpmk*, 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:

 [HTML alt text](#)
changed names

Old	New
(hard coded as “image”)	<code>\ImageAltText</code>
<code>\mathimagename</code>	<code>\MathImageAltText</code>
<code>\packagediagramname</code>	<code>\PackageDiagramAltText</code>

- Added `\ImageAltText` for the default HTML alt text for an image. See section [7.6](#).
- Added `\ThisAltText`, which may be used to assign a one-time HTML alt tag to the very next image generated by `l warp`, 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 `\LateximageFontSizeScale` default from .75 to 1.

- Fix: Font control for SVG math.

misc

- Fix: Ignores negative `\hspace`.
- Warning if `SideTOCDepth < FileDepth`.

l warpmk

- `l warpmk: l warpmk clean` removes additional files.
- `l warpmk: l warpmk epstopdf` and `l warpmk 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.**packages**

- Fix for `\include`.
- Warning for a `tabular` inside a ``.
- `\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.
- `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.
- **versonotes**: 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 ⇒ `lwarpmk cleanimages`

and

Enter ⇒ `lwarpmk limages`

- 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 `nfssext-cfr`, thus supporting `cfr-lm` and several other font packages.
- Added `backnaur`, `hypbmsec`, `minibox`, `pdfcrypt`, `shapepar`.

v0.71: Error handling, multimedia, `tabular`.

- `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.

packages

- `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.

- 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 ``.
- MATHJAX: Updated to v2.7.5. Loads the `autoload-all.js` extension. Added `\MathJaxFilename` to select custom scripts.
- packages
 - `textcomp`, `xunicode`: Fix for `\textinterrobang`.
 - `mhchem`: Works with MATHJAX. See section 356.
 - `changes`: Updated to v3.1.2.
 - Added `autonum`, `changefont`, `inputrc`, `mathtools`, `metalogox`.

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

- Fix for HTML corruption of `lateximage` displays.
- `\makebox`, `\framebox`: Fix for `(<width,height>)` arguments.
- `fminipage`: Honors `\minipagefullwidth`.
- packages
 - `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*
 - `lwarpmk`: Improved error handling for image generation if compile was incomplete.
 - `tabular`: Fix for `\warpprintonly`.
- packages
 - `longtable`: Improved flexibility for `\endhead`, etc. Improved error reporting if `\endhead`, etc. incorrect for `l warp`.
 - `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`, `pdfcprot`, `fncylab`.

v0.67: Filename generation, symbol fonts.

- docs**
 - Documentation fix for <project>-images, <project>-images.txt.
 - Added discussion regarding section names. See section 8.4.
- filenames**
 - Added \FilenameNullify and \FilenameSimplify for filename generation. See section 8.4.
 - Core, textcomp, xunicode: Nullified additional symbols during filename generation.
- packages**
 - color: Fix for version number warnings.
 - Added academicicons, 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

lateximage

⚠ existing projects

filenames

⚠ Possible filename changes

WINDOWS

floats

lists, table notes

tabular

indexing

minipage

colors

HTML

docs

- 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.
- Adds options ImagesDirectory and ImagesName to assign directory and name prefixes for lateximage images. The new defaults include the job-name, allowing the image directories for multiple projects to coexist.
- To reuse existing lateximage directories, add l warp options

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

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

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

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

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

- Fixes for floats in the home page.

- Improved css for definition lists, table notes.

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

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

- \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.

packages

- `caption`: Fix for options clash.
- `xr, xr-hyper`: Now compatible.
- `subcaption`: Improved horizontal spacing.
- `multicol`: Fix for minipage inside `multicols`.
- `multicolrule`: Updated for v1.2.
- `tocbasic`: Minor update.
- `acronym`: Fix for acronym in float caption.
- `kotexutf`: Patch with `pdflatex` and new `l warp` 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, picinpar, picins, sistyle, ucs`.

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

page layout

- Moved the sidetoc 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, lltext, plarydshln, plex, plectarydshln, plectcolortbl, pxatbegshi, pxeveryshi, pxftnright, pxjahyper, tascmac`.
- Verified to work with `plarray, plautopatch, plectarray, plextdearray, pxgentombow, plsiunitx, pxpdfpages, pxpgfrcs, pxpgfmark`.

packages

- Added support for `fontspec \textsi` and `\sisshape`.
- Added `multicol`'s `\docolaction`.
- Added `embrac, footnoterange, multicolrule, versonotes`.

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

- Japanese
 - Added `utarticle` and related classes.
 - Improved `ujarticle` and related classes.
- Chinese
 - Fix for `biblatex` with CTEX and other classes.
- Koma-Script
 - Fixes for `scrlayer`, `scrlayer-scrpage`.
 - `addlines`: Updated to v0.3.
 - Added `bsheaders`, `gmeometric`, `marginal`, `rmpage`, `scrpage2`.
- packages

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 sidetoc.
 - Fix: `\LinkHome` for print output.
- fixes
- optimizations
 - Moved package load checks to the `l warp` core to reduce the number of `l warp-*` files.
- packages
 - `mdframed`: Fix with `amsthm`, improved titles and font control. Improved rule widths.
- Chinese
 - Fixes for `xeCJK`.
 - Added `xpinyin`, `zhlineskip`.
 - Verified to work with `cjkpunct`, `upzhangsoku`, `zhspacing`.
- Japanese
 - Verified to work with `zxjatype`, `l uatexja`, `l uatexja-fontspec`.
 - Added `bxjsarticle` and related classes.
 - Added `ltjsarticle` and related classes.
 - Added `pLATEX`, `upLATEX`, `ujarticle` and related classes.
 - Prevented `utarticle` and related classes.
 - Prevented `bxckatype`.
- Korean
 - Verified to work with `kotex`, `xetexko`, `l uatexko`.

v0.62: MiK \bar{T} E \bar{X} docs, HTML title, CTEX, xeCJK, bitpattern.

- docs
 - Docs: Setting a UTF-8 locale. See section [9.8](#).
 - MiK \bar{T} E \bar{X} : Docs for *MiK \bar{T} E \bar{X} Console* and `miktex-poppler-bin`.
 - 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](#).
- MiK \bar{T} E \bar{X}
- HTML `<title>`
 - Fix for package options handling.
 - Fixes for horizontal white space between `fminipage`, `fcolorminipage`, `colorboxBlock`, `fcolorboxBlock`.
 - Logos: Fix for X \bar{T} E \bar{X} 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`.
- fixes

- Fix: Added `\sllshape`.
- Chinese packages**
- Added `ctex` package and related classes, `xeCJK`.
 - Prevented `CJK`, `CJKutf8` unless `xeCJK`, `ctex` are used.
 - `chemfig`: Docs for new macro `\polymerdelim`.
 - `asymptote`: Docs for compilation.
 - `chngpage`: Fix to load `l warp-changepage`.
 - `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 [34](#).
 - Added documentation regarding HTML entities inside program listings. See section [8.2.1](#).
 - Added options to specify the shell commands to execute for `l warpmk print` and `l warpmk html`, allowing the use of `l warp` with `perltx`, `pythontex`, etc. If not specified, these are set automatically depending on the LATEX engine, `--shell-escape`, and `l warp` options. See section [9](#).
 - Changed macro names to match `\displaymathother`, `\displaymathnormal`:

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

custom compiling

⚠ changed names

- fixes**
- Fix: Paragraph tags in a `tabular`.
 - Fix: `supertabular` and `xtab` captions.
 - Fix: DVI 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`, `srtex`, `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

- 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 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 `l warp` 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 `l warp`.

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

⚠ 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*: 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 lwarf 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 lwarf 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` lwarf options. See section 7.5.
- Added lwarf options `makeindex` and `xindy` to set `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to sensible values for a typical single index. See section 7.5.
- Added lwarf option `makeindexStyle` to tell *lwarpmk* to use a custom style instead of *lwarf.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`, `hvindex`.

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

MathJax

math macros

dynamic math

⚠ new name

- 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`.

- lateximage alt tags**
 - 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:

$$(-xy- \text{ diagram})$$

See section [7.6](#).
 - Fix: Improved print/HTML macro selection.
 - misc. fixes**
 - Fix: `\href` text catcodes.
 - Fix: `\subref` text.
 - Fixes: Colored `\rule` and `\boxframe`.
 - packages**
 - `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.
- lwarfmk**
 - Added
`lwarfmk pdftosvg <list-of-PDF-files>`
 to quickly convert a document's PDF images to SVG, for use with HTML. See section [8.8](#).
 - Added support for `--shell-escape`. See section [7.3](#).
 - tabular**
 - 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, toccenter, underscore`.
 - Added `bibunits`.
 - Tested to work as-is with `babelbib, bodegraph, fast-diagram, nicematrix, structmech`.

v0.55: Various fixes.

- | | |
|------------|--|
| misc fixes | <ul style="list-style-type: none"> Fix: Extraneous space in file links, which also prevented <i>Calibre</i> EPUB conversions. Fix: Float optional argument regression. Fix: \ForceHTMLTOC with \phantomsection. Fix: Overfull boxes in lateximages. Fix: QED symbols in lateximage. |
| packages | <ul style="list-style-type: none"> koma-script: Fix: Figure with \centering, etc. Added clrdblpg. |

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

⚠ Reset the configuration

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

lwarfmk

- lwarfmk* limages checks for the presence of the HTML version of the document and valid image references before attempting to create the lateximages.
- lwarfmk*: 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
xdyFilename	xindyStyle
IndexLanguage	xindyLanguage
—	xindyCodepage
—	pdftotextEnc

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

- 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`.
- L^AT_EX core verse environment: line spacing.
-  **packages**
- Removed `\citetitle`, adjusted `\attribution`.
- `memoir`: Minor update for v3.7g.
- Added `inputenx`, `bibunits`, `chngpage`, `forest`, `magaz`, `gridset`.
- Prevents loading `ae`, `aecc`, `t1enc`, and `wasysym`.

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 `l warp_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 X_EL^AT_EX or L^Au_LAT_EX 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 81.3.
 - Added warnings if `l warp_baseline_marker.png` is not present, or if `graphicx` or `graphics` is not loaded.
 - Improved `\ensuremath` hashing expansion.
 - Fix: `equation*` with `split`.
 - tabbing now works inside a `lateximage`. Use for math in tabbing.
- MathJax**
- Fix: MathJax script was not executing in some conditions.
 - Added `\CustomizeMathJax` to add custom functions. See section 8.7.
- footnotes**
- Fix: Footnote numbering when using `HTMLDebugComments`.
 - Fix: Footnote paragraph tags.
 - Fix: `FootnoteDepth` defaults to `\subsubsection`.
- misc. fixes**
- Fix: `\kill` in a `lateximage`.
 - Fix: `\FileDepth`, misc. others, when input encoding is not `utf8`.
 - Fix: `\texorpdfstring` in a section name.
- packages**
- `hyperref` emulation: Fix for #, %, &, ~, _ characters in URLs.
 - `fancybox`, `fancyvrb`: Initial support for `\VerbatimFootnotes`.
 - `nicefrac`: Added with fix for `\ensuremath`.
 - `graphicx`: Fix for option defaults. Added v1.1a/b options.
 - `endfloat`: Updated for v2.6.
 - `url`: Fixes for active characters.

v0.51: Improved svg 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: tikz with matrices. See section [8.8.1](#).

[SVG math](#)

- Improved svg math baseline.
- Improved svg math font and color.
- Faster svg math rendering.
- Improved support for display math containing complicated math objects, such as `tikz-cd`. See section [8.7.9](#).
- Fix: `\addcontentsline` inside svg math.
- Fix: SVG math containing an embedded `lateximage`.

[MathJax](#)

[misc. fixes](#)

- MathJax now handles `\ensuremath` in expressions.
- Fix: Added `alignat` environment.
- Fix: `afterpackage` no longer required, which conflicted with `scrlfile`.
- Fix: `titling` `\thanks` mark.
- Fix: `fancybox` improvements.
- Fix: tikz `\tikz` macro. (Previously only the `tikzpicture` environment worked.)
- Fix: tikz with optional argument.

[packages](#)

- Added `mhchem`, `chemfig`, `chemformula`, `chemmacros`, `chemnum`, `chemgreek`, `epstopdf-base`, `grid`, `ltxgrid`.

2 Introduction

The `lwarp` project aims to allow a rich L^AT_EX 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 L^AT_EX to provide for every HTML-related possibility, and HTML cannot exactly render every possible L^AT_EX 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 L^AT_EX 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 L^AT_EX, `lwarp` has some advantages over other methods of HTML conversion. T_EX itself is still used, allowing a wider range of T_EX trickery to be understood. Lua expressions are still available with LuaT_EX. Entire categories of L^AT_EX 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.

`pdflatex`, `xelatex`, or `lualatex` 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 LATEX source for the expression, allowing it to be copy/pasted into other documents.³ Custom LATEX macros may be used as-is in math expressions, since the math is evaluated entirely inside 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 lwarf maintains 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 LATEX-generated PDF file which happens to have HTML5 tags, to a number of HTML5 plain-text files and accompanying images.

lwarf 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, lwarf first looks to see if it has its own modified version to use instead of the standard LATEX version. These lwarf-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 LATEX for sharing math. The author has no particular opinion on the matter, except to say that in this case 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	L <small>A</small> T <small>E</small> X package.
<i>program</i>	Program's executable name.
<i>option</i>	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.
<i>code</i>	Program code.
\macro	L <small>A</small> T <small>E</small> X macro.
environment	L <small>A</small> T <small>E</small> X environment.
counter	L <small>A</small> T <small>E</small> X counter.
boolean	L <small>A</small> T <small>E</small> X 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 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.

Table 2: L^AT_EX l warp package — Supported features

Category	Status and supported features.
Engines:	DVI L ^A T _E X, pdfL ^A T _E X, X _E 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:	<i>scrextend</i> , <i>scrhack</i> , <i>scrlayer</i> . Others as listed below.
Memoir:	memhfixc
Languages:	<i>babel</i> , <i>polyglossia</i> , <i>cjkpunct</i> , <i>xeCJK</i> .
Chinese:	C _T E _X , <i>ctex</i> , <i>upzhkinsoku</i> , <i>xpinyin</i> , <i>zhlineskip</i> , <i>zhspacing</i> .
Japanese:	upL ^A T _E X, LuaT _E X-ja, gentombow, <i>lltjext</i> , <i>plarray</i> , <i>plarydshln</i> , <i>plautopatch</i> , <i>plex</i> , <i>plexarray</i> , <i>plexarydshln</i> , <i>plextcolortbl</i> , <i>plexdelarray</i> , <i>pxatbegshi</i> , <i>pxeveryshi</i> , <i>pxftnright</i> , <i>pxgentombow</i> , <i>pxjahyper</i> , <i>pxpdfpages</i> , <i>pxpgfrcs</i> , <i>pxpgfmark</i> , <i>tascmac</i> , <i>zxjatype</i> . <i>bxjsarticle</i> and related, <i>ltjsarticle</i> and related, <i>luatexja</i> , <i>luatexja-fontspec</i> , <i>ujarticle</i> and related, <i>utarticle</i> and related.
Korean:	<i>kotex</i> , <i>luatexko</i> , <i>xetexko</i> .

l warp 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, draftfigure, 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 , textarea, threadcol, thumb, thumbs, titleps, toccenter, turnthepage, twoup, typearea, underlin, vmargin, watermark, widows-and-orphans, zwpagelayout.
Sectioning:	Adds FileDepth 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 file-names. 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:	\maketitle, titlepage , authblk , titling .
Front & back matter:	abstract , appendix .
Indexing:	makeindex and xindy are supported, with hyperlinks. hvindex , idxlayout , imakeidx , index , makeidx , repeatingindex , splitidx .
Glossary:	gloss , glossaries and xindy , nomenc .
Bibliography:	babelbib , backref , biblatex , bibunits , chapterbib , cite , hypernat , mcite , natbib , notes2bib , showtags .
Cross-references:	bookmark, breakurl , cleveref , fancyref , hypdestopt , hyperref , perpage , prettyref , titleref , url , variorref , xcite , xr , xr-hyper , xurl .
Margin notes:	marginal, marginfit, marginfix, scrlayer-notecolumn , versonotes .

l warp Supported Functions — continued

Category	Status
Footnotes:	Adds FootnoteDepth to print footnotes at section breaks. MATHJAX emulation for \footnote, and also as marked in the following: bigfoot , dblfnote, 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 <alt> tags containing the LATEX source for the math expression. MATHJAX supported as an alternative. amsmath ^{MJ} : AMS environments are supported. User-defined macros are available during conversion, due to native LATEX processing.
Theorems:	Native LATEX theorems, amsthm , ntheorem , theorem .
Additional math:	Math fonts via SVG images, amscd , autobreak ^{MJ} , autonum, backnaur , bm ^{MJ} , braket ^{MJ} , breqn , cases , centernot ^{MJ} , colonequals ^{MJ} , decimal ^{MJ} , delarray , DotArrow ^{MJ} , dotlessi ^{MJ} , dotlessj ^{MJ} , extarrows ^{MJ} , fouridx ^{MJ} , guass , icomma ^{MJ} , jkmath , leftidx ^{MJ} , mathcomp ^{MJ} , mathdots ^{MJ} , mathfixs ^{MJ} , mathpunctspace ^{MJ} , mathspec , mathtools ^{MJ} , mismath ^{MJ} , multiobjective ^{MJ} , nccmath ^{MJ} , nicematrix , noitcrl ^{MJ} , pb-diagram , resizegather , rmathbr ^{MJ} , stackrel ^{MJ} , staxex2 ^{MJ} , statmath ^{MJ} , subsubscripts ^{MJ} , textualicomma ^{MJ} , unicode-math ^{MJ} , witharrows ^{MJ} , xfakebold ^{MJ} , xy . Many others work as-is.
Display math with \\displaymathother:	Complicated math objects in display math, such as tikz-cd , etc.
Units and fractions:	nicefrac ^{MJ} , Slunits ^{MJ} , siunitx ^{MJ} , units ^{MJ} , unitsdef , xfrac ^{MJ} .
Floats:	Appear where declared. capt-of , caption , cutwin , dblfloatfix , endfloat , fewerfloatpages , fix2col , flafter , float , floatflt , floatrow , fltrace , ftcap , hypcap , keyfloat , morefloats , multicap , newfloat , nonfloat , placeins , rotfloat , stfloats , subcaption , subfig , subfigure , subfloat , topcapt , trivfloat , wrapfig .

l warp Supported Functions — continued

Category	Status
Tabular:	tabular environment, array ^{MJ} , arydshln ^{MJ} , bigdelim ^{MJ} , bigstrut ^{MJ} , booktabs ^{MJ} , colortbl, ctable, diagbox, hhline ^{MJ} , longtable, ltablex, ltxtable, multirow ^{MJ} , supertabular, tabularx, tabulary, threeparttable, threeparttablex, widetable, xltabular, xtab.
Graphics:	graphics and graphicx. \includegraphics 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. \rotatebox and \scalebox are supported as well as HTML can handle. rotating is emulated but all objects are unrotated. picture, tikz, and xy are converted to an SVG image. asymptote, curves, datatool, eepic, epsfig, epstopdf, figsize, fitbox, grffile, luamplib, media9, movie15, multimedia, overpic, psfrag, psfrags, pst-eps, pstool, pstricks, rviewport, svg, svg-extract, tikz-3dplot.
xcolor:	Full package color names, any color models, and mixing. \textcolor, \colorbox, \fcolorbox . Enhanced for HTML compatibility.
Lists:	Standard LATEX environments, enumerate, enumitem, eqlist, hang, listliketab, paralist.
Environments:	Standard LATEX environments.
minipage, \parbox:	Some HTML5-imposed limitations. Nested minipages are supported. eqparbox, minibox, pbox, shapepar.
Quotations:	copyrightbox, csquotes, epigraph, quoting, verse.
Verbatim:	fancyvrb, moreverb, shortvrb, verbatim.
Frames:	boxedminipage, boxedminipage2e, fancybox, framed, mdframed, niceframe, shadow, verbars.
Multi-columns:	adjmulticol, multicol, multicolrule, vwidth.
Margins:	fullwidth, hanging, midpage.
Line numbering:	fnlineno, lineno.

l warp Supported Functions — continued

Category	Status
Direct formatting:	\emph, \textsuperscript, \textbf, etc are supported. \bfseries, etc. are only supported in some cases. <code>cancel</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>nolbreaks</code> , <code>normalcolor</code> , <code>pdfcol</code> , <code>pdfcolmk</code> , <code>pdfrender</code> , <code>realscripts</code> , <code>resize^{MJ}</code> , <code>scalefont</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>fmtcount</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 thin-unbreakable, unbreakable, \enskip, \quad, \qquad, \hspace.
Rules:	\rule with width, height, raise, text color.
HTML reserved characters:	\&, \textless, and \textgreater 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> .
Symbols:	Native L ^A T _E X diacriticals, <code>academicons</code> , <code>bbding</code> , <code>chemgreek</code> , <code>dingbat</code> , <code>euro</code> , <code>eurosym</code> , <code>fontawesome</code> , <code>fontawesome5</code> , <code>gensymb^{MJ}</code> , <code>marvosym</code> , <code>mathcomp^{MJ}</code> , <code>metabot</code> , <code>metalogox</code> , <code>pifont</code> , <code>textalpha</code> , <code>textcomp</code> , <code>textgreek</code> , <code>typicons</code> , <code>xunicode</code> .
Files:	<code>attachfile</code> , <code>attachfile2</code> , <code>hyperxmp</code> , <code>inputrc</code> , <code>intopdf</code> , <code>pdffiles</code> , <code>pdfx</code> , <code>xmpincl</code> .

l warp Supported Functions — continued

Category	Status
Science and engineering:	algorithm2e, algorithmicx, ar ^{MJ} , askmaps, axodraw2, bitpattern, blochsphere, bodegraph, bohr, bytefield, chemfig, chemformula, chemgreek, chemmacros, chemnum, circuitikz, econometrics ^{MJ} , elements, engtlc ^{MJ} , fast-diagram, ghsystem, hepnicenames, heppennames, karnaughmap, karnaugh-map, listings, linop, mhchem ^{MJ} , pgfgantt, phfqit, physics ^{MJ} , physunits ^{MJ} , qcircuit, register, simpler-wick, slashed ^{MJ} , steinmetz ^{MJ} , structmech, struktex, tikz-karnaugh, tikzcodeblocks
Arts and humanities:	foreign, forest, lyluatex, musicography, nameauth, octave, phonrule, piano, schemata, semantic-markup, tikz-dependency, vowel, xpiano
Admonitions:	awesonebox, 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} , tagpdf.
Package handling:	catoptions.
Debug:	chkfloat, cmdtrack, dprogress, lua-visual-debug, refcheck, srcltx, srctex, vpe, xbmks.
Working as-is:	Various utility, calculation, file, and text-only packages, such as calc, fileerr, somedefs, trace, xspace. 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 L^AT_EX or other document to HTML. Where an existing L^AT_EX 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 TEX4HT

Prog `TeX4ht` <http://tug.org/tex4ht/>
Prog `htlatex`

This system uses native L^AT_EX 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. TeX4ht 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 L^AT_EX syntax into HTML. Search for each on CTAN (<http://ctan.org>).

Prog	Hevea	H^Ev^Fa: 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	L^ATeXML: http://dlmf.nist.gov/LaTeXML/
Prog	Plastex	PlasTeX: https://github.com/tiarno/plastex
Prog	LaTeX2HTML	L^ATeX2HTML: http://www.latex2html.org/ and http://ctan.org/pkg/latex2html .
Prog	TeX2page	TeX2page: http://ds26gte.github.io/tex2page/index.html

Finally, GladTeX may used to directly insert L^AT_EX math into HTML:

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

3.4 ASCII DOC 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 **Asciidoc:** <http://asciidoc.org/> (More active.)

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

3.4.1 ASCIIDOCTOR-LATEX

The Asciidoc-LaTeX project is developing additional LATEX-related features.

Asciidoc-LaTeX:

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

<https://github.com/asciidoc/asciidoc-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 their abilities to represent math with a LATEX-ish input syntax, unicode math fonts, and high-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 areas of typesetting, cross-referencing, and HTML generation. See ADOBE® *FrameMaker*®, ADOBE *InDesign*®, and MADCAP *Flare*™.

Prog InDesign

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, L^AT_EX 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 L^AT_EX is comparably easy to learn, while L^AT_EX 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 L^AT_EX 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 L^AT_EX back end, yielding high-quality results especially when the L^AT_EX template is adjusted, but they lose the ability to use L^AT_EX macros and other L^AT_EX source-document features.

The effort required to customize the output of each markup system varies. For print output, L^AT_EX 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 L^AT_EX optional macro parameters, but further customization may require patching L^AT_EX 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 L^AT_EX 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 L^AT_EX distribution:

From T_EXLive: <http://tug.org/texlive/>.

L^AT_EX: *pdflatex*, *xelatex*, or *lualatex*.

The l warp 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 l warp 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 l warp to create indexes. On a MiK^TE_X 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 L^AT_EX code. On a MiK^TE_X system, *Perl* may need to be installed first.

***pdfcrop*:** Used to pull images out of the L^AT_EX PDF.

POPLER PDF utilities:

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

***pdfseparate*:** Used to pull images out of the L^AT_EX PDF.

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

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

From POPLER: poppler.freedesktop.org.

For MACOS®, see <https://brew.sh/>, install *Homebrew*, then

Enter ⇒ **brew install poppler**

For WINDOWS, see Mik^TE_X *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 POPLER 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 lwarf package

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

Pre-installed: Try entering into a command line:

Enter ⇒ `kpsewhich lwarf.sty`

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

TeX Live: If using a TeX Live distribution, try installing via `tlmgr`:

Enter ⇒ `tlmgr install lwarf`

MiKTeX:

1. For newer versions of MiKTeX, install or update lwarf using the *MiKTeX Console* program.
2. For older versions of MiKTeX, to install lwarf the first time, use the *MiKTeX Package Manager (Admin)*. To update lwarf, 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 lwarf, perhaps as part of a set of TeX-related packages.

CTAN TDS archive: lwarf may be downloaded from the Comprehensive TeX Archive:

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

TeX Live:

Enter ⇒ `kpsewhich -var-value TEXMFLOCAL`

MiKTeX:

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 ⇒ `mktexlsr`

— or —

Enter ⇒ `texhash`

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

CTAN .dtx and .ins files: Another form of TeX 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 l warp package.
2. Download the zip archive l warp.zip into your own l warp directory.
3. Unpack l warp.zip.
4. Locate the contents l warp.dtx and l warp.ins
5. Create the .sty files:
Enter ⇒ **pdflatex l warp.ins**
6. Create the documentation:

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

7. Copy the .sty files somewhere such as the T E X Live local tree found in the previous CTAN TDS section, under the subdirectory:
 <texlocal>/tex/latex/local/l warp
8. Copy l warp_baseline_marker.png and l warp_baseline_marker.eps to the same place as the .sty files.
9. Copy the documentation l warp.pdf to a source directory in the local tree, such as:
 <texlocal>/doc/local/l warp
10. Renew the cache:
 Enter ⇒ **mktexlsr**
 — or —
 Enter ⇒ **texhash**
Or, for WINDOWS MiK T E X, start the program called *MiK T E X Settings (Admin)* and click on the button called **Refresh FNDB**.
11. See section 4.2.1 to generate your local copy of l warpmk.
12. Once the local version of l warpmk.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 l warpmk.lua files may be used as-is, so long as they are in the same directory as the document source. The files l warp_baseline_marker.png and l warp_baseline_marker.eps must also be copied as well. This approach is especially useful if you would like to temporarily test l warp before deciding whether to permanently install it.

Just testing!

4.2 Installing the l warpmk utility

(Note: If l warpmk 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 l warp package is installed, you may need to setup the l warpmk 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 MiK_TE_X, 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 *TEX Live* or MiK_TE_X 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 *TEX 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 <pathtolwarpmk.lua> lwarpmk**

- (c) Make the link executable:

Enter ⇒ **chmod 0755 lwarpmk**

WINDOWS *TEX Live*: Create a new *lwarpmk.exe* file:

- (a) Locate the *TEX 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 MiK_TE_X: Create a new *lwarpmk.bat* file:

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

C:\Program Files\MiK_TE_X 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\MiK_TE_X 2.9\scripts\lwarpmk.lua" %**

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 `l warp` package:

```
\usepackage[lwarpmk]{l warp}
```

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 72.

```
Enter ⇒ luatex --version
Enter ⇒ xindy --version
Enter ⇒ latexmk --version
Enter ⇒ perl --version
Enter ⇒ pdfcrop --version
Enter ⇒ pdftotext -v
Enter ⇒ pdfseparate --version
Enter ⇒ pdftocairo -v
```

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

The TeX 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>

Prog [requirement] pdftotext **To install the POPPLER utilities to a UNIX/LINUX system:**

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 MikTEX, install a *miktex-poppler-bin-** package. Otherwise:

1. See table 3 on page 72.
2. Download and extract the POPPLER utilities *pdftotext*, *pdfseparate*, and *pdfsepate* 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 ⇒ `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`.

⚠ **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 ⇒ `pdflatex tutorial.tex`
(several times)

(`xelatex` or `lualatex` may be used as well. `lwarp` also supports DVI `latex` 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, L^AT_EX 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}
\fbox{\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 L^AT_EX. 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 L^AT_EX 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 *lwarpmk*, which is used to automate the compilation of PDF or HTML versions of the document.

tutorial.lwarpmkconf: Another configuration file used by *lwarpmk*, 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 lwarp, 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 lwarp defaults.

lwarp.ist: Used by lwarp while creating an index using *makeindex*. This file should not be modified by the user. A custom file may be used instead, if necessary.

lwarp.xdy: Used by lwarp while creating an index using *xindy*. 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 lwarp 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 ⇒ **`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 ⇒ **`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 ⇒ **`lwarpmk again`**

Enter ⇒ **`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 ⇒ **`lwarpmk printindex`**

6. Recompile again to include the index.

Enter ⇒ **`lwarpmk print`**

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

Enter ⇒ **`lwarpmk print1`**

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

⁵Although, when using the utility *latexpmk* (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 ⇒ **lwarpmk html**

- (a) *lwarpmk* uses L^AT_EX 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 L^AT_EX 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 ⇒ **lwarpmk again**

Enter ⇒ **lwarpmk html**

Enter ⇒ **lwarpmk print**

4. Process the HTML index and recompile:¹⁰¹¹

Enter ⇒ **lwarpmk htmlindex**

Enter ⇒ **lwarpmk html**

`_Index.html` is updated for the new L^AT_EX 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 ⇒ **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 lwarf represents math as svg images, with the L^AT_EX source included in alt attributes. In this way, the math is displayed as it was drawn by L^AT_EX, and the L^AT_EX source may be copied and pasted into other documents.

picture and Tikz lwarf uses the same mechanism for picture and Tikz environments.

1. Create the svg images:

Enter ⇒ **lwarpmk limages**

Enter ⇒ **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 L^AT_EX 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 L^AT_EX 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.

Expressing math as svg images has the advantage of representing the math exactly as L^AT_EX would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, lwarf uses an MD5 hash on its L^AT_EX 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 `lwarf`:

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

2. Recompile

Enter ⇒ `lwarfmk 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 L^AT_EX 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 X_ELATEX or LuaLATEX

X_ELATEX or LuaLATEX may be used instead of LATEX.

1. Remove the auxiliary files for the project:

Enter ⇒ **lwarfmk cleanall**

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

Enter ⇒ **xelatex tutorial.tex**

— or —

Enter ⇒ **lualatex tutorial.tex**

When the compile occurs, the configuration files for *lwarfmk* are modified to remember which TEX engine was used. X_ELATEX or LuaLATEX will be used for future runs of *lwarfmk*.

3. To recompile the document:

Enter ⇒ **lwarfmk print**

-and-

Enter ⇒ **lwarfmk html**

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

Enter ⇒ **lwarfmk htmlindex**

Enter ⇒ **lwarfmk html**

Enter ⇒ **lwarfmk printindex**

Enter ⇒ **lwarfmk 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. *lwarfmk* may be used to convert image formats.

To convert EPS files to PDF:

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

To convert PDF files to SVG:

Enter ⇒ **lwarfmk 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 ⇒ **lwarfmk clean**

5.13 Cleaning auxiliary and output files

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

Enter ⇒ **lwarfmk 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 ⇒ **lwarfmk 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 *lwarfmk* also provides a way to convert PDF or EPS images in bulk:

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

Enter ⇒ **lwarfmk 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 ⇒ **lwarfmk 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. *lwarfmk* 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 28, [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 l warp:

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 l warp.
 - (e) Load remaining packages.
2. Modify the document:
 - (a) If using named HTML files, in section names use paren math $\backslash(x+y\backslash)$ instead of dollar math $\$x+y\$$. (Dollar math works, but appears in the file-name.) 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}}
```
 - (b) Avoid using the \includegraphics scale option. Change:


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

 to:


```
\includegraphics[width=<yy>\linewidth]{...}
```
 - (c) Possible changes to tabular environments include: * columns, multirow, longtable, supertabular, xtab, bigdelim. See section 8.10.1.
 - (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.
 - (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. l warpmk print to finish the print version.
6. l warpmk html to create the HTML version.
7. l warpmk 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: L^AT_EX 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.

\sidetocname: Displayed at the head of the sidetoc.

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 described 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: Accessibiliiy settings

\ImageAltText: The default HTML alt text for \includegraphics and \textrm{images}. 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 L^AT_EX math expression in the alt text, so that the L^AT_EX 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, l warp detects and remembers whether shell escape is enabled. If so, it will also be enabled when the document is recompiled with *l warpmk*.

7.4 Font and UTF-8 support

 **type 3 bitmapped fonts** l warp 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 l warp option `pdftotextEnc` may be useful in some situations. See section 7.5.

vector fonts
Computer Modern
 ***pdflatex*** 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.

 **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*, l warp automatically loads `fontenc` with T1 encoding. `fontenc` may be loaded with an additional encoding after l warp. `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** X^EL^AT_EX and LuaL^AT_EX 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{l warp}`.

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

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

2. Font and UTF-8 related commands:

- For X^EL^AT_EX or LuaL^AT_EX:

Pkg fontspec

- fontspec and font choices

ligatures

lwarp sets the following to turn off TeX 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 *pdflatex*:

Pkg lmodern

(a) \usepackage{lmodern}, or other font-related packages

Pkg fontenc

(b) \usepackage[T1]{fontenc}

Pkg inputenc

(c) \usepackage[utf8]{inputenc}, or latin1, etc. Or use inputenx.

Pkg inputenx

(d) \usepackage{newunicodechar} along with related definitions.

Pkg newunicodechar

(e) To assist with the PDF-HTML conversion:

i. \input glyptounicode.tex

ii. \input glyptounicode-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}

Pkg textcomp

(g) \usepackage{textcomp}

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

4. \usepackage{newtxmath} or other math-related font packages. Many of these load amsmath, which must be loaded after lwarp, so they must also be loaded after lwarp.

5. \setmonofont{TeX Gyre Cursor} or similar may be required if using X_ELATEX or L_ATEX and fonts spec along with traditional font packages such as txfonts, newtxtext, etc. This is required to turn off the monospaced font's ligatures with fonts spec 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.

⚠ UTF-8 locale

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

⚠ JETBRAIN MONO
⚠ HTML corrupted

7.4.1 Indexes, glossaries, and encoding

lwarp uses the *xindy* program to processes indexes. *xelatex* and *lualatex* use *xindy* and *pdflatex* uses *texindy*.

The `lwarp` option `xindyLanguage` may be used to set the language option for `xindy`, and the `xindyCodepage` option may be used to set the codepage option for `xindy`. These are used for index generation.

7.5 l warp package loading and options

l warp 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 l warp package immediately after the font and UTF-8 setup commands.

Package options may be set while loading l warp, or later with

```
\l warpmksetup{<key=value, . . . >}
```

Pkg l warp l warp package options are as follows:

Opt mathsvg **mathsvg**, **mathjax**: For math display, select mathsvg (default) or mathjax. For more information about the math options, see section 8.7.

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

Opt dvips **dvips**: Tells l warpmk to use dvips and ps2pdf to convert DVI output to PDF.
Default: false

Opt dvipdfm **dvipdfm**: Tells l warpmk to use dvipdfm to convert DVI output to PDF.
Default: false

Opt dvipdfmx **dvipdfmx**: Tells l warpmk to use dvipdfmx to convert DVI output to PDF.
Default: false

Opt HomeHTMLFilename **HomeHTMLFilename**: See section 7.6.
Default: {}

Opt HTMLFilename **HTMLFilename**: See section 7.6.
Default: {}

Opt ImagesName **ImagesName**: The prefix for the images automatically generated by l warp for objects such as SVG math and lateximages.
Default: image-

Opt ImagesDirectory **ImagesDirectory**: The directory for the images automatically generated by l warp for objects such as SVG math and lateximages. By default, these images will appear in a directory named <jobname>-images, and the images will be named and numbered image-<nn>.
Default: \jobname-images

Opt PrintLatexCmd **PrintLatexCmd**: Sets the shell commands executed by l warpmk print. If not specified, will automatically be set according to the detected LATEX engine and the use of --shell-escape.
Default: <automatic>

Opt HTMLLatexCmd **HTMLLatexCmd**: Sets the shell commands executed by l warpmk html. If not specified, will automatically be set according to the detected LATEX engine and the use of --shell-escape.
Default: <automatic>

Opt makeindex **makeindex**: Sets PrintIndexCmd, HTMLIndexCmd, and LatexmkImageCmd to use makeindex
Default: makeindex

Table 7: Lwarp package options

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

when generating indexes with **lwarpmk printindex**, **lwarpmk htmlindex**, or **latexmk**. If neither `makeindex` nor `xindy` is used, `makeindex` is assumed.

Opt `xindy` **xindy:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `xindy` when generating indexes with **lwarpmk printindex**, **lwarpmk htmlindex**, or **latexmk**.
Default: `makeindex`

Opt `makeindexStyle` **makeindexStyle:** If you wish to use a custom `.ist` file for index generation, see section 28.
Default: `lwarp.ist`

Opt `xindyStyle` **xindyStyle:** If you wish to use a custom `.xdy` file for index generation, see section 28.
Default: `lwarp.xdy`

Opt `xindyLanguage` **xindyLanguage:** If using an index or glossary, see section 28.
Default: `english`

Opt `xindyCodepage` **xindyCodepage:** If using an index, see section 28.
Default: `utf8`

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 TeX, written to a file, read from the file by LuaTeX, 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 `lwarf 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`
Default: `<automatic>`

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.

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

<code>makeindex -s lwarf.ist</code>	(<i>makeindex</i>)
<code>xindy -M lwarf.xdy -L english -C utf8</code>	(<i>xindy</i>)

automatic setting

The use of the `makeindex` or `xindy` options sets `LatexmkIndexCmd` to either of the two settings show above. `lwarf`'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 `lwarf xindyLanguage` and `xindyCodepage` options are not used for the `LatexmkIndexCmd` option when it is set manually.

Opt `GlossaryCmd`
Default: `makerglossaries`

GlossaryCmd: Sets the shell command executed by `lwarpmk printglossary` and `lwarpmk htmglossary`. The print or HTML glossary filename is appended to this command. See section 8.6.12.

Opt `OSWindows`

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

Opt `pdftotextEnc`
Default: `UTF-8`

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

Opt `lwarpmk`

lwarpmk: If you wish to have `lwarf` generate a local copy of `lwarpmk.lua` for archival or local-installation purposes, compile the print version with the `lwarpmk` option set. See section 28.

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

Opt `warpprint`
Opt `warpHTML`

warpprint and warpHTML: Usually controlled by `lwarpmk`, and not set in the document. 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 `lwarf` 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{lwarf}` without any options to create a printed version, while `<project>.html.tex` will create an HTML version.

Opt BaseJobname
Default: \jobname

BaseJobname: Not intended for the user. Used internally by lwarp when creating the *_html.tex file used to compile the HTML version. See section 28.

7.6 Customizing the HTML output

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

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

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

Enter ⇒ **lwarfmk clearall**

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

Enter ⇒ **lwarfmk print**

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

Enter ⇒ **lwarfmk html**

Options for the lwarf package:

Use the following as options for \usepackage[<options>]{lwarf}:

Opt **HomeHTMLFilename**
Default: \BaseJobname

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

HomeHTMLFilename=index

filename underscores

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 **Latexmk**
Default: false

Latexmk: Controls whether lwarf uses *latexmk* to compile the document. This setting is written to *lwarfmk*'s configuration files.

Opt **mathsvg**
Default: true

mathsvg: Selects SVG display for math output. (The default.)

Opt **mathjax**

mathjax: Selects MATHJAX for math output.

Opt **makeindex**

makeindex: Selects *makeindex* for index generation by *lwarfmk*.

Opt **xindy**

xindy: Selects *xindy* for index generation by *lwarfmk*.

Default: makeindex

Table 8: HTML settings

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

Placed in the preamble before \begin{document}:

\linkhomename
Default: Home

\linkhomename: Name of the link to the home page. Paragraphs are allowed. Redefine with \renewcommand.

\linkpreviousname
Default: Previous

\linkpreviousname: Name of the link to the previous page. Paragraphs are allowed. Redefine with \renewcommand.

\linknextname
Default: Next

\linknextname: Name of the link to the next page. Paragraphs are allowed. Redefine with \renewcommand.

Ctr tocdepth

tocdepth: Sectioning depth of the table of contents. See section 16 for a list of L^AT_EX stack depths.

Ctr SideTOCDepth
Default: 1

SideTOCDepth: Sectioning depth of the sidetoc. Defaults to 1, causing the sidetoc to show sections but not subsections.

sideroc

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

 **inaccessible pages**

If SideTOCDepth < FileDepth, web pages will be inaccessible via the sideroc.

\sidetocname
Default: Contents

\sidetocname: Name of the sidetoc. Paragraphs are allowed. Redefine with \renewcommand.

Ctr 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

 **Inaccesible pages!**

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`.

 **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.

`\FilenameLimit`
 `Default: 80`

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

`Ctr 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 HTMLDebugComments`
 `Default: false`

HTMLDebugComments: Set true to generate HTML comments, such as which section or `<div>` is being opened or closed.

`\abstractname`
 `Default: Abstract`

\abstractname: The name of the abstract. This may also be over-written by the `babel` package. Defaults to “Abstract”. Redefine with `\renewcommand`.

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 L^AT_EX 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: {*<language>*} 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%
}
```

`\HTMLAuthor`
Default: `\theauthor`

\HTMLAuthor: {*<author>*} The HTML header's meta author. Defaults to `\theauthor`, which is set by `\author` 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 `\theauthor`, so `\HTMLAuthor` is useful to create a list of authors without their affiliations.

`\HTMLDescription`
Default: <empty>

\HTMLDescription: {*<description>*} Sets the HTML description tag for the following files. May be changed before each each sectioning command which would cause a file split.

`\HTMLFirstPageTop`
Default: <empty>

\HTMLFirstPageTop: {*<contents>*} A user-definable custom action applied to the top of the home page. Useful for logos, etc. `\LinkNext` may be used to link to the next web page. Defaults empty. Ignored in print output.

`\HTMLFirstPageBottom`
Default: <empty>

\HTMLFirstPageBottom: {*<contents>*} A user-definable custom action applied to the bottom of the home page. Useful for logos, etc. `\LinkNext` may be used to link to the next web page. Defaults empty. Ignored in print output.

`\HTMLPageTop`
Default: <empty>

\HTMLPageTop: {*<contents>*} A user-definable custom action applied to the top of pages other than the home page. Useful for logos, etc. Defaults empty. `\LinkHome` may be used to place a link back to the homepage, as well as `\LinkPrevious` and `\LinkNext`. Ignored in print output.

`\HTMLPageBottom`
Default: <empty>

\HTMLPageBottom: {*<contents>*} 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. `\LinkHome` may be used to place a link back to the homepage, as well as `\LinkPrevious` and `\LinkNext`. Ignored in print output.

\LinkHome	\LinkHome: Creates a link to the home page. Usually used in \HTMLPageTop and related.
\LinkPrevious	\LinkPrevious: Creates a link to the previous HTML page, unless already at the home page. Usually used in \HTMLPageTop and related.
\LinkNext	\LinkNext: Creates a link to the next HTML page, unless already at the end. Usually used in \HTMLPageTop and related.

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

⚠ \tableofcontents
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 tocdepth.

Placed in the document wherever necessary:

\ImageAltText
Default: image

\ImageAltText: Redefine with \renewcommand. \includegraphics and other images are assigned an HTML alt tag according to \ImageAltText along with \AltTextOpen and \AltTextClose. 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 \includegraphics and other images.

\ThisAltText

\ThisAltText: {{text}} \ThisAltText can be used to assign an HTML alt text attribute to the next image generated by a lateximage, picture, tikzpicture, or any other similar environment which generates an image, or the next SVG 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-}]
```

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

```
]{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:

```
...
\CMSFilename{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` It is best to make a local project-specific css file such as `project.css`, containing only things which are different from `lwarp.css`. The file `project.css` should refer to `lwarp.css` 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 `[(style)] [{class}]`

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 `((wp css style)) [(web css style)] {<css class>} {{text}}`

A section of text without paragraphs may be assinged a css class and optional css style using the `\InlineClass` macro. The result is placed inside a ``. `\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 L^AT_EX print-formatted PDF generation, or to HTML generation, or to HTML with MATHJAX.

For most of built-in L^AT_EX 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.

- ⚠ `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.

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

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

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

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

`\warpprintonly {<actions>}`

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

`\warpHTMLonly {<actions>}`

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.

⚠ `\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. `l warp` 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 66.8.

\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 {\langle title\rangle}

⚠ **HTML corrupted** Avoid newlines in the \title; these will interfere with the file break and css detection. Use a \subtitle command instead (section 66.8). 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 {\langle author\rangle}

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 {\langle date\rangle}

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

\thanks {\langle text\rangle}

\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 {⟨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 {⟨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 {⟨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 L^AT_EX 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 l warp, 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 l warp:
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{l warp}
...
\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 xetoolbox, 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 L^AT_EX, but invalid HTML. An example is a tabular inside \textbf{, since HTML does not allow a table inside a span. l warp 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 Horizontal space

\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.

\, \~ and \, are converted to HTML entities.

\kern \kern and \hskip are entered into the HTML PDF output as-is, then interpreted by \hskip *pdftotext*, and thus usually appear as a single space.

8.2.3 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}
...

```

8.2.4 Accents

Native L^AT_EX accents such as \" will work, but many more kinds of accents are available when using Unicode-aware X^EL^AT_EX and LuaL^AT_EX. If using accents in section names which will become file names, it is recommended to use the L^AT_EX accents such as \" and \v instead of Unicode accents. The L^AT_EX 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.

8.2.5 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.

8.2.6 Superscripts and other non-math uses of math mode

Use x instead of \$^x\$

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

lists Use a trailing backslash: \item[label] \

8.2.8 Filenames and URLs in lists or footnotes

filename underscore Escape underscores in the filenames:

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

8.2.9 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 contains paragraphs, but in order to remain inline with the surrounding text lwarf nullifies block-related macros inside the \marginpar. Paragraph breaks are converted to
 tags.

\marginparBlock [⟨left⟩] {⟨right⟩} To include block-related macros, use \marginparBlock, which takes the same arguments but creates a <div> instead of a . 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. lwarf 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, \quad, \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 . An HTML <div> cannot appear inside a . While in a , 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 L^AT_EX 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`, `\quad\quad`, `\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 `` items during HTML output, but HTML cannot place a block element such as a `<div>` for a minipage or a list inside of a ``. Several options are provided for framing an object, depending on which kind of object and which packages are loaded:

- `\fbox` For a framed object, options include:
- `\fboxBlock`
- `Env` `fminipage`
- 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 `` 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.
- To frame the contents on their own line with improved formatting in HTML:** 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 L^AT_EX code, the result in HTML is problematic since a table is a <div> not a , 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.

For display tabular,
minipages, and lists:

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 86 for a new environment fcolorminipage. Also see below regarding the “Misplaced alignment tab character &.” error.

colored boxes and frames:

To create colored frames and boxes: See section 573 for xcolor’s \colorbox and \fcolorbox, and l warp’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 l warp documentation for the fancybox package.

To frame equations: See section 237 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 \latexitimage at the very start of FramedEqn’s beginning code, and \endlatexitimage at the very end of the ending code. Unfortunately, the HTML alt attribute is not used here.

```
\newenvironment{FramedEqn}
{
\latextimage% NEW
\setlength{\fboxsep}{15pt}
. . . }{. . .
\[\fbox{\TheSbox}\]}
\endlatextimage% NEW
}
```

framing alternatives \fbox works with **fancybox**. Also see l warp'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 l warp, 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 l warp 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}
\begin{Verbatim}
\end{Verbatim}
\end{fminipage}
}
```

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.

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, `l warp` 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 `l warp` 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.

8.4 Section names

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

`\FilenameSimplify \{\langle text \rangle\}`

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 \{\langle macros \rangle\}`

 **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 nullified during filename generation. Low-level macros such as \begingroup will cause problems when nullified. Many macros such as \textbf are already nullified. 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 \LaTeX 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).

⚠ label characters \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 492.

8.5.2 cleveref and varioref packages

Pkg cleveref cleveref and varioref are supported, but printed page numbers do not map to HTML,
Pkg varioref

⚠ cleveref page numbers

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 570 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. `lwarf` 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

Pkg `hyperref` `lwarf` 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.

`lwarf` can also load `url`, but `url` should not be used at the same time as `hyperref`, since they both define the `\url` command. `lwarf` 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, `lwarf`'s emulation of `hyperref` does not automatically load `backref`, so `backref` must be loaded explicitly.

8.5.4 Footnotes, endnotes, and page notes

`lwarf` uses native L^AT_EX footnote code, although with its own `\box` to avoid the L^AT_EX 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.

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 While emulating pfnote, lwarp is not able to reset HTML footnote numbers per page

⚠ pfnote numbers

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

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 pdfLATEX. 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 XELATEX or LuaLATEX instead of pdfLATEX.

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.

`\warp` 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*`. `\warp` 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.

`\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`

`\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.

8.6.4 titling and authblk

`Pkg titling`
`Pkg authblk`

`package support`

`\load order`

`\published` and `\subtitle`

`\warp` 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 66.8.

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 To place the endnotes in the TOC, use:

table of contents

```
\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
processing glossaries
 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.

⚠ makeglossaries not found 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 nomencl package

Pkg nomencl To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.list -o <project>_html.nls
```

8.6.14 Indexing overview

There are many ways to process indexes for a L^AT_EX document, including native L^AT_EX 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 and 8.6.21.

source code See section 76 for *lwarp*'s core index and glossary code, section 308 for *index*, section 490 for *splitidx*, section 307 for *imakeidx*, section 533 for *tocbibind*, and section 593.17 for *memoir*'s indexing patches.

8.6.15 Indexing with basic L^AT_EX and makeidx

lwarpmk processing The following allow the user to process indexes automatically, or using *lwarpmk*'s commands:

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

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.

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.

8.6.16 Indexing with 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>.sind <projectname>.sidx
    },
    HTMLIndexCmd={
        makeindex -s lwarp.ist <projectname>_html.idx ;
        makeindex -s lwarp.ist
        -o <projectname>_html.sind <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 ⇒ **lwarfmk printindex**

Enter ⇒ **lwarfmk htmlindex**

to compile the indexes.

If the `latexmk` option is selected for `lwarf`, `latexmk` will compile the document but will *not* compile the indexes. **lwarfmk printindex** and **lwarfmk htmlindex** will still be required.

8.6.17 Indexing with `splitidx`

`lwarf` is told how to use *splitindex* using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file `lwarf.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 `lwarf`, `latexmk` will compile the document but will *not* compile the indexes. **lwarfmk printindex** and **lwarfmk 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}
\newlabel{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 593.17 in the `lwarf-patch-memoir` package for the `\@wrspindexhyp` macro as an example.

For multiple indexes using `makeindex` and `splitidx`:

```
\usepackage[
    makeindex, latexmk,
    PrintIndexCmd={
        splitindex <projectname> -- -s lwarf.ist
    },
    HTMLIndexCmd={
        splitindex <projectname>_html -- -s lwarf.ist
    }
]{lwarf}
\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 ⇒ lwarpmk htmlindex
```

to compile the indexes.

8.6.18 Indexing with *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 and 8.6.21. 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, *lwarfmk* may be used to manually compile the indexes. lwarf's PrintIndexCmd and HTMLIndexCmd options are used.

For a single or multiple indexes using *makeindex* and *imakeidx*:

The index style *lwarf.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]{lwarf}
\usepackage[makeindex]{imakeidx}
...
\makeindex[options={-s lwarf.ist}]
\makeindex[name=secondname,options={-s lwarf.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 **lwarfmk print** and **lwarfmk html**, but *imakeidx* will actually create the indexes.

For a single or multiple indexes using *makeindex* and *splitindex* with *imakeidx*:

The index style *lwarf.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]{lwarf}
\usepackage[makeindex,splitindex]{imakeidx}
...
\makeindex[options={-s lwarf.ist}]
\makeindex[name=secondname,options={-s lwarf.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*. lwarf 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 **lwarfmk print** and **lwarfmk 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 *lwarf.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.

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*:

lwarf's options are used, and are passed to *latexmk*.

```
\documentclass{memoir}
\usepackage[makeindex, latexmk]{lwarf}
...
\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 lwarf.ist <projectname>.idx ;
    makeindex -s lwarf.ist secondname.idx
  },
  HTMLIndexCmd={
    makeindex -s lwarf.ist <projectname>_html.idx ;
    makeindex -s lwarf.ist secondname_html.idx
  }
]{lwarf}
...
\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,                                <optional>
    xindyCodepage=utf8,                                 <optional>
    latexmk
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

`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 l warp.xdy -L english -C utf8
        <projectname>.idx ;
        xindy -M l warp.xdy -L english -C utf8
        secondname.idx
    },
    HTMLIndexCmd={
        xindy -M l warp.xdy -L english -C utf8
        <projectname>_html.idx ;
        xindy -M l warp.xdy -L english -C utf8
        secondname_html.idx
    }
]{l warp}
...
\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 ⇒ l warpmk printindex
Enter ⇒ l warpmk htmlindex
```

to compile the indexes.

8.6.20 Using a custom *makeindex* style file

Prog makeindex When using *makeindex*, *lwarpmk* uses the file *l warp.ist* to process the index. This file is over-written by *l warp* whenever a print version of the document is processed.
File *l warp.ist*

To use a custom *makeindex* style file:

1. Copy *l warp.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. In the document source use the *makeindexStyle* option for *l warp*:

```
\usepackage[
    ... other options ...
    \textred{makeindexStyle=projectname.ist},
]{l warp}
```

Opt *makeindexStyle*

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

- 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 over-written by `lwarp` whenever a print version of the document is processed.
File `lwarp.xdy`

To use a custom *xindy* style file:

- Copy `lwarp.xdy` to a new filename such as `projectname.xdy`
- 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`.

Opt `xindyStyle` 3. In the document source use the `xindyStyle` option for `lwarp`:

```
\usepackage[
    ... other options ...
    \textred{xindyStyle=projectname.xdy},
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

- 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 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.

8.6.23 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 L^AT_EX 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 **numbered index section** 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.

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^AT_EX 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 L^AT_EX-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 L^AT_EX 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 L^AT_EX 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 L^AT_EX code which generated the math, allowing copy/paste of the L^AT_EX 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 \LateximageFontSizeScale, which defaults to:

```
\newcommand*{\LateximageFontSizeScale}{.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 L^AT_EX code for the math expression. For *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 *AMS* environment, although the \tag macro will still appear inside the L^AT_EX 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.

⚠️ SVG math in TeX boxes SVG math does not work inside TeX boxes, since a \newpage is required before and after each image.

8.7.4 MATHJAX option

MATHJAX math option The popular MATHJAX alternative (mathjax.org) may be used to display math.

Prog MathJax

When MATHJAX is enabled, math is rendered twice:

- 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

¹⁴See section 578 regarding fonts and fractions.

2. As detokenized printed LATEX 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 LATEX values, and the MATHJAX cross-referencing system is ignored in favor of the LATEX internal system, seamlessly integrating with the rest of the LATEX code.

8.7.5 Customizing MATHJAX

equation numbering

lwarf 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.

lwarf 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{\mu\mathrm{m}\mathrm{yunit}}}}
\end{warpMathJax}
```

advanced control

For more advanced control over dynamically creating custom definitions, see as an example the lwarf definition for \DeclarePairedDelimiterX, in section 349, mathtools.

local customizations

For customizations local to the current HTML page only, macros may be defined as

follows:

```
\begin{warpMathJax}
\(\newcommand{\macro}{...}\)
\(\newcommand{\another}{...}\)
\end{warpMathJax}
```

To maintain compile speed, use the `warpMathJax` environment, and use a separate math environment for each definition.

`\DeclareIfstar` To define a starred macro, instead of:

```
\CustomizeMathJax{\def\myname{@ifstar\starredaction\unstarredaction}}
```

use:

```
\CustomizeMathJax{\DeclareIfstar{\myname}{\starredaction}{\unstarredaction}}
```

Inside a MATHJAX math expression, `\myname` becomes a macro which uses `\starredaction` if it is starred, or `\unstarredaction` if not.

8.7.6 MATHJAX limitations

MATHJAX limitations

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, `\footnotename` is used instead, since the actual number cannot be tracked. See section 8.5.4 regarding the use of footnotes with MATHJAX.

 references

- Inside a MATHJAX expression, references to equations work within the same HTML web page, but do not work when referring to an equation in a different HTML web page. Outside of a MATHJAX expression, in the text body, references work as expected.

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.

- Other math-related macros and packages are not directly supported by MATHJAX, including `\ensuremath` and `bigdelim`, and occasionally-used macros such

 other macros and packages

as `\relax`. While using MATHJAX, lwarp provides emulation for footnotes, `bm`, `mathtools`, `nicefrac`, `siunitx`, and `units`.

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

complicated alt tag

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 multiple instances of the same expression. In some cases, the math 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. The macro `\inlinemathother` may be used before a dynamic math expression, and `\inlinemathnormal` after. Doing so tells lwarp to use an unhashed SVG math image, even if MathJax is in use. See section 43.

8.7.9 Complicated display math objects

\displaymathnormal \displaymathother MathJax unsupported complicated alt tag

By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML, 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.

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 L^AT_EX 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`.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 $\mathcal{M}\mathcal{S}$ environments when the option `thref` is used. `lwarf` does not share this bug, so equations with `\split`, etc, are numbered correctly with `lwarf`'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

8.7.11 mathtools package

Pkg mathtools

`showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarf`. Equation numbers may not match the print version.

⚠️ equation numbering

`mathic` is not emulated for HTML.

⚠️ MATHJAX

If using MATHJAX:

- `mathtools disallowspaces` 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`, `\boxed`, and `\ArrowBetweenLines`.
- For the new cases-like environments, `\text` must be used to set the normal roman font if desired.

¹⁵`lwarf` uses `cleveref` for the HTML conversion, and loads `cleveref` `\AtEndPreamble`, just before `\AtBeginDocument`.

- alignat in MATHJAX requires math mode, but in LATEXit doesn't. It may be required to use warpHTML and warpprint to isolate a version for each mode.
- \DeclareParedDelimiter and related must be in the preamble before \begin{document}.

8.7.12 siunitx package

Pkg siunitx 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. siunitx macros with more than one optional value cannot absorb the second optional value, and complicated parsing such as for \ang is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

lwarp's MATHJAX emulation for siunitx is meant to be a stop-gap measure until an extension is included in MATHJAX. As of this writing, the third-party siunitx extension for MATHJAX is not currently hosted at any public CDN, thus siunitx is not usable with this extension unless a local copy of this extension is created first. See \MathJaxFilename to select a custom MathJax script, but lwarp's emulation would have to be disabled as well.

Document modifications required for MATHJAX:

custom units

- Custom units may be added with \CustomizeMathJax. See the lwarp-siunitx code for examples.

⚠ **unit spacing**

⚠ **\square, \cubic**

- Units work better using ~ between units instead of using periods.
- 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`.

Pkg nicefrac

8.7.14 physics package

Pkg `physics` `physics` works as-is for HTML with SVG math.

For MATHJAX, emulation is provided via `lwarp`'s MATHJAX macros. These are not the same as the third-party MATHJAX extension.

- The `notrig` option is honored.
- ⚠ • Most macros don't work with `\big`, etc.
- ⚠ • Macros do not auto-detect variable numbers of mandatory arguments. Provide empty {} arguments for those which are not used.
- ⚠ • Many of the macros do not work with auto-detected delimiters. Use the delimiter-specific versions instead. Some macros do not even consider the following arguments, so they may work as expected.
- ⚠ • For `\Re` and `\Im`, the arguments must be in braces.
- For `\functionalderivative`, for the example in the manual with $(E - TS)$, enclose the parens in braces.
- ⚠ • `\expectationvalue` requires and uses two mandatory arguments, unlike the third-party MATHJAX `physics` extension.
- Each of `\matrixquantity`, `\smallmatrixquantity`, and `\matrixdeterminant` work, while `\identitymatrix` and the following simply print a place-holder, and must be replaced by hand.

8.7.15 newtxmath package

Pkg `newtxmath` The proper load order is:

⚠ `loading sequence`

```
...
\usepackage{lwarp}
...
\usepackage{amsthm}
\usepackage{newtxmath}
...
```

8.8 Graphics

Pkg `graphics` Avoid using the `\includegraphics scale` option. Change:

Pkg `graphicx`

⚠ `scale`

```
\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, l warp 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 PDF to SVG To convert a PDF image to SVG, use the utility *pdftocairo*:

```
Enter ⇒ pdftocairo -svg filename.pdf
```

Prog l warpmk pdftosvg For a large number of images, use *l warpmk*:

```
Enter ⇒ l warpmk pdftosvg *.pdf      (or a list of filenames)
```

Prog l warpmk epstopdf Prog epstopdf package For EPS images converted to PDF using the package *epstopdf*, use

```
Enter ⇒ l warpmk 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 ⇒ l warpmk epstopdf *.eps      (or a list of filenames)
```

```
Enter ⇒ l warpmk 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 l warp—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

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 superceded by xcolor, and l warp 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 `l warp`'s core if `xcolor` is loaded.

<code>background: none</code>	<code>\fcolorbox</code> and <code>\fcolorboxBlock</code> allow a background color of <code>none</code> , in which case only the frame is drawn, which can be useful for HTML.
<code>color support</code>	Color definitions, models, and mixing are fully supported without any changes required.
<code>colored tables</code>	<code>\rowcolors</code> is supported, except that the optional argument is ignored so far.
<code>colored text and boxes</code>	<code>\textcolor</code> , <code>\colorbox</code> , and <code>\fcolorbox</code> are supported.
<code>\color</code> and <code>\pagecolor</code>	<code>\color</code> and <code>\pagecolor</code> are ignored. Use <code>css</code> or <code>\textcolor</code> where possible.

8.8.5 `epstopdf` package

<code>Pkg epstopdf</code>	Images with an <code>.eps</code> extension will be converted to <code>.pdf</code> . The <code>HTML</code> output uses the <code>.svg</code> version, so use
⚠ convert to <code>.svg</code>	Enter ⇒ <code>l warpmk pdftosvg <listofPDFfiles></code> to generate <code>.svg</code> versions.

8.8.6 `pstricks` package

<code>Pkg pstricks</code>	All <code>pstricks</code> content should be contained inside a <code>pspicture</code> environment.
⚠ use <code>pspicture</code>	

8.8.7 `pdftricks` package

<code>Pkg pdftricks</code>	The <code>pdftricks</code> image files <code><jobname>-fig*.pdf</code> must be converted to <code>.svg</code> , 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 ⇒ <code>l warpmk pdftosvg <jobname>-fig*.pdf</code>

8.8.8 `psfrag` package

<code>Pkg psfrag</code>	The <code>psfrags</code> environment is modified to use <code>lateimage</code> to encapsulate the image. Always use a <code>psfrags</code> environment to contain any local <code>\psfrag</code> macros and the associated <code>\includegraphics</code> or <code>\epsfig</code> calls. Outside of a <code>psfrags</code> environment, <code>psfrags</code> adjustments will not be seen by <code>l warp</code> .
⚠ use <code>psfrags</code>	Tip: Use a mono-spaced font for the tags in the <code>EPS</code> 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 ⇒ **l warpmk html**

followed by

Enter ⇒ **l warpmk limages**

8.8.10 asymptote package

Pkg asymptote To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex
```

```
l warpmk print
asy project-*.asy
l warpmk print1
l warpmk print1
```

```
l warpmk html
asy project_html-*.asy
l warpmk html1
l warpmk html1
l warpmk limages
```

8.8.11 overpic package

Pkg overpic 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.

⚠ scaling

8.8.12 Multimedia packages

Pkg multimedia The packages multimedia, movie15, and media9 are supported.

Pkg movie15

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

Pkg media9

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 \addmediopath 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

 tabular inside another environment

- This includes before and after defining any macro which used \ttabbox from floatrow.
- When creating a new environment which contains a tabular environment, lwarf'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 % because & is used in a
definition
\newenvironment{outerenvironment}
{
\begin{tabular}{cc}
left & right \\
}
{
\TabularMacro\ResumeTabular
left & right \\
\end{tabular}
}
\StopDefiningTabulars
```

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.

 \newcolumntype

- \newcolumntype 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:

- `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 \\}
\warpHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

- In L^AT_EX, a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a ``. If this situation is detected, a warning is printed instructing the user to isolate the `` using `\warpprintonly` or the `\warpprint` environment.

8.10.2 multirow package**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.

- See section 372.2 for `\multicolumnrow`.

 `\multicolumn & \multirow`

`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.

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.

```
... & \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 ...
\warpHTMLonly{ % 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

⚠ Misplaced alignment tab character &

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

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 **⚠️ 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.

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 [544.1](#).

Pkg trivfloat

Pkg algorithmicx

⚠️ package conflicts

Pkg caption
Pkg subcaption

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 l warp:

```
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{l warp}
...
\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

- ⚠ **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.

In the document source, use \hfill and \hspace* subfig>inline 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

- ⚠ **Misplaced alignment tab character & subfig package**

Use \StartDefiningTabulars and \StopDefiningTabulars before and after defining macros using \ttabbox with a tabular inside. See section 8.10.1.

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. l warp 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` 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.)

⚠ `keywrap` [Please send bug reports!](#)

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` `lwarp` uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.

⚠ `captions` [Please send bug reports!](#)

⚠ `options clash` While emulating `memoir`, `lwarp` pre-loads a number of packages (section 593.1). 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 defintions, 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` `lwarf` 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 `lwarfmk`. 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 defintions 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 `\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 `\HTMLvleftskip` 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 *pdftotext*’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

-  **verse margin** 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` `newclude` modifies `\label` in a non-adaptive way, so `newclude` must be loaded before `lwarp` is loaded:

```
\documentclass{article}
. . . <font setup>
\usepackage{newclude}
\usepackage[warpHTML]{lwarp}
. . .
```

8.15.3 babel package

Pkg `babel` 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, 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. . . . \begindocumenthook
```

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
Pkg luatodonotes

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.

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{latextimage}[-chemfig-~\PackageDiagramAltText]
\chemfig{...}
\polymerdelim[...]{...}
\end{latextimage}
```

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 356.

8.15.11 xparse package

Pkg xparse To remove from the log any warnings about redeclaring objects, place the following before l warp is loaded:

```
\usepackage[log-declarations=false]{xparse}
```

8.15.12 kotex package

Pkg kotex See section 8.14 regarding *pdflatex* 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, *TEX* 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 `perltx` 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`.

`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 *TEX*, 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 `l warp` package option settings to use `perltx` would be similar to:

```
\usepackage[
  ...
  PrintLatexCmd={perltx -latex=pdflatex project.tex} ,
  HTMLLatexCmd={perltx -latex=pdflatex project_html.tex} ,
  ...
]{l warp}
```

⚠ “impure” math Place `perltx` 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
  } ,
  ...
]{l warp}
```

Another possibility is to use `latexmk`, placing the `\Latexmk ...` commands in the `PrintLatexCmd` and `HTMLLatexCmd` options. While using these options, the `l warp` 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`,

Pkg rterface

and 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 `dita` The only example seen so far where this is required is the `dita` package, where the locale change allows the use of UTF-8 with Xe^LA_ET_X and `dita`. To use Lu^aL^AE_TX instead, the locale change would have to be made inside the `dita` package where its calls the `dita` program.

10 EPUB conversion

lwarf 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 lwarf 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 lwarf HTML output to EPUB:

FormatEPUB

Bool FormatEPUB
Default: false

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 lwarf HTML output to EPUB, add

```
\booltrue{FormatEPUB}
```

to the project's source preamble after \usepackage{lwarf}. 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 lwarf 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 lwarf 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 lwarf'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 lwarf-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.

lwarf 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 lwarf 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

lwarf 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. lwarf 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 lwarf HTML output to EPUB:

FormatWP	
Bool FormatWP 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 lwarf HTML output for easier import to a word processor, add

`\booltrue{FormatWP}`

to the project's source preamble after lwarf 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 *AMS* math environments.

Table 10: Section HTML headings for word-processor conversion

Section	HTML headings*			
	With \chapter		Without \chapter	
	WPTitleHeading	WPTitleHeading	true	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		<h6>	<h6>	<h5>

* For default depths when not FormatWP, see table 11 on page 194.

WPTitleHeading

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 178.

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: 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: Cross references are not actual LIBREOffice linked cross references.

LIST OF FIGURES AND LIST OF TABLES: The List of Figures and List of Tables are not linked. The pasted pseudo LOF and LOT match the numbering of the L^AT_EX and HTML versions.

EQUATION NUMBERING: Equation numbering is not automatic, but the equation numbers in SVG math will match the L^AT_EX 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: 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.

LIMITATIONS WITH FRAMES AND BACKGROUNDS: 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 l warp

locating something To quickly find the source for a package in `l warp.dtx`, search for `*packagename`, such as `*siunitx`.

Likewise, to quickly find the source for a file in `l warp.dtx`, search for `*filename`, such as `*l warp.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 TeX output An environment may be converted to a `\teximage` then displayed with an image of the resulting L^AT_EX output. See section 89 for an example of the `picture` environment.

css classes To create a custom HTML block or inline css class, see section 51.9.

print/HTML macros To create print and HTML versions of the same macro or environment, see section 35.

⚠ TEX boxes Any TeX boxes must be undone, as `svg` math or `\teximages` require `\newpage`, which will not work in a TeX box.

index recreation To recreate the index for the `l warp` documentation:

```
makeindex -s gglo.ist -o l warp.gls l warp.glo
splitindex l warp.idx -- -s gind.ist
```

12.1 Creating a development system

The following creates a local development system for `l warp` on a TeXLive system in a UNIX-like environment. Doing so allows anything requesting `l warp` to use the development version instead of whichever version is installed in TeXLive.

Create a development directory:

Place into this directory `l warp.dtx` and `l warp.ins`.

To create `l warp.sty`, execute

Enter ⇒ **`pdflatex l warp.ins`**

which creates `l warp.sty` and several hundred additional `l warp-*.sty` files for the various packages which are supported.

To create the documentation `l warp.pdf`, execute

Enter ⇒ **`pdflatex l warp.dtx`**

To make the development files visible to other projects:

Create the directory

`/usr/local/texlive/texmf-local/tex/latex/local/l warp`

Inside this directory, create the file update, containing:

```
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 ⇒ **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}
```

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 L^AT_EX 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 `TEX` can see it, then the user's new package will be seen by any documents using `lwarp`. (Remember `mktexlsr` 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 395 (`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 **l warp**, a class must first set up anything which replicates the functions of the basic L^AT_EX classes, load any required fonts, then load **l warp**, then finally load and adjust any other required packages.

12.4 Testing l warp

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 *l warpmk* or a css file in *l warp.dtx*:

1. Change the source in *l warp.dtx*.
2. pdflatex *l warp.ins*
3. pdflatex *l warp.dtx*
4. If modifying *l warpmk* the new version should now be active.
5. If modifying css files:
 - (a) For the document, *l warpmk 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 l warpmk

Prog l warpmk In most installations, *l warpmk.lua* is an executable file located somewhere the operating system knows about, and it is called by typing **l warpmk** into a terminal.
File l warpmk.lua

A project-local copy of *l warpmk.lua* may be generated, modified, and then used to compile documents:

1. Add the *l warpmk* option to the *l warp* package.
2. Recompile the printed version of the document. The *l warpmk* option causes *l warp* to create a local copy of *l warpmk.lua*
3. The *l warpmk* option may now be removed from the *l warp* 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 lwarf package error conditions and warnings

lwarf 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 lwarf. So far only Unix and Windows are supported.

Incorrect delimiter characters. Older versions of `lwarpmk` used a different delimiter.

Source name is set to lwarf: lwarf has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if `lwarpmk` is executed in lwarf'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: lwarf 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: lwarf cannot determine which engine is being used. Supported are DVI L^AT_EX, PDF L^AT_EX, XE^LL^AT_EX, L^AU^LTEX, and upL^AT_EX.

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.

l warpmk epstopdf * or **l warpmk pdftosvg ***: Errors if filenames are not found.

13.1.3 Default bitmapped font

l warp requires the use of a vector font. If l warp 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 l warp: Some packages and classes must be loaded before l warp. These include input and font encoding, morewrites and newclude, and a number of CJK-related packages and classes.

Loaded after l warp: Most packages which are modified by l warp must be loaded after l warp.

Loaded never: Some packages do not work with l warp. 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: l warp tries to patch some packages using xpatch. If the original package has been updated more recently than l warp, a patch may not work. It may be necessary to use an older version of the package until l warp is updated.

longtable: l warp’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 langauges 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: l warp 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**
- Mutirow:** When `\multirow` or `\multicolumn` 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^TE_X 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^AT_EX.

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 (\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^AT_EX 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](#).

“No room for a new \write.”: Before `\usepackage{lwarp}`, add:

```
\usepackage{morewrites}
\morewritessetup[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
```

“Leaders not followed by proper glue”:

This can be caused by a missing `\@fleattype` or `\@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`, `\lrbox`, `\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.

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. . . . \@begindocumenthook”:

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 35 regarding `\LWR@expandableformatted`.

“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.

⚠️ macros in section, table, figure names

⚠️ BibTeX

⚠️ polyglossia

⚠️ custom macros for environments

⚠️ \LWR@formatted

⚠ “impure” math objects

Complicated objects inside math: Some objects, such as Tikz, may not compile in lwarf’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 `lwarfmk` again followed by `lwarfmk html` or `lwarfmk print` to compile the document one more time.
- 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` 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 `varioreref` 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 570 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.

⚠ **labels**
⚠ **label characters**
⚠ **\nameref**
⚠ **empty link**

⚠ **cleveref** page numbers

Em-dashes or En-dashes in listing captions and titles:

Use X_EL^AT_EX or L^AU_EL^AT_EX.

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 `lwarfpmk 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 `lwarfpmk 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, `lwarfpmk` verifies that the HTML version of the document exists and has correct internal image references.¹⁶ If it is necessary to recompile the document’s HTML version one more time, `lwarfpmk` 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 L^AT_EX 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.

Expressing math as SVG images has the advantage of representing the math exactly as L^AT_EX would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, lwarf uses an MD5 hash on its L^AT_EX 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.

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.)

¹⁶This becomes important when dealing with a document containing thousands of images.

Changes do not seem to be taking effect:

- Be sure to l warpmk 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

\tracingl warp When \tracingl warp is used, l warp will add extra tracing messages to the .log file. The last several messages may help track down errors.

Place \tracingl warp just after \usepackage{l warp} to activate tracing.

13.3 Compiling the l warp.dtx file

l warp_tutorial.tex: Copy or link l warp_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 l warp.sty file:

1. Delete the l warp.sty file.
2. Enter **pdflatex l warp.ins** to generate a new l warp.sty file.
3. Enter **pdflatex l warp.dtx** to recompile the l warp.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 crude 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	L <small>A</small> T <small>E</small> X 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	
subparagraph	5	
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 178.

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 `lwarf` 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 `lwarf` package.

line numbers The small numbers at the left end of a line refer to line numbers in the `lwarf.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

index entries command 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 generation of HTML, print, or both forms of output.

for PRINT output:

for HTML & PRINT:

18 Detecting the **TEX** engine — *pdflatex*, *lualatex*, *xelatex*

See: <http://tex.stackexchange.com/a/47579>.

Detects XETEX and LUALXETEX:

```

1 \RequirePackage{iftex}[2019/11/07]
2
3 \newif\ifxetexorluate
4
5 \ifXeTeX
6     \xetexorluatetrue
7 \else
8     \ifLuaTeX
9         \xetexorluatetrue
10    \else
11        \xetexorluatefalse
12    \fi
13 \fi

```

19 Early package requirements

Pkg `etoolbox` Provides `\ifbool` and other functions.

Pkg `xpatch` Patches macros with optional arguments.

```

14 \RequirePackage{etoolbox}[2011/01/03]%
15 \RequirePackage{xpatch}

```

Pkg `ifplatform` Provides `\ifwindows` to try to automatically detect WINDOWS OS.

```
16 \RequirePackage{ifplatform}%

```

Pkg `letltxmacro`

```
17 \RequirePackage{letltxmacro}
```

20 Package load order

Several packages must never be used with `l warp`, others should only be loaded before `l warp`, and others should only be loaded after. The `l warp` core checks most of these cases. In some `l warp-*` packages, `\LWR@loadbefore` is used to trigger an error if they are loaded after `l warp`, while additional code provides necessary patches for when they are loaded before.

Packages which must be loaded after `l warp` are enfoed 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 lwarf.

20.1 Tests of package load order

\LWR@loadafter {*packagename*} Error if this package was loaded before lwarf.

```

18 \newcommand*{\LWR@loadafter}[1]{%
19 \@ifpackageloaded{#1}%
20 {%
21     \PackageError{lwarf}%
22     {%
23         Package #1,\MessageBreak
24         or one which uses #1,\MessageBreak
25         must be loaded after Lwarp.\MessageBreak
26         Enter 'H' for possible solutions%
27     }%
28     {Move ``\protect\usepackage{#1}'' after
29      ``\protect\usepackage{lwarf}''.\MessageBreak
30      Package #1 may also be loaded by something else,\MessageBreak
31      which must also be moved after Lwarp.}%
32 }%
33 {}%
34 }
```

\LWR@notmemoirloadafter {*packagename*} Error if not memoir class and this package was loaded before lwarf.

memoir emulates many packages, and pretends that they have already been loaded.

```

35 \@ifclassloaded{memoir}%
36 {\newcommand*{\LWR@notmemoirloadafter}[1]{}}
37 {\LetLtxMacro{\LWR@notmemoirloadafter}{\LWR@loadafter}}
```

\LWR@notltjloadafter {*packagename*} Error if not a ltjs* class and this package was loaded before lwarf.

```

38 \LetLtxMacro{\LWR@notltjloadafter}{\LWR@loadafter}
39
40 \@ifclassloaded{ltjarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
41 \@ifclassloaded{ltjbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
42 \@ifclassloaded{ltjreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
43 \@ifclassloaded{ltjsarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
44 \@ifclassloaded{ltjsbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
45 \@ifclassloaded{ltjsreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
46 \@ifclassloaded{ltjspf}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
47 \@ifclassloaded{ltjskiyou}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
48 \@ifclassloaded{ltjarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
49 \@ifclassloaded{ltjbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
50 \@ifclassloaded{ltjreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
```

\LWR@loadbefore {*packagename*} Error if this package is loaded after lwarf.

```

51 \newcommand*{\LWR@Loadbefore}[1]{%
52 \@ifpackageloaded{#1}%
53 {}%
54 {%
55   \PackageError{lwarf}%
56   {%
57     Package #1 must be loaded before lwarf.\MessageBreak
58     Enter 'H' for possible solutions%
59   }%
60   {Move ``\protect\usepackage{#1}'' before ``\protect\usepackage{lwarf}''.%}
61 }%
62 }
```

\LWR@checkloadbefore {*thispackagename*} {*packagename*}

If package names match, error if it is loaded after lwarf.

```

63 \newcommand*{\LWR@checkloadbefore}[2]{%
64   \edef\LWR@tempone{#1}%
65   \ifdefstring{\LWR@tempone}{#2}{%
66     \LWR@loadbefore{#1}%
67   }%
68 }
```

\LWR@loadnever {*badpackagename*} {*replacementpkgnames*}

The first packages is not supported, so tell the user to use the second instead.

```

69 \newcommand*{\LWR@Loadnever}[2]{%
70 \PackageError{lwarf}%
71 {%
72   Package #1 is not supported\MessageBreak
73   by lwarf's HTML conversion.\MessageBreak
74   Package(s) #2 may be useful instead%
75 }%
76 {%
77   Package #1 might conflict with lwarf in some way,\MessageBreak
78   or is superceded by another package.\MessageBreak
79   For a possible alternative, see package(s) #2.
80 }%
81 }
```

\LWR@checkloadnever {*thispackagename*} {*badpackagename*} {*replacementpkgnames*}

If this package name is the bad packagename, suggest the replacements instead.

```

82 \newcommand*{\LWR@checkloadnever}[3]{%
83   \edef\LWR@tempone{#1}%
84   \ifdefstring{\LWR@tempone}{#2}{%
85     \LWR@loadnever{#2}{#3}%
86   }%
```

```
87 }
```

```
\LWR@earlyloadnever {\langle badpackagename \rangle} {\langle replacementpkgnname \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`.

```
88 \newcommand*{\LWR@earlyloadnever}[2]{%
89     \@ifpackageloaded{#1}{%
90         \LWR@loadnever{#1}{#2}%
91     }{}%
92 }
```

```
\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`.

```
93 \newcommand*{\LWR@earlyclassloadnever}[2]{%
94 \@ifclassloaded{#1}{%
95 \PackageError{lwarp}%
96 {%
97     Class #1 is not supported.\MessageBreak
98     by lwarp's HTML conversion.\MessageBreak
99     Class(es) #2 may be useful instead
100 }%
101 {%
102     Class #1 might conflict with lwarp in some way, \MessageBreak
103     or is superceded by another class.\MessageBreak
104     For a possible alternative, see class(es) #2.
105 }%
106 }{}%
107 }
```

20.2 Error for disallowed packages and classes loaded before `lwarp`

```
108 \LWR@earlyclassloadnever{jarticle}{ujarticle}
109 \LWR@earlyclassloadnever{jbook}{ujbook}
110 \LWR@earlyclassloadnever{jreport}{ujreport}
111 \LWR@earlyclassloadnever{tarticle}{utarticle}
112 \LWR@earlyclassloadnever{tbook}{utbook}
113 \LWR@earlyclassloadnever{treport}{utreport}
114 \LWR@earlyloadnever{ae}{cm-super, lmodern}
115 \LWR@earlyloadnever{aecompl}{cm-super, lmodern}
116 \LWR@earlyloadnever{aecc}{cm-super, lmodern}
117 \LWR@earlyloadnever{alg}{algorithm2e, algorithmicx}
118 \LWR@earlyloadnever{algorithmic}{algorithm2e, algorithmicx}
119 \LWR@earlyloadnever{bitfield}{bytefield}
120 \LWR@earlyloadnever{caption2}{caption}
121 % \LWR@earlyloadnever{ccaption}{caption} might be preloaded by memoir
122 \LWR@earlyloadnever{colortab}{colortbl}
123 \LWR@earlyloadnever{doublespace}{setspace}
```

```

124 \LWR@earlyloadnever{epsf}{graphicx}
125 \LWR@earlyloadnever{fancyheadings}{fancyhdr}
126 \LWR@earlyloadnever{fncylab}{cleveref}
127 \LWR@earlyloadnever{formula}{siunitx}
128 \LWR@earlyloadnever{glossary}{glossaries}
129 \LWR@earlyloadnever{hyper}{hyperref}
130 \LWR@earlyloadnever{newthm}{ntheorem}
131 \LWR@earlyloadnever{pdfcprot}{microtype}
132 \LWR@earlyloadnever{picinpar}{floatflt, wrapfig}
133 \LWR@earlyloadnever{picins}{floatflt, wrapfig}
134 \LWR@earlyloadnever{rplain}{fancyhdr}
135 \LWR@earlyloadnever{shadethm}{mdframed}
136 \LWR@earlyloadnever{si}{siunitx}
137 \LWR@earlyloadnever{sistyle}{siunitx}
138 \LWR@earlyloadnever{slashbox}{diagbox}
139 \LWR@earlyloadnever{statex}{statex2}
140 \LWR@earlyloadnever{t1enc}{fontenc, inputenc, inputenx}
141 \LWR@earlyloadnever{ucs}{inputenc, inputencx}
142 \LWR@earlyloadnever{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}

```

The older CJK and CJKutf8 only work with xeCJK:

```

143 \@ifpackageloaded{xeCJK}{}{
144     \LWR@earlyloadnever{CJK}{ctex, xeCJK}
145     \LWR@earlyloadnever{CJKutf8}{ctex, xecjk}
146 }

```

bxcjkatype is based on CJK:

```
147 \LWR@earlyloadnever{bxcjkjatype}{upLaTeX, bxjsarticle, ujarticle, utarticle}
```

hangul is not in TeXLive, and is not tested:

```
148 \LWR@earlyloadnever{hangul}{kotex, xetexko, luatexko}
```

20.3 Enforcing package loading after l warp

Packages which should only be loaded after l warp are tested here to trip an error if they have already been loaded.

The following packages must be loaded after l warp:

```

149 \LWR@loadafter{2in1}
150 \LWR@loadafter{2up}
151 \LWR@loadafter{a4}
152 \LWR@loadafter{a4wide}
153 \LWR@loadafter{a5comb}
154 \LWR@notmemoirloadafter{abstract}
155 \LWR@loadafter{academicons}
156 \LWR@loadafter{accessibility}
157 \LWR@loadafter{accsupp}
158 \LWR@loadafter{acro}
159 \LWR@loadafter{acronym}
160 \LWR@loadafter{adjmulticol}

```

```
161 \LWR@loadaft{addlines}
162 \LWR@loadaft{afterpage}
163 \LWR@loadaft{algorithm2e}
164 \LWR@loadaft{algorithmicx}
165 \LWR@loadaft{alltt}
166 \LWR@loadaft{amsmath}
167 \LWR@loadaft{amsthm}
168 \LWR@loadaft{anonchap}
169 \LWR@loadaft{any size}
170 \LWR@notmemoirloadaft{appendix}
171 \LWR@loadaft{ar}
172 \LWR@loadaft{arabicfront}
173 \LWR@notmemoirloadaft{array}
174 \LWR@loadaft{arydshln}
175 \LWR@loadaft{asymptote}
176 % \LWR@loadaft{atbegshi} used by morewrites
177 \LWR@loadaft{attachfile}
178 \LWR@loadaft{attachfile2}
179 \LWR@loadaft{authblk}
180 \LWR@loadaft{autobreak}
181 \LWR@loadaft{autonum}
182 \LWR@loadaft{awesomebox}
183 \LWR@loadaft{axessibility}
184 \LWR@loadaft{axodraw2}
185 \LWR@loadaft{backnaur}
186 \LWR@loadaft{backref}
187 \LWR@loadaft{balance}
188 \LWR@loadaft{bbding}
189 \LWR@loadaft{bigdelim}
190 \LWR@loadaft{bigfoot}
191 \LWR@loadaft{bigstrut}
192 \LWR@loadaft{bitpattern}
193 \LWR@loadaft{blowup}
194 \LWR@loadaft{bm}
195 \LWR@loadaft{booklet}
196 \LWR@loadaft{bookmark}
197 \LWR@notmemoirloadaft{booktabs}
198 \LWR@loadaft{bophook}
199 \LWR@loadaft{bounddvi}
200 \LWR@loadaft{boxedminipage}
201 \LWR@loadaft{boxedminipage2e}
202 \LWR@loadaft{braket}
203 \LWR@loadaft{breakurl}
204 \LWR@loadaft{breqn}
205 \LWR@loadaft{bsheaders}
206 \LWR@loadaft{bxpapersize}
207 \LWR@loadaft{bytefield}
208 \LWR@loadaft{cancel}
209 \LWR@loadaft{canoniclayout}
210 \LWR@loadaft{caption}
211 \LWR@loadaft{caption2}
212 \LWR@loadaft{cases}
213 % catoptions is supported by the lwarp core
214 % \LWR@loadaft{ccaption} may be preloaded by memoir
215 \LWR@loadaft{centernot}
```

```
216 \LWR@loadafter{changebar}
217 \LWR@loadafter{changelayout}
218 \LWR@notmemoirloadafter{changepage}
219 \LWR@loadafter{changes}
220 \LWR@loadafter{chappg}
221 \LWR@loadafter{chapterbib}
222 \LWR@loadafter{chemfig}
223 \LWR@loadafter{chemformula}
224 \LWR@loadafter{chemgreek}
225 \LWR@loadafter{chemmacros}
226 \LWR@loadafter{chemnum}
227 \LWR@loadafter{chkfloat}
228 \LWR@notmemoirloadafter{chngpage}
229 \LWR@loadafter{cite}
230 \LWR@loadafter{cmdtrack}
231 \LWR@loadafter{colonequals}
232 \LWR@loadafter{color}
233 \LWR@loadafter{colortbl}
234 \LWR@loadafter{continue}
235 \LWR@loadafter{copyrightbox}
236 \LWR@notmemoirloadafter{crop}
237 % ctex must be loaded before lwarp
238 \LWR@loadafter{ctable}
239 \LWR@loadafter{cuted}
240 \LWR@loadafter{cutwin}
241 \LWR@loadafter{dblfloatfix}
242 \LWR@loadafter{dblfnote}
243 \LWR@notmemoirloadafter{dcolumn}
244 \LWR@loadafter{decimal}
245 \LWR@loadafter{diagbox}
246 \LWR@loadafter{dingbat}
247 \LWR@loadafter{DotArrow}
248 \LWR@loadafter{dotlessi}
249 \LWR@loadafter{dprogress}
250 \LWR@loadafter{draftcopy}
251 \LWR@loadafter{draftfigure}
252 \LWR@loadafter{draftwatermark}
253 \LWR@loadafter{easy-todo}
254 \LWR@loadafter{ebook}
255 \LWR@loadafter{econometrics}
256 \LWR@loadafter{ed}
257 \LWR@loadafter{ellipsis}
258 \LWR@loadafter{embrac}
259 \LWR@loadafter{emptypage}
260 \LWR@loadafter{endfloat}
261 \LWR@loadafter{endheads}
262 \LWR@loadafter{endnotes}
263 \LWR@loadafter{engtlc}
264 \LWR@notmemoirloadafter{enumerate}
265 \LWR@loadafter{enumitem}
266 \LWR@notmemoirloadafter{epigraph}
267 \LWR@loadafter{epsfig}
268 \LWR@loadafter{epstopdf}
269 \LWR@loadafter{epstopdf-base}
270 \LWR@loadafter{eqlist}
```

```
271 \LWR@loadafter{eqparbox}
272 \LWR@loadafter{errata}
273 \LWR@loadafter{eso-pic}
274 \LWR@loadafter{etoc}
275 \LWR@loadafter{eurosym}
276 \LWR@loadafter{everypage}
277 \LWR@loadafter{everyshi}
278 \LWR@loadafter{extarrows}
279 \LWR@loadafter{extramarks}
280 \LWR@loadafter{fancybox}
281 \LWR@loadafter{fancyhdr}
282 \LWR@loadafter{fancyref}
283 \LWR@loadafter{fancytabs}
284 \LWR@loadafter{fancyvrb}
285 \LWR@loadafter{fewerfloatpages}
286 \LWR@loadafter{figcaps}
287 \LWR@loadafter{figsize}
288 \LWR@loadafter{fitbox}
289 \LWR@loadafter{fix2col}
290 \LWR@loadafter{fixme}
291 \LWR@loadafter{fixmetodonotes}
292 \LWR@loadafter{flafter}
293 \LWR@loadafter{flippdf}
294 \LWR@loadafter{float}
295 \LWR@loadafter{floatflt}
296 \LWR@loadafter{floatpag}
297 \LWR@loadafter{floatrow}
298 \LWR@loadafter{fltrace}
299 \LWR@loadafter{flushend}
300 \LWR@loadafter{fnbreak}
301 \LWR@loadafter{fncychap}
302 \LWR@loadafter{fnlineno}
303 \LWR@loadafter{fnpara}
304 \LWR@loadafter{fnpos}
305 \LWR@loadafter{fontawesome}
306 \LWR@loadafter{fontawesome5}
307 % fontenc must be loaded before lwarp
308 % fontspec must be loaded before lwarp
309 \LWR@loadafter{footmisc}
310 \LWR@loadafter{footnote}
311 \LWR@loadafter{footnotebackref}
312 \LWR@loadafter{footnotehyper}
313 \LWR@loadafter{footnoterange}
314 \LWR@loadafter{footnpag}
315 \LWR@loadafter{foreign}
316 \LWR@loadafter{forest}
317 \LWR@loadafter{fouridx}
318 \LWR@loadafter{framed}
319 \LWR@loadafter{ftcap}
320 \LWR@loadafter{ftnright}
321 \LWR@loadafter{fullminipage}
322 \LWR@loadafter{fullpage}
323 \LWR@loadafter{fullwidth}
324 \LWR@loadafter{fwlw}
325 \LWR@loadafter{gensymb}
```

```
326 \LWR@loadaft er{gentombow}
327 % geometry is always loaded by l warp, and l warp-geometry is AtBeginDocument
328 \LWR@loadaft er{ghsystem}
329 \LWR@loadaft er{glossaries}
330 \LWR@loadaft er{gmeometric}
331 % \LWR@loadaft er{graphics}% pre-loaded by xunicode
332 % \LWR@loadaft er{graphicx}% pre-loaded by xunicode
333 \LWR@loadaft er{gloss}
334 \LWR@loadaft er{glossary}
335 \LWR@loadaft er{grffile}
336 \LWR@loadaft er{grid}
337 \LWR@loadaft er{grid-system}
338 \LWR@loadaft er{gridset}
339 \LWR@loadaft er{hang}
340 \LWR@loadaft er{hanging}
341 \LWR@loadaft er{hhline}
342 \LWR@loadaft er{hypbmsec}
343 \LWR@loadaft er{hypcap}
344 \LWR@loadaft er{hypdestopt}
345 \LWR@loadaft er{hypernat}
346 \LWR@loadaft er{hyperref}
347 \LWR@loadaft er{hyperxmp}
348 \LWR@loadaft er{hyphenat}
349 \LWR@loadaft er{idxlayout}
350 \LWR@loadaft er{ifoddpage}
351 \LWR@loadaft er{imakeidx}
352 \LWR@notmemoirloadaft er{index}
353 % inputenc must be loaded before l warp
354 % inputenx must be loaded before l warp
355 % inputtrc may be loaded before l warp
356 \LWR@loadaft er{intopdf}
357 \LWR@loadaft er{karnaugh-map}
358 \LWR@loadaft er{keyfloat}
359 \LWR@loadaft er{layaureo}
360 \LWR@loadaft er{layout}
361 \LWR@loadaft er{layouts}
362 \LWR@loadaft er{leading}
363 \LWR@loadaft er{leftidx}
364 \LWR@loadaft er{letterspace}
365 \LWR@loadaft er{lettrine}
366 \LWR@loadaft er{lineno}
367 \LWR@loadaft er{lips}
368 \LWR@loadaft er{listings}
369 \LWR@loadaft er{listliketab}
370 \LWR@loadaft er{longtable}
371 \LWR@loadaft er{lscape}
372 \LWR@loadaft er{ltablex}
373 \LWR@loadaft er{ltcaption}
374 \LWR@loadaft er{ltxgrid}
375 \LWR@loadaft er{ltxtable}
376 \LWR@loadaft er{lua-check-hyphen}
377 \LWR@loadaft er{lua-visual-debug}
378 \LWR@loadaft er{luacolor}
379 \LWR@loadaft er{luamplib}
380 \LWR@loadaft er{luatodonotes}
```

```
381 \LWR@loadafter{lyluatex}
382 \LWR@loadafter{magaz}
383 \LWR@notmemoirloadafter{makeidx}
384 \LWR@loadafter{manyfoot}
385 \LWR@loadafter{marginfit}
386 \LWR@loadafter{marginfix}
387 \LWR@loadafter{marginnote}
388 \LWR@loadafter{marvosym}
389 \LWR@loadafter{mathcomp}
390 \LWR@Loadafter{mathdots}
391 \LWR@loadafter{mathfixs}
392 \LWR@loadafter{mathtools}
393 \LWR@loadafter{mcaption}
394 \LWR@loadafter{mdframed}
395 \LWR@loadafter{media9}
396 \LWR@loadafter{memhfixc}
397 \LWR@loadafter{metalogo}
398 \LWR@loadafter{metalogox}
399 \LWR@loadafter{mhchem}
400 \LWR@loadafter{microtype}
401 \LWR@loadafter{midfloat}
402 \LWR@loadafter{midpage}
403 \LWR@loadafter{minibox}
404 \LWR@loadafter{minitoc}
405 \LWR@loadafter{mismath}
406 % morefloats must be allowed early for print mode
407 \LWR@notmemoirloadafter{moreverb}
408 % morewrites must be loaded before lwarp
409 \LWR@notmemoirloadafter{movie15}
410 \LWR@notmemoirloadafter{mparhack}
411 \LWR@loadafter{multicap}
412 \% \LWR@loadafter{multicol} \% loaded by ltxdoc
413 \LWR@loadafter{multicolrule}
414 \LWR@loadafter{multimedia}
415 \LWR@loadafter{multiobjective}
416 \LWR@loadafter{multirow}
417 \LWR@loadafter{multitoc}
418 \LWR@loadafter{musicography}
419 \LWR@loadafter{nameauth}
420 \LWR@loadafter{nameref}
421 \LWR@loadafter{natbib}
422 \LWR@notmemoirloadafter{nccfancyhdr}
423 \LWR@loadafter{nccfoots}
424 \LWR@loadafter{nccmath}
425 \LWR@notmemoirloadafter{needspace}
426 % newclude must be loaded before lwarp
427 \LWR@loadafter{newtxmath}
428 % newunicodechar must be loaded before lwarp
429 \LWR@notmemoirloadafter{nextpage}
430 \LWR@loadafter{nicefrac}
431 \LWR@loadafter{niceframe}
432 \LWR@loadafter{noitcrl}
433 \LWR@loadafter{nolbreaks}
434 \LWR@loadafter{nomencl}
435 \LWR@loadafter{nonfloat}
```

```
436 \LWR@loadaft{nonumonpart}
437 \LWR@loadaft{nopageno}
438 \LWR@loadaft{notes}
439 \LWR@loadaft{notespages}
440 \LWR@loadaft{nowidow}
441 \LWR@loadaft{ntheorem}
442 \LWR@loadaft{octave}
443 \LWR@loadaft{overpic}
444 \LWR@loadaft{pagegrid}
445 \LWR@notmemoirloadaft{pagenote}
446 \LWR@loadaft{pagesel}
447 \LWR@loadaft{paralist}
448 \LWR@loadaft{parallel}
449 \LWR@loadaft{parcolumns}
450 \LWR@loadaft{parnotes}
451 \LWR@notmemoirloadaft{parskip}
452 \LWR@loadaft{pbox}
453 \LWR@loadaft{pdfcol}
454 \LWR@loadaft{pdfcolfoot}
455 \LWR@loadaft{pdfcolmk}
456 \LWR@loadaft{pdfcolparallel}
457 \LWR@loadaft{pdfcolparcolumns}
458 \LWR@loadaft{pdfcomment}
459 \LWR@loadaft{pdfcrypt}
460 \LWR@loadaft{pdflandscape}
461 \LWR@loadaft{pdfmarginpar}
462 \LWR@loadaft{pdfpages}
463 \LWR@loadaft{pdfprivacy}
464 \LWR@loadaft{pdfrender}
465 \LWR@loadaft{pdfsync}
466 \LWR@loadaft{pdftricks}
467 \LWR@loadaft{pdffd}
468 \LWR@loadaft{perpage}
469 \LWR@loadaft{pfnote}
470 \LWR@loadaft{phfqt}
471 \LWR@loadaft{physics}
472 \LWR@loadaft{physunits}
473 \LWR@loadaft{pifont}
474 \LWR@loadaft{placeins}
475 \LWR@loadaft{plarray}
476 \LWR@loadaft{plarydshln}
477 \LWR@loadaft{plexarray}
478 \LWR@loadaft{plexarydshln}
479 \LWR@loadaft{plcolortbl}
480 \LWR@loadaft{plextdelarray}
481 \LWR@loadaft{prelim2e}
482 \LWR@loadaft{prettyref}
483 \LWR@loadaft{preview}
484 \LWR@loadaft{psfrag}
485 \LWR@loadaft{psfragx}
486 \LWR@loadaft{pst-eps}
487 \LWR@loadaft{pstool}
488 \LWR@loadaft{pstricks}
489 % \LWR@loadaft{pxatbegshi} may be used by morewrites
490 \LWR@loadaft{pxeveryshi}
```

```
491 \LWR@loadafter{pxftnright}
492 \LWR@loadafter{pxjahyper}
493 \LWR@loadafter{quotchap}
494 \LWR@loadafter{quoting}
495 \LWR@loadafter{ragged2e}
496 \LWR@loadafter{realscripts}
497 \LWR@loadafter{refcheck}
498 \LWR@loadafter{register}
499 \LWR@loadafter{relsize}
500 \LWR@loadafter{repeatindex}
501 \LWR@loadafter{resizegather}
502 \LWR@loadafter{returntogram}
503 \LWR@loadafter{rmathbr}
504 \LWR@loadafter{rmpage}
505 \LWR@loadafter{romanbar}
506 \LWR@loadafter{romanbarpagename}
507 \LWR@loadafter{rotating}
508 \LWR@loadafter{rotfloat}
509 \LWR@loadafter{rviewport}
510 \LWR@loadafter{savetrees}
511 % scalefnt is loaded by babel-french
512 \LWR@loadafter{schemata}
513 \LWR@loadafter{scrextend}
514 \LWR@loadafter{scrhack}
515 \LWR@loadafter{scrlayer}
516 \LWR@loadafter{scrlayer-notecolumn}
517 \LWR@loadafter{scrlayer-scrpage}
518 \LWR@loadafter{scrpage2}
519 \LWR@loadafter{section}
520 \LWR@loadafter{sectionbreak}
521 \LWR@loadafter{sectsty}
522 \LWR@loadafter{semantic-markup}
523 \LWR@notmemoirloadafter{setspace}
524 \LWR@loadafter{shadow}
525 \LWR@loadafter{shapepar}
526 \LWR@notmemoirloadafter{showidx}
527 \LWR@loadafter{showkeys}
528 \LWR@loadafter{showtags}
529 \LWR@loadafter{sidecap}
530 \LWR@loadafter{sidenotes}
531 \LWR@loadafter{SIunits}
532 \LWR@loadafter{siumitx}
533 \LWR@loadafter{slantsc}
534 \LWR@loadafter{slashed}
535 \LWR@loadafter{soul}
536 \LWR@loadafter{soulpos}
537 \LWR@loadafter{soulutf8}
538 \LWR@loadafter{splitidx}
539 \LWR@loadafter{srcltx}
540 \LWR@loadafter{srctex}
541 \LWR@loadafter{stabular}
542 \LWR@loadafter{stackengine}
543 \LWR@loadafter{stackrel}
544 \LWR@loadafter{statex2}
545 \LWR@loadafter{statmath}
```

```
546 \LWR@loadafter{steinmetz}
547 \LWR@notltjloadafter{stfloats}
548 \LWR@loadafter{struktex}
549 \LWR@loadafter{subcaption}
550 \LWR@loadafter{subfig}
551 \LWR@loadafter{subfigure}
552 \LWR@loadafter{subsubscripts}
553 \LWR@loadafter{supertabular}
554 \LWR@loadafter{svg}
555 \LWR@loadafter{syntonly}
556 \LWR@loadafter{t1inc}
557 \LWR@loadafter{tabfigures}
558 \LWR@loadafter{tbls}
559 \LWR@loadafter{tablefootnote}
560 \LWR@notmemoirloadafter{tabularx}
561 \LWR@loadafter{tabulary}
562 \LWR@loadafter{tascmac}
563 \LWR@loadafter{tagpdf}
564 \LWR@loadafter{textarea}
565 % \LWR@loadafter{textcomp}% maybe before lwarp with font packages
566 \LWR@loadafter{textfit}
567 \LWR@loadafter{textpos}
568 \LWR@loadafter{theorem}
569 \LWR@loadafter{thinsp}
570 \LWR@loadafter{threadcol}
571 \LWR@loadafter{threeparttable}
572 \LWR@loadafter{threepartflex}
573 \LWR@loadafter{thumb}
574 \LWR@loadafter{thumbs}
575 \LWR@loadafter{tikz}
576 \LWR@loadafter{titleps}
577 \LWR@loadafter{titlesec}
578 \LWR@loadafter{titletoc}
579 \LWR@notmemoirloadafter{titling}
580 % \LWR@loadafter{tocbasic}% preloaded by koma-script classes
581 \LWR@notmemoirloadafter{tocbibind}
582 \LWR@loadafter{tocdata}
583 \LWR@loadafter{toccenter}
584 \LWR@notmemoirloadafter{tocloft}
585 \LWR@loadafter{tocstyle}
586 \LWR@loadafter{todo}
587 \LWR@loadafter{todonotes}
588 \LWR@loadafter{topcapt}
589 \LWR@loadafter{tram}
590 \LWR@loadafter{transparent}
591 \LWR@loadafter{trimclip}
592 \LWR@loadafter{trivfloat}
593 \LWR@loadafter{truncate}
594 \LWR@loadafter{turnthepage}
595 \LWR@loadafter{twooup}

596 % \LWR@loadafter{typearea}% preloaded by koma-script classes
597 \LWR@loadafter{typicons}
598 % \LWR@loadafter{ulem}% preloaded by ctexart and related classes
599 \LWR@loadafter{umoline}
```

```

600 \LWR@loadafters{underscore}
601 \LWR@loadafters{unicode-math}
602 \LWR@loadafters{units}
603 \LWR@loadafters{unitsdef}
604 \LWR@loadafters{upref}
605 \LWR@loadafters{url}
606 \LWR@loadafters{uspace}
607 \LWR@loadafters{varioreref}% no lwarp package provided
608 \LWR@notmemoirloadafters{verse}
609 \LWR@loadafters{versonotes}
610 \LWR@loadafters{vertbars}
611 \LWR@loadafters{vmargin}
612 \LWR@loadafters{vowel}
613 \LWR@loadafters{vpe}
614 \LWR@loadafters{vwcol}
615 \LWR@loadafters{wallpaper}
616 \LWR@loadafters{watermark}
617 \LWR@loadafters{widetable}
618 \LWR@loadafters{widows-and-orphans}
619 \LWR@loadafters{witharrows}
620 \LWR@loadafters{wrapfig}
621 \LWR@loadafters{xbmks}
622 \LWR@loadafters{xcolor}
623 \LWR@loadafters{xchangebar}
624 \LWR@loadafters{xellipsis}
625 % xetexko-vertical must be loaded before lwarp
626 \LWR@loadafters{xfakebold}
627 \LWR@loadafters{xfrac}
628 \LWR@loadafters{xltabular}
629 \LWR@loadafters{xltxtra}
630 \LWR@loadafters{xmpincl}
631 \LWR@loadafters{xpiano}
632 \LWR@loadafters{xpinyin}
633 \LWR@loadafters{xr}
634 \LWR@loadafters{xr-hyper}
635 \LWR@loadafters{xtab}
636 % xunicode must be loaded before lwarp
637 \LWR@loadafters{xurl}
638 \LWR@loadafters{xy}
639 \LWR@loadafters{zwpagelayout}

```

21 MD5 hashing

The MD5 hash is used for `lateximage` filenames for SVG math.

```

640 \newcommand{\LWR@mdfive}[1]{%
641     \PackageError{lwarp}%
642         {No MD5 macro was found}%
643         {%
644             Lwarp must find the macros \protect\pdfmdfivesum\space
645             or \protect\mdfivesum.%%
646         }%
647 }

```

The default for pdfLATEX, dviLATEX, upLATEX, etc:

```
648 \let\LWR@mdfive\pdfmdfivesum
```

For LuaLATEX:

```
649 \ifLuaTeX
650 \RequirePackage{pdftexcmds}
651 \let\LWR@mdfive\pdf@mdfivesum
652 \fi
```

For XeLATEX:

```
653 \ifXeTeX
654 \@ifundefined{pdffivesum}{}%
655   {\let\LWR@mdfive\pdfmdfivesum}
656 \@ifundefined{mdfivesum}{}%
657   {\let\LWR@mdfive\mdfivesum}
658 \fi
```

22 pdfLATEX T1 and UTF-8 encoding

When using pdfLATEX, 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.

XeLATEX and LuaLATEX are both UTF-8 by nature.

\LWR@pdfencoding Sets T1, and also utf8 if not already set.

```
659 \newcommand*{\LWR@pdfencoding}{%
660   \RequirePackage[T1]{fontenc}
661
662   \@ifpackageloaded{inputenc}{}{
663     \@ifpackageloaded{inputenx}{}{
664       \RequirePackage[utf8]{inputenc}
665     }
666   }
667 }

668 \ifPDFTeX% pdflatex or dvi latex
669   \LWR@pdfencoding
670 \fi
671
672 \ifpTeX
673   \LWR@pdfencoding
674 \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 \texttt{textrm}.

The first arguments of \newunicodechar below are text ligatures in the source code, even though they are not printed in the following listing.

```

675 \ifpdfTeX
676 \else
677 \RequirePackage{newunicodechar}
678
679 \newunicodechar{x}{\texttimes}
680
681 \ifPDFTeX% pdflatex or dvi latex
682 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
683 \newunicodechar{fi}{fi}
684 \newunicodechar{fl}{fl}
685 \newunicodechar{ffi}{ffi}
686 \newunicodechar{ffl}{ffl}
687 \newunicodechar{--}{---}
688 \newunicodechar{--}{--}
689 \fi
690
691 \fi

```

24 Avoid a bitmapped font

If DVI or PDF 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.

```

692 \ifxetexorluatex
693 \else
694   \ifdefstring{\f@family}{cmr}%
695     \IfFileExists{type1ec.sty}% found in cm-super
696     {}
697     {% cm-super not installed
698       \IfFileExists{lmodern.sty}%
699         \PackageInfo{lwarp}{cm-super not installed, loading lmodern}
700         \RequirePackage{lmodern}
701       }%
702       \PackageError{lwarp}%
703     {%
704       Lwarp requires a vector font.\MessageBreak
705       Install and load cm-super, lmodern, or another\MessageBreak
706       Type-1 vector font before loading lwarp.\MessageBreak
707       Enter 'H' for possible solutions%
708     }%
709   {%

```

```

710           Install cm-super or lmodern.\MessageBreak
711           If lmodern, load it before l warp:\MessageBreak
712               \space\space\protect\usepackage{lmodern}\MessageBreak
713               \space\space\protect\usepackage{l warp}%
714           }
715       }
716   }% cm-super not installed
717 }{ }% f@family
718 \fi

```

25 Upright quotes

In PDFTeX, preserve upright quotes in verbatim text. `upquote` also loads `textcomp`.

```

719 \ifPDFTeX
720 \RequirePackage{upquote}
721 \fi
722
723 \ifpTeX
724     \RequirePackage{upquote}
725 \fi

```

26 Miscellaneous tools

26.1 Variables

```

726 \newlength{\LWR@templengthone}
727 \newlength{\LWR@templengthtwo}
728 \newlength{\LWR@templengththree}
729 \newcounter{\LWR@tempcountone}

```

26.2 Lengths and units

`\LWR@providelength {<\lengthname>}` 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.

```

730 \newcommand*\LWR@providelength[1]{%
731     \ifdeflength{#1}{\newlength{#1}}%
732 }

```

`\LWR@convertto {<dest unit>} {<length>}`

Prints a length in the given units, without printing the unit itself.

```

733 \newcommand*{\LWR@convertto}[2][\strip@pt\dimexpr #2*65536/\number\dimexpr 1#1]

```

\LWR@printpercentlength {*smaller*} {*larger*}

Prints a percent ratio of the two lengths.

```
734 \newcommand*{\LWR@printpercentlength}[2]{%
735     \setcounter{LWR@tempcountone}{100*\ratio{#1}{#2}}%
736     \arabic{LWR@tempcountone}%
737 }
```

26.3 Counters

\defaddtocounter {*name*} {*value*}

Locally add to a counter.

```
738 \providecommand*{\defaddtocounter}[2]{%
739     \defcounter{#1}{\value{#1}+#2}%
740 }
```

26.4 Patching

\LWR@patcherror {*packagename*} {*macroname*}

Prints an error if could not patch a macro.

```
741 \newcommand*{\LWR@patcherror}[2]{%
742     \PackageError{lwarp}{%
743         Unable to patch package #1, macro #2.\MessageBreak
744         Lwarp may need to be updated%
745     }%
746     {Please contact the maintainer of the Lwarp package.}%
747 }
748 }
```

26.5 Chinese text isolation

\LWR@isolate {*text*} 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.

```
749 \newcommand{\LWR@isolate}[1]{#1}%
750
751 \@ifpackageloaded{ctexpatch}{%
752     \renewcommand{\LWR@isolate}[1]{\null#1\null}%
753 }{%
754
755 \@ifpackageloaded{xeCJK}{%
756     \renewcommand{\LWR@isolate}[1]{\null#1\null}%
757 }}
```

\LWR@disablepinyin Disable `xpinyin` during file, sidetoc, and footnote generation. Set by `xpinyin`.

```
758 \newcommand*{\LWR@disablepinyin}{}%
```

26.6 Inserting vertical space

\LWR@forceemptyline Extra vertical space in the HTML output. Use after \LWR@stopars.

```
759 \newcommand*{\LWR@forceemptyline}{%
760     \LWR@origrule{0pt}{1\baselineskip}%
761     \LWR@orignewline%
762 }
```

26.7 Argument selection

\LWR@firstoffour {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩}

\LWR@secondoffour {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩}

\LWR@thirdoffour {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩}

\LWR@fourthoffour {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩}

Expands to the nth of the four arguments. Used for extra cross referencing.

```
763 \long\def\LWR@firstoffour#1#2#3#4{#1}
764 \long\def\LWR@secondoffour#1#2#3#4{#2}
765 \long\def\LWR@thirdoffour#1#2#3#4{#3}
766 \long\def\LWR@fourthoffour#1#2#3#4{#4}
```

26.8 Global boxes

\LWR@gsavebox {⟨macroname⟩} {⟨contents⟩}

From <https://tex.stackexchange.com/questions/288702/savebox-forgets-its-content-across-columns-inside-align>

```
767 \DeclareRobustCommand{\LWR@gsavebox}[1]{%
768     \@ifnextchar(%)
769         {\LWR@@gsavepicbox#1}{\@ifnextchar[{\LWR@gsavebox#1}{\LWR@gbox#1}}%
770 \long\def\LWR@gbox#1#2{\global\setbox#1\hbox{%
771     \color@setgroup#2\color@endgroup}}
772 \def\LWR@@gsavebox#1[#2]{%
773     \@ifnextchar [{\LWR@@igsavebox#1[#2]}{\LWR@@igsavebox#1[#2][c]}]
774 \long\def\LWR@@igsavebox#1[#2][#3]{%
775     \LWR@gbox#1{\@imakebox[#2][#3]{#4}}}
776 \def\LWR@gsavepicbox#1(#2,#3){%
```

```

777  \@ifnextchar[%]
778    {\LWR@@igsavepicbox#1(#2,#3){\LWR@@igsavepicbox#1(#2,#3)[]}}
779 \long\def\LWR@@igsavepicbox#1(#2,#3)[#4]#5{%
780   \LWR@gsbox#1{\@imakepicbox(#2,#3)[#4]{#5}}}

```

Env LWR@glrbox {*macroname*}

```

781 \def\LWR@glrbox#1{%
782   \edef\reserved@a{%
783     \endgroup
784     \global\setbox#1\hbox{%
785       \begingroup\aftergroup}%
786       \def\noexpand\@currenvir{\@currenvir}%
787       \def\noexpand\@currenvline{\on@line}%
788     \reserved@a
789     \endpfalse
790     \color@setgroup
791     \ignorespaces}
792 \let\LWR@endglrbox\LWR@endlrbox

```

26.9 Converting a macro name to a cs name

\macro{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>

```

793 \newcommand*{\macro{csname}}[1]{%
794   \ifcat\relax\noexpand#1%
795     \expandafter\expandafter\expandafter\gobble\expandafter\string
796   \fi
797   #1%
798 }

```

27 Operating-System portability

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.

27.1 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:

```
799 \let\LWRpercent\@percentchar
```

The literal \$ character:

```
800 \catcode`\$=12
801 \def\LWRdollar{\$}
802 \catcode`\$=3
```

The literal & character:

```
803 \catcode`\&=12
804 \def\LWRamp{\&}
805 \catcode`\&=4
```

The literal \ character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

```
806 \catcode`\&=0
807 &\catcode`\&=12
808 &\def&\LWRbackslash{\}
809 &\catcode`\&=0
810 \catcode`\&=4
```

The literal { character. The ampersand is temporarily set to the begin group character during the definition of the leftbrace macro.

```
811 \catcode`\&=1
812 \catcode`\{=12
813 \def\LWRleftbrace&{`}
814 \catcode`\{=1
815 \catcode`\&=4
```

The literal } character. The ampersand is temporarily set to the end group character during the definition of the leftbrace macro.

```
816 \catcode`\&=2
817 \catcode`\}=12
818 \def\LWRrightbrace&{`}
819 \catcode`\}=2
820 \catcode`\&=4
```

The literal # character:

```
821 \catcode`\#=12
822 \def\LWRhash{\#}
823 \catcode`\#=6
```

\LWRopquote The operating system's quote mark, UNIX default. For WINDOWS, see \LWR@setOSWindows, below.

824 \def\LWRopquote{'}

\LWRopseq The operating system's sequential execution command, UNIX default. For WINDOWS, see \LWR@setOSWindows, below.

825 \def\LWRopseq{\space\LWRamp\LWRamp\space\space}

27.2 Common portability code

Bool usingOSWindows Set if the OSWindows option is used, or if WINDOWS is automatically detected.

826 \newbool{usingOSWindows}
827 \boolfalse{usingOSWindows}

27.3 UNIX, LINUX, and MAC OS

\OSPathSymbol Symbol used to separate directories in a path.

828 \newcommand*{\OSPathSymbol}{/}

27.4 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.

829 \newcommand*{\LWR@setOSWindows}{
830 {
831 \booltrue{usingOSWindows}
832 \renewcommand*{\OSPathSymbol}{\backslash}
833 \def\LWRopquote{"}
834 \def\LWRopseq{\space\LWRamp\space\space}
835 }

Test for windows during compile. The user may also specify OSWindows package option in case this test fails.

836 \ifwindows
837 \LWR@setOSWindows
838 \fi

28 Package options

Pkg kvoptions Allows key/value package options.

```
839 \RequirePackage{kvoptions}
840 \SetupKeyvalOptions{family=LWR,prefix=LWR@}
```

\lwarpsetup A user interface to set the keys:

```
841 \newcommand{\lwarpsetup}[1]{\setkeys{LWR}{#1}}
```

Bool warpingprint

Bool warpingHTML

Bool mathjax

Bool LWR@origmathjax

Set to true/false depending on the package option selections for print/HTML/EPUB output and mathsvg/mathjax.

LWR@origmathjax remembers the original setting to be restored by \displaymathnormal.

```
842 \newbool{warpingprint}
843 \newbool{warpingHTML}
844 \newbool{mathjax}
845 \newbool{LWR@origmathjax}
```

defaults The default is print output, and svg math if the user chose HTML output.

```
846 \booltrue{warpingprint}%
847 \boolfalse{warpingHTML}%
848 \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.

```
849 \DeclareVoidOption{warpprint}{%
850 \PackageInfo{lwarp}{Using option 'warpprint'}%
851 \booltrue{warpingprint}%
852 \boolfalse{warpingHTML}%
853 }
```

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.

```
854 \DeclareVoidOption{warpHTML}{%
855 \PackageInfo{lwarp}{Using option 'warpHTML'}%
856 \booltrue{warpingHTML}%
857 \boolfalse{warpingprint}%
858 }
```

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.

```
859 \DeclareVoidOption{mathsvg}{%
860 \PackageInfo{lwarf}{Using option 'mathsvg'}%
861 \boolearn{mathjax}%
862 \boolearn{LWR@origmathjax}%

863 }
```

Opt `mathjax` Option `mathjax` selects MATHJAX math display: If the `mathjax` option is given, boolean `mathjax` is true, may be used for `\ifbool` tests.

```
864 \DeclareVoidOption{mathjax}{%
865 \PackageInfo{lwarf}{Using option 'mathjax'}%
866 \boolearn{mathjax}%
867 \boolearn{LWR@origmathjax}%

868 }
```

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.

```
869 \DeclareStringOption[\jobname]{BaseJobname}
```

Opt `ImagesDirectory` Option `ImagesDirectory` sets the name of the directory to use for the `lateximage` images.

Default: `\jobname-images`

```
870 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}
```

Opt `ImagesName` Option `ImagesName` sets the prefix to use for the `lateximage` images.

Default: `image-`

```
871 \DeclareStringOption[image-]{ImagesName}
```

Opt `makeindexStyle` Selects a custom `.ist` file. A customized file should be based on `lwarf.ist`, and must retain the lines related to `\hyperindexref`.

```
872 \DeclareStringOption[lwarf.ist]{makeindexStyle}
```

Opt `xindyStyle` Selects a custom `.xdy` file. A customized file should be based on `lwarf.xdy`, and must retain the line

```
(markup-locref :open "\hyperindexref{" :close "}")
```

```
873 \DeclareStringOption[lwarf.xdy]{xindyStyle}
```

Opt `xindyLanguage` Sets the `xindy` language to be assigned in `lwarfmk`'s configuration files. This is then

Default: `english`

used by *lwarpmk* while processing the index and glossary.

```
874 \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`

```
875 \DeclareStringOption[utf8]{xindyCodepage}
```

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^AT_EX PDF output with HTML tags into a plain-text file with HTML tags.
Default: `UTF-8`

```
876 \DeclareStringOption[UTF-8]{pdftotextEnc}
```

Opt `lwarpmk` Tells `lwarf` 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`:

```
877 \newbool{LWR@creatinglwarpmk}
878 \boolefalse{LWR@creatinglwarpmk}
879
880 \DeclareVoidOption{lwarpmk} {
881 \PackageInfo{lwarf}{Using option 'lwarpmk'}
882 \booltrue{LWR@creatinglwarpmk}
883 }
```

Opt `OSWindows` Tells `lwarf` 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.

```
884 \DeclareVoidOption{OSWindows} {
885 \PackageInfo{lwarf}{Using option 'OSWindows'}
886 \LWR@setOSWindows
887 }
```

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`

```
888 \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>`

```
889 \DeclareStringOption[]{}{HTMLFilename}
```

Opt `PrintLatexCmd` The shell commands to use to compile the print document.
Default: `<automatic>`

```
890 \DeclareStringOption[]{}{PrintLatexCmd}
```

Opt `HTMLLatexCmd` The shell commands to use to compile the `HTML` document.

Default: `<automatic>`

```
891 \DeclareStringOption[]{}{HTMLLatexCmd}
```

Opt `PrintIndexCmd` The shell commands to use to compile the print indexes.

Default: `<empty>`

```
892 \DeclareStringOption[]{}{PrintIndexCmd}
```

Opt `HTMLIndexCmd` The shell commands to use to compile the `HTML` indexes.

Default: `<empty>`

```
893 \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`.

```
894 \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.

```
895 \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.

```
896 \DeclareBoolOption[false]{xindy}
```

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: `makerglossaries`

```
897 \DeclareStringOption[makerglossaries]{GlossaryCmd}
```

Opt `latexmk` Option `latexmk` tells `lwarpmk` to use `latexmk` when compiling documents.

```
898 \DeclareBoolOption[false]{latexmk}
```

Opt `dvips` Option `dvips` tells `lwarpmk` to use `dvips` when compiling DVI `latex` documents.

```
899 \DeclareBoolOption[false]{dvips}
```

Opt `dvipdfm` Option `dvipdfm` tells `lwarpmk` to use `dvipdfm` when compiling DVI `latex` documents.

```
900 \DeclareBoolOption[false]{dvipdfm}
```

Opt dvipdfmx Option *dvipdfmx* tells *lwarfmk* to use *dvipdfmx* when compiling DVI *latex* documents.

```
901 \DeclareBoolOption[false]{dvipdfmx}
```

Execute options Execute the package options, with the defaults which have been set just above:

```
902 \ProcessKeyvalOptions*\relax
```

28.1 Additional options support

Assign the `\BaseJobname` if the user hasn't provided one:

```
903 \providecommand*\BaseJobname{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```
904 \ifcsempty{\LWR@HomeHTMLFilename}{  
905     \newcommand*\HomeHTMLFilename{\BaseJobname}  
906 }{  
907     \csedef{HomeHTMLFilename}{\LWR@HomeHTMLFilename}  
908 }  
909  
910 \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.

```
911 \newcommand*\LWR@sanitized{}{}
```

`\LWR@sanitize {⟨text⟩}`

Sanitizes the text and returns the result in `\LWR@sanitized`.

```
912 \newcommand*\LWR@sanitize[1]{%  
913 \edef\LWR@sanitized{\#1}%  
914 \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%  
915 }
```

Sanitize some string options to neutralize underscores.

```
916 \LWR@sanitize{\LWR@BaseJobname}  
917 \edef\LWR@BaseJobname{\LWR@sanitized}  
918  
919 \LWR@sanitize{\LWR@ImagesDirectory}  
920 \edef\LWR@ImagesDirectory{\LWR@sanitized}  
921  
922 \LWR@sanitize{\LWR@ImagesName}  
923 \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.

```

924 \ifdefempty{\LWR@PrintIndexCmd}{
925     \renewcommand{\LWR@PrintIndexCmd}{%
926         makeindex -s \LWR@makeindexStyle \space \jobname.idx%
927     }
928     \ifbool{\LWR@xindy}{
929         \renewcommand{\LWR@PrintIndexCmd}{%
930             xindy
931             -M \LWR@xindyStyle \space
932             -L \LWR@xindyLanguage \space
933             -C \LWR@xindyCodepage \space
934             \jobname.idx%
935         }
936     }{}
937 }{}
938
939 \ifdefempty{\LWR@HTMLIndexCmd}{
940     \renewcommand{\LWR@HTMLIndexCmd}{%
941         makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
942     }
943     \ifbool{\LWR@xindy}{
944         \renewcommand{\LWR@HTMLIndexCmd}{%
945             xindy
946             -M \LWR@xindyStyle \space
947             -L \LWR@xindyLanguage \space
948             -C \LWR@xindyCodepage \space
949             \jobname_html.idx%
950         }
951     }{}
952 }{}
953
954 \ifdefempty{\LWR@LatexmkIndexCmd}{
955     \renewcommand{\LWR@LatexmkIndexCmd}{%
956         makeindex -s \LWR@makeindexStyle%
957     }
958     \ifbool{\LWR@xindy}{
959         \renewcommand{\LWR@LatexmkIndexCmd}{%
960             xindy
961             -M \LWR@xindyStyle \space
962             -L \LWR@xindyLanguage \space
963             -C \LWR@xindyCodepage%
964         }
965     }{}
966 }{}

```

28.2 Conditional compilation

\warpprintonly {\langle contents \rangle}

Only process the contents if producing printed output.

```
967 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{}}
```

\warpHTMLonly {*contents*}

Only process the contents if producing HTML output.

```
968 \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.

```
969 \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.

```
970 \def\LWR@includecomment
971 #1#2{\message{Lwarp: Including comment '#1'}%
972   \csarg\def{After#1Comment}{\CloseAndInputCutFile}
973   \csarg\def{#1}{\endgroup \message{Including '#1' comment.}%
974     \def\CommentCutFile{comment_{#2}.cut} \SetUpCutFile \ProcessComment{#1}%
975   \CommentEndDef{#1}}
976
977 \def\LWR@excludecomment
978 #1#2{\message{Lwarp: Excluding comment '#1'}%
979   \csarg\def{#1}{\endgroup \message{Excluding '#1' comment.}%
980     \begingroup
981       \def\CommentCutFile{comment_{#2}.cut} \def\ProcessCutFile{}%
982       \def\ThisComment####1{} \ProcessComment{#1}%
983   \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}
984   \CommentEndDef{#1}}
```

Env warpall Anything in the warpall environment will be generated for print or HTML outputs.

```
985 \LWR@includecomment{warpall}{all}
```

Env warpHTML For HTML output:

```
986 \ifbool{warpingHTML}
987   {\LWR@includecomment{warpHTML}{html}}
988   {\LWR@excludecomment{warpHTML}{html}}
```

Env `warpprint` Anything in the `warpprint` environment will be generated for print output only.

```
989 \ifbool{warpingprint}
990     {\LWR@includecomment{warpprint}{print}}
991     {\LWR@excludecomment{warpprint}{print}}
```

Env `warpMathJax` Only if `MATHJAX` is being used along with `HTML`.

```
992 \begin{warpprint}
993 \LWR@excludecomment{warpMathJax}{mathjax}
994 \end{warpprint}
995
996 \begin{warpHTML}
997 \ifbool{mathjax}
998     {\LWR@includecomment{warpMathJax}{mathjax}}
999     {\LWR@excludecomment{warpMathJax}{mathjax}}
1000 \end{warpHTML}
```

Env `LWRcreatelwarpmk` Optionally generate a local copy of `lwarpmk`. Default to no.

```
1001 \ifbool{LWR@creatinglwarpmk}
1002     {\LWR@includecomment{LWRcreatelwarpmk}{lwarpmk}}
1003     {\LWR@excludecomment{LWRcreatelwarpmk}{lwarpmk}}
```

29 Required packages

These packages are automatically loaded by `l warp` when generating `HTML` output. Some of them are also automatically loaded when generating print output, but some are not.

for HTML output: 1004 `\begin{warpHTML}`

Pkg `fontspec` Load `fontspec` if necessary:

```
1005 \ifxetexorluatex
1006 @ifpackageloaded{fontspec}{}{
1007     \usepackage[no-math]{fontspec}
1008 }
```

The monospaced font is used for `HTML` tags, so turn off its TeX ligatures and common ligatures:

```
1009 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
1010 \defaultfontfeatures[\sfamily]{Ligatures={NoCommon,TeX}}
1011 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1012 \else
```

***pdflatex* only:** Only pre-loaded if *pdflatex* is being used.

Pkg `microtype`

ligatures Older browsers don't display ligatures. Turn off letter ligatures, keeping LATEX dash and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```

1013 \RequirePackage {microtype}
1014
1015 \microtypesetup{
1016     protrusion=false,
1017     expansion=false,
1018     tracking=false,
1019     kerning=false,
1020     spacing=false}
1021
1022 \DisableLigatures[f,q,t,T,Q]{encoding = *,family = *}

1023 \fi

1024 \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: 1025 \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.

```

1026 \@ifpackageloaded{geometry}
1027 }{
1028     \RequirePackage[
1029         reset,
1030         paperwidth=\paperwidth,
1031         paperheight=\paperheight,
1032         textwidth=\textwidth,
1033         textheight=\textheight,
1034         left=\oddsidemargin,
1035         top=\topmargin,
1036         marginparsep=\marginparsep,
1037         marginparwidth=\marginparwidth,
1038     ]{geometry}
1039 }
```

Remember the original definitions for later reuse. If the **geometry** package is loaded by the user, **l warp-geometry** will nullify the user-level originals.

```
1040 \LetLtxMacro{\LWR@origgeometry}{\geometry}
1041 \LetLtxMacro{\LWR@orignewgeometry}{\newgeometry}
1042 \LetLtxMacro{\LWR@origrestoregeometry}{\restoregeometry}
1043 \LetLtxMacro{\LWR@origsavegeometry}{\savegeometry}
1044 \LetLtxMacro{\LWR@origloadgeometry}{\loadgeometry}
```

Bool **LWR@allowanothergeometry** **geometry** may be loaded by the user before **l warp**, after **l warp**, or not at all. If before **l warp**, it will have already been loaded by now and its page layout has already been saved. If **geometry** is loaded after **l warp**, 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**, **l warp-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.

```
1045 \newbool{LWR@allowanothergeometry}
1046 \booltrue{LWR@allowanothergeometry}
```

Use **\AtEndPreamble** to avoid class and option conflict by changing settings after other packages load, instead of using **geometry** package options:

```
1047 \AtEndPreamble{
```

Whatever geometry choices the user has made in the preamble, either before or after **l warp** was loaded, are now saved for possible temporary reuse, such as by **lyluatex**.

See the **l warp-geometry** section for what happens if **geometry** is loaded after **l warp**.

```
1048 \LWR@origsavegeometry{\LWR@usergeometry}
```

The user's paper size is saved for later reuse, such as by the **pdfpages** or **parallel** packages.

```
1049 \newlength{\LWR@userspaperwidth}
1050 \setlength{\LWR@userspaperwidth}{\paperwidth}
1051
1052 \newlength{\LWR@userspaperheight}
1053 \setlength{\LWR@userspaperheight}{\paperheight}
1054
1055 \newlength{\LWR@usermarginparwidth}
1056 \setlength{\LWR@usermarginparwidth}{\marginparwidth}
1057
1058 \newlength{\LWR@userstextwidth}
1059 \setlength{\LWR@userstextwidth}{\textwidth}
1060
1061 \newlength{\LWR@userstextheight}
1062 \setlength{\LWR@userstextheight}{\textheight}
```

For **l warp**, use a very large page and margins to help avoid letting **HTML** tags run off the edge:

```

1063 \LWR@origgeometry{
1064     reset,
1065     paperheight=190in,
1066     paperwidth=20in,
1067     left=2in,
1068     right=6in,
1069     top=1in,
1070     bottom=1in,
1071     heightrounded,%  

1072 }

```

The `lwarp` page geometry is saved for future restore:

```
1073 \LWR@origsavegeometry{\LWR@lwarpgeometry}
```

No longer adjust the page layout when `lwarp-geometry` is loaded `\AtBeginDocument`:

```
1074 \boolfalse{\LWR@allowanothergometry} %
```

`ltjsbook` and other classes can print vertically, and require these to be reset by `lwarp`:

```

1075 \setlength{\textheight}{0.8\paperheight}
1076 \setlength{\textwidth}{0.7\paperwidth}
1077
1078 \@twosidefalse
1079 \@mparswitchfalse
1080 }% \AtEndPreamble
1081
1082 \end{warpHTML}

```

for HTML & PRINT: 1083 `\begin{warpall}`

Pkg `xparse`
`LATEX3 command argument parsing`

```
1084 \RequirePackage{xparse}
```

Pkg `calc`
`1085 \RequirePackage{calc}`
`1086 \end{warpall}`

for HTML output: 1087 `\begin{warpHTML}`

Pkg `expl3`
`LATEX3 programming`

```
1088 \RequirePackage{expl3}
```

Pkg `getttitlestring`

Used to emulate \nameref.

```
1089 \RequirePackage{gettitlestring}
```

Pkg everyhook

everyhook is used to patch paragraph handling.

```
1090 \@ifundefined{bxjs@everypar}{}{\let\everypar\bxjs@everypar}
1091
1092 \RequirePackage{everyhook}
1093 \end{warpHTML}
```

for HTML & PRINT: 1094 \begin{warpall}

Pkg filecontents

Used to write helper files while creating the print version.

Recent versions of L^AT_EX (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 L^AT_EX kernel is used, the original **filecontents** package is used, but it is patched to throw away the new optional argument.

```
1095 \@ifundefined{filec@ntents@opt}{% older kernel, discard optional args
1096
1097     \RequirePackage{filecontents}
1098
1099     \LetLtxMacro{\LWR@orig@filec@ntents}{\filec@ntents}
1100
1101     \@ifpackagelater{filecontents}{2011/10/08}
1102     {
```

For a newer version of the **filecontents** package, simply discard the optional argument.

```
1103         \renewcommand*{\filec@ntents}[1][]{\LWR@orig@filec@ntents}
1104     }
1105     {% 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>

```
1106     \newwrite\fcwrite
1107     \renewcommand*{\filec@ntents}[1][]{
1108         \def\chardef##1\write{\let\reserved@c\fcwrite}%
1109         \LWR@orig@filec@ntents%
1110     }
1111 }
1112
1113 }% older kernel
1114 {% newer kernel
```

For a newer kernel with a `filecontents` environment which accepts the optional `overwrite` argument, use the environment as-is.

1115 }% newer kernel, `filecontents` env accepts optional args, do not load package

1116 `\end{warpall}`

for HTML output: 1117 `\begin{warpHTML}`

Pkg `xifthen`

1118 `\RequirePackage{xifthen}`

Pkg `verbatim`

1119 `\RequirePackage{verbatim}`

Pkg `refcount`

Provides `\setcounterref`, `\setcounterpageref`, etc.

1120 `\RequirePackage{refcount}`

Pkg `newfloat`

1121 `\RequirePackage{newfloat}`

1122 `\end{warpHTML}`

for HTML & PRINT: 1123 `\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** 1124 `\RequirePackage{xstring}[2019/02/01]`

Pkg `environ` Used to encapsulate math environments for re-use in HTML `<alt>` text.

1125 `\RequirePackage{environ}`

1126 `\end{warpall}`

for HTML output: 1127 `\begin{warpHTML}`

Pkg `printlen` Used to convert lengths for image width/height options.

1128 `\RequirePackage{printlen}`

`\LWR@printlength {⟨length⟩}`

Prints a length using a locally-controlled unit and space. Rounding is used unless the length is small.

```
1129 \newrobustcmd*\{LWR@printlength}[1]{%
1130   \begingroup%
1131   \uselengthunit{PT}%
1132   \renewcommand*\{\unitspace}{ }%
1133   \ifdimless{#1}{10pt}{%
1134     \printlength{#1}%
1135   }{%
1136     \rndprintlength{#1}%
1137   }%
1138   \endgroup%
1139 }
```

```
1140 \end{warpHTML}
```

for PRINT output: 1141 \begin{warpprint}

Pkg varwidth Used for print-mode lateximage.

```
1142 \RequirePackage{varwidth}
```

```
1143 \end{warpprint}
```

30 Loading packages

for HTML & PRINT: 1144 \begin{warpall}

Remember the original \RequirePackage:

```
1145 \LetLtxMacro\LWR@origRequirePackage\RequirePackage
1146 \LetLtxMacro\LWR@origRequirePackageWithOptions\RequirePackageWithOptions
```

\LWR@requirepackagenames Stores the list of required package names.

```
1147 \newcommand*\{\LWR@requirepackagenames}{}
```

\LWR@parsedrequirepackagenames Stores the parsed list of required package names after spaces are removed and l warp is prepended.

```
1148 \newcommand*\{\LWR@parsedrequirepackagenames}{}
```

\LWR@nullifycomment Remove the preexisting comment environment. Certain packages define it for their own use.

```
1149 \newcommand*\{\LWR@nullifycomment}{%
1150   \PackageInfo{l warp}{%
```

```

1151      {Nullifying the comment environment before loading \LWR@strresulttwo,}%
1152      \let\comment\relax%
1153      \let\endcomment\relax%
1154 }

```

\LWR@findword [*<1: separator>*] [*<2: list>*] [*<3: index>*] [*<4: destination>*]

Note that argument 4 is passed directly to \StrBetween.

```

1155 \newcommand*\LWR@findword[3][,]{%
1156     \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}%
1157 }

```

\LWR@checkloadfilename {[*filename*]} Checks if this filename should be loaded after l warp, or never at all.

The following should never be loaded:

```

1158 \newcommand*\LWR@checkloadfilename[1]{%
1159 \LWR@checkloadnever{#1}{ae}{cm-super, lmodern}%
1160 \LWR@checkloadnever{#1}{aecc}{cm-super, lmodern}%
1161 \LWR@checkloadnever{#1}{ae compl}{cm-super, lmodern}%
1162 \LWR@checkloadnever{#1}{alg}{algorithm2e, algorithmicx}%
1163 \LWR@checkloadnever{#1}{algorithmic}{algorithm2e, algorithmicx}%
1164 \LWR@checkloadnever{#1}{bitfield}{bytefield}%
1165 \LWR@checkloadnever{#1}{caption2}{caption}%
1166 \LWR@checkloadnever{#1}{ccaption}{caption}%
1167 \LWR@checkloadnever{#1}{colortab}{colortbl}%
1168 \LWR@checkloadnever{#1}{doublespace}{setspace}%
1169 \LWR@checkloadnever{#1}{epsf}{graphicx}%
1170 \LWR@checkloadnever{#1}{fancyheadings}{fancyhdr}%
1171 \LWR@checkloadnever{#1}{fncylab}{cleveref}%
1172 \LWR@checkloadnever{#1}{formula}{siunitx}%
1173 \LWR@checkloadnever{#1}{glossary}{glossaries}%
1174 \LWR@checkloadnever{#1}{hyper}{hyperref}%
1175 \LWR@checkloadnever{#1}{newthm}{ntheorem}%
1176 \LWR@checkloadnever{#1}{pdfcprot}{microtype}%
1177 \LWR@checkloadnever{#1}{picinpar}{floatflt, wrapfig}%
1178 \LWR@checkloadnever{#1}{picins}{floatflt, wrapfig}%
1179 \LWR@checkloadnever{#1}{rplain}{fancyhdr}%
1180 \LWR@checkloadnever{#1}{shadethm}{mdframed}%
1181 \LWR@checkloadnever{#1}{si}{siunitx}%
1182 \LWR@checkloadnever{#1}{sistyle}{siunitx}%
1183 \LWR@checkloadnever{#1}{slashbox}{diagbox}%
1184 \LWR@checkloadnever{#1}{statex}{statex2}%
1185 \LWR@checkloadnever{#1}{t1enc}{fontenc, inputenc, inputenx}%
1186 \LWR@checkloadnever{#1}{ucs}{inputenc, inputencx}%
1187 \LWR@checkloadnever{#1}{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}%
1188 \LWR@checkloadnever{#1}{bxckjkjatype}{upLaTeX, bxjsarticle, ujarticle, utarticle}%
1189 \LWR@checkloadnever{#1}{hangul}{kotex, xetexko, luatexko}

```

The following should only be loaded before l warp:

```

1190 \LWR@checkloadbefore{#1}{ctex}%
1191 \LWR@checkloadbefore{#1}{fontspec}%

```

```

1192 \LWR@checkloadbefore{#1}{inputenc}
1193 \LWR@checkloadbefore{#1}{inputenx}
1194 \LWR@checkloadbefore{#1}{nfssext-cfr}
1195 \LWR@checkloadbefore{#1}{fontaxes}
1196 \LWR@checkloadbefore{#1}{kotex}
1197 \LWR@checkloadbefore{#1}{luatexja}
1198 \LWR@checkloadbefore{#1}{luatexja-fontspec}
1199 \LWR@checkloadbefore{#1}{luatexko}
1200 \LWR@checkloadbefore{#1}{morewrites}
1201 \LWR@checkloadbefore{#1}{newclude}
1202 \LWR@checkloadbefore{#1}{newunicodechar}
1203 \LWR@checkloadbefore{#1}{plext}
1204 \LWR@checkloadbefore{#1}{xeCJK}
1205 \LWR@checkloadbefore{#1}{xetexko}
1206 \LWR@checkloadbefore{#1}{zxjatype}
1207 }

```

\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.

```
1208 \newcommand*{\LWR@lookforpackagename}[1]{%
```

Find the *index*'th package name from the list:

```
1209 \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**.

```
1210 \StrSubstitute[100]{\LWR@strresult}{}[\LWR@strresulttwo]%
```

See if the package name was found:

```

1211 \IfStrEq{\LWR@strresulttwo}{}%
1212 {}% no filename
1213 {}% 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.

```

1214 \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
1215 \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%

```

If **HTML**, check if the package should be loaded before **lwarp**, or never at all:

```
1216 \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{}%
```

If **HTML**, and if found, and if an **lwarp**-equivalent name exists, use **lwarp-*** instead.

```

1217 \ifboolexpr{
1218   bool{warpingHTML} and
1219   test{\IfFileExists{l warp-\LWR@strresulttwo.sty}}
1220 }%
1221 {%
1222   l warp-* file found
1223   \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1224     \edef\lWR@parsedrequirepackagenames{l warp-\LWR@strresulttwo}%
1225   }{%
1226     \edef\lWR@parsedrequirepackagenames{%
1227       \LWR@parsedrequirepackagenames,\l warp-\LWR@strresulttwo%
1228     }%
1229   }%
1230 }%

```

Otherwise, use the current package name.

```

1231 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1232   \edef\lWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1233 }{%
1234   \edef\lWR@parsedrequirepackagenames{%
1235     \LWR@parsedrequirepackagenames,\LWR@strresulttwo%
1236   }%
1237 }%
1238 }% no l warp-* file
1239 }% yes filename
1240 }

```

\RequirePackage [⟨1: options⟩] {⟨2: package names⟩} [⟨3: version⟩]

For each of many package names in a comma-separated list, if an l warp version of a package exists, select it instead of the L^AT_EX version.

```
1241 \RenewDocumentCommand{\RequirePackage}{o m o}{%
```

Redirect up to twenty names:¹⁷

```

1242 \renewcommand*\LWR@requirepackagenames{#2}%
1243 \renewcommand*\LWR@parsedrequirepackagenames{}%
1244 \LWR@lookforpackagename{1}%
1245 \LWR@lookforpackagename{2}%
1246 \LWR@lookforpackagename{3}%
1247 \LWR@lookforpackagename{4}%
1248 \LWR@lookforpackagename{5}%
1249 \LWR@lookforpackagename{6}%
1250 \LWR@lookforpackagename{7}%
1251 \LWR@lookforpackagename{8}%
1252 \LWR@lookforpackagename{9}%
1253 \LWR@lookforpackagename{10}%
1254 \LWR@lookforpackagename{11}%
1255 \LWR@lookforpackagename{12}%
1256 \LWR@lookforpackagename{13}%

```

¹⁷This was originally nine names, but then I came across a package which used twelve...

```

1257 \LWR@lookforpackagename{14}%
1258 \LWR@lookforpackagename{15}%
1259 \LWR@lookforpackagename{16}%
1260 \LWR@lookforpackagename{17}%
1261 \LWR@lookforpackagename{18}%
1262 \LWR@lookforpackagename{19}%
1263 \LWR@lookforpackagename{20}%

```

\RequirePackage depending on the options and version:

```

1264 \IfValueTF{#1}%
1265 { % options given
1266   \IfValueTF{#3}{% version given?
1267     {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}{#3}}%
1268     {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}}%
1269 }%
1270 { % no options given
1271   \IfValueTF{#3}{% version given?
1272     {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}{#3}}%
1273     {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}}%
1274 }%
1275 }
1276 \LetLtxMacro\usepackage\RequirePackage
1277 \end{warpall}

```

for HTML output: 1278 \begin{warpHTML}

\LWR@ProvidesPackagePass {*pkgnname*} [*version*]

Uses the original package, including options.

```

1279 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{%
1280   \PackageInfo{lwarf}{%
1281     Using package '#1', \MessageBreak
1282     and adding lwarf modifications, including options, \MessageBreak%
1283   }%
1284   \IfValueTF{#2}{%
1285     {\ProvidesPackage{lwarf-#1}{#2}}%
1286     {\ProvidesPackage{lwarf-#1}}%
1287   \DeclareOption*{%
1288     \PassOptionsToPackage{\CurrentOption}{#1}}%
1289   }%
1290   \ProcessOptions\relax%

```

If using `catoptions`, an error occurs if a package is loaded with an option then loaded again with no options. `lwarf` 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.

```

1291   \@ifpackageloaded{#1}{%
1292     \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1293     \IfValueTF{#2}{%
1294       {%

```

```

1295           \expandafter\LWR@origRequirePackage%
1296           \expandafter[\LWR@tempone]{#1}[#2]%
1297       }%
1298   {%
1299       \expandafter\LWR@origRequirePackage%
1300       \expandafter[\LWR@tempone]{#1}%
1301   }%
1302 }{%
1303     \IfValueTF{#2}%
1304     {(\LWR@origRequirePackage{#1}[#2])}%
1305     {(\LWR@origRequirePackage{#1})}%
1306 }%

```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading `xcolor` with options.

```

1307 \DeclareOption*{}%
1308 \ProcessOptions\relax%
1309 }

```

`\LWR@ProvidesPackageDropA {⟨name⟩} {⟨date or -NoValue-⟩}`

Declares the package. Factored for reuse.

```

1310 \newcommand*{\LWR@ProvidesPackageDropA}[2]{%
1311   \PackageInfo{lwarp}{%
1312     Replacing package ‘#1’ with the lwarp version,\MessageBreak
1313     and discarding options,%
1314   }%
1315   \IfValueTF{#2}%
1316   {(\ProvidesPackage{lwarp-#1}[#2])}
1317   {(\ProvidesPackage{lwarp-#1})}
1318 }

```

`\LWR@ProvidesPackageDropB` Nullifies then processes the options.

Seems to be required when options contain curly braces, which were causing “Missing `\begin{document}`”.

```

1319 \newcommand*{\LWR@ProvidesPackageDropB}{%
1320 % \ProcessOptions\relax% original LaTeX code
1321 \let\ds@\empty% from the original \ProcessOptions
1322 \edef\@curroptions{}% lwarp modification to \ProcessOptions
1323 \processoptions\relax% from the original \ProcessOptions
1324 }

```

`\LWR@ProvidesPackageDrop {⟨pkgnname⟩} [⟨version⟩]`

Ignores the original package and uses lwarp’s version instead. Drops/discards all options.

```
1325 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{
```

Declare the package:

```
1326 \LWR@ProvidesPackageDropA{\#1}{\#2}
```

Ignore all options:

```
1327 \DeclareOption*{}
```

Process the options:

```
1328 \LWR@ProvidesPackageDropB
1329 }
```

```
1330 \end{warpHTML}
```

31 File handles

Defines file handles for writes.

for HTML & PRINT: 1331 \begin{warpall}

\LWR@quickfile For quick temporary use only. This is reused in several places.

```
1332 \newwrite\LWR@quickfile%
```

```
1333 \end{warpall}
```

for HTML output: 1334 \begin{warpHTML}

\LWR@lateximagesfile For <project>-images.txt:

```
1335 \newwrite\LWR@lateximagesfile
```

```
1336 \end{warpHTML}
```

32 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 L^AT_EX.

for HTML output: 1337 \begin{warpHTML}

\@include {\langle filename\rangle} Modified to load _html_inc files.

(Below, \clearpage caused missing text, and was changed to \newpage.)

```

1338 \def\@include#1 {%
1339 \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
1340 \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1341 \immediate\closeout\LWR@quickfile% lwarp
1342 \LWR@orignewpage% changed from clearpage
1343 \if@files w
1344     \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1345 \fi
1346 \@tempswat r ue
1347 \if@partsw
1348     \@tempswaf al se
1349     \edef\reserved@b{#1}%
1350     \@for\reserved@a:=\@partlist\do
1351     {\ifx\reserved@a\reserved@b\@tempswat r ue\fi}%
1352 \fi
1353 \if@tempswa
1354     \let\@auxout\@partaux
1355     \if@files w
1356         \immediate\openout\@partaux #1_html_inc.aux % changed
1357         \immediate\write\@partaux{\relax}%
1358     \fi
1359     \@input{#1_html_inc.tex}% changed
1360     \LWR@orignewpage% changed from clearpage
1361     \@writeckpt{#1}%
1362     \if@files w
1363         \immediate\closeout\@partaux
1364     \fi
1365 \else
1366     \deadcycles{z@}
1367     \nameuse{cp@#1}%
1368 \fi
1369 \let\@auxout\@mainaux%
1370 }

1371 \end{warpHTML}

```

33 Copying a file

for HTML output: 1372 \begin{warpHTML}

\LWR@copyfile {\langle source filename\rangle} {\langle destination filename\rangle}

Used to copy the .toc file to .sidetoc to re-print the toc in the sidetoc navigation pane.

```

1373 \newwrite\LWR@copyoutfile % open the file to write to
1374 \newread\LWR@copyinfile    % open the file to read from
1375
1376 \newcommand*{\LWR@copyfile}[2]{%
1377 \LWR@traceinfo{\LWR@copyfile: copying #1 to #2}
1378
1379 \immediate\openout\LWR@copyoutfile=#2
1380 \openin\LWR@copyinfile=#1
1381 \begingroup\endlinechar=-1
1382 \makeatletter
1383
1384 \LWR@traceinfo{\LWR@copyfile: about to loop}
1385
1386 \loop\unless\ifeof\LWR@copyinfile
1387   \LWR@traceinfo{\LWR@copyfile: one line}
1388   \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1389 %   \LWR@fileline\par                 % print the content into the pdf
1390 % print the content:
1391   \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1392 \repeat
1393 \immediate\closeout\LWR@copyoutfile
1394 \LWR@traceinfo{\LWR@copyfile: done}
1395 \endgroup
1396 }

1397 \end{warpHTML}

```

34 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: 1398 \begin{warpall}

Bool LWR@tracinglwarp True if tracing is turned on.

```
1399 \newbool{\LWR@tracinglwarp}
```

\tracinglwarp Turns on the debug tracing messages.

```
1400 \newcommand{\tracinglwarp}{\booltrue{\LWR@tracinglwarp}}
```

\LWR@traceinfo {<text>} If tracing is turned on, writes the text to the .log file.

```
1401 \newcommand{\LWR@traceinfo}[1]{%
```

```

1402 \ifbool{LWR@tracingl warp}{%
1403 {%
1404     \typeout{*** l warp: #1}%
1405 }%
1406 {}%
1407 }

```

`Bool HTMLDebugComments` Add comments in HTML about closing <div>s, sections, etc.

Default: `false`

```

1408 \newbool{HTMLDebugComments}%
1409 \boolfalse{HTMLDebugComments}

```

If `\tracingl warp`, show where preamble hooks occur:

```

1410 \AfterEndPreamble{%
1411 \LWR@traceinfo{AfterEndPreamble}%
1412 }%
1413
1414 \AtBeginDocument{%
1415 \LWR@traceinfo{AtBeginDocument}%
1416 }%
1417 \end{warpall}

```

35 Defining print and HTML versions of macros and environments

The following refers to defining objects inside `l warp`, 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 L^AT_EX 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{warpall}
\newcommand{\name}{...}% NOT xparse!
\end{warpall}

\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 `warpall`. `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{warpall}
\NewDocumentCommand{\LWR@print@name}{...} {...}%
\NewDocumentEnvironment{\LWR@print@name}{...} {...} {...}

% Simply a call to \LWR@print@name:
\newcommand{\name}{\LWR@print@name}%
\newenvironment{name}{\LWR@print@name}{\end\LWR@print@name}
\end{warpall}

\begin{warpHTML}
\NewDocumentCommand{\LWR@HTML@name}{...} {...}%
\NewDocumentEnvironment{\LWR@HTML@name}{...} {...} {...}

\LWR@formatted{name}%
\LWR@formattedenv{name}
\end{warpHTML}
```

In general, `\LWR@formatted` or `\LWR@formattedenv` are placed inside a `warpHTML` 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 `warpall` 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`

⚠ Misplaced `\omit` error

(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.)

for HTML output: 1418 `\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”.

1419 `\newcommand*{\LWR@formatting}{HTML}`

`\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.

```
1420 \newcommand*{\LWR@formatted}[1]{%
1421     \ifcsundef{\LWR@print@#1}{%
1422         \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1423             \csname#1\endcsname%
1424     }{%
1425     \ifcsundef{#1}{%
1426         \expandafter\newrobustcmd\csname #1\endcsname{%
1427             \nameuse{\LWR@\LWR@formatting @#1}%
1428         }%
1429     }{%
1430         \expandafter\renewrobustcmd\csname #1\endcsname{%
1431             \nameuse{\LWR@\LWR@formatting @#1}%
1432         }%
1433     }%
1434 }
```

`\LWR@expandableformatted` `{<macroname>}` No backslash in the macro name.

An expandable version of `\LWR@formatted`.

```
1435 \newcommand*{\LWR@expandableformatted}[1]{%
1436     \ifcsundef{\LWR@print@#1}{%
1437         \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1438             \csname#1\endcsname%
1439     }{%
1440     \ifcsundef{#1}{%
1441         \expandafter\newcommand\csname #1\endcsname{%
1442             \nameuse{\LWR@\LWR@formatting @#1}%
1443         }%
1444     }{%
1445         \expandafter\renewcommand\csname #1\endcsname{%
1446             \nameuse{\LWR@\LWR@formatting @#1}%
1447         }%
1448     }%
1449 }
```

\LWR@formatedenv {*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`.

```

1450 \newcommand*{\LWR@formatedenv}[1]{%
1451     \ifcsundef{LWR@print@#1}{%
1452         \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1453             \csname#1\endcsname%
1454             \csletcs{endLWR@print@#1}{end#1}%
1455     }{%
1456     \DeclareDocumentEnvironment{#1}{}{%
1457         {%
1458             \nameuse{LWR@\LWR@formatting @#1}%
1459         }%
1460         {%
1461             \nameuse{endLWR@\LWR@formatting @#1}%
1462         }%
1463     }%
1464 }
```

\LWR@expandableformatedenv {*environmentname*}

An expandable version of `\LWR@formatedenv`.

```

1464 \newcommand*{\LWR@expandableformatedenv}[1]{%
1465     \ifcsundef{LWR@print@#1}{%
1466         \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1467             \csname#1\endcsname%
1468             \csletcs{endLWR@print@#1}{end#1}%
1469     }{%
1470     \DeclareExpandableDocumentEnvironment{#1}{}{%
1471         {%
1472             \nameuse{LWR@\LWR@formatting @#1}%
1473         }%
1474         {%
1475             \nameuse{endLWR@\LWR@formatting @#1}%
1476         }%
1477     }%
1478 \end{warpHTML}
```

36 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: 1479 `\begin{warpall}`

36.1 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

```
1480 \newbool{FormatEPUB}
1481 \boolefalse{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

```
1482 \newbool{FormatWP}
1483 \boolefalse{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.¹⁸

```
1484 \newbool{WPMarkFloats}
1485 \boolefalse{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.

```
1486 \newbool{WPMarkMinipages}
1487 \boolefalse{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.

¹⁸Perhaps some day word processors will have HTML import options for identifying <figure> and caption tags for figures and tables.

If set false, the actual toc is printed instead.

```
1488 \newbool{WPMarkTOC}
1489 \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.

```
1490 \newbool{WPMarkLOFT}
1491 \boolfalse{WPMarkLOFT}
```

Bool WPMarkMath While formatting for word processors, prints math as L^AT_EX code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

```
1492 \newbool{WPMarkMath}
1493 \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 **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 178.

```
1494 \newbool{WPTitleHeading}
1495 \boolfalse{WPTitleHeading}
```

```
1496 \end{warpall}
```

36.2 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: 1497 \begin{warpHTML}

```
1498 \AtBeginDocument{
1499 \ifbool{FormatWP}{
1500 \@ifundefined{chapter}{

1501 \ifbool{WPTitleHeading}{% part and section starting at h2
1502 \renewcommand{\LWR@tagtitle}{h1}}
```

```
1503 \renewcommand*\{\LWR@tagtitleend\}{/h1}
1504 \renewcommand*\{\LWR@tagpart\}{h2}
1505 \renewcommand*\{\LWR@tagpartend\}{/h2}
1506 \renewcommand*\{\LWR@tagsection\}{h3}
1507 \renewcommand*\{\LWR@tagsectionend\}{/h3}
1508 \renewcommand*\{\LWR@tagsubsection\}{h4}
1509 \renewcommand*\{\LWR@tagsubsectionend\}{/h4}
1510 \renewcommand*\{\LWR@tagsubsubsection\}{h5}
1511 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h5}
1512 \renewcommand*\{\LWR@tagparagraph\}{h6}
1513 \renewcommand*\{\LWR@tagparagraphend\}{/h6}
1514 \renewcommand*\{\LWR@tagsubparagraph\}{span class="subparagraph"}
1515 \renewcommand*\{\LWR@tagsubparagraphend\}{/span}
1516 }% WPTitleHeading
1517 {% not WPTitleHeading, part and section starting at h1
1518 \renewcommand*\{\LWR@tagtitle\}{div class="title"}
1519 \renewcommand*\{\LWR@tagtitleend\}{/div}
1520 \renewcommand*\{\LWR@tagpart\}{h1}
1521 \renewcommand*\{\LWR@tagpartend\}{/h1}
1522 \renewcommand*\{\LWR@tagsection\}{h2}
1523 \renewcommand*\{\LWR@tagsectionend\}{/h2}
1524 \renewcommand*\{\LWR@tagsubsection\}{h3}
1525 \renewcommand*\{\LWR@tagsubsectionend\}{/h3}
1526 \renewcommand*\{\LWR@tagsubsubsection\}{h4}
1527 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h4}
1528 \renewcommand*\{\LWR@tagparagraph\}{h5}
1529 \renewcommand*\{\LWR@tagparagraphend\}{/h5}
1530 \renewcommand*\{\LWR@tagsubparagraph\}{h6}
1531 \renewcommand*\{\LWR@tagsubparagraphend\}{/h6}
1532 }% not WPTitleHeading
1533 }% chapter undefined
1534 {% chapter defined
1535 \ifbool{WPTitleHeading}{}%
1536 {% not WPTitleHeading, part and chapter starting at h1
1537 \renewcommand*\{\LWR@tagtitle\}{div class="title"}
1538 \renewcommand*\{\LWR@tagtitleend\}{/div}
1539 \renewcommand*\{\LWR@tagpart\}{h1}
1540 \renewcommand*\{\LWR@tagpartend\}{/h1}
1541 \renewcommand*\{\LWR@tagchapter\}{h2}
1542 \renewcommand*\{\LWR@tagchapterend\}{/h2}
1543 \renewcommand*\{\LWR@tagsection\}{h3}
1544 \renewcommand*\{\LWR@tagsectionend\}{/h3}
1545 \renewcommand*\{\LWR@tagsubsection\}{h4}
1546 \renewcommand*\{\LWR@tagsubsectionend\}{/h4}
1547 \renewcommand*\{\LWR@tagsubsubsection\}{h5}
1548 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h5}
1549 \renewcommand*\{\LWR@tagparagraph\}{h6}
1550 \renewcommand*\{\LWR@tagparagraphend\}{/h6}
1551 \renewcommand*\{\LWR@tagsubparagraph\}{span class="subparagraph"}
1552 \renewcommand*\{\LWR@tagsubparagraphend\}{/span}
1553 }% not WPTitleHeading
1554 }% chapter defined
1555 }{}% FormatWP
1556 }% AtBeginDocument
```

```
1557 \end{warpHTML}
```

37 Remembering original formatting macros

for HTML output: 1558 \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.

```
1559 \chardef\LWR@origpound='\#
1560 \let\LWR@origcomma\,
1561 \let\LWR@origthinspace\thinspace
1562 \let\LWR@orignegthinspace\negthinspace
1563 \let\LWR@origtilde\-
1564 \let\LWR@origskip\enskip
1565 \let\LWR@origquad\quad
1566 \let\LWR@origqquad\qquad
1567 \let\LWR@orighfil\hfil
1568 \let\LWR@orighss\hss
1569 \let\LWR@origllap\llap
1570 \let\LWR@origrlap\rlap
1571 \let\LWR@orighfilneg\hfilneg
1572 \let\LWR@orighspace\hspace
1573
1574 \let\LWR@origrule\rule
1575
1576 \let\LWR@origmedskip\medskip
1577 \let\LWR@origbigskip\bigskip
1578
1579 \let\LWR@origtextellipsis\textellipsis
1580 \let\LWR@orig@textquotedbl\textquotedbl
1581
1582 \LetLtxMacro{\LWR@origttfamily}{\ttfamily}
1583
1584 \LetLtxMacro{\LWR@origem}{\em}
1585
1586 \LetLtxMacro{\LWR@orignormalfont}{\normalfont}
1587
1588 \let\LWR@origonecolumn\onecolumn
1589
1590 \let\LWR@origsp\sp
1591 \let\LWR@origsb\sb
1592
1593 \LetLtxMacro{\LWR@origunderline}{\underline}
1594 \let\LWR@orignewpage\newpage
1595
```

```

1596 \let\LWR@origpagestyle\pagestyle
1597 \let\LWR@origthispagestyle>thispagestyle
1598 \LetLtxMacro{\LWR@origpagenumbering\pagenumbering}
1599
1600 \let\LWR@orignewline\newline
1601
1602
1603 \AtBeginDocument{%
1604   \let\LWR@orig@trivlist@\trivlist
1605   \let\LWR@origtrivlist\trivlist
1606   \let\LWR@origendtrivlist\endtrivlist
1607   \LetLtxMacro{\LWR@origitem\item
1608   \LetLtxMacro{\LWR@origitemize\itemize
1609   \LetLtxMacro{\LWR@endorigitemize\enditemize
1610   \LetLtxMacro{\LWR@origenumerate\enumerate
1611   \LetLtxMacro{\LWR@endorigenumerate\endenumerate
1612   \LetLtxMacro{\LWR@origdescription\description
1613   \LetLtxMacro{\LWR@endorigdescription\enddescription
1614   \let\LWR@orig@mklab@mklab
1615   \let\LWR@origmakelabel\makelabel
1616   \let\LWR@orig@donoparitem\@donoparitem
1617   \LetLtxMacro{\LWR@orig@item\@item
1618   \let\LWR@orig@nbitem\@nbitem
1619 }
1620
1621 \let\LWR@origpar\par
1622
1623 \LetLtxMacro{\LWR@origfootnote\footnote
1624 \let\LWR@orig@mpfootnotetext\@mpfootnotetext
1625
1626
1627 \AtBeginDocument{%
1628   \LetLtxMacro{\LWR@orighline\hline%
1629   \LetLtxMacro{\LWR@origcline\cline%
1630 }

1631 \end{warpHTML}

```

38 Accents

Native L^AT_EX accents such as \^{} will work, but many more kinds of accents are available when using Unicode-aware X^EL^AT_EX and LuaL^AT_EX. If using accents in section names which will become file names, it is recommended to use the L^AT_EX accents such as \^{} and \v{} instead of Unicode accents. The L^AT_EX 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: 1632 \begin{warpHTML}

Without \AtBeginDocument, \t was being re-defined somewhere.

```
1633 \AtBeginDocument{
```

The following are restored for print when inside a `\textrimage`.

For Unicode engines, only `\t` needs to be redefined:

```
1634 \LetLtxMacro{\LWR@origtie}{\t}
```

For pdfL^AT_EX, additional work is required:

```
1635 \ifPDFTeX% pdflatex or dvi latex
1636 \LetLtxMacro{\LWR@origgraveaccent}{`}
1637 \LetLtxMacro{\LWR@origacuteaccent}{'}
1638 \LetLtxMacro{\LWR@origcircumflexaccent}{^}
1639 \LetLtxMacro{\LWR@origtildeaccent}{\~{}}
1640 \LetLtxMacro{\LWR@origmacronaccent}{=}
1641 \LetLtxMacro{\LWR@origbreve}{\u}
1642 \LetLtxMacro{\LWR@origdotaccent}{\.}
1643 \LetLtxMacro{\LWR@origdiaeresisaccent}{\"
1644 \LetLtxMacro{\LWR@origdoubleacuteaccent}{\H}
1645 \LetLtxMacro{\LWR@origcaronaccent}{\v}
1646 \LetLtxMacro{\LWR@origdotbelowaccent}{\d}
1647 \LetLtxMacro{\LWR@origcedillaaccent}{\c}
1648 \LetLtxMacro{\LWR@origmacronbelowaccent}{\b}
```

The HTML redefinitions follow.

For pdfL^AT_EX, Unicode diacritical marks are used:

```
1649 \renewcommand*{'[1]{\#1\HTMLunicode{0300}}}
1650 \renewcommand*{'[1]{\#1\HTMLunicode{0301}}}
1651 \renewcommand*{'[1]{\#1\HTMLunicode{0302}}}
1652 \renewcommand*{'[1]{\#1\HTMLunicode{0303}}}
1653 \renewcommand*{'[1]{\#1\HTMLunicode{0304}}}
1654 \renewcommand*{\u}[1]{\#1\HTMLunicode{0306}}
1655 \renewcommand*{\.}[1]{\#1\HTMLunicode{0307}}
1656 \renewcommand*{"[1]{\#1\HTMLunicode{0308}}}
1657 \renewcommand*{\H}[1]{\#1\HTMLunicode{030B}}
1658 \renewcommand*{\v}[1]{\#1\HTMLunicode{030C}}
1659 \renewcommand*{\d}[1]{\#1\HTMLunicode{0323}}
1660 \renewcommand*{\c}[1]{\#1\HTMLunicode{0327}}
1661 \renewcommand*{\b}[1]{\#1\HTMLunicode{0331}}
1662 \fi
```

For all engines, a Unicode diacritical tie is used:

```
1663 \def{\LWR@t}{\#1\#1\HTMLunicode{0361}\#2}
1664 \renewcommand*{\t}[1]{\LWR@t}
```

`\LWR@restoreorigaccents` Called from `\restoreoriginalformatting` when a `\textrimage` is begun.

```
1665 \ifPDFTeX% pdflatex or dvi latex
1666 \newcommand*{\LWR@restoreorigaccents}{%
1667   \LetLtxMacro{'{\LWR@origgraveaccent}%
1668   \LetLtxMacro{'{\LWR@origacuteaccent}%
1669   \LetLtxMacro{^}{\LWR@origcircumflexaccent}%
```

```

1670   \LetLtxMacro{\~}{\LWR@origtildeaccent}
1671   \LetLtxMacro{\=}{\LWR@origmacronaccent}
1672   \LetLtxMacro{\u}{\LWR@origbreve}
1673   \LetLtxMacro{\.}{\LWR@origdotaccent}
1674   \LetLtxMacro{\"}{\LWR@origdiaeresisaccent}
1675   \LetLtxMacro{\H}{\LWR@origdoubleacuteaccent}
1676   \LetLtxMacro{\v}{\LWR@origcaronaccent}
1677   \LetLtxMacro{\t}{\LWR@origtie}
1678   \LetLtxMacro{\d}{\LWR@origdotbelowaccent}
1679   \LetLtxMacro{\c}{\LWR@origcedillaaccent}
1680   \LetLtxMacro{\b}{\LWR@origmacronbelowaccent}
1681 }%
1682 \else% XeLaTeX, LuaLaTeX:
1683 \newcommand*{\LWR@restoreorigaccents}{%
1684   \LetLtxMacro{\t}{\LWR@origtie}%
1685 }%
1686 \fi%
1687 }% AtBeginDocument
1688 \end{warpHTML}

```

39 Configuration files

39.1 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:

```
1689 \LWR@excludecomment{\LWRwriteconf}{\writeconf}
```

Generate configuration files if print mode and not `-pstool`:

```

for PRINT output: 1690 \begin{warpprint}
1691 \fullexpandarg%
1692 \IfSubStr*{\jobname}{-pstool}%
1693 {
1694   \PackageInfo{lwarp}{%
1695     Jobname with -pstool is found.\MessageBreak
1696     Not generating lwarp configuration files,%
1697   }
1698 }
1699 {
1700   \PackageInfo{lwarp}{Generating lwarp configuration files,}%
1701   \LWR@includecomment{\LWRwriteconf}{\writeconf}
1702 }
1703 \end{warpprint}

```

39.2 <project>.html.tex

File *_html.tex Used to allow an HTML version of the document to exist alongside the print version.

Config file:

```

1704 \begin{LWRwriteconf}
1705 \immediate\openout\LWR@quickfile=\jobname_html.tex
1706 \immediate\write\LWR@quickfile{%
1707 \detokenize{\PassOptionsToPackage}{%
1708 {warpHTML,BaseJobname=\jobname}{l warp}}%
1709 }
1710 \immediate\write\LWR@quickfile{%
1711 \detokenize{\input}{\string{\jobname.tex}\string }%
1712 }
1713 \immediate\closeout\LWR@quickfile
1714 \end{LWRwriteconf}
```

39.3 l warpmk configuration files

Config file:

```
1715 \begin{LWRwriteconf}
```

\LWR@lwarpmkversion The version number of the configuration file, allowing *l warpmk* to detect an obsolete configuration file format. Incremented by one each time the configuration file format changes. (This is NOT the same as the *l warp* version number.)

```
1716 \newcommand*\LWR@lwarpmkversion[2]{ also in lwarpmk.lua }
```

39.3.1 Helper macros

\LWR@shellescapecmd The LaTeX compile option for shell escape, if used.

```

1717 \ifshellescape
1718     \def\LWR@shellescapecmd{--shell-escape }
1719 \else
1720     \def\LWR@shellescapecmd{}
1721 \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 *pdflatex*, etc. Suffix is empty or _html

```

1722 \newcommand*\LWR@compilecmd[2]{%
1723     #1 \LWR@shellescapecmd \jobname#2%
1724 }
```

\LWR@addcompilecmd {\langle cmd\rangle} {\langle suffix\rangle}

Adds to the compilation command.

Cmd is *dvipdfmx*, etc. Suffix is empty or _html

```
1725 \newcommand*{\LWR@addcompilecmd}[2]{%
1726     \LWRopseq
1727     #1 \jobname#2%
1728 }
```

\LWR@unknownengine Error message if not sure which L^AT_EX engine is being used.

```
1729 \newcommand*{\LWR@unknownengine}{%
1730     \PackageError{lwarf}%
1731     {Unknown LATEX engine}%
1732     {%
1733         Lwarf only knows about pdflatex, dvi latex,
1734         xelatex, lualatex, and upLateX.%%
1735     }%
1736 }
```

\LWR@latexmkvar {<varname>} {<value>}

Adds a *latexmk* variable assignment.

```
1737 \newcommand*{\LWR@latexmkvar}[2]{%
1738     -e
1739     \LWRopquote%
1740     \LWRdollar #1=q/#2/%
1741     \LWRopquote
1742 }
```

\LWR@latexmkcmd {<latexmk options>}

Sets a call to *latexmk* with the given options, possibly adding --shell-escape, and also adding the indexing program.

```
1743 \newcommand*{\LWR@latexmkcmd}[1]{%
1744     latexmk \space \LWR@shellescapecmd \space #1 \space
1745     -recorder \space
1746     \LWR@latexmkvar{makeindex}{\LWR@LatexmkIndexCmd}
1747 }
```

\LWR@Latexmkdvipdfm {<dvipdfm or dvipdfmx>}

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```
1748 \newcommand*{\LWR@Latexmkdvipdfm}[1]{%
1749     -pdfdvi \space
1750     \LWR@latexmkvar{dvipdf}{%
1751         #1
1752         \@percentchar 0
1753         -o \@percentchar D
1754         \@percentchar S%}
```

```
1755      }
1756 }
```

\LWR@compileuplatex Sets compile options for up^LAT_EX with *ujarticle* or related classes.

```
1757 \newcommand*{\LWR@compileuplatex}{
1758     \def\LWR@tempprintlatexcmd{%
1759         \LWR@compilecmd{uplatex}{}
1760         \LWR@addcompilecmd{dvipdfmx}{}
1761     }
1762     \def\LWR@tempHTMLlatexcmd{%
1763         \LWR@compilecmd{uplatex}{_html}
1764         \LWR@addcompilecmd{dvipdfmx}{_html}
1765     }
1766 }
```

\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 '$dvipdf=q/dvipdfmx %o -o %D %S/'
-recorder
-e '$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.

```
1767 \ifbool{\LWR@Latexmk}{
```

For *latexmk* with *pdflatex* or *lualatex*:

```
1768     \ifpdf
```

For *latexmk* with *pdflatex*:

```
1769     \ifPDFTeX
1770         \def\LWR@Latexcmd{\LWR@Latexmkcmd{-pdf -dvi- -ps-}}
1771     \else
```

For *latexmk* with *lualatex*:

```

1772      \ifLuaTeX
1773          \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
1774      \else
1775          \LWR@unknownengine
1776      \fi
1777  \fi
1778 \else% \ifpdf

```

For *latexmk* with *xelatex* or DVI *latex*:

```
1779 \ifXeTeX
```

For *latexmk* with *xelatex*:

```

1780 \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
1781 \else% \ifXeTeX

```

For *latexmk* with DVI *latex*:

```

1782      \ifbool{\LWR@dvipdfm}{%
1783          \def\LWR@latexcmd{%
1784              \LWR@latexmkcmd{%
1785                  \LWR@latexmkdvipdfm{dvipdfm}}%
1786          }%
1787      }%
1788  }{%
1789      \ifbool{\LWR@dvipdfmx}{%
1790          \def\LWR@latexcmd{%
1791              \LWR@latexmkcmd{%
1792                  \LWR@latexmkdvipdfm{dvipdfmx}}%
1793          }%
1794      }%
1795  }{%
1796      \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}%
1797  }%
1798      }%
1799  \fi
1800 \fi% \ifpdf

```

The final assignment if *latexmk*:

```

1801 \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
1802 \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
1803 }% latexmk

```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```

1804 {%
1805     \ifpdf

```

For *pdflatex* or *lualatex*:

```
1806      \ifPDFTeX
```

For *pdflatex*:

```
1807          \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
```

```
1808          \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
```

```
1809      \else
```

```
1810          \ifLuaTeX
```

For *lualatex*:

```
1811          \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
```

```
1812          \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
```

```
1813      \else
```

```
1814          \LWR@unknownengine
```

```
1815      \fi
```

```
1816      \fi
```

```
1817  \else% \ifpdf
```

For dvi *latex* or *xelatex*:

```
1818      \ifXeTeX
```

For *xelatex*:

```
1819          \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
```

```
1820          \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
```

```
1821      \else
```

For dvi *latex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```
1822      \ifbool{LWR@dvipdfm}{
```

For dvi *latex* with *dvipdfm*:

```
1823          \def\LWR@tempprintlatexcmd{%
1824              \LWR@compilecmd{latex}{}
1825              \LWR@addcompilecmd{dvipdfm}{}
1826          }
1827          \def\LWR@tempHTMLlatexcmd{%
1828              \LWR@compilecmd{latex}{_html}
1829              \LWR@addcompilecmd{dvipdfm}{_html}
1830          }
1831      }{
1832          \ifbool{LWR@dvipdfmx}{
```

For dvi *latex* with *dvipdfmx*:

```
1833          \def\LWR@tempprintlatexcmd{%
1834              \LWR@compilecmd{latex}{}
1835              \LWR@addcompilecmd{dvipdfmx}{}
1836          }
```

```

1837          \def\LWR@tempHTMLlatexcmd{%
1838              \LWR@compilecmd{latex}{_html}
1839              \LWR@addcompilecmd{dvipdfmx}{_html}
1840          }
1841      }% dvips

```

For dvi *latex* with *dvips* and *ps2pdf*:

```

1842          \def\LWR@tempprintlatexcmd{%
1843              \LWR@compilecmd{latex}{}
1844              \LWR@addcompilecmd{dvips}{}
1845              \LWR@addcompilecmd{ps2pdf}{}.ps
1846          }
1847          \def\LWR@tempHTMLlatexcmd{%
1848              \LWR@compilecmd{latex}{_html}
1849              \LWR@addcompilecmd{dvips}{_html}
1850              \LWR@addcompilecmd{ps2pdf}{_html}.ps
1851          }
1852      }
1853  }
1854 \fi% \ifXeTeX
1855 \fi% \ifpdf
1856 }% latexmk

```

For *ujarticle*, *utarticle*, and related, using up^LATEX and *dvipdfmx*:

```

1857 \@ifclassloaded{ujarticle}{\LWR@compileuplatex}{}
1858 \@ifclassloaded{ujbook}{\LWR@compileuplatex}{}
1859 \@ifclassloaded{ujreport}{\LWR@compileuplatex}{}
1860 \@ifclassloaded{utarticle}{\LWR@compileuplatex}{}
1861 \@ifclassloaded{utbook}{\LWR@compileuplatex}{}
1862 \@ifclassloaded{utreport}{\LWR@compileuplatex}{}

```

Only make the setting permanent if the original was empty:

```

1863 \ifdefempty{\LWR@PrintLatexCmd}{%
1864     \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
1865 }
1866 \ifdefempty{\LWR@HTMLLateXCmd}{%
1867     \def\LWR@HTMLLateXCmd{\LWR@tempHTMLlatexcmd}
1868 }

```

\LWR@writeconf {<filename>}

Common code for each of *lwarfpmk.conf* and *<project>.lwarfpmkconf*. 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.

```

1869 \newcommand{\LWR@writeconf}[1]{%
1870 \ifcsdef{\LWR@quickfile}{}{\newwrite{\LWR@quickfile}}
1871 \immediate\openout\LWR@quickfile=#1
1872 \immediate\write{\LWR@quickfile}{confversion = [[\LWR@lwarfconfversion]]}
1873 \ifbool{usingOSWindows}{%
1874     \immediate\write{\LWR@quickfile}{opsystem = [[Windows]]}

```

```

1875 }{
1876     \immediate\write\LWR@quickfile{opsystem = [[Unix]]}
1877 }
1878 \immediate\write\LWR@quickfile{sourcename = [[\jobname]]}
1879 \immediate\write\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}
1880 \immediate\write\LWR@quickfile{htmldirectory = [[\HTMLFilename]]}
1881 \immediate\write\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}
1882 \immediate\write\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}
1883 \immediate\write\LWR@quickfile{latexmk = [[\ifbool{\LWR@latexmk}{true}{false}]]}
1884 \immediate\write\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}
1885 \immediate\write\LWR@quickfile{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}
1886 \immediate\write\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}
1887 \immediate\write\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}
1888 \immediate\write\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}
1889 \immediate\write\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}
1890 \immediate\write\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}
1891 \immediate\closeout\LWR@quickfile
1892 }
1893

1894 \end{LWRwriteconf}

```

39.3.2 lwarpmk.conf

File lwarpmk.conf lwarpmk.conf is automatically (re-)created by the lwarf package when executing `pdflatex <project.tex>`, or similar for *xelatex* or *lualatex*, 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:

```

1895 \begin{LWRwriteconf}
1896
1897 \AtBeginDocument{\LWR@writeconf{lwarpmk.conf}}
1898
1899 \end{LWRwriteconf}

```

39.3.3 <project>.lwarpmkconf

File project.lwarpmkconf A project-specific configuration file for *lwarpmk*.

The `makeindex` and `xindy` options have already been handled for `lwarf.conf`.

Config file:

```

1900 \begin{LWRwriteconf}
1901
1902 \AtBeginDocument{\LWR@writeconf{\jobname.lwarpmkconf}}
1903
1904 \end{LWRwriteconf}

```

39.4 lwarf.css

File lwarf.css This is the base css layer used by lwarf.

This must be present both when compiling the project and also when distributing the HTML files.

Config file:

```
1905 \begin{LWRwriteconf}
1906 \begin{filecontents*}[overwrite]{lwarp.css}
1907 /*
1908   CSS stylesheet for the LaTeX Lwarp package
1909   Copyright 2016-2020 Brian Dunn - BD Tech Concepts LLC
1910 */
1911
1912
1913 /* a fix for older browsers: */
1914 header, section, footer, aside, nav, main,
1915     article, figure { display: block; }
1916
1917
1918 A:link {color:#000080 ; text-decoration: none ; }
1919 A:visited {color:#800000 ; }
1920 A:hover {color:#000080 ; text-decoration: underline ;}
1921 A:active {color:#800000 ; }
1922
1923 a.tocbook {display: inline-block ; margin-left: 0em ;
1924     font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
1925 a.tocpart {display: inline-block ; margin-left: 0em ;
1926     font-weight: bold ;}
1927 a.tocchapter {display: inline-block ; margin-left: 0em ;
1928     font-weight: bold ;}
1929 a.tocsection {display: inline-block ; margin-left: 1em ;
1930     text-indent: -.5em ; font-weight: bold ;}
1931 a.tocsubsection {display: inline-block ; margin-left: 2em ;
1932     text-indent: -.5em ;}
1933 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
1934     text-indent: -.5em ;}
1935 a.tocparagraph {display: inline-block ; margin-left: 4em ;
1936     text-indent: -.5em ;}
1937 a.toc subparagraph {display: inline-block ; margin-left: 5em ;
1938     text-indent: -.5em ;}
1939 a.tocfigure {margin-left: 0em}
1940 a.tocsubfigure {margin-left: 2em}
1941 a.tocitable {margin-left: 0em}
1942 a.tocsubtable {margin-left: 2em}
1943 a.toctheorem {margin-left: 0em}
1944 a.toclstlisting {margin-left: 0em}
1945
1946 body {
1947     font-family: "DejaVu Serif", "Bitstream Vera Serif",
1948         "Lucida Bright", Georgia, serif;
1949     background: #FAF7F4 ;
1950     color: black ;
1951     margin:0em ;
1952     padding:0em ;
1953     font-size: 100% ;
1954     line-height: 1.2 ;
1955 }
1956
1957 p {margin: 1.5ex 0em 1.5ex 0em ;}
```

```
1958 table p {margin: .5ex 0em .5ex 0em ;}
1959
1960 /* Holds a section number */
1961 span.sectionnumber { margin-right: 0em }
1962
1963 /* Inserted in front of index lines */
1964 span.indexitem {margin-left: 0em}
1965 span.indexsubitem {margin-left: 2em}
1966 span.indexsubsubitem {margin-left: 4em}
1967
1968 div.hidden, span.hidden { display: none ; }
1969
1970 kbd, span.texttt {
1971     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
1972             "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
1973             "Courier New", monospace;
1974     font-size: 100% ;
1975 }
1976
1977 pre { padding: 3pt ; }
1978
1979 span.strong, span.textbf, div.strong, div.textbf { font-weight: bold; }
1980
1981 span.textit, div.textit { font-style: italic; }
1982
1983 span.textmd, div.textmd { font-weight: normal; }
1984
1985 span.textup, div.textup {
1986     font-style: normal;
1987     font-variant: normal;
1988     font-variant-numeric: normal ;
1989 }
1990
1991 span.textsc, div.textsc {
1992     font-variant: small-caps;
1993     font-variant-numeric: oldstyle-nums ;
1994 }
1995
1996 span.textulc, div.textulc {
1997     font-variant: normal ;
1998     font-variant-numeric: normal ;
1999 }
2000
2001 span.textsl, div.textsl { font-style: oblique; }
2002
2003 span.textrm, div.textrm {
2004     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2005             "Lucida Bright", Georgia, serif;
2006 }
2007
2008 span.textsf, div.textsf {
2009     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2010             Geneva, Verdana, sans-serif ;
2011 }
2012
```

```
2013 /* nfssext-cfr lining figures */
2014 span.textln, div.textln {
2015     font-variant-numeric: lining-nums ;
2016 }
2017
2018 /* nfssext-cfr proportional figures */
2019 span.textp, div.textp {
2020     font-variant-numeric: proportional-nums ;
2021 }
2022
2023 /* nfssext-cfr tabular figures */
2024 span.texttt, div.texttt {
2025     font-variant-numeric: tabular-nums ;
2026 }
2027
2028 /* nfssext-cfr font weights */
2029 span.textdb, div.textdb {
2030     font-weight: 500 ;
2031 }
2032
2033 span.textsb, div.textsb {
2034     font-weight: 600 ;
2035 }
2036
2037 span.texteb, div.texteb {
2038     font-weight: 800 ;
2039 }
2040
2041 span.textub, div.textub {
2042     font-weight: 900 ;
2043 }
2044
2045 span.textlg, div.textlg {
2046     font-weight: 300 ;
2047 }
2048
2049 span.textel, div.textel {
2050     font-weight: 200 ;
2051 }
2052
2053 span.textul, div.textul {
2054     font-weight: 100 ;
2055 }
2056
2057
2058
2059 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2060
2061 span.underline {
2062     text-decoration: underline ;
2063     text-decoration-skip: auto ;
2064 }
2065
2066 span.overline {
2067     text-decoration: overline ;
```

```
2068     text-decoration-skip: auto ;
2069 }
2070
2071
2072 /* for vertical text: */
2073 div.verticalrl { writing-mode: vertical-rl }
2074 div.horizontaltb { writing-mode: horizontal-tb }
2075
2076
2077 /* for diagbox */
2078 div.diagboxtileN { border-bottom: 1px solid gray }
2079 div.diagboxtileS { border-top: 1px solid gray }
2080
2081 div.diagboxE {
2082     padding-left: 2em ;
2083     text-align: right ;
2084 }
2085
2086 div.diagboxW {
2087     padding-right: 2em ;
2088     text-align: left ;
2089 }
2090
2091
2092
2093 /* For realscripts */
2094 .supsubscript {
2095     display: inline-block;
2096     text-align:left ;
2097 }
2098
2099 .supsubscript sup,
2100 .supsubscript sub {
2101     position: relative;
2102     display: block;
2103     font-size: .7em;
2104     line-height: 1;
2105 }
2106
2107 .supsubscript sup {
2108     top: .3em;
2109 }
2110
2111 .supsubscript sub {
2112     top: .3em;
2113 }
2114
2115 div.attribution p {
2116     text-align: right ;
2117     font-size: 80%
2118 }
2119
2120 span.poemtitle {
2121     font-size: 120% ; font-weight: bold;
2122 }
```

```
2123
2124 pre.tabbing {
2125     font-family: "Linux Libertine Mono O", "Lucida Console",
2126         "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2127         "Liberation Mono", "FreeMono", "Andale Mono",
2128         "Nimbus Mono L", "Courier New", monospace;
2129 }
2130
2131 blockquote {
2132     display: block ;
2133     margin-left: 2em ;
2134     margin-right: 2em ;
2135 }
2136
2137 /* quotchap is for the quotchap package */
2138 div.quotchap {
2139     display: block ;
2140     font-style: oblique ;
2141     overflow-x: auto ;
2142     margin-left: 2em ;
2143     margin-right: 2em ;
2144 }
2145
2146 blockquote p, div.quotchap p {
2147     line-height: 1.5;
2148     text-align: left ;
2149     font-size: .85em ;
2150 }
2151
2152 /* qauthor is for the quotchap package */
2153 div.qauthor {
2154     display: block ;
2155     text-align: right ;
2156     margin-left: auto ;
2157     margin-right: 2em ;
2158     font-size: 80% ;
2159     font-variant: small-caps;
2160 }
2161
2162 div.qauthor p {
2163     text-align: right ;
2164 }
2165
2166 div.epigraph, div.dictum {
2167     line-height: 1.2;
2168     text-align: left ;
2169     padding: 3ex 1em 0ex 1em ;
2170 /*     margin: 3ex auto 3ex auto ; */ /* Epigraph centered */
2171     margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
2172 /*     margin: 3ex 1em 3ex 1em ; */ /* Epigraph to the left */
2173     font-size: .85em ;
2174     max-width: 27em ;
2175 }
2176
2177 div.epigraphsource, div.dictumauthor {
```

```
2178     text-align:right ;
2179     margin-left:auto ;
2180 /*      max-width: 50% ; */
2181     border-top: 1px solid #A0A0A0 ;
2182     padding-bottom: 3ex ;
2183     line-height: 1.2;
2184 }
2185
2186 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2187 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2188 div.dictumauthor { font-style:italic }
2189
2190
2191 /* copyrightbox package */
2192 div.copyrightbox { margin: .5ex .5em }
2193 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2194 div.copyrightboxnote {text-align: left ; font-size: 60%}
2195
2196
2197 /* lettrine package: */
2198 span.lettrine { font-size: 4ex ; float: left ; }
2199 span.lettrinetext { font-variant: small-caps ; }
2200
2201 /* ulem, soul, umoline packages: */
2202 span.uline {
2203     text-decoration: underline ;
2204     text-decoration-skip: auto ;
2205 }
2206
2207 span.uuline {
2208     text-decoration: underline ;
2209     text-decoration-skip: auto ;
2210     text-decoration-style: double ;
2211 }
2212
2213 span.uwave {
2214     text-decoration: underline ;
2215     text-decoration-skip: auto ;
2216     text-decoration-style: wavy ;
2217 }
2218
2219 span.sout {
2220     text-decoration: line-through ;
2221 }
2222
2223 span.oline {
2224     text-decoration: overline ;
2225     text-decoration-skip: auto ;
2226 }
2227
2228 span.xout {
2229     text-decoration: line-through ;
2230 }
2231
2232 span.dashuline {
```

```
2233     text-decoration: underline ;
2234     text-decoration-skip: auto ;
2235     text-decoration-style: dashed ;
2236 }
2237
2238 span.dotunderline {
2239     text-decoration: underline ;
2240     text-decoration-skip: auto ;
2241     text-decoration-style: dotted ;
2242 }
2243
2244 span.letterspacing { letter-spacing: .2ex ; }
2245
2246 span.capsspacing {
2247     font-variant: small-caps ;
2248     letter-spacing: .1ex ;
2249 }
2250
2251 span.highlight { background: #F8E800 ; }
2252
2253
2254
2255
2256 html body {
2257     margin: 0 ;
2258     line-height: 1.2;
2259 }
2260
2261
2262 body div {
2263     margin: 0ex;
2264 }
2265
2266
2267 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2268 {
2269     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2270                 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2271                 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2272                 "Times New Roman", serif;
2273     font-style: normal ;
2274     font-weight: bold ;
2275     text-align: left ;
2276 }
2277
2278 h1 { /* title of the entire website, used on each page */
2279     text-align: center ;
2280     font-size: 2.5em ;
2281     padding: .4ex 0em 0ex 0em ;
2282 }
2283
2284 div.book {
2285     text-align: center ;
2286     font-size: 2.325em ;
2287     padding: .4ex 0em 0ex 0em ;
```

```
2288 }
2289
2290 h2 { font-size: 2.25em }
2291 h3 { font-size: 2em }
2292 h4 { font-size: 1.75em }
2293 h5 { font-size: 1.5em }
2294 h6 { font-size: 1.25em }
2295 span.paragraph {font-size: 1em ; font-variant: normal ;
2296     margin-right: 1em ; }
2297 span.subparagraph {font-size: 1em ; font-variant: normal ;
2298     margin-right: 1em ; }
2299
2300 div.minisec {
2301     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2302         Geneva, Verdana, sans-serif ;
2303     font-style: normal ;
2304     font-weight: bold ;
2305     text-align: left ;
2306 }
2307
2308 h1 {
2309     margin: 0ex 0em 0ex 0em ;
2310     line-height: 1.3;
2311     text-align: center ;
2312 }
2313
2314 h2 {
2315     margin: 1ex 0em 1ex 0em ;
2316     line-height: 1.3;
2317     text-align: center ;
2318 }
2319
2320 h3 {
2321     margin: 3ex 0em 1ex 0em ;
2322     line-height: 1.3;
2323 }
2324
2325 h4 {
2326     margin: 3ex 0em 1ex 0em ;
2327     line-height: 1.3;
2328 }
2329
2330 h5 {
2331     margin: 3ex 0em 1ex 0em ;
2332     line-height: 1.3;
2333 }
2334
2335 h6 {
2336     margin: 3ex 0em 1ex 0em ;
2337     line-height: 1.3;
2338 }
2339
2340
2341 div.titlepage {
2342     text-align: center ;
```

```
2343 }
2344
2345 .footnotes {
2346     text-align: left ;
2347     font-size: .85em ;
2348     margin: 3ex 2em 0ex 2em ;
2349     border-top: 1px solid silver ;
2350 }
2351
2352 .marginpar, .marginparblock {
2353     max-width: 50%;
2354     float: right ;
2355     clear: both ;
2356     text-align: left ;
2357     margin: 1ex 0.5em 1ex 1em ;
2358     padding: 1ex 0.5em 1ex 0.5em ;
2359     font-size: 85% ;
2360     border-top: 1px solid silver ;
2361     border-bottom: 1px solid silver ;
2362     overflow-x: auto ;
2363 }
2364
2365 .marginpar br { margin-bottom: 2ex ; }
2366
2367 div.marginblock, div.marginparblock {
2368     max-width:50%;
2369     min-width: 10em; /* room for caption */
2370     float:right;
2371     text-align:left;
2372     margin: 1ex 0.5em 1ex 1em ;
2373     padding: 1ex 0.5em 1ex 0.5em ;
2374     overflow-x: auto;
2375 }
2376
2377 div.marginblock div.minipage,
2378 div.marginparblock div.minipage {
2379     display: inline-block ;
2380     margin: 0pt auto 0pt auto ;
2381 }
2382
2383 div.marginblock div.minipage p ,
2384 div.marginparblock div.minipage p
2385     { font-size: 85%}
2386
2387 div.marginblock br ,
2388 div.marginparblock br
2389     { margin-bottom: 2ex ; }
2390
2391 div.bodycontainer {
2392     float: left ;
2393     width: 80% ;
2394 }
2395
2396 div.bodywithoutsidetoc div.bodycontainer {
2397     float: none ;
```

```
2398     width: 100% ;
2399 }
2400
2401 section.textbody div.footnotes{
2402     margin: 3ex 2em 0ex 2em ;
2403     border-bottom: 2px solid silver ;
2404 }
2405
2406 .footnoteheader {
2407     border-top: 2px solid silver ;
2408     margin-top: 3ex ;
2409     padding-top: 1ex ;
2410     font-weight: bold ;
2411 }
2412
2413 .mpfootnotes {
2414     text-align: left ;
2415     font-size: .85em ;
2416     margin-left: 1em ;
2417     border-top: 1px solid silver ;
2418 }
2419
2420 /* Remove footnote top border in the title page. */
2421 div.titlepage div.mpfootnotes {
2422     border-top: none ;
2423 }
2424
2425
2426
2427 ul, ol {
2428     margin: 1ex 1em 1ex 0em;
2429     line-height: 1.2;
2430 }
2431
2432 body dir, body menu {
2433     margin: 3ex 1em 3ex 0em;
2434     line-height: 1.2;
2435 }
2436
2437 li { margin: 0ex 0em 1ex 0em; }
2438
2439 html {
2440     margin: 0;
2441     padding: 0;
2442 }
2443
2444 .programlisting {
2445     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2446             "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2447             "Courier New", monospace;
2448     margin: 1ex 0ex 1ex 0ex ;
2449     padding: .5ex 0pt .5ex 0pt ;
2450     overflow-x: auto;
2451 }
2452
```

```
2453 section.textbody>pre.programlisting {
2454     border-top: 1px solid silver ;
2455     border-bottom: 1px solid silver ;
2456 }
2457
2458
2459 div.displaymath {
2460     text-align: center ;
2461 }
2462
2463 div.displaymathnumbered {
2464     text-align: right ;
2465     margin-left: 5% ;
2466     margin-right: 5% ;
2467     min-width: 2.5in ;
2468 }
2469
2470 @media all and (min-width: 400px) {
2471     div.displaymathnumbered {
2472         margin-left: 10% ;
2473         margin-right: 10% ;
2474     }
2475 }
2476
2477 @media all and (min-width: 800px) {
2478     div.displaymathnumbered {
2479         margin-right: 20% ;
2480     }
2481 }
2482
2483 @media all and (min-width: 1200px) {
2484     div.displaymathnumbered {
2485         margin-right: 30% ;
2486     }
2487 }
2488
2489
2490 .inlineprogramlisting {
2491     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2492             "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2493             "Courier New", monospace;
2494     overflow-x: auto;
2495 }
2496
2497 span.listinglabel {
2498     display: inline-block ;
2499     font-size: 70% ;
2500     width: 4em ;
2501     text-align: right ;
2502     margin-right: 2em ;
2503 }
2504
2505 div.abstract {
2506     margin: 2em 5% 2em 5% ;
2507     padding: 1ex 1em 1ex 1em ;
```

```
2508 /* font-weight: bold ; */
2509   font-size: 90% ;
2510   text-align: left ;
2511 }
2512
2513 div.abstract dl {line-height:1.5;}
2514 div.abstract dt {color:#304070;}
2515
2516 div.abstracttitle{
2517   font-family: "URW Classico", Optima, "Linux Biolinum O",
2518     "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2519     "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2520   font-weight:bold;
2521   font-size:1.25em;
2522   text-align: center ;
2523 }
2524
2525 span.abstractrunintitle{
2526   font-family: "URW Classico", Optima, "Linux Biolinum O",
2527     "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2528     "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2529   font-weight:bold;
2530 }
2531
2532
2533 .verbatim {
2534   overflow-x: auto ;
2535 }
2536
2537 .alltt {
2538   overflow-x: auto ;
2539 }
2540
2541
2542 .bverbatim {
2543   margin: 1ex 0pt 1ex 0pt ;
2544   padding: .5ex 0pt .5ex 0pt ;
2545   overflow-x: auto ;
2546 }
2547
2548 .lverbatim {
2549   margin: 1ex 0pt 1ex 0pt ;
2550   padding: .5ex 0pt .5ex 0pt ;
2551   overflow-x: auto ;
2552 }
2553
2554 .fancyvrb {
2555   font-size:.85em ;
2556   margin: 3ex 0pt 3ex 0pt
2557 }
2558
2559 .fancyvrblabel {
2560   font-size: .85em ;
2561   text-align: center ;
2562   font-weight: bold ;
```

```
2563     margin-top: 1ex ;
2564     margin-bottom: 1ex ;
2565 }
2566
2567
2568 .verse {
2569     font-family: "Linux Libertine Mono O", "Lucida Console",
2570                 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2571                 "Liberation Mono", "FreeMono", "Andale Mono",
2572                 "Nimbus Mono L", "Courier New", monospace;
2573     margin-left: 1em ;
2574 }
2575
2576
2577 div.singlespace { line-height: 1.2 ; }
2578 div.onehalfspace { line-height: 1.5 ; }
2579 div.doublespace { line-height: 2 ; }
2580
2581
2582 /* Word processor format output: */
2583 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
2584 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
2585 div.wpmminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ; }
2586
2587
2588
2589
2590 /* Minipage environments, vertically aligned to top, center, bottom: */
2591 .minipage, .fminipage, .fcolorminipage {
2592     /* display: inline-block ; */
2593     /* Mini pages which follow each other will be tiled. */
2594     text-align:left;
2595     margin: .25em .25em .25em .25em;
2596     padding: .25em .25em .25em .25em;
2597     display: inline-flex;
2598     flex-direction: column ;
2599     overflow: auto;
2600 }
2601
2602 .inlineminipage {
2603     display: inline-block ;
2604     text-align: left
2605 }
2606
2607 /* Paragraphs in the flexbox did not collapse their margins. */
2608 /* Have not yet researched this. */
2609 .minipage p {margin: .75ex 0em .75ex 0em ;}
2610
2611 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
2612 .fcolorbox .minipage, .fcolorboxBlock .minipage
2613     {border: none ; background: none;}
2614
2615 .fbox, .fboxBlock { border: 1px solid black ; }
2616
2617 .fbox, .fboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
```

```
2618 .fminipage, .fcolorminipage
2619     {display: inline-block}
2620
2621 .shadowbox, .shabox {
2622     border: 1px solid black;
2623     box-shadow: 3px 3px 3px #808080 ;
2624     border-radius: 0px ;
2625     padding: .4ex .3em .4ex .3em ;
2626     margin: 0pt .3ex 0pt .3ex ;
2627     display: inline-block ;
2628 }
2629
2630 .doublebox {
2631     border: 3px double black;
2632     border-radius: 0px ;
2633     padding: .4ex .3em .4ex .3em ;
2634     margin: 0pt .3ex 0pt .3ex ;
2635     display: inline-block ;
2636 }
2637
2638 .ovalbox, .Ovalbox {
2639     border: 1px solid black;
2640     border-radius: 1ex ;
2641     padding: .4ex .3em .4ex .3em ;
2642     margin: 0pt .3ex 0pt .3ex ;
2643     display: inline-block ;
2644 }
2645
2646 .Ovalbox { border-width: 2px ; }
2647
2648 .framebox {
2649     border: 1px solid black;
2650     border-radius: 0px ;
2651     padding: .3ex .2em 0ex .2em ;
2652     margin: 0pt .1ex 0pt .1ex ;
2653     display: inline-block ;
2654 }
2655
2656
2657 .mdframed {
2658     padding: 0ex ;
2659     margin: 2ex 0em 2ex 0em ;
2660 }
2661
2662 .mdframed p { padding: 0ex .5em 0ex .5em ; }
2663
2664 .mdframed dl { padding: 1ex .5em 0ex .5em ; }
2665
2666 .mdframedtitle {
2667     padding: .5ex 0pt 0pt 0pt ;
2668     border-radius: 10pt 10pt 0pt 0pt ;
2669     display: block ;
2670     margin-bottom: 1ex ;
2671 }
2672
```

```
2673 .mdframedsubtitle {
2674     display: block ;
2675 }
2676
2677 .mdframedsubsubtitle {
2678     display: block ;
2679 }
2680
2681 .mdtheorem {
2682     padding: 0ex .5em 0ex .5em ;
2683     margin: 3ex 5% 3ex 5% ;
2684 }
2685
2686
2687 /* framed package */
2688 .framed, pre.boxedverbatim, fcolorbox {
2689     margin: 3ex 0em 3ex 0em ;
2690     border: 1px solid black;
2691     border-radius: 0px ;
2692     padding: .3ex 1em 0ex 1em ;
2693     display: block ;
2694 }
2695
2696 .shaded {
2697     margin: 3ex 0em 3ex 0em ;
2698     padding: .3ex 1em .3ex 1em ;
2699     display: block ;
2700 }
2701
2702 .snugframed {
2703     margin: 3ex 0em 3ex 0em ;
2704     border: 1px solid black;
2705     border-radius: 0px ;
2706     display: block ;
2707 }
2708
2709 .framedleftbar {
2710     margin: 3ex 0em 3ex 0em ;
2711     border-left: 3pt solid black;
2712     border-radius: 0px ;
2713     padding: .3ex .2em .3ex 1em ;
2714     display: block ;
2715 }
2716
2717 .framedtitle {
2718     margin: 0em ;
2719     padding: 0em ;
2720     font-size: 130%
2721 }
2722
2723 .framedtitle p { padding: .3em }
2724
2725
2726 /* For the niceframe package: */
2727
```

```
2728 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
2729     padding: 1ex ;
2730     margin: 2ex auto ;
2731     border-radius: 2ex ;
2732 }
2733
2734 div.niceframe {
2735     border: 6px groove black ;
2736 }
2737
2738 div.curlyframe {
2739     border-left: 3px dotted black ;
2740     border-right: 3px dotted black ;
2741     border-radius: 6ex ;
2742 }
2743
2744 div.artdecoframe {
2745     border-left: 10px double black ;
2746     border-right: 10px double black ;
2747     border-radius: 6ex ;
2748 }
2749
2750 div.generalframe {
2751     border: 6px groove black ;
2752 }
2753
2754
2755
2756 dl {
2757     margin: 1ex 2em 1ex 0em;
2758     line-height: 1.3;
2759 }
2760
2761 dl dt {
2762     display: block ;
2763     float:left ;
2764     font-weight: bold;
2765     padding-right: 1em ;
2766 }
2767
2768 dl dd { display: block ; }
2769
2770 dl dd:after { content: "" ; display: block ; clear: both }
2771
2772 dl dd p { margin-top: 0em; }
2773
2774 dd ul, dd ol, dd dl { clear: both ; padding-top: 1ex }
2775
2776
2777 nav {
2778     font-family: "URW Classico", Optima, "Linux Biolinum O",
2779             "DejaVu Sans", "Bitstream Vera Sans",
2780             Geneva, Verdana, sans-serif ;
2781     margin-bottom: 4ex ;
2782 }
```

```
2783
2784 nav p {
2785     line-height: 1.2 ;
2786     margin-top:.5ex ;
2787     margin-bottom:.5ex;
2788     font-size: .9em ;
2789 }
2790
2791
2792
2793 img, img.hyperimage, img.borderimage {
2794     max-width: 600px;
2795     border: 1px solid silver;
2796     box-shadow: 3px 3px 3px #808080 ;
2797     padding: .5% ;
2798     margin: .5% ;
2799     background: none ;
2800 }
2801
2802 img.inlineimage{
2803     padding: 0px ;
2804     box-shadow: none ;
2805     border: none ;
2806     background: none ;
2807     margin: 0px ;
2808     display: inline-block ;
2809     border-radius: 0px ;
2810 }
2811
2812 img.logoimage{
2813     max-width: 300px ;
2814     box-shadow: 3px 3px 3px #808080 ;
2815     border: 1px solid black ;
2816     background:none ;
2817     padding:0 ;
2818     margin:.5ex ;
2819     border-radius: 10px ;
2820 }
2821
2822
2823 .section {
2824 /*
2825     To have each section float relative to each other:
2826 */
2827 /*
2828     display: block ;
2829     float: left ;
2830     position: relative ;
2831     background: white ;
2832     border: 1px solid silver ;
2833     padding: .5em ;
2834 */
2835     margin: 0ex .5em 0ex .5em ;
2836     padding: 0 ;
2837 }
```

```
2838
2839
2840 figure {
2841     margin: 5ex auto 5ex auto ;
2842     padding: 1ex 1em 1ex 1em ;
2843     overflow-x: auto ;
2844 }
2845
2846
2847 /* To automatically center images in figures: */
2848 /*
2849 figure img.inlineimage {
2850     margin: 0ex auto 0ex auto ;
2851     display: block ;
2852 }
2853 */
2854
2855 /* To automatically center minipages in figures: */
2856 /*
2857 figure div.minipage, figure div.minipage div.minipage {
2858     margin: 1ex auto 1ex auto ;
2859     display: block ;
2860 }
2861 */
2862
2863 figure figure { margin: 0pt }
2864
2865 figure div.minipage p { font-size: 85% ; }
2866
2867 figure.subfigure, figure.subtable {
2868     display: inline-block ; margin: 3ex 1em 3ex 1em ;
2869 }
2870
2871 div.figurecaption .minipage { margin:0 ; padding: 0 }
2872
2873 div.minipage figure { border: none ; box-shadow: none ; }
2874 div.minipage figure.table { margin: 0ex }
2875 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
2876
2877 div.floatrow { text-align: center; }
2878
2879 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
2880
2881 div.floatfoot { font-size: .85em ;
2882     border-top: 1px solid silver ; line-height: 1.2 ; }
2883
2884 div.figurecaption , .lstlistingtitle {
2885     font-size: .85em ;
2886     text-align: center ;
2887     font-weight: bold ;
2888     margin-top: 1ex ;
2889     margin-bottom: 1ex ;
2890 }
2891
2892 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
```

```
2893     border-bottom: none ; background: none ;
2894 }
2895
2896 div.nonfloatcaption {
2897     margin: 1ex auto 1ex auto ;
2898     font-size: .85em ;
2899     text-align: center ;
2900     font-weight: bold ;
2901 }
2902
2903 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
2904 figure div.floatrow div.minipage div.figurecaption {
2905     border: none ;
2906     background: none ;
2907 }
2908
2909
2910 /* For packages such as float, rotfloat, and algorithm2e: */
2911
2912 figure.boxed, figure.boxruled {
2913     border: 1px solid black ;
2914 }
2915
2916 figure.ruled {
2917     border-top: 1px solid black ;
2918     border-bottom: 1px solid black ;
2919     border-left: 0px ;
2920     border-right: 0px ;
2921     border-radius: 0px ;
2922     background: none ;
2923     box-shadow: none ;
2924 }
2925
2926 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
2927     border-top: 1px solid silver ;
2928     border-bottom: 1px solid silver ;
2929 }
2930
2931
2932 table {
2933     margin: 1ex auto 1ex auto ;
2934     border-collapse: separate ;
2935     border-spacing: 0px ;
2936     line-height: 1.3 ;
2937 }
2938
2939 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;
2940     margin-bottom: 0ex ; } /* for \hline */
2941
2942 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
2943     margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
2944
2945 td {padding: .5ex .5em .5ex .5em ;}
2946
2947 table td.tdl { text-align: left ; vertical-align: middle ; }
```

```
2948 table td.tdc { text-align: center ; vertical-align: middle ; }
2949 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }
2950 table td.tdbang { text-align: center ; vertical-align: middle ; }
2951 table td.tdr { text-align: right ; vertical-align: middle ; }
2952 table td.tdp { text-align: left ; vertical-align: bottom ; }
2953 table td.tdm { text-align: left ; vertical-align: middle ; }
2954 table td.tdb { text-align: left ; vertical-align: top ; }
2955 table td.tdP { text-align: center ; vertical-align: bottom ; }
2956 table td.tdM { text-align: center ; vertical-align: middle ; }
2957 table td.tdB { text-align: center ; vertical-align: top ; }
2958
2959 table td.tvertbarl { border-left: 1px solid black }
2960 table td.tvertbarldouble { border-left: 4px double black }
2961 table td.tvertbarr { border-right: 1px solid black }
2962 table td.tvertbarrdouble { border-right: 4px double black }
2963
2964 table td.tvertbarldash { border-left: 1px dashed black }
2965 table td.tvertbarldoubledash { border-left: 2px dashed black }
2966 table td.tvertbarrdash { border-right: 1px dashed black }
2967 table td.tvertbarrdoubledash { border-right: 2px dashed black }
2968
2969
2970 /* for cmidrules: */
2971 table td.tdrule {
2972     border-top: 1px solid #A0A0A0 ;
2973 }
2974
2975 table td.tdrulel {
2976     border-top-left-radius:.5em ;
2977     border-top: 1px solid #A0A0A0 ;
2978 }
2979
2980 table td.tdruler {
2981     border-top-right-radius:.5em ;
2982     border-top: 1px solid #A0A0A0 ;
2983 }
2984
2985 table td.tdrulelr {
2986     border-top-left-radius:.5em ;
2987     border-top-right-radius:.5em ;
2988     border-top: 1px solid #A0A0A0 ;
2989 }
2990
2991
2992 /* Margins of paragraphs inside table cells: */
2993 td.tdp p , td.tdprule p , td.tdp p , td.tdPrule p { padding-top: 1ex ;
2994     padding-bottom: 1ex ; margin: 0ex ; }
2995 td.tdm p , td.tmbrule p , td.tdm p , td.tdMrule p { padding-top: 1ex ;
2996     padding-bottom: 1ex ; margin: 0ex ; }
2997 td.tdb p , td.tdbrule p , td.tdb p , td.tdBrule p { padding-top: 1ex ;
2998     padding-bottom: 1ex ; margin: 0ex ; }
2999
3000 td.tdp , td.tdprule , td.tdp , td.tdPrule
3001     { padding: 0ex .5em 0ex .5em ; }
3002 td.tdm , td.tdmrule , td.tdM , td.tdMrule
```

```
3003     { padding: 0ex .5em 0ex .5em ; }
3004 td.tdb , td.tdbrule , td.tdB , td.tdBrule
3005     { padding: 0ex .5em 0ex .5em ; }
3006
3007
3008 /* table notes: */
3009 .tnotes {
3010     margin: 0ex 5% 1ex 5% ;
3011     padding: 0.5ex 1em 0.5ex 1em;
3012     font-size:.80em;
3013     text-align: left ;
3014 }
3015
3016 .minipage .tnotes {
3017     margin: 0pt ;
3018     padding: 0pt ;
3019 }
3020
3021 .tnotes dl dt p {margin-bottom:0px;}
3022
3023 .tnoteitemheader {margin-right: 1em;}
3024
3025
3026 /* for colortbl and cell color */
3027 div.cellcolor {
3028     width: 100% ;
3029     padding: .5ex .5em .5ex .5em ;
3030     margin: -.5ex -.5em -.5ex -.5em ;
3031 }
3032
3033
3034 /* for lyluatex */
3035 span.lyluatex {
3036     display: inline-block ;
3037 }
3038
3039 div.lyluatex p span.lateximagesource img {
3040     display: block ;
3041     margin-top: 3ex ;
3042     margin-bottom: 3ex ;
3043 }
3044
3045
3046 /* for bigdelim */
3047 .ldelim, .rdelim { font-size: 200% }
3048
3049
3050 /* center, flushleft, flushright environments */
3051 div.center{text-align:center;}
3052 div.center table {margin-left:auto;margin-right:auto;}
3053 div.flushleft{text-align:left;}
3054 div.flushleft table {margin-left:0em ; margin-right:auto;}
3055 div.flushright{text-align:right;}
3056 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3057
```

```
3058
3059 /* Fancybox */
3060 div.Btrivlist table tr td {
3061     padding: .2ex 0em ;
3062 }
3063
3064
3065 /* program listing callouts: */
3066 span.callout {
3067     font-family: "DejaVu Sans", "Bitstream Vera Sans",
3068         Geneva, Verdana, sans-serif ;
3069     border-radius: .5em;
3070     background-color:black;
3071     color:white;
3072     padding:0px .25em 0px .25em;
3073     margin: 0 ;
3074     font-weight: bold;
3075     font-size:.72em ;
3076 }
3077
3078 div.programlisting pre.verbatim span.callout{
3079     font-size: .85em ;
3080 }
3081
3082 span.verbatim {
3083     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3084         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3085         "Courier New", monospace;
3086 }
3087
3088
3089
3090 div.titlehead
3091 {
3092     text-align: left ;
3093     font-style: normal ;
3094     font-weight: normal ;
3095     font-style: normal ;
3096     font-size: .8em ;
3097     margin: 1ex 0em 1ex 0em ;
3098 }
3099
3100 div.subject
3101 {
3102     text-align: center ;
3103     font-style: normal ;
3104     font-weight: bold ;
3105     font-style: normal ;
3106     font-size: .8em ;
3107     margin: 1ex 0em 1ex 0em ;
3108 }
3109
3110 div.published
3111 {
3112     text-align: center ;
```

```
3113     font-variant: normal ;
3114     font-style: italic ;
3115     font-size: 1em ;
3116     margin: 1ex 0em 1ex 0em ;
3117 }
3118
3119 div.subtitle
3120 {
3121     text-align: center ;
3122     font-variant: normal ;
3123     font-style: italic ;
3124     font-size: 1.25em ;
3125     margin: 1ex 0em 1ex 0em ;
3126 }
3127
3128 div.subtitle p { margin: 1ex ; }
3129
3130 div.author
3131 {
3132     font-variant: normal ;
3133     font-style: normal ;
3134     font-size: 1em ;
3135     margin: 1ex 0em 1ex 0em ;
3136 }
3137
3138 div.oneauthor {
3139     display: inline-block ;
3140     margin: 0ex 1em 0ex 1em ;
3141 }
3142
3143 /*
3144 div.author table {
3145     margin: 1ex auto 0ex auto ;
3146     background: none ;
3147 }
3148
3149 div.author table tbody tr td { padding: .25ex ; }
3150 */
3151
3152 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3153
3154 div.titledate {
3155     text-align: center ;
3156     font-size: .85em ;
3157     font-style: italic;
3158     margin: 1ex 0em 1ex 0em ;
3159 }
3160
3161
3162 nav.topnavigation{
3163     text-align: left ;
3164     padding: 0.5ex 1em 0.5ex 1em ;
3165 /*     margin: 2ex 0em 3ex 0em ; */
3166     margin: 0 ;
3167     border-bottom: 1px solid silver ;
```

```
3168     border-top: 1px solid silver ;
3169     clear:both ;
3170 }
3171
3172 nav.botnavigation{
3173     text-align: left ;
3174     padding: 0.5ex 1em 0.5ex 1em ;
3175 /*     margin: 3ex 0em 2ex 0em ; */
3176     margin: 0 ;
3177     border-top: 1px solid silver ;
3178     border-bottom: 1px solid silver ;
3179     clear:both ;
3180 }
3181
3182
3183 header {
3184     line-height: 1.2 ;
3185     font-size: 1em ;
3186     border-bottom: 1px solid silver ;
3187     margin: 0px ;
3188     padding: 2ex 1em 2ex 1em ;
3189     text-align:left ;
3190 }
3191
3192
3193 footer {
3194     font-size: .85em ;
3195     line-height: 1.2 ;
3196     margin-top: 1ex ;
3197     border-top: 1px solid silver ;
3198     padding: 2ex 1em 2ex 1em ;
3199     clear:both ;
3200     text-align:left ;
3201 }
3202
3203
3204 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3205 a.linkhome { font-weight:bold ; font-size: 1em ;}
3206
3207
3208 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3209
3210 img.lateximage{
3211     padding: 0pt ;
3212     margin: 0pt ;
3213     box-shadow: none ;
3214     border: none ;
3215     background: none ;
3216     max-width: 100% ;
3217     border-radius: 0ex ;
3218     border: none ;
3219 }
3220
3221
3222 /* The -1px right margin compensates for the 1px right border. */
```

```
3223 /* Without this -1px margin, the body container appears below instead */
3224 /* of floating to the side. */
3225 div.sidetoccontainer {
3226     font-family: "DejaVu Serif", "Bitstream Vera Serif",
3227         "Lucida Bright", Georgia, serif;
3228     float: left ;
3229     width: 20%;
3230     margin: 0pt -1px 3ex 0pt ;
3231     border-right: 1px solid silver;
3232     border-bottom: 1px solid silver;
3233     background: #FAF7F4 ;
3234     font-size:.9em ;
3235     border-radius: 0px 0px 20px 0px ;
3236 }
3237
3238 div.sidetoccontents {
3239     overflow-y: auto ;
3240     width: 100% ;
3241     text-align: left ;
3242 }
3243
3244
3245 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
3246     text-indent: 0 ; }
3247
3248 nav.sidetoc p a {color:black ; font-size: .7em ;}
3249
3250 div.sidetoctitle {font-size: 1.2em; font-weight:bold; text-align:center;
3251     border-bottom: 1px solid silver ;    }
3252
3253 nav.sidetoc a:hover {text-decoration: underline ; }
3254
3255
3256
3257 section.textbody { margin: 0ex 1em 0ex 1em ;}
3258
3259
3260 div.multicolsheading { -webkit-column-span: all;
3261     -moz-column-span: all; column-span: all; }
3262 div.multicols { -webkit-columns: 3 380px ;
3263     -moz-columns: 3 380px ; columns: 3 380px ; }
3264 div.multicols p {margin-top: 0ex}
3265
3266
3267 /* Used for xfrac and nicefrac: */
3268 span.numerator {
3269     font-size: 60% ;
3270     vertical-align: .4em ;
3271 }
3272
3273 span.denominator {
3274     font-size: 60%
3275 }
3276
3277
```

```
3278 /* Used for algorithm2e: */
3279 div.alg2evline{
3280     margin-left: 1em ;
3281     padding-left: 1em ;
3282     border-left: 1px solid black ;
3283     border-radius: 0px 0px 0px 1ex ;
3284 }
3285
3286 div.alg2evsline{
3287     margin-left: 1em ;
3288     padding-left: 1em ;
3289     border-left: 1px solid black ;
3290 }
3291
3292 div.alg2enoline{
3293     margin-left: 1em ;
3294     padding-left: 1em ;
3295 }
3296
3297 span.alg2elinenumber{
3298     margin-right: .5em ;
3299     font-size: 50% ;
3300     color: red ;
3301 }
3302
3303
3304 /* Used for algorithmicx: */
3305 span.floatright { float: right ; }
3306
3307
3308 /* keyfloat and tocdata: */
3309 .floatnotes {
3310     margin: 0ex 5% 0ex 5% ;
3311     padding: 0ex 1em 0ex 1em ;
3312     font-size:.80em ;
3313     text-align: left ;
3314 }
3315
3316 .authorartist{
3317     display:block ;
3318     font-size:.70em ;
3319     font-style: italic;
3320 }
3321
3322 nav .authorartist{ display:inline; }
3323
3324
3325
3326 /* Native LaTeX theorems: */
3327
3328 .theoremcontents { font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ; }
3329 .theoremlabel { font-style: normal; font-weight: bold ; margin-right: .5em ; }
3330
3331
3332 /* theorem, amsthm, and ntheorem packages */
```

```
3333
3334 span.theoremheader,
3335 span.theoremheaderplain,
3336 span.theoremheaderdefinition,
3337 span.theoremheaderbreak,
3338 span.theoremheadermarginbreak,
3339 span.theoremheaderchangebreak,
3340 span.theoremheaderchange,
3341 span.theoremheadermargin
3342 {
3343     font-style:normal ; font-weight: bold ; margin-right: 1em ;
3344 }
3345
3346 span.amsthmnameplain,
3347 span.amsthmnamedefinition,
3348 span.amsthmnumberplain,
3349 span.amsthmnumberdefinition
3350 {
3351     font-style:normal ; font-weight: bold ;
3352 }
3353
3354
3355 span.amsthmnameremark,
3356 span.amsthmnumberremark
3357 {font-style:italic ; font-weight: normal ; }
3358
3359
3360 span.amsthmnoteplain,
3361 span.amsthmnotedefinition
3362 {font-style:normal ;}
3363
3364
3365 span.theoremheaderremark,
3366 span.theoremheaderproof,
3367 span.amsthmproofname
3368 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3369
3370 span.theoremheadersc
3371 {
3372     font-style:normal ;
3373     font-variant: small-caps ;
3374     font-weight: normal ;
3375     margin-right: 1em ;
3376 }
3377
3378 .theoremendmark {float:right}
3379
3380 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
3381 div.theorembodybreak, div.theorembodynonumberbreak,
3382 div.theorembodymarginbreak,
3383 div.theorembodychangebreak,
3384 div.theorembodychange,
3385 div.theorembodymargin
3386 {
3387     font-style:italic;
```

```
3388     margin-top: 3ex ; margin-bottom: 3ex ;
3389 }
3390
3391 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3392 div.theorembodyplainupright, nonumberplainuprightsc,
3393 div.amsthmbodydefinition, div.amsthmbodyremark,
3394 div.amsthmproof
3395 {
3396     font-style: normal ;
3397     margin-top: 3ex ; margin-bottom: 3ex ;
3398 }
3399
3400 span.amsthmnoteremark {}
3401
3402
3403 /* For the backnaur package: */
3404 div.backnaur {
3405     display: block ;
3406     margin: 2ex 2em 2ex 2em ;
3407 }
3408
3409 div.backnaur p {
3410     margin: .25ex 0ex .25ex 0ex ;
3411 }
3412
3413 div.backnaurprod {
3414     display: inline-block ;
3415     min-width: 8em ;
3416     text-align:right ;
3417 }
3418
3419 div.backnaurdesc {
3420     display: inline-block ;
3421 }
3422
3423
3424 /* For the notes package: */
3425 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3426     clear: both ;
3427     margin: 2ex 2em 2ex 2em ;
3428     border: 1px solid silver ;
3429 }
3430
3431 div.notesicon {
3432     float:left ;
3433     display: inline-block ;
3434     background: gold ;
3435     padding: 0ex 1em 0ex 1em ;
3436     margin-right: 1em ;
3437     font-weight: bold ;
3438 }
3439
3440 div.notescontents { font-style: italic }
3441
3442
```

```
3443 /* nolbreaks package: */
3444 span.nolbreaks { white-space: nowrap ; }
3445
3446
3447 /*
3448 For CSS LaTeX and related logos:
3449 Based on spacing demonstrated by the metafont package.
3450 */
3451
3452 .latexlogofont {
3453   font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3454         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3455   font-variant: normal ;
3456 }
3457
3458 .latexlogo {
3459   font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3460         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3461   font-size: 1.1em;
3462 }
3463
3464 .latexlogosup {
3465   text-transform: uppercase;
3466   letter-spacing: .03em ;
3467   font-size: 0.7em;
3468   vertical-align: 0.25em;
3469   margin-left: -0.4em;
3470   margin-right: -0.15em;
3471 }
3472
3473 .latexlogosub {
3474   text-transform: uppercase;
3475   vertical-align: -0.27ex;
3476   margin-left: -0.08em;
3477   margin-right: -0.07em;
3478   font-size: 1em;
3479 }
3480
3481 .latexlogotwoe {
3482   text-transform: none ;
3483   font-variant-numeric: oldstyle-nums ;
3484 }
3485
3486 .latexlogotwoesub {
3487   font-style:italic ;
3488   vertical-align: -0.27ex;
3489   margin-left: -0.11em;
3490   margin-right: -0.1em;
3491   font-size: 1em;
3492 }
3493
3494 .xelatexlogo {
3495   font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3496         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3497   letter-spacing: .03em ;
```

```
3498     font-size: 1.1em;
3499 }
3500
3501 .xelatexlogosub {
3502     vertical-align: -0.27ex;
3503     margin-left: -0.0667em;
3504     margin-right: -.05em;
3505     font-size: 1em;
3506     letter-spacing: .03em ;
3507 }
3508
3509 .amslogo {
3510     font-family: "TeXGyreChorus", "URW Chancery L",
3511             "Apple Chancery", "ITC Zapf Chancery", "Monotype Corsiva",
3512             "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
3513             "Hoefler Text", Times, "Times New Roman", serif ;
3514     font-style: italic ;
3515 }
3516
3517 .lyxlogo {
3518     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3519             "DejaVu Sans", "Bitstream Vera Sans", Geneva,
3520             Verdana, sans-serif ;
3521 }
3522
3523
3524 /* Only display top and bottom navigation if a small screen: */
3525 /* Hide the sidetoc if a small screen: */
3526 nav.topnavigation { display:none; }
3527 nav.botnavigation { display:none; }
3528
3529 /* Only display the sidetoc's webpage title if a small screen */
3530 span.sidetocthetitle { display: none }
3531
3532 @media screen and (max-width: 50em) {
3533     div.sidetoccontainer {
3534         float: none ;
3535         width: 100% ;
3536         padding: 0 ;
3537         border-radius: 0 ;
3538         border-bottom: 1px solid black ;
3539         border-top: 1px solid black ;
3540         box-shadow: none ;
3541     }
3542     span.sidetocthetitle { display: inline }
3543     nav.topnavigation { display:block }
3544     nav.botnavigation { display:block }
3545     div.bodycontainer { width: 100% }
3546     .marginpar {
3547         max-width: 100%;
3548         float: none;
3549         display:block ;
3550         margin: 1ex 1em 1ex 1em ;
3551     }
3552 }
```

```

3553
3554 @media print {
3555     body {
3556         font-family: "Linux Libertine O",
3557             "DejaVu Serif", "Bitstream Vera Serif",
3558             "Liberation Serif", "Nimbus Roman No 9 L",
3559             "FreeSerif", "Hoepler Text", Times, "Times New Roman", serif;
3560     }
3561     div.sidetoccontainer { display:none; }
3562     nav.topnavigation { display: none; }
3563     nav.botnavigation { display: none; }
3564     div.bodycontainer { width: 100% }
3565 }
3566
3567 @media handheld {
3568     div.sidetoccontainer { display:none; }
3569     nav.topnavigation { display:block }
3570     nav.botnavigation { display:block }
3571     div.bodycontainer { width: 100% }
3572 }
3573
3574 @media projection {
3575     div.sidetoccontainer { display:none; }
3576     nav.topnavigation { display:block }
3577     nav.botnavigation { display:block }
3578     div.bodycontainer { width: 100% }
3579 }
3580 \end{filecontents*}
3581 % \end{Verbatim}% for syntax highlighting
3582 \end{LWRwriteconf}

```

39.5 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:

```

3583 \begin{LWRwriteconf}
3584 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
3585 @import url("lwarp.css") ;
3586
3587
3588 A:link {color:#105030 ; text-decoration: none ; }
3589 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
3590 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
3591 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
3592
3593
3594
3595 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
3596 {
3597     font-family: "URW Classico", Optima, "Linux Biolinum O",
3598             "Linux Libertine O", "Liberation Serif",

```

```
3599         "Nimbus Roman No 9 L", "FreeSerif",
3600         "Hoefler Text", Times, "Times New Roman", serif;
3601     font-variant: small-caps ;
3602     font-weight: normal ;
3603     color: #304070 ;
3604     text-shadow: 2px 2px 3px #808080;
3605 }
3606
3607 h1 { /* title of the entire website, used on each page */
3608     font-variant: small-caps ;
3609     color: #304070 ;
3610     text-shadow: 2px 2px 3px #808080;
3611     background-color: #F7F7F0 ;
3612     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
3613 }
3614
3615 h1 {
3616     border-bottom: 1px solid #304070;
3617 /* border-top: 2px solid #304070; */
3618 }
3619
3620 h2 {
3621     border-bottom: 1px solid #304070;
3622 /* border-top: 2px solid #304070; */
3623     background-color: #F7F7F0 ;
3624     background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
3625 }
3626
3627
3628
3629 div.abstract {
3630     background: #f5f5eb ;
3631     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3632
3633     border: 1px solid silver;
3634     border-radius: 1em ;
3635 }
3636
3637 div.abstract dl {line-height:1.5;}
3638 div.abstract dt {color:#304070;}
3639
3640 div.abstracttitle{
3641     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3642             "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
3643             "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3644     font-weight:bold;
3645     font-variant: small-caps ;
3646     font-size:1.5em;
3647     border-bottom: 1px solid silver ;
3648     color: #304070 ;
3649     text-align: center ;
3650     text-shadow: 1px 1px 2px #808080;
3651 }
3652
3653 span.abstractrunintitle{
```

```
3654     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3655         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3656         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3657     font-weight:bold;
3658 }
3659
3660
3661 div.epigraph, div.dictum {
3662     background: #f5f5eb ;
3663     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3664
3665     border: 1px solid silver ;
3666     border-radius: 1ex ;
3667     box-shadow: 3px 3px 3px #808080 ;
3668 }
3669
3670
3671 .example {
3672     background-color: #f5f5eb ;
3673     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3674
3675 }
3676
3677 div.exampletitle{
3678     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3679         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3680         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3681     font-weight:bold;
3682     font-variant: small-caps ;
3683     border-bottom: 1px solid silver ;
3684     color: #304070 ;
3685     text-align: center ;
3686     text-shadow: 1px 1px 2px #808080;
3687 }
3688
3689
3690 .sidebar {
3691     background-color: #f5f5eb ;
3692     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3693
3694 }
3695
3696 div.sidebartitle{
3697     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3698         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3699         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3700     font-weight:bold;
3701     font-variant: small-caps ;
3702     border-bottom: 1px solid silver ;
3703     color: #304070 ;
3704     text-align: center ;
3705     text-shadow: 1px 1px 2px #808080;
3706 }
3707
3708
```

```
3709 .fancyvrblabel {  
3710     font-family: "URW Classico", Optima, "Linux Biolinum 0",  
3711         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",  
3712         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;  
3713     font-weight:bold;  
3714     font-variant: small-caps ;  
3715     font-size: 1.5em ;  
3716     color: #304070 ;  
3717     text-align: center ;  
3718     text-shadow: 1px 1px 2px #808080;  
3719 }  
3720  
3721 div.minipage {  
3722     background-color: #eeeeee7 ;  
3723     border: 1px solid silver ;  
3724     border-radius: 1ex ;  
3725 }  
3726  
3727 table div.minipage { background: none ; border: none ; }  
3728  
3729 div.framebox div.minipage {border:none ; background:none}  
3730  
3731 section.textbody > div.minipage {  
3732     box-shadow: 3px 3px 3px #808080 ;  
3733 }  
3734  
3735 div.fboxBlock div.minipage { box-shadow: none ; }  
3736  
3737 .framed .minipage , .framedleftbar .minipage {  
3738     border: none ;  
3739     background: none ;  
3740     padding: 0ex ;  
3741     margin: 0ex ;  
3742 }  
3743  
3744 figure.figure .minipage, div.figurecaption .minipage { border: none; }  
3745  
3746 div.marginblock div.minipage ,  
3747 div.marginparblock div.minipage  
3748     { border: none; }  
3749  
3750 figure , div.marginblock {  
3751     background-color: #eeeeee7 ;  
3752     border: 1px solid silver ;  
3753     border-radius: 1ex ;  
3754     box-shadow: 3px 3px 3px #808080 ;  
3755 }  
3756  
3757 figure figure {  
3758     border: 1px solid silver ;  
3759     margin: 0em ;  
3760     box-shadow: none ;  
3761 }  
3762  
3763 /*
```

```
3764 div.figurecaption {  
3765     border-top: 1px solid silver ;  
3766     border-bottom: 1px solid silver ;  
3767     background-color: #e8e8e8 ;  
3768 }  
3769 */  
3770  
3771  
3772 div.table {  
3773     box-shadow: 3px 3px 3px #808080 ;  
3774 }  
3775  
3776 /*  
3777 .tnotes {  
3778     background: #e8e8e8;  
3779     border: 1px solid silver;  
3780 }  
3781 */  
3782  
3783  
3784 nav.topnavigation{  
3785     background-color: #b0b8b0 ;  
3786     background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;  
3787 }  
3788  
3789 nav.botnavigation{  
3790     background-color: #b0b8b0 ;  
3791     background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;  
3792 }  
3793  
3794  
3795  
3796 header{  
3797     background-color: #F7F7F0 ;  
3798     background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);  
3799 }  
3800  
3801 footer{  
3802     background-color: #F7F7F0 ;  
3803     background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);  
3804 }  
3805  
3806  
3807  
3808 div.sidetoccontainer {  
3809     background-color: #F7F7F0 ;  
3810     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);  
3811     box-shadow: 3px 3px 3px #808080 ;  
3812 }  
3813  
3814 div.sidetotitle {color: #304070 ; }  
3815  
3816 nav.sidetoc a:hover {  
3817     color:#006000 ;  
3818     text-decoration: none ;
```

```
3819     text-shadow:0px 0px 2px #a0a0a0;
3820 }
3821
3822
3823 @media screen and (max-width: 45em) {
3824     div.sidetoccontainer { border-radius: 0 ; }
3825 }
3826
3827
3828 \end{filecontents*}
3829 % \end{Verbatim}% for syntax highlighting
3830 \end{LWRwriteconf}
```

39.6 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:

```
3831 \begin{LWRwriteconf}
3832 \begin{filecontents*}[overwrite]{lwarp_formal.css}
3833 @import url("lwarp.css") ;
3834
3835
3836
3837 A:link {color:#802020 ; text-decoration:none; }
3838 A:visited {color:#802020 ; text-decoration:none ;}
3839 A:hover {color:#400000 ; text-decoration:none ;}
3840 A:active {color:#C00000 ; text-decoration:none ;}
3841
3842
3843 body {
3844     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3845         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3846         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3847         "Times New Roman", serif;
3848     background: #fffcf5;
3849 }
3850
3851 span.textrm {
3852     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3853         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3854         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3855         "Times New Roman", serif;
3856 }
3857
3858 span.textsf {
3859     font-family: "DejaVu Sans", "Bitstream Vera Sans",
3860         Geneva, Verdana, sans-serif ;
3861 }
3862
3863
3864
```

```
3865 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
3866 {
3867     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3868         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3869         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3870         "Times New Roman", serif;
3871     color: #800000 ;
3872     text-shadow: none ;
3873 }
3874
3875 h1, h2 {
3876     background-color: #ffffcf5 ;
3877     background-image: none ;
3878     border-bottom: 1px solid #808080;
3879 /*     border-top: 2px solid #808080; */
3880 }
3881
3882 div.abstracttitle {
3883     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3884         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3885         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3886         "Times New Roman", serif;
3887     color: black ;
3888     text-shadow: none ;
3889 }
3890
3891 span.abstractrunintitle {
3892     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3893         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3894         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3895         "Times New Roman", serif;
3896     color: black ;
3897     text-shadow: none ;
3898 }
3899
3900 div.abstract { font-size: 100% }
3901
3902 .sidebar {
3903     background: #ffffcf5;
3904     background-image: none ;
3905     margin: 2em 5% 2em 5%;
3906     padding: 0.5em 1em;
3907     border: none ;
3908     border-top : 1px solid silver;
3909     border-bottom : 1px solid silver;
3910     font-size: 90% ;
3911 }
3912
3913 div.sidebartitle{
3914     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3915         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3916         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3917         "Times New Roman", serif;
3918     color: #800000 ;
3919     text-shadow: none ;
```

```
3920     border: none ;
3921 }
3922
3923 .example {
3924     background: #ffffcf5;
3925     background-image: none ;
3926 margin: 2em 5% 2em 5%;
3927 padding: 0.5em 1em;
3928 border: none ;
3929 border-top : 1px solid silver;
3930 border-bottom : 1px solid silver;
3931 }
3932
3933 div.exampletitle{
3934     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3935         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3936         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3937         "Times New Roman", serif;
3938 color: #800000 ;
3939 text-shadow: none ;
3940 border: none ;
3941 }
3942
3943 div.fancyvrblabel{
3944     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3945         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3946         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3947         "Times New Roman", serif;
3948 color: #800000 ;
3949 text-shadow: none ;
3950 border: none ;
3951 }
3952
3953
3954
3955 figure {
3956     margin: 5ex 5% 5ex 5% ;
3957     padding: 1ex 1em 1ex 1em ;
3958     background-color: #ffffcf5 ;
3959     overflow-x: auto ;
3960     border: none ;
3961 /*     border-top: 1px solid silver; */
3962 /*     border-bottom: 1px solid silver; */
3963 }
3964
3965
3966 div.figurecaption , .lstlisting {
3967     border: none ;
3968 /*     border-top: 1px solid silver ; */
3969 /*     border-bottom: 1px solid silver ; */
3970     background-color: #ffffcf5 ;
3971 }
3972
3973 .tnotes {
3974     background: #ffffcf5 ;
```

```
3975     border-top: 1px solid silver ;
3976     border-bottom: 1px solid silver ;
3977 }
3978
3979 .theorem {
3980     background: none ;
3981 }
3982
3983 .minipage {
3984     background-color: #ffffcf5 ;
3985     border: none ;
3986 }
3987
3988 div.floatrow figure { border: none ; }
3989
3990 figure figure { border: none ; }
3991
3992
3993 nav.toc, nav.lof, nav.lot, nav.loi {
3994     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3995         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3996         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3997         "Times New Roman", serif;
3998 }
3999
4000 div.sidetoccontainer {
4001     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4002         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4003         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4004         "Times New Roman", serif;
4005     background-image: linear-gradient(to bottom, #ffffcf5, #C0C0C0);
4006 }
4007
4008 div.sidetoctitle{
4009     color: #800000 ;
4010 }
4011
4012 header{
4013     background-color: #e0e0e0 ;
4014     background-image: linear-gradient(to top, #ffffcf5, #b0b0b0);
4015     text-align:center ;
4016 }
4017
4018 footer{
4019     background-color: #e0e0e0 ;
4020     background-image: linear-gradient(to bottom, #ffffcf5, #b0b0b0);
4021     padding: 2ex 1em 2ex 1em ;
4022     text-align:left ;
4023 }
4024
4025 nav.botnavigation {
4026     background: #dedcd5 ;
4027     border-top: 1px solid black ;
4028 }
4029 \end{filecontents*}
```

```
4030 % \end{Verbatim}%
4031 \end{LWRwriteconf}
```

39.7 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:

```
4032 \begin{LWRwriteconf}
4033 \begin{filecontents*}[overwrite]{sample_project.css}
4034 /* ( --- Start of project.css --- ) */
4035 /* ( --- A sample project-specific CSS file for lwarp --- ) */
4036
4037 /* Uncomment one of the following: */
4038 @import url("lwarp.css");
4039 /* @import url("lwarp_formal.css"); */
4040 /* @import url("lwarp_sagebrush.css"); */
4041
4042 /* Project-specific CSS setting follow here. */
4043 /* . . . */
4044
4045 /* ( --- End of project.css --- ) */
4046 \end{filecontents*}
4047 % \end{Verbatim}%
4048 \end{LWRwriteconf}
```

39.8 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:

```
4049 \begin{LWRwriteconf}
4050 \begin{filecontents*}[overwrite]{lwarp.ist}
4051 preamble
4052 "\\begin{theindex}"
4053   \\providecommand*\\lettergroupDefault[1]{}%
4054   \\providecommand*\\lettergroup[1]{%
4055     \\par\\textbf{\#1}\\par
4056     \\nopagebreak
4057   }
4058 "
4059 headings_flag 1
4060 heading_prefix "
4061   \\lettergroup{"
4062 heading_suffix "}"
4063 delim_0 ", \\hyperindexref{"
```

```

4064 delim_1 ", \\hyperindexref{"
4065 delim_2 ", \\hyperindexref{"
4066 delim_n "}, \\hyperindexref{"
4067 delim_r "} -- \\hyperindexref{"
4068 delim_t "}"
4069 page_compositor "."
4070 \end{filecontents*}
4071 % \end{Verbatim}% for syntax highlighting
4072 \end{LWRwriteconf}

```

39.9 lwarf.xdy

File lwarf.xdy Used to modify the index for lwarf.

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](https://tex.stackexchange.com/questions/80300/how-can-i-convince-hyperref-and-xindy-to-play-together-nicely)

Config file:

```

4073 \begin{LWRwriteconf}
4074 \begin{filecontents*}[overwrite]{lwarf.xdy}
4075 (require "tex/inputenc/latin.xdy")
4076 (merge-rule "\\PS *" "Postscript")
4077 (require "texindy.xdy")
4078 (require "page-ranges.xdy")
4079 (require "book-order.xdy")
4080 (define-location-class "arabic-page-numbers"
4081     ("arabic-numbers") :min-range-length 1)
4082 (require "makeindex.xdy")
4083 (define-atributes ((hyperindexref)))
4084 (markup-locref :open "\\hyperindexref{" :close "}")
4085 (markup-locref :open "\\hyperindexref{" :close "}" :attr "hyperpage")
4086 (markup-locref :open "\\textbf{\\hyperindexref{" :close "}}" :attr "textbf")
4087 (markup-locref :open "\\textit{\\hyperindexref{" :close "}}" :attr "textit")
4088 (define-location-class-order ("roman-page-numbers"
4089             "arabic-page-numbers"
4090             "alpha-page-numbers"
4091             "Roman-page-numbers"
4092             "Alpha-page-numbers"
4093             "see"
4094             "seealso"))
4095 \end{filecontents*}
4096 % \end{Verbatim}% for syntax highlighting
4097 \end{LWRwriteconf}

```

39.10 lwarf_one_limage.cmd

File lwarf_one_limage.cmd Used by lwarf 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 l warp_one_l image.cmd to be created directly by *l warpmk*, so l warp_one_l image.txt is created instead, then copied to l warp_one_l image.cmd by *l warpmk*. This occurs each time *l warpmk* used to create lateximages.

```
Config file: 4098 \begin{LWRwriteconf}
4099 \immediate\openout\LWR@quickfile=l warp_one_l image.txt
4100 \immediate\write\LWR@quickfile{%
4101     pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4102     \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4103 }
4104 \immediate\write\LWR@quickfile{%
4105     pdfcrop --hires \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4106     \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4107 }
4108 \immediate\write\LWR@quickfile{%
4109     pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4110     \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%
4111 }
4112 \immediate\write\LWR@quickfile{%
4113     del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4114 }
4115 \immediate\write\LWR@quickfile{%
4116     del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4117 }
4118 \immediate\write\LWR@quickfile{exit}
4119 \immediate\closeout\LWR@quickfile
4120 \end{LWRwriteconf}
```

39.11 l warp_mathjax.txt

(Emulates or patches code by DAVIDE P. CERVONE.)

File l warp_mathjax.txt The default MathJax script used by l warp when using MATHJAX. A recent version of MathJax is used, as served by the recommended repository. Adjustments are made to allow L^AT_EX to control the equation tags and provide for starred macros.

\MathJaxFilename determines which script file is copied into the HTML pages, and defaults to l warp_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 l warp_mathjax.txt to a new file, make changes while keeping l warp's adjustments for equation numbering and starred macros, and use \MathJaxFilename to select the new filename.

```
Config file: 4121 \begin{LWRwriteconf}
4122 \begin{filecontents*}[overwrite]{l warp_mathjax.txt}
4123 <script>
```

```
4124 // Lwarp MathJax emulation code
4125 // Based on code by Davide P. Cervone.
4126 // Original code: https://github.com/mathjax/MathJax/issues/2313
4127 // Modified by Brian Dunn to adjust equation numbering, add subequations,
4128 // and add starred macros.
4129 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
4130 // Starred macros: https://github.com/mathjax/MathJax/issues/2428
4131 //
4132 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.
4133 // subequations? is 0 usually, 1 if inside subequations.
4134 // section is a string printed as-is, or empty.
4135 // number is auto-incremented by MathJax between equations.
4136 //
4137 MathJax = {
4138   subequations: "0",
4139   section: "",
4140   loader: {
4141     load: ['[tex]/tagFormat']
4142   },
4143   startup: {
4144     ready() {
4145       //
4146       // These would be replaced by import commands if you wanted to make
4147       // a proper extension.
4148       //
4149       const Configuration = MathJax._.input.tex.Configuration.Configuration;
4150       const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;
4151       const Macro = MathJax._.input.tex.Symbol.Macro;
4152       const TexError = MathJax._.input.tex.TexError.default;
4153       const ParseUtil = MathJax._.input.tex.ParseUtil.default;
4154       const expandable = MathJax._.util.Options.expandable;
4155
4156       //
4157       // These are the names of the command maps:
4158       //
4159       const SETEQNUMBERMAP = 'seteqnumberCoreMap' ;
4160
4161       //
4162       // These functions implement the macros:
4163       //
4164       const seteqnumberFunction = (parser, name) => {
4165         // Get the macro parameters
4166         const star = parser.GetStar();           // true if there is a *
4167         const optBrackets = parser.GetBrackets(name); // contents of optional brackets
4168         const newsubequations = parser.GetArgument(name); // the subequations argument
4169         const neweqsection = parser.GetArgument(name); // the eq section argument
4170         const neweqnumber = parser.GetArgument(name); // the eq number argument
4171         MathJax.config.subequations=newsubequations ; // a string with boolean meaning
4172         MathJax.config.section=neweqsection ;        // a string with numeric meaning
4173         parser.tags.counter = parser.tags.allCounter = neweqnumber ;
4174       };
4175
4176       //
4177       // This is the configuration for the seteqnumberFunctionConfig TeX extension.
4178       //
```

```
4179  const seteqnumberFunctionConfig = Configuration.create('seteqnumberCore', {
4180      //
4181      // Initialize the extension by creating the command map,
4182      // then append the command map to the given configuration as a macro handler.
4183      //
4184      init(config) {
4185          const map = new CommandMap(SETEQNUMBERMAP, {}, {});
4186          config.append(
4187              Configuration.create(
4188                  'seteqnumberDefs',
4189                  {handler: {macro: [SETEQNUMBERMAP]}})
4190              )
4191          );
4192      },
4193      //
4194      // Add options (from the
4195      // seteqnumberCore configuration object in the document's
4196      // option list, if any).
4197      //
4198      config(config, jax) {
4199          const map = jax.parseOptions.handlers.retrieve(SETEQNUMBERMAP);
4200          const options = jax.parseOptions.options.seteqnumberCore;
4201          for (const cs of Object.keys(options)) {
4202              map.add(cs, new Macro(cs, seteqnumberFunction, options[cs]));
4203          }
4204      },
4205      //
4206      options: {
4207          seteqnumberCore: expandable({})
4208      }
4209  );
4210
4211
4212
4213  const IFSTARMAP = 'ifstarMap';
4214
4215  //
4216  // This function implements an ifstar macro.
4217  //
4218  const IfstarFunction = (parser, name, resultstar, resultnostar) => {
4219      //
4220      // Get the macro parameters
4221      //
4222      const star = parser.GetStar();           // true if there is a *
4223      //
4224      // Construct the replacement string for the macro
4225      //
4226      const macro = [(star ? resultstar : resultnostar)].join('');
4227      //
4228      // Insert the replacement string into the TeX string, and check
4229      // that there haven't been too many maxro substitutions (prevents
4230      // infinite loops).
4231      //
4232      parser.string = ParseUtil.addArgs(parser, macro, parser.string.slice(parser.i));
4233      parser.i = 0;
```

```
4234     if (++parser.macroCount > parser.configuration.options.maxMacros) {
4235         throw new TexError('MaxMacroSub1',
4236                             'MathJax maximum macro substitution count exceeded; ' +
4237                             'is there a recursive macro call?');
4238     }
4239 };
4240
4241 //
4242 // This is the configuration for the IfstarConfiguration TeX extension.
4243 //
4244 const IfstarConfiguration = Configuration.create('Ifstar', {
4245     //
4246     // Initialize the extension by creating the command map for the
4247     // macros defined by \DeclareIfstar, and add the
4248     // \DeclareIfstar macro itself. Then append the
4249     // command map to the given configuration as a macro handler
4250     //
4251     init(config) {
4252         const map = new CommandMap(IFSTARMAP, {
4253             DeclareIfstar: ['Declare_Ifstar']
4254         }, {
4255             //
4256             // Implements \DeclareIfstar control sequence.
4257             //
4258             Declare_Ifstar(parser, name) {
4259                 //
4260                 // Get the control sequence to define and the starred and
4261                 // non-starred macros to use.
4262                 //
4263                 let cs = ParseUtil.trimSpaces(parser.GetArgument(name));
4264                 const resultstar = parser.GetArgument(name);
4265                 const resultnostar = parser.GetArgument(name);
4266                 //
4267                 // Check that the control sequence name is valid
4268                 //
4269                 if (cs.charAt(0) === '\\') cs = cs.substr(1);
4270                 if (!cs.match(/^([a-z]+)$/i)) { // $ syntax highlighting
4271                     throw new TexError(
4272                         'IllegalControlSequenceName',
4273                         'Illegal control sequence name for %1',
4274                         name
4275                     );
4276                 }
4277                 //
4278                 // Look up the command map and add the new macro to it using
4279                 // IfstarFunction as the function and passing it the
4280                 // given starred and non-starred macros.
4281                 //
4282                 const map = parser.configuration.handlers.retrieve(IFSTARMAP);
4283                 map.add(cs, new Macro(cs, IfstarFunction, [resultstar, resultnostar]));
4284             }
4285         });
4286         config.append(
4287             Configuration.create('IfstarDefs', {handler: {macro: [IFSTARMAP]}}));
4288     };

```

```
4289     },
4290
4291     //
4292     // Add any user-defined starred/non-starred macros (from the
4293     // Ifstar configuration object in the document's
4294     // option list), if any.
4295     //
4296     config(config, jax) {
4297         const map = jax.parseOptions.handlers.retrieve(IFSTARMAP);
4298         const starmacros = jax.parseOptions.options.Ifstar;
4299         for (const cs of Object.keys(starmacros)) {
4300             map.add(cs, new Macro(cs, IfstarFunction, starmacros[cs]));
4301         }
4302     },
4303
4304     //
4305     // Indicate that Ifstar is a valid option, and can have
4306     // any number of definitions. The format is
4307     //
4308     //     name: [starred, non-starred]
4309     //
4310     // where 'name' is the macro name, and starred and non-starred are the
4311     // macros to use for the \name macro. You can include
4312     // pre-defined macros here, which will be available without
4313     // further configuration.
4314     //
4315     options: {
4316         Ifstar: expandable({})
4317     }
4318 });
4319
4320
4321 MathJax.startup.defaultReady();
4322
4323 // For forward references:
4324 MathJax.startup.input[0].preFilters.add(({math}) => {
4325     if (math.inputData.recompile){
4326         MathJax.config.subequations = math.inputData.recompile.subequations;
4327         MathJax.config.section = math.inputData.recompile.section;
4328     }
4329 });
4330 MathJax.startup.input[0].postFilters.add(({math}) => {
4331     if (math.inputData.recompile){
4332         math.inputData.recompile.subequations = MathJax.config.subequations;
4333         math.inputData.recompile.section = MathJax.config.section;
4334     }
4335 });
4336 } // ready
4337 }, // startup
4338
4339 tex: {
4340     packages: {'[+]': ['seteqnumberCore', 'tagFormat', 'Ifstar']},
4341     seteqnumberCore: {
4342         seteqnumber: [] // a user-defined macro
4343     },

```

```

4344     tags: "ams",
4345     tagFormat: {
4346       number: function (n) {
4347         if(MathJax.config.subequations==0)
4348           return(MathJax.config.section + n);
4349         else
4350           return(MathJax.config.section + String.fromCharCode(96+n));
4351       },
4352     },
4353   }
4354 }
4355 </script>
4356
4357 <script
4358   id="MathJax-script"
4359   src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-chtml.js"
4360 ></script>
4361 \end{filecontents*}
4362 % \end{Verbatim} for syntax highlighting
4363 \end{LWRwriteconf}

```

39.12 lwarpmk.lua — lwarpmk option

Opt	lwarpmk	Creates a local copy of <i>lwarpmk</i> .
Prog	lwarpmk	Command-line utility to process lwarf 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 lwarf.

```

4364 \begin{LWRcreateLwarpmk}

4365 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4366 #!/usr/bin/env texlua
4367
4368 -- Copyright 2016-2020 Brian Dunn
4369
4370
4371 printversion = "v0.86"
4372 requiredconfversion = "2" -- also at *lwarpmk.conf
4373
4374 function printhelp ()
4375 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.") ;

```

```
4376 end
4377
4378
4379 function printusage ()
4380 --
4381 -- Print the usage of the lwarpmk command:
4382 --
4383 print ( [[
4384
4385 lwarpmk print [-p project]: Compile the print version if necessary.
4386 lwarpmk print1 [-p project]: Forced single compile of the print version.
4387 lwarpmk printindex [-p project]: Process print indexes.
4388 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4389 lwarpmk html [-p project]: Compile the HTML version if necessary.
4390 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
4391 lwarpmk htmlindex [-p project]: Process HTML indexes.
4392 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
4393 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4394 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
4395 lwarpmk pdftohtml [-p project]:
4396     For use with latexmk or a Makefile:
4397     Converts project_html.pdf to project_html.html and individual HTML files.
4398     Finishes the HTML conversion even if there was a compile error.
4399 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
4400 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4401 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4402     *.idx, *.ind, *.log, *_html_inc.*., .gl*.,
4403     *_html.pdf, *_html.html, *_html.sidetoc
4404 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
4405 lwarpmk cleanlimages: Removes all images from the "lateximages" directory.
4406 lwarpmk -h: Print this help message.
4407 lwarpmk --help: Print this help message.
4408
4409 ]] )
4410 -- printconf ()
4411 end
4412
4413
4414 function splitfilename ( pathandfilename )
4415 --
4416 -- Separates out the path and extension from a filename.
4417 -- Returns path, filename with extension, and extension.
4418 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
4419 --
4420 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code_snippets:
4421 --     split_filename_in_to_path_filename_and_extension
4422 --
4423     if lfs.attributes(pathandfilename,"mode") == "directory" then
4424         local strPath = pathandfilename:gsub("[\\/]$","",) -- $ (syntax highlighting)
4425             return strPath.."\\","",""
4426     end
4427     pathandfilename = pathandfilename..
4428     return pathandfilename:match("^(.-)([^\\/]-%.(^\\%.)-%.)?$")
4429 end
4430
```

```
4431
4432 function splitfile (destfile,sourcefile)
4433 --
4434 -- Split one large sourcefile into a number of files,
4435 -- starting with destfile.
4436 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4437 --
4438 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
4439 local sfile = io.open(sourcefile)
4440 io.output(destfile)
4441 for line in sfile:lines() do
4442 i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|")
4443 if ( (i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
4444     -- split the file
4445     io.output(newfilename) ;
4446 else
4447     -- not a splitpoint
4448     io.write (line .. "\n") ;
4449 end
4450 end -- do
4451 io.close(sfile)
4452 end -- function
4453
4454
4455 function cvalueerror ( line, linenum , cvalue )
4456 --
4457 -- Incorrect value, so print an error and exit.
4458 --
4459     print ("lwarpmk: ===")
4460     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
4461     print (
4462         "lwarpmk: incorrect variable value \""
4463         .. cvalue ..
4464         "\" in lwarpmk.conf.\n"
4465     ) ;
4466     print ("lwarpmk: ===")
4467     printconf () ;
4468     os.exit(1) ;
4469
4470
4471 function printhowtorecompile ()
4472 -- Tells the user how to recompile to regenerate the configuration files.
4473     print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf" )
4474     print ("lwarpmk: must be updated. To do so, recompile" )
4475     print ("lwarpmk: " , sourcename.."tex" )
4476     if ( printlatexcmd == "" ) then
4477         print ("lwarpmk: using xe/lua/pdflatex," )
4478     else
4479         print ("lwarpmk: using the command:")
4480         print ("lwarpmk: " , printlatexcmd )
4481     end
4482     print ("lwarpmk: then use lwarpmk again.")
4483 end -- printhowtorecompile
4484
4485
```

```
4486 function ignoreconf ()
4487 -- Global argument index
4488 argindex = 2
4489 end
4490
4491 function loadconf ()
4492 --
4493 -- Load settings from the project's "lwarpmk.conf" file:
4494 --
4495 -- Default configuration filename:
4496 local conffile = "lwarpmk.conf"
4497 local confroot = "lwarpmk"
4498 -- Global argument index
4499 argindex = 2
4500 -- Optional configuration filename:
4501 if ( arg[argindex] == "-p" ) then
4502     argindex = argindex + 1
4503     confroot = arg[argindex]
4504     conffile = confroot.."lwarpmkconf"
4505     argindex = argindex + 1
4506 end
4507 -- Additional defaults:
4508 confversion = "0"
4509 opsystem = "Unix"
4510 imagesdirectory = "lateximages"
4511 imagesname = "image-"
4512 latexmk = "false"
4513 printlatexcmd = ""
4514 HTMLatexcmd = ""
4515 printindexcmd = ""
4516 HTMLIndexcmd = ""
4517 latexmkindexcmd = ""
4518 -- to be removed:
4519 -- indexprog = "makeindex"
4520 -- makeindexstyle = "lwarf.ist"
4521 -- xindylanguage = "english"
4522 -- xindycodepage = "utf8"
4523 -- xindystyle = "lwarf.xdy"
4524 -- pdftotextenc = "UTF-8"
4525 glossarycmd = "makeglossaries"
4526 -- Verify the file exists:
4527 if (lfs.attributes(conffile,"mode")==nil) then
4528     -- file not exists
4529     print ("lwarpmk: ===")
4530     print ("lwarpmk: File \\" .. conffile .. "\\" does not exist.")
4531     print ("lwarpmk: Move to the project's source directory,")
4532     print ("lwarpmk: recompile using pdflatex, xelatex, or lualatex,")
4533     print ("lwarpmk: then try using lwarpmk again.")
4534     if (arg[argindex] ~= nil) then
4535         print (
4536             "lwarpmk: (\\" .. confroot ..
4537             "\\" does not appear to be a project name.)"
4538         )
4539     end
4540     print ("lwarpmk: ===")
```

```
4541     printhelp () ;
4542     os.exit(1) -- exit the entire lwarpmk script
4543 else -- file exists
4544 -- Read the file:
4545 print ("lwarpmk: Reading " .. conffile ..".")
4546 local cfile = io.open(conffile)
4547 -- Scan each line, parsing each line as: name = [[string]]
4548 local linenum = 0
4549 for line in cfile:lines() do -- scan lines
4550     linenum = linenum + 1
4551 i,j,cvarname,cvalue = string.find (line,"(%w-[_]*%)%s*=%s*%[%([%^%]*)&%]%)");
4552 -- Error if incorrect enclosing characters:
4553 if ( i == nil ) then
4554     print ("lwarpmk: ===")
4555     print ("lwarpmk: " .. linenum .. " : " .. line );
4556     print ("lwarpmk: Incorrect entry in " .. conffile ..".\n");
4557     print ("lwarpmk: ===")
4558 --     printconf ();
4559     os.exit(1);
4560 end -- nil
4561 if ( cvarname == "confversion" ) then
4562     confversion = cvalue
4563 elseif ( cvarname == "opsystem" ) then
4564     -- Verify choice of opsystem:
4565     if ( (cvalue == "Unix") or (cvalue == "Windows") ) then
4566         opsystem = cvalue
4567     else
4568         cvalueerror ( line, linenum , cvalue )
4569     end
4570 elseif ( cvarname == "sourcename" ) then sourcename = cvalue
4571 elseif ( cvarname == "homehtmlfilename" ) then homehtmlfilename = cvalue
4572 elseif ( cvarname == "htmlfilename" ) then htmlfilename = cvalue
4573 elseif ( cvarname == "imagesdirectory" ) then imagesdirectory = cvalue
4574 elseif ( cvarname == "imagesname" ) then imagesname = cvalue
4575 elseif ( cvarname == "latexmk" ) then latexmk = cvalue
4576 elseif ( cvarname == "printlatexcmd" ) then printlatexcmd = cvalue
4577 elseif ( cvarname == "HTMLlatexcmd" ) then HTMLlatexcmd = cvalue
4578 elseif ( cvarname == "printindexcmd" ) then printindexcmd = cvalue
4579 elseif ( cvarname == "HTMLindexcmd" ) then HTMLindexcmd = cvalue
4580 elseif ( cvarname == "latexmkindexcmd" ) then latexmkindexcmd = cvalue
4581 elseif ( cvarname == "glossarycmd" ) then glossarycmd = cvalue
4582 elseif ( cvarname == "pdftotextenc" ) then pdftotextenc = cvalue
4583 else
4584     print ("lwarpmk: ===")
4585     print ("lwarpmk: " .. linenum .. " : " .. line );
4586     print (
4587         "lwarpmk: Incorrect variable name \" .. cvarname .. \" in " ..
4588         conffile .. ".\n"
4589     );
4590     print ("lwarpmk: ===")
4591 --     printconf ();
4592 os.exit(1);
4593 end -- cvarname
4594 end -- do scan lines
4595 io.close(cfile)
```

```
4596 end -- file exists
4597 -- Error if sourcename is "lwarp".
4598 -- This could happen if a local copy of lwarp has recently been recompiled.
4599 if sourcename=="lwarp" then
4600     print ("lwarpmk: ===")
4601     print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
4602     print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
4603     print ("lwarpmk: (Perhaps you are not in your project's directory?)")
4604     print ("lwarpmk: In your project directory, recompile your project")
4605     print ("lwarpmk: using pdf/lua/xelatex <projectname>.")
4606     print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
4607     print ("lwarpmk: and you may again use lwarpmk.")
4608     print ("lwarpmk: ===")
4609     os.exit(1)
4610 end -- sourcename of "lwarp"
4611 -- Select some operating-system commands:
4612 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
4613     rmname = "rm"
4614     mvname = "mv"
4615     cpname = "cp"
4616     touchnamepre = "touch"
4617     touchnamepost = ""
4618     newtouchname = "touch"
4619     dirslash = "/"
4620     opquote= "\'"
4621     cmdgroupopenname = " ( "
4622     cmdgroupclosename = " ) "
4623     seqname = " && "
4624     bgname = " &"
4625 elseif opsystem=="Windows" then -- For Windows
4626     rmname = "DEL"
4627     mvname = "MOVE"
4628     cpname = "COPY"
4629     touchnamepre = "COPY /b"
4630     touchnamepost = "+,,"
4631     newtouchname = "echo empty >"
4632     dirslash = "\\"
4633     opquote= "\""
4634     cmdgroupopenname = ""
4635     cmdgroupclosename = ""
4636     seqname = " & "
4637     bgname = ""
4638 else
4639     print ("lwarpmk: ===")
4640     print ("lwarpmk: Select Unix or Windows for opsystem. ")
4641     print ("lwarpmk: ===")
4642     os.exit(1)
4643 end --- for Windows
4644 -- Warning if the operating system does not appear to be correct,
4645 -- in case files were transferred to another system.
4646 if ( (package.config:sub(1,1)) ~= dirslash ) then
4647     print ("lwarpmk: ===")
4648     print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system. ")
4649     printhowtorecompile ()
4650     print ("lwarpmk: ===")
```

```
4651     os.exit(1)
4652 end
4653 -- Error if the configuration file's version is not current:
4654 if ( confversion ~= requiredconfversion ) then
4655     print ("lwarpmk: ===")
4656     printhowtorecompile ()
4657     print ("lwarpmk: ===")
4658     os.exit(1)
4659 end
4660 end -- loadconf
4661
4662
4663 function executecheckerror ( executecommands , errormessage )
4664 --
4665 -- Execute an operating system call,
4666 -- and maybe exit with an error message.
4667 --
4668 local err
4669 err = os.execute ( executecommands )
4670 if ( err ~= 0 ) then
4671     print ("lwarpmk: ===")
4672     print ("lwarpmk: " .. errormessage )
4673     print ("lwarpmk: ===")
4674     os.exit(1)
4675 end
4676 end -- executecheckerror
4677
4678
4679 function refreshdate ()
4680 os.execute(touchnamepre .. " " .. sourcename .. ".tex" .. touchnamepost)
4681 end
4682
4683
4684
4685 function reruntoget (filesource)
4686 --
4687 -- Scan the LaTeX log file for the phrase "Rerun to get",
4688 -- indicating that the file should be compiled again.
4689 -- Return true if found.
4690 --
4691 local fsource = io.open(filesource)
4692 for line in fsource:lines() do
4693 if ( string.find(line,"Rerun to get") ~= nil ) then
4694     io.close(fsource)
4695     return true
4696 end -- if
4697 end -- do
4698 io.close(fsource)
4699 return false
4700 end
4701
4702
4703
4704 function onetime (latexcmd, fsuffix)
4705 --
```

```
4706 -- Compile one time, return true if should compile again.
4707 -- fsuffix is "" for print, "_html" for HTML output.
4708 --
4709 print("lwarpmk: Compiling with: .. latexcmd")
4710 executecheckerror (
4711     latexcmd ,
4712     "Compile error."
4713 )
4714 return (reruntoget(sourcename .. fsuffix .. ".log") ) ;
4715 end
4716
4717
4718 function manytimes (latexcmd, fsuffix)
4719 --
4720 -- Compile up to five times.
4721 -- fsuffix is "" for print, "_html" for HTML output
4722 --
4723 if onetime(latexcmd, fsuffix) == true then
4724 if onetime(latexcmd, fsuffix) == true then
4725 if onetime(latexcmd, fsuffix) == true then
4726 if onetime(latexcmd, fsuffix) == true then
4727 if onetime(latexcmd, fsuffix) == true then
4728 end end end end
4729 end
4730
4731
4732 function verifyfileexists (filename)
4733 --
4734 -- Exit if the given file does not exist.
4735 --
4736 if (lfs.attributes ( filename , "modification" ) == nil ) then
4737     print ("lwarpmk: ===")
4738     print ("lwarpmk: " .. filename .. " not found." ) ;
4739     print ("lwarpmk: ===")
4740     os.exit (1) ;
4741 end
4742 end
4743
4744
4745
4746 function pdftohtml ()
4747 --
4748 -- Convert <project>_html.pdf into HTML files:
4749 --
4750 -- Convert to text:
4751 print ("lwarpmk: Converting " .. sourcename
4752     .."_html.pdf to " .. sourcename .. "_html.html")
4753 os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
4754     .. sourcename .. "_html.pdf " .. sourcename .. "_html.html")
4755 -- Split the result into individual HTML files:
4756 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
4757 end
4758
4759
4760 function removeaux ()
```

```
4761 --
4762 -- Remove auxiliary files:
4763 -- All .aux files are removed since there may be many bbl*.aux files.
4764 -- Also removes sourcename_html.pdf, sourcename_html.html,
4765 -- and sourcename_html.sidetoc, plus comment_*.cut.
4766 --
4767 os.execute ( rmname .. " *.aux " ..
4768     sourcename .. ".toc" .. sourcename .. "_html.toc" ..
4769     sourcename .. ".lof" .. sourcename .. "_html.lof" ..
4770     sourcename .. ".lot" .. sourcename .. "_html.lot" ..
4771     " *.idx" ..
4772     " *.ind" ..
4773     sourcename .. ".ps" .. sourcename .. "_html.ps" ..
4774     sourcename .. ".log" .. sourcename .. "_html.log" ..
4775     sourcename .. ".gl*" .. sourcename .. "_html.gl*" ..
4776     sourcename .. "_html.pdf" ..
4777     sourcename .. "_html.html" ..
4778     sourcename .. "_html.sidetoc" ..
4779     " *_html_inc.*" ..
4780     " comment_*.cut"
4781 )
4782 end
4783
4784 function checkhtmlpdfexists ()
4785 --
4786 -- Error if the HTML document does not exist.
4787 -- The lateximages are drawn from the HTML PDF version of the document,
4788 -- so "lwarpmk html" must be done before "lwarpmk limages".
4789 --
4790 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
4791 if ( htmlpdffile == nil ) then
4792     print ("")
4793     print ("lwarpmk: ===")
4794     print ("lwarpmk: The HTML version of the document does not exist.")
4795     print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
4796     print ("lwarpmk: ===")
4797     os.exit(1)
4798 end
4799 io.close (htmlpdffile)
4800 end -- checkhtmlpdfexists
4801
4802
4803 function warnlimages ()
4804 --
4805 -- Warning of a missing <sourcename>-images.txt file:
4806     print ("lwarpmk: ===")
4807     print ("lwarpmk: \" .. sourcename .. "-images.txt\" does not exist.")
4808     print ("lwarpmk: Your project does not use SVG math or other lateximages,")
4809     print ("lwarpmk: or the file has been deleted somehow.")
4810     print ("lwarpmk: Use \"lwarpmk html1\" to recompile your project")
4811     print ("lwarpmk: and recreate \" .. sourcename .. "-images.txt\"")
4812     print ("lwarpmk: If your project does not use SVG math or other lateximages,")
4813     print ("lwarpmk: then \" .. sourcename .. "-images.txt\" will never exist, and")
4814     print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
4815     print ("lwarpmk: ===")
```

```
4816 end -- warnlimages
4817
4818
4819 function warnlimagesrecompile ()
4820 -- Warning if must recompile before creating limages:
4821     print ("")
4822     print ("lwarpmk: ===")
4823     print ("lwarpmk: Cross-references are not yet correct.")
4824     print ("lwarpmk: The document must be recompiled before creating the lateximages.")
4825     print ("lwarpmk: Enter \"lwarpmk html1\" again, then try \"lwarpmk limages\" again.")
4826     print ("lwarpmk: ===")
4827 end --warnlimagesrecompile
4828
4829
4830 function checklimages ()
4831 --
4832 -- Check <sourcename>.txt to see if need to recompile first.
4833 -- If any entry has a page number of zero, then there were incorrect images.
4834 --
4835 print ("lwarpmk: Checking for a valid " .. sourcename .. "-images.txt file.")
4836 local limagesfile = io.open(sourcename .. "-images.txt", "r")
4837 if ( limagesfile == nil ) then
4838     warnlimages ()
4839     os.exit(1)
4840 end
4841 -- Track warning to recompile if find a page 0
4842 local pagezerowarning = false
4843 -- Scan <sourcename>.txt
4844 for line in limagesfile:lines() do
4845     -- lwimgpage is the page number in the PDF which has the image
4846     -- lwimghash is true if this filename is a hash
4847     -- lwimgname is the lateximage filename root to assign for the image
4848     i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
4849     -- For each entry:
4850     if ( (i~nil) ) then
4851         -- If the page number is 0, image references are incorrect
4852         -- and must recompile the soure document:
4853         if ( lwimgpage == "0" ) then
4854             pagezerowarning = true
4855         end
4856     end -- if i~nil
4857 end -- do
4858 -- The last line should be |end|end|end|.
4859 -- If not, the compile must have aborted, and the images are incomplete.
4860 if ( lwimgpage ~= "end" ) then
4861     warnlimagesrecompile()
4862     os.exit(1) ;
4863 end
4864 if ( pagezerowarning ) then
4865     warnlimagesrecompile()
4866     os.exit(1) ;
4867 end -- pagezerowarning
4868 end -- checklimages
4869
4870
```

```
4871 function createuniximage ( lwimgfullname )
4872 --
4873 -- Create one lateximage for Unix / Linux / Mac OS.
4874 --
4875 executecheckerror (
4876     cmdgroupopenname ..
4877     "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
4878     sourcename .. "_html.pdf" ..
4879     imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
4880     seqname ..
4881     -- Crop the image:
4882     "pdffcrop --hires " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
4883     lwimgpage .. ".pdf" ..
4884     imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
4885     seqname ..
4886     -- Convert the image to svg:
4887     "pdftocairo -svg -noshrink " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
4888     imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
4889     seqname ..
4890     -- Remove the temporary files:
4891     rmname .. " " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
4892     rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
4893     cmdgroupclosename .. " >/dev/null " .. bgname
4894 ,
4895     "File error trying to convert " .. lwimgfullname
4896 )
4897 -- Every 32 images, wait for completion at below normal priority,
4898 -- allowing other image tasks to catch up.
4899 numimageprocesses = numimageprocesses + 1
4900 if ( numimageprocesses > 32 ) then
4901     numimageprocesses = 0
4902     print ( "lwarpmk: waiting" )
4903     executecheckerror ( "wait" , "File error trying to wait." )
4904 end
4905 end -- createuniximage
4906
4907
4908 function createwindowsimage ( lwimgfullname )
4909 --
4910 -- Create one lateximage for Windows.
4911 --
4912 -- Every 32 images, wait for completion at below normal priority,
4913 -- allowing other image tasks to catch up.
4914 numimageprocesses = numimageprocesses + 1
4915 if ( numimageprocesses > 32 ) then
4916     numimageprocesses = 0
4917     thiswaitcommand = "/WAIT /BELOWNORMAL"
4918     print ( "lwarpmk: waiting" )
4919 else
4920     thiswaitcommand = ""
4921 end
4922 -- Execute the image generation command
4923 executecheckerror (
4924     "start /B " .. thiswaitcommand .. " \"\" lwarp_one_limage " ..
4925     lwimgpage .. " " ..
```

```
4926     lwimghash .. " " ..
4927     lwimgname .. " " ..
4928     sourcename .. "<nul >nul"
4929     ,
4930     "File error trying to create image."
4931 )
4932 end -- createwindowsimage
4933
4934
4935 function createonelateximage ( line )
4936 --
4937 -- Given the next line of <sourcename>.txt, convert a single image.
4938 --
4939 -- lwimgpage is the page number in the PDF which has the image
4940 -- lwimghash is true if this filename is a hash
4941 -- lwimgname is the lateximage filename root to assign for the image
4942 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
4943 -- For each entry:
4944 if ( i~=nil ) then
4945     -- Skip if the page number is 0:
4946     if ( lwimgpage == "0" ) then
4947         pagezerowarning = true
4948     -- Skip if the page number is "end":
4949     else if ( lwimgpage == "end" ) then
4950     else
4951         -- Skip if this image is hashed and already exists:
4952         local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
4953         if (
4954             (lwimghash ~= "true") or
4955             (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
4956         )
4957         then -- not hashed or not exists:
4958             -- Print the name of the file being generated:
4959             print ( "lwarpmk: " .. lwimgname )
4960             -- Touch/create the dest so that only once instance tries to build it:
4961             executecheckerror (
4962                 newtouchname .. " " .. lwimgfullname ,
4963                 "File error trying to touch " .. lwimgfullname
4964             )
4965             -- Separate out the image into its own single-page pdf:
4966             if opsystem=="Unix" then
4967                 createuniximage (lwimgfullname)
4968             elseif opsystem=="Windows" then
4969                 createwindowsimage (lwimgfullname)
4970             end
4971             end -- not hashed or not exists
4972         end -- not page "end"
4973         end -- not page 0
4974     end -- not nil
4975 end -- createonelateximage
4976
4977
4978 function createlateximages ()
4979 --
4980 -- Create lateximages based on <sourcename>-images.txt:
```

```
4981 --
4982 -- See if the document must be recompiled first:
4983 checklimages ()
4984 -- See if the HTML version exists:
4985 checkhtmlpdfexists ()
4986 -- Attempt to create the lateximages:
4987 print ("lwarpmk: Creating lateximages.")
4988 local limagesfile = io.open(sourcename .. "-images.txt", "r")
4989 if ( limagesfile == nil ) then
4990     warnlimages ()
4991     os.exit(1)
4992 end
4993 -- Create the lateximages directory, ignore error if already exists
4994 err = os.execute("mkdir " .. imagesdirectory)
4995 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
4996 if opsystem=="Windows" then
4997     executecheckerror (
4998         cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
4999         "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5000     )
5001 end -- create lwarp_one_limage.cmd
5002 -- Track the number of parallel processes
5003 numimageprocesses = 0
5004 -- Track warning to recompile if find a page 0
5005 pagezerowarning = false
5006 -- Scan <sourcename>.txt
5007 for line in limagesfile:lines() do
5008     createonelateximage ( line )
5009 end -- do
5010 io.close(limagesfile)
5011 print ( "lwarpmk limages: ===" )
5012 print ( "lwarpmk limages: Wait a moment for the images to complete" )
5013 print ( "lwarpmk limages: before reloading the page." )
5014 print ( "lwarpmk limages: ===" )
5015 print ( "lwarpmk limages: Done." )
5016 if ( pagezerowarning == true ) then
5017     print ( "lwarpmk limages: WARNING: Images will be incorrect." )
5018     print ( "lwarpmk limages: Enter \"lwarpmk cleanlimages\", then" )
5019     print ( "lwarpmk limages: recompile the document one more time, then" )
5020     print ( "lwarpmk limages: repeat \"lwarpmk images\" again." )
5021 end -- pagezerowarning
5022 end -- function
5023
5024
5025 function convertepstopdf ()
5026 --
5027 -- Converts EPS files to PDF files.
5028 -- The filenames are arg[argindex] and up.
5029 -- arg[1] is the command "epstopdf".
5030 --
5031 ignoreconf ()
5032 for i = argindex , #arg do
5033     if (lfs.attributes(arg[i],"mode")==nil) then
5034         print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
5035     else
```

```
5036      print ("lwarpmk: Converting \\" .. arg[i] .. "\\")  
5037      thispath, thisfilename, thisextension = splitfilename(arg[i])  
5038      if ( thispath == nil ) then  
5039          os.execute ( "epstopdf " .. arg[i] )  
5040      else  
5041          os.execute (  
5042              "epstopdf " ..  
5043              thispath .. thisfilename .. "." .. thisextension .. " " ..  
5044              thispath .. thisfilename .. ".pdf"  
5045          )  
5046      end  
5047  end -- if  
5048 end -- do  
5049 end --function  
5050  
5051  
5052 function convertpdftosvg ()  
5053 --  
5054 -- Converts PDF files to SVG files.  
5055 -- The filenames are arg[argindex] and up.  
5056 -- arg[1] is the command "pdftosvg".  
5057 --  
5058 ignoreconf ()  
5059 for i = argindex , #arg do  
5060     if (lfs.attributes(arg[i],"mode")==nil) then  
5061         print ("lwarpmk: File \\" .. arg[i] .. "\" does not exist.")  
5062     else  
5063         print ("lwarpmk: Converting \\" .. arg[i] .. "\\")  
5064         thispath, thisfilename, thisextension = splitfilename(arg[i])  
5065         if ( thispath == nil ) then  
5066             os.execute ( "pdftocairo -svg " .. arg[i] )  
5067         else  
5068             os.execute (  
5069                 "pdftocairo -svg " ..  
5070                 thispath .. thisfilename .. "." .. thisextension .. " " ..  
5071                 thispath .. thisfilename .. ".svg"  
5072             )  
5073         end  
5074     end -- if  
5075 end -- do  
5076 end --function  
5077  
5078  
5079 -- Force an update and conclude processing:  
5080 function updateanddone ()  
5081 print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex.")  
5082 refreshdate ()  
5083 print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")  
5084 print ("lwarpmk: Done.")  
5085 end -- function  
5086  
5087  
5088 -- Start of the main code: --  
5089  
5090
```

```
5091 -- lwarpmk --version :
5092
5093 if (arg[1] == "--version") then
5094 print ( "lwarpmk: " .. printversion )
5095
5096 else -- not --version
5097
5098
5099 -- print intro:
5100
5101 print ("lwarpmk: " .. printversion .. " Automated make for the LaTeX Lwarp package.")
5102
5103
5104 -- lwarpmk print:
5105
5106 if arg[1] == "print" then
5107 loadconf ()
5108 if ( latexmk == "true" ) then
5109     print ("lwarpmk: Compiling with: " .. printlatexcmd)
5110     executecheckerror (
5111         printlatexcmd ,
5112         "Compile error."
5113     )
5114     print ("lwarpmk: Done.")
5115 else -- not latexmk
5116     verifyfileexists (sourcename .. ".tex") ;
5117     -- See if up to date:
5118     if (
5119         ( lfs.attributes ( sourcename .. ".pdf" , "modification" ) == nil ) or
5120         (
5121             lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5122             lfs.attributes ( sourcename .. ".pdf" , "modification" )
5123         )
5124     ) then
5125         -- Recompile if not yet up to date:
5126         manytimes(printlatexcmd, "")
5127         print ("lwarpmk: Done.") ;
5128     else
5129         print ("lwarpmk: " .. sourcename .. ".pdf is up to date.") ;
5130     end
5131 end -- not latexmk
5132
5133
5134 -- lwarpmk print1:
5135
5136 elseif arg[1] == "print1" then
5137     loadconf ()
5138     verifyfileexists (sourcename .. ".tex") ;
5139     onetime(printlatexcmd, "")
5140     print ("lwarpmk: Done.") ;
5141
5142
5143 -- lwarpmk printindex:
5144 -- Compile the index then touch the source
5145 -- to trigger a recompile of the document:
```

```
5146
5147 elseif arg[1] == "printindex" then
5148 loadconf ()
5149 os.execute ( printindexcmd )
5150 print ("lwarpmk: -----")
5151 updateanddone ()
5152
5153
5154 -- lwarpmk printglossary:
5155 -- Compile the glossary then touch the source
5156 -- to trigger a recompile of the document:
5157
5158 elseif arg[1] == "printglossary" then
5159 loadconf ()
5160 print ("lwarpmk: Processing the glossary.")
5161
5162 os.execute(glossarycmd .. " " .. sourcename)
5163 updateanddone ()
5164
5165
5166 -- lwarpmk html:
5167
5168 elseif arg[1] == "html" then
5169 loadconf ()
5170 if ( latexmk == "true" ) then
5171     print ("lwarpmk: Compiling with: " .. HTMLlatexcmd)
5172     executecheckerror (
5173         HTMLlatexcmd ,
5174         "Compile error."
5175     )
5176     pdftohtml ()
5177     print ("lwarpmk: Done.")
5178 else -- not latexmk
5179     verifyfileexists ( sourcename .. ".tex" ) ;
5180     -- See if exists and is up to date:
5181     if (
5182         ( lfs.attributes ( homehtmlfilename .. ".html" , "modification" ) == nil ) or
5183         (
5184             lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5185             lfs.attributes ( homehtmlfilename .. ".html" , "modification" )
5186         )
5187     ) then
5188         -- Recompile if not yet up to date:
5189         manytimes(HTMLlatexcmd, "_html")
5190         pdftohtml ()
5191         print ("lwarpmk: Done.")
5192     else
5193         print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
5194     end
5195 end -- not latexmk
5196
5197
5198 -- lwarpmk html1:
5199
5200 elseif arg[1] == "html1" then
```

```
5201    loadconf ()
5202    verifyfileexists ( sourcename .. ".tex" ) ;
5203    onetime(HTMLLatexcmd, "_html")
5204    pdftohtml ()
5205    print ("lwarpmk: Done.")
5206
5207
5208 -- lwarpmk pdftohtml:
5209 elseif arg[1] == "pdftohtml" then
5210     loadconf ()
5211     pdftohtml ()
5212
5213
5214 -- lwarpmk htmlindex:
5215 -- Compile the index then touch the source
5216 -- to trigger a recompile of the document:
5217
5218 elseif arg[1] == "htmlindex" then
5219 loadconf ()
5220 os.execute ( HTMLIndexcmd )
5221 print ("lwarpmk: -----")
5222 updateanddone ()
5223
5224
5225 -- lwarpmk htmlglossary:
5226 -- Compile the glossary then touch the source
5227 -- to trigger a recompile of the document.
5228 -- The <sourcename>.xdy file is created by the glossaries package.
5229
5230 elseif arg[1] == "htmlglossary" then
5231 loadconf ()
5232 print ("lwarpmk: Processing the glossary.")
5233 os.execute(glossarycmd .. " " .. sourcename .. "_html")
5234 updateanddone ()
5235
5236
5237 -- lwarpmk limages:
5238 -- Scan the <sourcename>.txt file to create lateximages.
5239
5240 elseif arg[1] == "limages" then
5241 loadconf ()
5242 print ("lwarpmk: Processing images.")
5243 createlateximages ()
5244 print ("lwarpmk: Done.")
5245
5246
5247 -- lwarpmk again:
5248 -- Touch the source to trigger a recompile.
5249
5250 elseif arg[1] == "again" then
5251 loadconf ()
5252 updateanddone ()
5253
5254
5255 -- lwarpmk clean:
```

```
5256 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.* , .gl*
5257
5258 elseif arg[1] == "clean" then
5259 loadconf ()
5260 removeaux ()
5261 print ("lwarpmk: Done.")
5262
5263
5264 -- lwarpmk cleanall
5265 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.* , .gl*
5266 --     and also project.pdf, project.dvi, *.html
5267
5268 elseif arg[1] == "cleanall" then
5269 loadconf ()
5270 removeaux ()
5271 os.execute ( rmname .. " " ..
5272     sourcename .. ".pdf" .. sourcename .. "_html.pdf" ..
5273     sourcename .. ".dvi" .. sourcename .. "_html.dvi" ..
5274     "*.html"
5275 )
5276 print ("lwarpmk: Done.")
5277
5278
5279 -- lwarpmk cleanimages
5280 -- Remove images from the imagesdirectory.
5281
5282 elseif arg[1] == "cleanimages" then
5283 loadconf ()
5284 os.execute ( rmname .. " " .. imagesdirectory .. dirslash .. "*" )
5285 print ("lwarpmk: Done.")
5286
5287 -- lwarpmk epstopdf <list of file names>
5288 -- Convert EPS files to PDF using epstopdf
5289 elseif arg[1] == "epstopdf" then
5290 convertepstopdf ()
5291 print ("lwarpmk: Done.")
5292
5293
5294 -- lwarpmk pdftosvg <list of file names>
5295 -- Convert PDF files to SVG using pdftocairo
5296 elseif arg[1] == "pdftosvg" then
5297 convertpdftosvg ()
5298 print ("lwarpmk: Done.")
5299
5300
5301 -- lwarpmk with no argument :
5302
5303 elseif (arg[1] == nil) then
5304 printhelp ()
5305
5306
5307 -- lwarpmk -h or lwarpmk --help :
5308
5309 elseif (arg[1] == "-h" ) or (arg[1] == "--help") then
5310 printusage ()
```

```

5311
5312
5313 -- Unknown command:
5314
5315 else
5316 printhelp ()
5317 print ("\nlwarpmk: ***** Unknown command \"..arg[1].." . *****\n")
5318 end
5319
5320 end -- not --version
5321 \end{filecontents*}
5322 % \end{Verbatim}% for syntax highlighting

5323 \end{LWRcreatelwarpmk}

```

40 Stacks

for HTML output: 5324 \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.

40.1 Assigning depths

initial depths for empty stack entries:

5325 \newcommand*\{\LWR@depthnone\}{-5}

All sectioning depths are deeper than \LWR@depthfinished:

```

5326 \newcommand*\{\LWR@depthfinished\}{-4}
5327 \newcommand*\{\LWR@depthbook\}{-2}
5328 \newcommand*\{\LWR@depthpart\}{-1}
5329 \newcommand*\{\LWR@depthchapter\}{0}
5330 \newcommand*\{\LWR@depthsection\}{1}
5331 \newcommand*\{\LWR@depthsubsection\}{2}
5332 \newcommand*\{\LWR@depthsubsubsection\}{3}
5333 \newcommand*\{\LWR@depthparagraph\}{4}
5334 \newcommand*\{\LWR@depth subparagraph\}{5}

```

Used by \itemize, \enumerate, \description:

5335 \newcommand*{\LWR@depthlist}{6}

Used by \item:

5336 \newcommand*{\LWR@depthlistitem}{7}
5337 \let\LWR@depthdescitem\LWR@depthlistitem

40.2 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.

5338 \newcommand*{\LWR@closeone}{}% top of the stack
5339 \newcommand*{\LWR@closetwo}{}
5340 \newcommand*{\LWR@closethree}{}
5341 \newcommand*{\LWR@closefour}{}
5342 \newcommand*{\LWR@closefive}{}
5343 \newcommand*{\LWR@closesix}{}
5344 \newcommand*{\LWR@closeseven}{}
5345 \newcommand*{\LWR@closeeight}{}
5346 \newcommand*{\LWR@closenine}{}
5347 \newcommand*{\LWR@closeten}{}
5348 \newcommand*{\LWR@closeeleven}{}
5349 \newcommand*{\LWR@closetwelve}{}
5350 \newcommand*{\LWR@closedepthonne}{\LWR@depthnone}% top of the stack
5351 \newcommand*{\LWR@closedepthtwo}{\LWR@depthnone}
5352 \newcommand*{\LWR@closedepththree}{\LWR@depthnone}
5353 \newcommand*{\LWR@closedepthfour}{\LWR@depthnone}
5354 \newcommand*{\LWR@closedepthfive}{\LWR@depthnone}

40.3 Closing depths

A stack to record the depth of each level:

 Note that nested L^AT_EX structures may push depths which are non-sequential.

Ex:

```
\begin{itemize}
  \item{A}
    \begin{description}
      \item{B}
    \end{description}
  \end{itemize}
```

5350 \newcommand*{\LWR@closedepthonne}{\LWR@depthnone}% top of the stack
5351 \newcommand*{\LWR@closedepthtwo}{\LWR@depthnone}
5352 \newcommand*{\LWR@closedepththree}{\LWR@depthnone}
5353 \newcommand*{\LWR@closedepthfour}{\LWR@depthnone}
5354 \newcommand*{\LWR@closedepthfive}{\LWR@depthnone}

```

5355 \newcommand*{\LWR@closedepthsix}{\LWR@depthnone}
5356 \newcommand*{\LWR@closedepthseven}{\LWR@depthnone}
5357 \newcommand*{\LWR@closedeptheight}{\LWR@depthnone}
5358 \newcommand*{\LWR@closedepthnine}{\LWR@depthnone}
5359 \newcommand*{\LWR@closedepthten}{\LWR@depthnone}
5360 \newcommand*{\LWR@closedeptheleven}{\LWR@depthnone}
5361 \newcommand*{\LWR@closedepthtwelve}{\LWR@depthnone}

```

40.4 Pushing and popping the stack

\LWR@pushclose {<sectiontype>}

Pushes one return action and its L^AT_EX depth onto the stacks.

```

5362 \NewDocumentCommand{\LWR@pushclose}{m}
5363 {%
5364 \global\let\LWR@closetwelve\LWR@closeeleven%
5365 \global\let\LWR@closeeleven\LWR@closeten%
5366 \global\let\LWR@closeten\LWR@closenine%
5367 \global\let\LWR@closenine\LWR@closeeight%
5368 \global\let\LWR@closeeight\LWR@closeseven%
5369 \global\let\LWR@closeseven\LWR@closesix%
5370 \global\let\LWR@closesix\LWR@closefive%
5371 \global\let\LWR@closefive\LWR@closefour%
5372 \global\let\LWR@closefour\LWR@closethree%
5373 \global\let\LWR@closethree\LWR@closetwo%
5374 \global\let\LWR@closetwo\LWR@closeone%
5375 \global\csletcs{\LWR@closeone}{\LWR@printclose#1}%
5376 \global\let\LWR@closedepthtwelve\LWR@closedeptheleven%
5377 \global\let\LWR@closedeptheleven\LWR@closedepthten%
5378 \global\let\LWR@closedepthten\LWR@closedepthnine%
5379 \global\let\LWR@closedepthnine\LWR@closedeptheight%
5380 \global\let\LWR@closedeptheight\LWR@closedepthseven%
5381 \global\let\LWR@closedepthseven\LWR@closedepthsix%
5382 \global\let\LWR@closedepthsix\LWR@closedepthfive%
5383 \global\let\LWR@closedepthfive\LWR@closedepthfour%
5384 \global\let\LWR@closedepthfour\LWR@closedepththree%
5385 \global\let\LWR@closedepththree\LWR@closedepthtwo%
5386 \global\let\LWR@closedepthtwo\LWR@closedepthonne%
5387 \global\csletcs{\LWR@closedepthonne}{\LWR@depth#1}%
5388 }

```

\LWR@popclose Pops one action and its depth off the stacks.

```

5389 \newcommand*{\LWR@popclose}{%
5390 {%
5391 \global\let\LWR@closeone\LWR@closetwo%
5392 \global\let\LWR@closetwo\LWR@closethree%
5393 \global\let\LWR@closethree\LWR@closefour%
5394 \global\let\LWR@closefour\LWR@closefive%
5395 \global\let\LWR@closefive\LWR@closesix%
5396 \global\let\LWR@closesix\LWR@closeseven%
5397 \global\let\LWR@closeseven\LWR@closeeight%

```

```

5398 \global\let\LWR@closeeight\LWR@close-nine%
5399 \global\let\LWR@close-nine\LWR@close-ten%
5400 \global\let\LWR@close-ten\LWR@close-eleven%
5401 \global\let\LWR@close-eleven\LWR@close-twelve%
5402 \global\let\LWR@close-depth-one\LWR@close-depth-two%
5403 \global\let\LWR@close-depth-two\LWR@close-depth-three%
5404 \global\let\LWR@close-depth-three\LWR@close-depth-four%
5405 \global\let\LWR@close-depth-four\LWR@close-depth-five%
5406 \global\let\LWR@close-depth-five\LWR@close-depth-six%
5407 \global\let\LWR@close-depth-six\LWR@close-depth-seven%
5408 \global\let\LWR@close-depth-seven\LWR@close-depth-eight%
5409 \global\let\LWR@close-depth-eight\LWR@close-depth-nine%
5410 \global\let\LWR@close-depth-nine\LWR@close-depth-ten%
5411 \global\let\LWR@close-depth-ten\LWR@close-depth-eleven%
5412 \global\let\LWR@close-depth-eleven\LWR@close-depth-twelve%
5413 }

5414 \end{warpHTML}

```

41 Data arrays

These macros are similar to the `arrayjobx` package, except that `\LWR@setexparray`'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@setexparray{name}{index}{}
```

for HTML output: 5415 `\begin{warpHTML}`

```

\lwr@setexparray {\langle name\rangle} {\langle index\rangle} {\langle contents\rangle}

5416 \NewDocumentCommand{\lwr@setexparray}{m m m}{%
5417   \let\LWR@temp@par\par%
5418   \let\par\relax%
5419   \edef\LWR@thisexparrayname{\#1\#2}%
5420   \ifstrempty{\#3}%
5421     {\csdef{\LWR@thisexparrayname}{} }%
5422     {\csdef{\LWR@thisexparrayname}{\#3}}%
5423   \let\par\lwr@temp@par%
5424 }

```

```

\lwr@getexparray {\langle name\rangle} {\langle index\rangle}

5425 \newcommand*{\lwr@getexparray}[2]{%
5426   \nameuse{\#1\#2}%
5427 }

5428 \end{warpHTML}

```

42 Localizing catcodes

for HTML & PRINT: 5429 \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.

```
5430 \newcommand{\StartDefiningTabulars}{%
5431   \LWR@traceinfo{StartDefiningTabulars}%
5432   \warpHTMLonly{\catcode`\&=\active}%
5433 }
```

\StopDefiningTabulars Place after defining something with & in it.

```
5434 \newcommand{\StopDefiningTabulars}{%
5435   \LWR@traceinfo{StopDefiningTabulars}%
5436   \warpHTMLonly{\catcode`\&=4}%
5437 }
```

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.

```
5438 \newbool{LWR@mathmacro}
5439 \boolfalse{LWR@mathmacro}
```

\StartDefiningMath Place before defining something with \$ in it.

```
5440 \newcommand{\StartDefiningMath}{%
5441   \LWR@traceinfo{StartDefiningMath}%
5442   \warpHTMLonly{\catcode`\$=\active}%
5443 }
```

\StopDefiningMath Place after defining something with \$ in it.

```
5444 \newcommand{\StopDefiningMath}{%
5445   \LWR@traceinfo{StopDefiningMath}%
5446   \warpHTMLonly{\catcode`\$=3}% math shift
5447 }
```

```
5448 \end{warpall}
```

43 Localizing dynamic math

Inline SVG math usually uses a hash of its contents to generate `\latexitimages` 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{\macro}
  {$math expression$}
  {\inlinemathother$math expression$\inlinemathnormal}
  {}
  {\typeout{Error patching macro.}}
```

for HTML & PRINT: 5449 `\begin{warpall}`

Bool LWR@dynamicmath True to mark inline math which is dynamic in nature, thus should not be hashed for reuse.
Default: false

```
5450 \newbool{LWR@dynamicmath}
5451 \boolfalse{LWR@dynamicmath}
```

\inlinemathother Place before using `$... $` or `\(... \)` if the contents of the math are not static, depending on counters or dynamic macros.

```
5452 \newcommand{\inlinemathother}{%
5453 \LWR@traceinfo{\inlinemathother}%
5454 \booltrue{LWR@dynamicmath}%
5455 }
```

\inlinemathnormal Place after using `$... $` or `\(... \)` with dynamic contents.

```
5456 \newcommand{\inlinemathnormal}{%
5457 \LWR@traceinfo{\inlinemathnormal}%
5458 \boolfalse{LWR@dynamicmath}%
5459 }

5460 \end{warpall}
```

44 HTML entities

for HTML output: 5461 \begin{warpHTML}

 HTML Unicode entities:

5462 \let\LWR@origampersand\&

\HTMLentity {<entitytag>}

5463 \newcommand*{\HTMLentity}[1]{%
5464 % \LWR@traceinfo{HTMLentity \detokenize{\#1}}%
5465 \begingroup%
5466 \LWR@FBcancel%
5467 \LWR@origampersand#1;%
5468 \endgroup%
5469 % \LWR@traceinfo{HTMLentity done}%
5470 }

\HTMLunicode {<hex_unicode>}

5471 \newcommand*{\HTMLunicode}[1]{\HTMLentity{\LWR@origpound{}x#1}}

\&

5472 \renewrobustcmd*{\&}{\HTMLentity{amp}}

\textless

5473 \let\LWR@origtextless\textless
5474 \renewrobustcmd*{\textless}{\HTMLentity{lt}}

\textgreater

5475 \let\LWR@origtextgreater\textgreater
5476 \renewrobustcmd*{\textgreater}{\HTMLentity{gt}}

5477 \end{warpHTML}

45 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: 5478 \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.

```
5479 \providecommand*{\BaseJobname}{\jobname}
```

\HTMLFilename The prefix for all generated HTML files other than the home page, defaulting to empty. See section [7.6.1](#).

```
5480 \providecommand*{\HTMLFilename}{}{}
```

\HomeHTMLFilename The filename of the home page, defaulting to the \BaseJobname. See section [7.6.1](#).

```
5481 \providecommand*{\HomeHTMLFilename}{\BaseJobname}
```

\SetHTMLFileName {<number>}

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.

```
5482 \newcommand*{\SetHTMLFileName}[1]{%
5483     \setcounter{LWR@htmlfilename}{#1}%
5484 }
```

Bool FileSectionNames Selects how to create HTML file names.

Defaults to use section names in the filenames.

```
5485 \newbool{FileSectionNames}
5486 \booltrue{FileSectionNames}
```

```
5487 \end{warpall}
```

for HTML output: 5488 \begin{warpHTML}

Updated each time a new HTML file is begun. Used to provide HTML previous/next web page links.

```
5489 \newcounter{LWR@HTMLpagenum}
5490 \setcounter{LWR@HTMLpagenum}{0}
```

Ctr LWR@htmlseqfilename A sequential count of the number of each HTML file as it is being created. Number 0 is the home page. Unlike \LWR@htmlfilename, 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.

```
5491 \newcounter{LWR@htmlseqfilename}
5492 \setcounter{LWR@htmlseqfilename}{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.

```
5493 \newbool{LWR@setseqfilelabel}
5494 \setbool{LWR@setseqfilelabel}{false}
```

Ctr LWR@htmlfilename 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.

```
5495 \newcounter{LWR@htmlfilename}
5496 \setcounter{LWR@htmlfilename}{0}
```

\LWR@htmlsectionfilename {*htmlfilename or name*}

Prints the filename for a given section: \HTMLFilename{}filename/name.html

```
5497 \newcommand*{\LWR@htmlsectionfilename}[1]{%
5498 \LWR@traceinfo{LWR@htmlsectionfilename A !\detokenize{#1}!}%
5499 \begingroup%
```

Disable CJK xpinyin while generating file names.

```
5500 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```
5501 % \LWR@traceinfo{about to assign temp}%
5502 \LWR@sanitize{#1}%
5503 \LWR@traceinfo{about to compare with ??}%
5504 \ifdefstring{\LWR@sanitized}{??}%
5505   {\LWR@traceinfo{found ??}}%
5506   {\LWR@traceinfo{not found ??}}%
5507 \LWR@traceinfo{about to compare with zero or empty}%
5508 \ifboolexpr{%
5509   test {\ifdefstring{\LWR@sanitized}{0}} or
5510   test {\ifdefstring{\LWR@sanitized}{}} or
5511   test {\ifdefstring{\LWR@sanitized}{??}}%
5512 }%
5513 {%
5514   \LWR@traceinfo{LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
5515   \HomeHTMLFilename.html%
5516 }%
```

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:

```
5517 {%
5518   \LWR@traceinfo{LWR@htmlsectionfilename C \LWR@sanitized}%
5519   \ifboolexpr{%
5520     test{\ifdefvoid{\HTMLFilename}} and
```

```

5521      (
5522          test{\ifdefstring{\LWR@sanitized}{Index}} or
5523          test{\ifdefstring{\LWR@sanitized}{index}}
5524      )
5525  }%
5526 {%
5527     \LWR@traceinfo{Adding a zero to the index filename.}%
5528     \LWR@sanitized-0.html%
5529 }%

```

Otherwise, create a filename with the chosen prefix:

```

5530   {%
5531     \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
5532   }%
5533 }%
5534 \LWR@traceinfo{\LWR@htmlsectionfilename Z}%
5535 \endgroup%
5536 }

```

\LWR@htmlrefsectionfilename {*<label>*}

Prints the filename for the given label

```

5537 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
5538   \LWR@traceinfo{\LWR@htmlrefsectionfilename: !\detokenize{#1}!}%

```

\LWR@nullfonts to allow math in a section name.

```

5539 \begingroup%
5540 \LWR@nullfonts%
5541 \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
5542 \endgroup%
5543 \LWR@traceinfo{\LWR@htmlrefsectionfilename: done}%
5544 }

```

```
5545 \end{warpHTML}
```

46 Homepage link

for HTML & PRINT: 5546 \begin{warpall}

\linkhomename Holds the default name for the home link.

```

5547 \newcommand{\linkhomename}{Home}
5548 \end{warpall}

```

for HTML output: 5549 \begin{warpHTML}

\LinkHome May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```
5550 \newcommand*\{\LinkHome\}{%
5551     \LWR@subhyperrefclass{\HomeHTMLfilename.html}{\linkhomename}{linkhome}%
5552 }

5553 \end{warpHTML}
```

for PRINT output: 5554 \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.

```
5555 \AtBeginDocument{
5556 \ifundefined{hyperref}%
5557     \newcommand*\{\LinkHome\}{%
5558         \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
5559     }
5560 }{
5561     \newcommand*\{\LinkHome\}{%
5562         \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
5563     }
5564 }
5565 }
5566
5567 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage} }
```

5568 \end{warpprint}

for HTML output: 5569 \begin{warpHTML}

\LWR@topnavigation Creates a link to the homepage at the top of the page for use when the window is too narrow for the sidetoc.

```
5570 \newcommand*\{\LWR@topnavigation\}{%
5571     \LWR@htmlelementclassline{nav}{topnavigation}{\LinkHome}%
5572 }
```

\LWR@botnavigation Creates a link to the homepage at the bottom of the page for use when the window is too narrow for the sidetoc.

```
5573 \newcommand*\{\LWR@botnavigation\}{%
5574     \LWR@htmlelementclassline{nav}{botnavigation}{\LinkHome}%
5575 }
```

5576 \end{warpHTML}

47 Previous/next navigation links

for HTML & PRINT: 5577 \begin{warpall}

\linkpreviousname What to call the link to the previous web page.

5578 \newcommand*\{\linkpreviousname\}{Previous}

\linknextname What to call the link to the next web page.

5579 \newcommand*\{\linknextname\}{Next}

5580 \end{warpall}

for PRINT output: 5581 \begin{warpprint}

\LinkPrevious Creates a link to the previous web page if there is one.

5582 \newcommand*\{\LinkPrevious\}{}%

\LinkNext Creates a link to the next web page if there is one.

5583 \newcommand*\{\LinkNext\}{}%

5584 \end{warpprint}

for HTML output: 5585 \begin{warpHTML}

\LinkPrevious Creates a link to the previous web page if there is one.

The links refer to the L^AT_EX labels \Basejobname-autofile-*

```
5586 \newcommand*\{\LinkPrevious\}{%
5587   \ifnumless{\value{LWR@htmlseqfilenumber}}{1}{}{%
5588     \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}-1}%
5589     \LWR@subhyperrefclass{%
5590       \LWR@htmlrefsectionfilename{%
5591         \BaseJobname-autofile-\arabic{LWR@tempcountone}}%
5592       }%
5593     }{\linkpreviousname\{\linkhome\}}%
5594   }%
5595 }
```

\LinkNext Creates a link to the next web page if there is one.

The links refer to the L^AT_EX labels \Basejobname-autofile-*
and the last is the label \Basejobname-autofile-last

```

5596 \newcommand*{\LinkNext}{%
5597     \ifcsdef{r@\BaseJobname-autofile-last@lwarp}{%
5598         \edef\LWR@tempone{%
5599             \LWR@htmlfileref{\BaseJobname-autofile-\arabic{\LWR@htmlseqfilenumber}}%
5600         }%
5601         \edef\LWR@temptwo{%
5602             \LWR@htmlfileref{\BaseJobname-autofile-last}%
5603         }%
5604         \ifdefequal{\LWR@tempone}{\LWR@temptwo}{}{%
5605             \setcounter{\LWR@tempcountone}{\value{\LWR@htmlseqfilenumber}+1}%
5606             \LWR@subhyperrefclass{%
5607                 \LWR@htmlrefsectionfilename{%
5608                     \BaseJobname-autofile-\arabic{\LWR@tempcountone}}%
5609                 }%
5610             }{\linknextname}{linkhome}%
5611         }%
5612     }{}%
5613 }%
5614 \end{warpHTML}

```

48 \LWRPrintStack diagnostic tool

 Diagnostics tool: Prints the L^AT_EX 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: 5615 \begin{warpHTML}

\LWRPrintStack Prints the closeddepth stack.

```

5616 \newcommand*{\LWR@subprintstack}{%
5617 \LWR@closedepthonel\ \LWR@closedepthtwol\ \LWR@closedepththreel\%
5618 \LWR@closedepthfourl\ \LWR@closedepthfivel\ \LWR@closedepthsixl\%
5619 \LWR@closedepthsevenl\ \LWR@closedeptheightl\ \LWR@closedeptninel\%
5620 \LWR@closedepthtenl\ \LWR@closedepthelevell\ \LWR@closedepthtwelvel\%
5621 }%
5622
5623 \newcommand*{\LWRPrintStack}{%
5624 \LWR@startpars
5625 \LWR@subprintstack
5626 }

```

```
5627 \end{warpHTML}
```

for PRINT output: 5628 \begin{warpprint}

```
5629 \newcommand*{\LWRPrintStack}{}%
```

```
5630 \end{warpprint}
```

49 Closing stack levels

for HTML output: 5631 \begin{warpHTML}

Close one nested level:

```
5632 \newcommand*{\LWR@closeoneprevious}{%
5633 %
5634 \LWR@closeone
5635 %
5636 \LWR@popclose
5637 }
```

\LWR@closeprevious {<sectintype>} Close everything up to the given depth:

```
5638 \newcommand*{\LWR@closeprevious}[1]{%
5639 \LWR@traceinfo{%
5640     LWR@closeprevious to depth \csuse{LWR@depth#1}, %
5641     depths are \LWR@subprintstack%
5642 }%
```

Close any pending paragraph:

```
5643 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```
5644 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}{>}{\csuse{LWR@depth#1}}}}{%
5645 %
5646     \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
5647     \LWR@closeoneprevious%
5648 }%
5649 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}{=}{\csuse{LWR@depth#1}}}}{%
5650 %
5651     \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
5652     \LWR@closeoneprevious%
5653 }{%
5654 \LWR@traceinfo{LWR@closeprevious: done, depths are \LWR@subprintstack}%
5655 }%
5656 \end{warpHTML}
```

50 PDF pages and styles

for HTML output: 5657 \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.

```
5658 \newcommand{\LWR@forcenewpage}{%
5659 \LWR@traceinfo{\LWR@forcenewpage}%
5660 \ifinner\else%
5661 \LWR@stoppars\LWR@orignewpage\LWR@startpars%
5662 \fi%
5663 }
```

`\pagestyle`, etc. are nullified for HTML output.

```
\pagestyle {\langle style\rangle}
```

```
5664 \renewcommand*{\pagestyle}[1]{}
```

```
\thispagestyle {\langle style\rangle}
```

```
5665 \renewcommand*{\thispagestyle}[1]{}
```

```
\markboth {\langle left\rangle} {\langle right\rangle}
```

```
5666 \renewcommand*{\markboth}[2]{}
```

```
\markright {\langle right\rangle}
```

```
5667 \renewcommand*{\markright}[1]{}
```

```
\raggedbottom
```

```
5668 \renewcommand*{\raggedbottom}{}{}
```

```
\flushbottom
```

```
5669 \renewcommand*{\flushbottom}{}{}
```

```
\sloppy
```

```
5670 \renewcommand*{\sloppy}{}{}
```

```
\fussy
```

```
5671 \renewcommand*{\fussy}{}{}
```

```
\pagenumbering * {\langle commands\rangle}
```

```
5672 \RenewDocumentCommand{\pagenumbering}{s m}{}{}
```

```
5673 \end{warpHTML}
```

51 HTML tags, spans, divs, elements

for HTML output: 5674 \begin{warpHTML}

51.1 Mapping L^AT_EX sections to HTML sections

```

5675 \newcommand*\LWR@tagtitle}{h1}
5676 \newcommand*\LWR@tagtitleend}{/h1}
5677 \newcommand*\LWR@tagbook}{div class="book"}
5678 \newcommand*\LWR@tagbookend}{/div}
5679 \newcommand*\LWR@tagpart}{h2}
5680 \newcommand*\LWR@tagpartend}{/h2}
5681 \newcommand*\LWR@tagchapter}{h3}
5682 \newcommand*\LWR@tagchapterend}{/h3}
5683 \newcommand*\LWR@tagsection}{h4}
5684 \newcommand*\LWR@tagsectionend}{/h4}
5685 \newcommand*\LWR@tagssubsection}{h5}
5686 \newcommand*\LWR@tagssubsectionend}{/h5}
5687 \newcommand*\LWR@tagssubsection}{h6}
5688 \newcommand*\LWR@tagssubsectionend}{/h6}
5689 \newcommand*\LWR@tagparagraph}{span class="paragraph"}
5690 \newcommand*\LWR@tagparagraphend}{/span}
5691 \newcommand*\LWR@tag subparagraph}{span class="subparagraph"}
5692 \newcommand*\LWR@tag subparagraphend}{/span}
5693
5694 \newcommand*\LWR@tagregularparagraph}{p}

```

51.2 Babel-French tag modifications

Adjust babel-french for HTML spaces. So far, this only works for *pdflatex* and *xelatex*.

(Emulates or patches code by DANIEL FLIPO.)

```

5695 \providecommand*\LWR@FBcancel(){}
5696
5697 \AtBeginDocument{%

```

In some circumstances, \NoAutoSpacing may be defined when \frenchbsetup is not.

```

5698 \@ifundefined{NoAutoSpacing}%
5699     {}%
5700     {%
5701         \LetLtxMacro{\LWR@FBcancel}{\NoAutoSpacing}%
5702     }%
5703
5704 \@ifundefined{frenchbsetup}%
5705 {}%
5706 {}%
5707     \frenchbsetup{FrenchFootnotes=false}%

```

```

5708 %
5709   \renewrobustcmd*{\FBcolonspace}{%
5710     \begingroup%
5711     \LWR@FBcancel%
5712     \LWR@origampersand{}nbsp;%
5713     \endgroup%
5714   }%
5715   \renewrobustcmd*{\FBthinspace}{%
5716     \begingroup%
5717     \LWR@FBcancel%
5718     \LWR@origampersand\LWR@origpound{}x202f;% \
5719     \endgroup%
5720   }%
5721   \renewrobustcmd*{\FBguillspace}{%
5722     \begingroup%
5723     \LWR@FBcancel%
5724     \LWR@origampersand{}nbsp;% ~, for \og xyz \fg{}%
5725     \endgroup%
5726   }%
5727   \DeclareDocumentCommand{\FBmedkern}{}{%
5728     \begingroup%
5729     \LWR@FBcancel%
5730     \LWR@origampersand\LWR@origpound{}x202f;% \
5731     \endgroup%
5732   }%
5733   \DeclareDocumentCommand{\FBthickkern}{}{%
5734     \begingroup%
5735     \LWR@FBcancel%
5736     \LWR@origampersand{}nbsp;% ~
5737     \endgroup%
5738   }%
5739   \renewrobustcmd*{\~}{\HTMLentity{nbsp}}% was overwritten by babel-french
5740   \ifFBunicode%
5741   \else%
5742     \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
5743     \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
5744   \fi%
5745 }%
5746 }

```

51.3 HTML output formatting

Helps format the output HTML code for human readability.

\LWR@indentHTML Newline and indent the output HTML code.

```

5747 \newcommand*{\LWR@indentHTML}{%
5748   \LWR@orignewline\LWR@origrule{2em}{0pt}%
5749 }

```

\LWR@indentHTMLtwo Newline and indent the output HTML code.

```

5750 \newcommand*{\LWR@indentHTMLtwo}{%
5751     \LWR@orignewline\LWR@origrule{4em}{0pt}%
5752 }

```

51.4 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.

```

5753 \newcommand*{\LWR@htmltagc}[1]{%
5754 \LWR@traceinfo{\LWR@htmltagc !\detokenize{\#1}!}%
5755 \begingroup%
5756 \LWR@FBcancel%
5757 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
5758 \protect\LWR@origtextless%
5759 \LWR@isolate{\#1}%
5760 \protect\LWR@origtextgreater%
5761 \endgroup%
5762 }

```

\LWR@spanwarnformat {*object*}

Warns if the given object is used inside a span.

```

5763 \newcommand*{\LWR@spanwarnformat}[1]{%
5764     \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
5765         \PackageWarning{lwarp}{%
5766             A #1 is being used inside a span.\MessageBreak
5767             Formatting may be lost,%
5768         }%
5769     }{}%
5770 }

```

\LWR@spanwarninvalid {*object*}

Warns if the given object is used inside a span.

```

5771 \newcommand*{\LWR@spanwarninvalid}[1]{%
5772     \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
5773         \PackageWarning{lwarp}{%
5774             A #1 is being used inside a span.\MessageBreak
5775             This generates invalid HTML,%
5776         }%
5777     }{}%
5778 }

```

Env \LWR@nestspan Disable minipage, \parbox, and HTML <div>s inside a .

 \begin{LWR@nestspan} must follow the opening tag to allow a paragraph to start if the span is at the beginning of a new paragraph.

 \end{LWR@nestspan} must follow the or a <p> may appear inside the span.

```

5779 \newcommand*\LWR@nestspanitem{%
5780 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
5781 \LWR@origitem%
5782 }
5783
5784 \newenvironment*\LWR@nestspan{%
5785 {%
5786 \LWR@traceinfo{LWR@nestspan starting}%
5787 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
5788 {%
5789     \LWR@traceinfo{LWR@nestspan: inside a lateximage}%
5790 }%
5791 {%
5792     \LWR@traceinfo{LWR@nestspan: NOT inside a lateximage}%
5793     \addtocounter{LWR@spandepth}{1}%

```

Nullify several objects inside the span:

```

5794 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}%
5795     {\LWR@spanwarnformat{minipage or \protect\parbox}}%
5796     {}%
5797 \RenewDocumentEnvironment{BlockClass}{o m}%
5798     {\LWR@spanwarnformat{multi-paragraph object}}%
5799     {}%
5800 \renewcommand{\BlockClassSingle}[2]{%
5801     {\LWR@spanwarnformat{multi-paragraph object}}%
5802     ##2%
5803 }%
5804 \renewcommand{\LWR@forcenewpage}{}%
5805 \renewcommand{\LWR@liststart}{%
5806     \let\item\LWR@nestspanitem%
5807 }%
5808 \renewcommand{\LWR@listend}{\LWR@htmltagc{br /}\LWR@htmltagc{br /}}%
5809 \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
5810 \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
5811 }% not in a lateximage
5812 \LWR@traceinfo{LWR@nestspan starting: done}%
5813 }% starting env
5814 {%
5815 \LWR@traceinfo{LWR@nestspan ending}%
5816 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
5817 {}%
5818 {\addtocounter{LWR@spandepth}{-1}}%
5819 \LWR@traceinfo{LWR@nestspan ending: done}%
5820 }%
5821
5822 \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.

```

5823 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
5824 \LWR@ensuredoingapar%
5825 \LWR@htmlltagc{#1}%
5826 \begin{LWR@nestspan}%
5827 #2%
5828 \LWR@htmlltagc{/#1}%
5829 \end{LWR@nestspan}%
5830 }

\LWR@htmlspanclass [⟨style⟩] {⟨class⟩} {⟨text⟩}

5831 \NewDocumentCommand{\LWR@htmlspanclass}{o m +m}{%
5832 \LWR@traceinfo{\LWR@htmlspanclass |#1|#2|}%
5833 \LWR@ensuredoingapar%
5834 \LWR@subhtmlelementclass{span}[#1]{#2}%
5835 \begin{LWR@nestspan}%
5836 #3%
5837 \LWR@htmlltagc{/span}%
5838 \LWR@traceinfo{\LWR@htmlspanclass done}%
5839 \end{LWR@nestspan}%
5840 }

\LWR@htmltag {⟨tag⟩}

Print an HTML tag: <tag>

5841 \newcommand*{\LWR@htmltag}[1]{%
5842 % \LWR@traceinfo{\LWR@htmltagb !\detokenize{#1}!}%
5843 \LWR@htmlltagc{#1}%
5844 % \LWR@traceinfo{\LWR@htmltagb: done}%
5845 }

```

51.5 Block tags and comments

In the following, \origttfamily breaks ligatures, which may not be used for HTML codes:

```

\LWR@htmlopencomment
\LWR@htmlclosecomment
5846 \newcommand*{\LWR@htmlopencomment}{%
5847 {%
5848 % \LWR@traceinfo{\LWR@htmlopencomment}%
5849 \begingroup%
5850 \LWR@FBcancel%
5851 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
5852 \LWR@print@bbox{\LWR@origtextless{}!-/-}%
5853 \endgroup%
5854 }%
5855 }

```

```

5856
5857 \newcommand*{\LWR@htmlclosecomment}{%
5858 {%
5859 % \LWR@traceinfo{\LWR@htmlclosecomment}%
5860 \begingroup%
5861 \LWR@FBcancel%
5862 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
5863 \LWR@print@mbox{-/-\LWR@origtextgreater}%
5864 \endgroup%
5865 }%
5866 }

```

\LWR@htmlcomment {\langle comment\rangle}

```

5867 \newcommand{\LWR@htmlcomment}[1]{%
5868 \LWR@htmlopencomment{}%
5869 {%
5870     \LWR@print@normalfont%
5871     \LWR@origttfamily% break ligatures
5872     #1%
5873 }%
5874 \LWR@htmlclosecomment{}}

```

\LWR@htmlblockcomment {\langle comment\rangle}

```

5875 \newcommand{\LWR@htmlblockcomment}[1]{%
5876 {\LWR@stoppars\LWR@htmlcomment{\#1}\LWR@startpars}}

```

\LWR@htmlblocktag {\langle tag\rangle} print a stand-alone HTML tag

```

5877 \newcommand*{\LWR@htmlblocktag}[1]{%
5878 \LWR@stoppars%
5879 \LWR@htmlltag{\#1}%
5880 \LWR@startpars%
5881 }

```

51.6 Div class and element class

\LWR@subhtmlelementclass {\langle element\rangle} [{\langle style\rangle}] {\langle class\rangle}

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.

```

5882 \NewDocumentCommand{\LWR@subhtmlelementclass}{m O{} m}{%
5883 \LWR@traceinfo{\LWR@subhtmlelementclass !#1!#2!#3!}%
5884 \ifblank{#2}{%
5885 {%
5886     \LWR@htmlltag{%

```

```
5887      #1 % space
5888      class=\textquotedbl#3\textquotedbl\ % space
5889    }%
5890 }%
5891 {%
5892   \LWR@htmlelementclass{%
5893     #1\LWR@indentHTML%
5894     class=\textquotedbl#3\textquotedbl\LWR@indentHTML%
5895     style=\textquotedbl#2\textquotedbl\LWR@orignewline%
5896   }%
5897 }%
5898 \LWR@traceinfo{\LWR@subhtmlelementclass done}%
5899 }

\LWR@htmlelementclass {<element>} {<class>} [<style>]

5900 \NewDocumentCommand{\LWR@htmlelementclass}{m o m}{%
5901 \LWR@stoppars%
5902 \LWR@forceemptyline%
5903 \LWR@subhtmlelementclass{#1}[#2]{#3}%
5904 \LWR@startpars%
5905 }

\LWR@htmlelementclassend {<element>} {<class>}

5906 \newcommand*{\LWR@htmlelementclassend}[2]{%
5907 \LWR@stoppars%
5908 \LWR@htmlelementclass{/#1}%
5909 \ifbool{HTMLDebugComments}{%
5910   \LWR@htmlcomment{End of #1 ``#2''}%
5911 }{}%
5912 \LWR@startpars%
5913 }

\LWR@htmldivclass [<style>] {<class>}

5914 \NewDocumentCommand{\LWR@htmldivclass}{o m}{%
5915 \LWR@htmlelementclass{div}{#1}{#2}%
5916 }

\LWR@htmldivclassend {<class>}

5917 \newcommand*{\LWR@htmldivclassend}[1]{%
5918 \LWR@htmlelementclassend{div}{#1}%
5919 }
```

51.7 Single-line elements

A single-line element, without a paragraph tag for the line of text:

```
\LWR@htmlelementclassline {\langle element \rangle} [\langle style \rangle] {\langle class \rangle} {\langle text \rangle}

5920 \NewDocumentCommand{\LWR@htmlelementclassline}{m o m +m}{%
5921 \LWR@stoppars
5922 \LWR@forceemptyline%
5923 \LWR@subhtmlelementclass{#1}[#2]{#3}%
5924 #4%
5925 \LWR@htmlltag{/#1}
5926 \LWR@startpars
5927 }
```

51.8 HTML5 semantic elements

```
\LWR@htmlelement {\langle element \rangle}

5928 \newcommand*{\LWR@htmlelement}[1]{%
5929 \LWR@htmlblocktag{#1}
5930 }

\LWR@htmlelementend {\langle element \rangle}

5931 \newcommand*{\LWR@htmlelementend}[1]{%
5932 \LWR@stoppars
5933 \LWR@htmlltag{/#1}
5934 \LWR@startpars
5935 }
5936
5937 \end{warpHTML}
```

51.9 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 91.

Env **BlockClass** [\langle style \rangle] {\langle class \rangle} High-level interface for <div> classes.

Ex: \begin{BlockClass}{class} text \end{BlockClass}

for PRINT output: 5938 \begin{warpprint}
5939 \NewDocumentEnvironment{BlockClass}{o m}{ }{ }%
5940 \end{warpprint}

for HTML output: 5941 \begin{warpHTML}
5942
5943 \NewDocumentEnvironment{LWR@print@BlockClass}{o m}{ }{ }%

```

5944
5945 \NewDocumentEnvironment{LWR@HTML@BlockClass}{o m}%
5946     {\LWR@htmldivclass[#1]{#2}}
5947     {\LWR@htmldivclassend{#2}}
5948
5949 \LWR@formattedeenv{BlockClass}
5950 \end{warpHTML}

```

\BlockClassSingle {<class>} {<text>} A single-line <div>, without a paragraph tag for the line of text.

for HTML & PRINT: 5951 \begin{warpall}
 5952 \newcommand{\BlockClassSingle}[2]{#2}
 5953 \end{warpall}

for HTML output: 5954 \begin{warpHTML}
 5955 \newcommand{\LWR@HTML@BlockClassSingle}[2]{%
 5956 \LWR@htmlelementclassline{div}{#1}{#2}%
 5957 }
 5958
 5959 \LWR@formattedeenv{BlockClassSingle}
 5960 \end{warpHTML}

\InlineClass (<WP style>) [<style>] {<class>} {<text>}

High-level interface for inline span classes.

(<WP style>) is css styling to add when formatting for a word processor import.

[<style>] is the css styling to add when not formatting for a word processor.

for PRINT output: 5961 \begin{warpprint}
 5962 \NewDocumentCommand{\InlineClass}{D{()}{}} o m +m}{#4}%
 5963 \end{warpprint}

for HTML output: 5964 \begin{warpHTML}
 5965 \NewDocumentCommand{\LWR@print@InlineClass}{D{()}{}} o m +m}{#4}%
 5966
 5967 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{()}{}} o m +m}{%
 5968 \ifbool{FormatWP}{%
 5969 \LWR@htmllspanclass[#1]{#3}{#4}%
 5970 }{%
 5971 \LWR@htmllspanclass[#2]{#3}{#4}%
 5972 }%
 5973 }
 5974
 5975 \LWR@formattedeenv{InlineClass}
 5976 \end{warpHTML}

Env LWR@BlockClassWP {<WP style>} {<HTML style>} {<class>} 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: 5977 \begin{warpprint}

```

5978 \NewDocumentEnvironment{LWR@BlockClassWP}{m m m}{}{}%
5979 \end{warpprint}

for HTML output: 5980 \begin{warpHTML}
5981 \NewDocumentEnvironment{LWR@print@LWR@BlockClassWP}{m m m}{}{}%
5982 \NewDocumentEnvironment{LWR@HTML@LWR@BlockClassWP}{m m m}{}{}%
5983 {%
5984 \LWR@stoppars%
5985 \ifbool{FormatWP}%
5986 {%
5987     \addtocounter{LWR@thisautoidWP}{1}%

5988     \LWR@htmltag{%
5989         div class=\textquotedbl#3\textquotedbl\ % space
5990         id=\textquotedbl%
5991             \LWR@print@mbox{autoidWP-\arabic{LWR@thisautoidWP}}%
5992             \textquotedbl%
5993             \ifblank{#1}{}{ style=\textquotedbl#1\textquotedbl}%
5994     }%
5995 }% FormatWP
5996 {%
5997     \LWR@htmltag{%
5998         div class=\textquotedbl#3\textquotedbl%
5999             \ifblank{#2}{}{ style=\textquotedbl#2\textquotedbl}%
6000     }%
6001 }% not FormatWP
6002 \LWR@startpars%
6003 }
6004 {\LWR@htmldivclassend{#3}}
6005
6006 \LWR@formattedenv{LWR@BlockClassWP}
6007 \end{warpHTML}

```

51.10 Closing HTML tags

for HTML output: 6008 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

6009 \newcommand*{\LWR@printclosebook}%
6010     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
6011 \newcommand*{\LWR@printclosepart}%
6012     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
6013 \newcommand*{\LWR@printclosechapter}%
6014     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
6015 \newcommand*{\LWR@printclosesection}%
6016     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
6017 \newcommand*{\LWR@printclosesubsection}%
6018     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6019 \newcommand*{\LWR@printclosesubsubsection}%
6020     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsubsection}}{}}

```

```

6021 \newcommand*{\LWR@printcloseparagraph}{}
6022     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
6023 \newcommand*{\LWR@printclosesubparagraph}{}
6024     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

6025 \newcommand*{\LWR@printcloselistitem}{}
6026     {\LWR@htmlltag{/li}}
6027 \newcommand*{\LWR@printclosedescitem}{}
6028     {\LWR@htmlltag{/dd}}
6029 \newcommand*{\LWR@printcloseitemize}{}
6030     {\LWR@htmlltag{/ul}}
6031 \newcommand*{\LWR@printcloseenumerate}{}
6032     {\LWR@htmlltag{/ol}}
6033 \newcommand*{\LWR@printclosedescription}{}
6034     {\LWR@htmlltag{/dl}}

```

```
6035 \end{warpHTML}
```

52 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 53 has high-level commands which allow paragraph-tag generation to start/stop. Even when allowed (`\LWR@doingstartpars`), tags are not generated until a L^AT_EX 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: 6036 `\begin{warpHTML}`

Ctr `\LWR@spandepth` Do not create paragraph tags inside of an HTML span.

```

6037 \newcounter{\LWR@spandepth}
6038 \setcounter{\LWR@spandepth}{0}

```

Bool `\LWR@doingstartpars` Tells whether paragraphs may be generated.

```

6039 \newbool{\LWR@doingstartpars}
6040 \boolfalse{\LWR@doingstartpars}

```

Bool `\LWR@doingapar` Tells whether have actually generated and are currently processing paragraph text.

```

6041 \newbool{\LWR@doingapar}
6042 \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:

```

6043 \newcommand*{\LWR@ensuredoingapar}{%
6044 \ifbool{\LWR@doingstartpars}{%
6045 {\global\booltrue{\LWR@doingapar}}{%
6046 {}{%
6047 }{%

```

\PN@parnotes@auto Redefined by parnotes to print paragraph notes at the end of each paragraph.

```

6048 \def\PN@parnotes@auto{}{%

```

\LWR@openparagraph

```

6049 \newcommand*{\LWR@openparagraph}{%
6050 {}{%

```

See if paragraph handling is enabled:

```

6051 \ifbool{\LWR@doingstartpars}{%
6052 {}% handling pars

```

See if have already started a `lateximage` or a ``. If so, do not generate nested paragraph tags.

```

6053 \ifboolexpr{%
6054   test {\ifnumcomp{\value{\LWR@lateximagedepth}}>}{0}{} or
6055   test {\ifnumcomp{\value{\LWR@spandepth}}>}{0}{}}
6056 }% nested par tags?

```

If so: Do nothing if already started a `lateximage` page. Cannot nest a `lateximage`. Also do nothing if already inside a ``. Do not nest paragraph tags inside a ``.

```

6057 {}% no nested par tags

```

Else: No `lateximage` or `` has been started yet, so it's OK to generate paragraph tags.

```

6058 {}% yes nest par tags

```

If `parnotes` is used, paragraph notes are inserted before starting the next paragraph:

```

6059 \PN@parnotes@auto%

```

The opening paragraph tag:

```

6060 \LWR@htmlltagc{\LWR@tagregularparagraph}\LWR@orignewline%

```

Now have started a paragraph.

```

6061 \global\booltrue{\LWR@doingapar}%

```

At the endof each paragraph, generate closing tag and do regular /par stuff. (Attempting to use the `everyhook cr` hook for `\LWR@closeparagraph` does not work well.)

```

6062      \let\par\LWR@closeparagraph%
6063      }% end of yes nest par tags
6064 }% end of handling pars
6065 {}% not handling pars
6066 }

```

\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`.

```

6067 \newcommand*{\LWR@closeparagraph@br}{%
6068 {%
6069   \ifboolexpr{%
6070     test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}} and
6071     test {\ifnumcomp{\value{\LWR@lateximagedepth}}{=}{0}} and
6072     not bool {\LWR@intabularmetadata}%
6073   }%
6074   {\unskip\LWR@htmltagc{br /}}%
6075   {}%
6076 }

```

\LWR@closeparagraph

```

6077 \newcommand*{\LWR@closeparagraph}{%
6078 {%
6079 % \LWR@traceinfo{\LWR@closeparagraph}%

```

See if paragraph handling is enabled:

```
6080 \ifbool{\LWR@doingapar}{%
```

If currently in paragraph mode:

```
6081 {}% handling pars
```

See if already started a `lateximage` or a ``:

```

6082 \ifboolexpr{%
6083   test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6084   test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}%
6085 }%

```

Add a parbreak if in a span, not in a `lateximage`, and not in table metadata.

```

6086 {}% no nested par tags
6087   \LWR@closeparagraph@br%
6088 }% no nested par tags

```

If have not already started a `lateximage` or a ``:

```
6089 {}% 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.)

```
6090      \@hspacer{\fill}\% \hspace*\{\fill\}
6091      \leavevmode\LWR@orignewline%
6092      \LWR@htmltagc{/}\LWR@tagregularparagraph\%
```

No longer doing a paragraph:

```
6093      \global\boolfalse{LWR@doingapar}\%
```

Disable the special `minipage` & `\hspace` interaction until a new minipage is found:

```
6094      \global\boolfalse{LWR@minipagethispar}\%
```

If `parnotes` is used, paragraph notes are inserted after ending the previous paragraph:

```
6095      \PN@parnotes@auto%
6096      \end{yes nest par tags}
6097 \end{handling pars}
```

Add a parbreak if in a span, not in a `lateximage`, and not in table metadata.

```
6098 \not handling pars
6099 \LWR@closeparagraph@br%
6100 \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:

```
6101 \ifboolexpr{%
6102   not bool {LWR@doingapar} and
6103   test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
6104   test {
6105     \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
6106   } and
6107   bool {LWR@intabularmetadata} and
6108   not bool {LWR@tableparcell} and
6109   test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
6110 \%
6111 \%
6112 \LWR@getmynexttoken%
6113 \%
6114 \LWR@origpar%
6115 \%
6116 }

6117 \end{warpHTML}
```

53 Paragraph start/stop handling

These commands allow/disallow the generation of HTML paragraph tags.

Section 52 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: 6118 \begin{warpHTML}

\LWR@startpars Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```
6119 \newcommand*\LWR@startpars{%
6120 {%
6121 % \LWR@traceinfo{\LWR@startpars}%
```

Ignore if inside a lateximage or :

```
6122 \ifboolexpr{%
6123   test {\ifnumcomp{\value{\LWR@lateximagedepth}}>}{0}{} or
6124   test {\ifnumcomp{\value{\LWR@spandepth}}>}{0}{}%
6125 }%
6126 {}%
6127 {}%
```

See if currently handling HTML paragraphs:

```
6128 \ifbool{\LWR@doingstartpars}{%
```

If already in paragraph mode, do nothing.

```
6129 {}%
```

If not currently in paragraph mode:

```
6130 {}%
```

At the start of each paragraph, generate an opening tag:

```
6131 \PushPreHook{par}{\LWR@openparagraph}%
```

At the end of each paragraph, generate closing tag then do regular /par actions:

```
6132 \let\par{\LWR@closeparagraph}
6133 }% an intentionally blank line
```

Are now handling paragraphs, but have not yet actually started one:

```
6135 \global\setbool{\LWR@doingstartpars}{true}%
```

No <par> tag yet to undo:

```
6136 \global\boolfalse{\LWR@doingapar}%
6137 }% nestspan
```

```
6138 % \LWR@traceinfo{LWR@startpars: done}%
6139 }
```

\LWR@stopars Stop handling HTML paragraphs. Any currently open HTML paragraph is closed, and no more will be opened.

```
6140 \newcommand*\LWR@stopars{%
6141 {%
```

Ignore if inside a `lateximage` or ``:

```
6142 \ifboolexpr{%
6143     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6144     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}%
6145 }%
6146 { }%
6147 {%
```

See if currently handling HTML paragraphs:

```
6148 \ifbool{LWR@doingapar}{%
```

if currently in an HTML paragraph:

```
6149 {%
```

Print a closing tag:

```
6150 \leavevmode\LWR@orignewline%
6151 \LWR@htmltagc{/LWR@tagregularparagraph}%
6152 \LWR@orignewline%
```

No longer have an open HTML paragraph:

```
6153 \global\boolfalse{LWR@doingapar}{%
```

Disable the special `minipage` & `\hspace` interaction until a new minipage is found:

```
6154 \global\boolfalse{LWR@minipagethispar}%
6155 }%
```

If was not in an HTML paragraph:

```
6156 { }%
```

See if currently allowing HTML paragraphs:

```
6157 \ifbool{LWR@doingstartpars}{%
```

If so: clear the par hook to no longer catch paragraphs:

```
6158 {\ClearPreHook{par}}%
```

Else: Do nothing:

```
6159      {}%
```

No longer in paragraph mode:

```
6160      \global\setbool{LWR@doingstartpars}{false}%
```

No <p> tag to undo:

```
6161      \global\boolfalse{LWR@doingapar}%
6162 }% nestspan
6163 }
```

```
6164 \end{warpHTML}
```

54 Indentfirst

Pkg indentfirst indentfirst redefines \@afterindentfalse to be \@afterindenttrue. This is reversed \AtBeginDocument here.

for HTML output:

```
6165 \begin{warpHTML}

6166 \AtBeginDocument{
6167     \def\@afterindentfalse{\let\if@afterindent\iffalse}
6168     \@afterindentfalse
6169 }
6170 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting

6171 \end{warpHTML}
```

55 Page headers and footers

for HTML & PRINT:

```
6172 \begin{warpall}
```

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.

```
6173 \newcommand{\LWR@firstpagetop}{} % for the home page alone
6174 \newcommand{\LWR@firstpagebottom}{} % for the home page alone
6175 \newcommand{\LWR@pagetop}{} % for all other pages
6176 \newcommand{\LWR@pagebottom}{}%
```

```
\HTMLFirstPageTop {\text and logos}
```

```
6177 \newcommand{\HTMLFirstPageTop}[1]{%
6178     \renewcommand{\LWR@firstpagetop}{#1}%
6179 }
```

```
\HTMLFirstPageBottom {<text and logos>}

6180 \newcommand{\HTMLFirstPageBottom}[1]{%
6181     \renewcommand{\LWR@firstpagebottom}{#1}%
6182 }

\HTMLPageTop {<text and logos>}

6183 \newcommand{\HTMLPageTop}[1]{%
6184     \renewcommand{\LWR@pagetop}{#1}%
6185 }

\HTMLPageBottom {<text and logos>}

6186 \newcommand{\HTMLPageBottom}[1]{%
6187     \renewcommand{\LWR@pagebottom}{#1}%
6188 }

6189 \end{warpall}
```

56 CSS

for HTML output: 6190 \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.

```
6191 \newcommand*{\LWR@currentcss}{lwarp.css}
```

\CSSFilename {<new-css-filename.css>} Assigns the css file to be used by the following HTML pages.

```
6192 \newcommand*{\CSSFilename}[1]{%
6193 \renewcommand*{\LWR@currentcss}{#1}%
6194 \@onelvel@sanitize\LWR@currentcss%
6195 }
6196
6197 \end{warpHTML}
```

for PRINT output: 6198 \begin{warpprint}
6199 \newcommand*{\CSSFilename}[1]{}
6200 \end{warpprint}

57 MathJax script

for HTML output: 6201 \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.

```
6202 \newcommand*{\LWR@mathjaxfilename}{lwarp_mathjax.txt}
```

`\MathJaxFilename {<filename>}` Assigns the MathJax script file to be used by the following HTML pages.

```
6203 \newcommand*{\MathJaxFilename}[1]{%
6204     \renewcommand*{\LWR@mathjaxfilename}{#1}%
6205     \@onelvel@sanitize\LWR@mathjaxfilename%
6206 }
6207
6208 \end{warpHTML}
```

for PRINT output: 6209 `\begin{warpprint}`
 6210 `\newcommand*{\MathJaxFilename}[1]{}%`
 6211 `\end{warpprint}`

58 Title, HTML meta author, HTML meta description

for HTML output: 6212 `\begin{warpHTML}`

`\title {<title>}` Modified to remember `\thetitle`, which is used to set the HTML page titles.

```
6213 \let\LWR@origtitle\title
6214
6215 \renewcommand*{\title}[1]{%
6216     \LWR@origtitle{#1}%
6217     \begingroup%
6218         \renewcommand{\thanks}[1]{}%
6219         \protected@xdef\thetitle{#1}%
6220     \endgroup%
6221 }
```

```
6222 \end{warpHTML}
```

for HTML & PRINT: 6223 `\begin{warpall}`

`\HTMLTitle {<Titlename>}` The Title to place into an HTML meta tag. The default is to use the document `\title`'s setting.

```
6224 \providecommand{\thetitle}{\BaseJobname}
6225
6226 \newcommand{\theHTMLTitle}{\thetitle}
6227
6228 \newcommand{\HTMLTitle}[1]{\renewcommand{\theHTMLTitle}{#1}}
```

\HTMLAuthor {⟨authorname⟩} 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.

```
6229 \providecommand{\theauthor}{}
6230
6231 \newcommand{\theHTMLAuthor}{\theauthor}
6232
6233 \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 {⟨New HTML meta description.⟩} Assigns the HTML file's description meta tag.

```
6234 \newcommand{\LWR@currentHTMLDescription}{}
6235
6236 \newcommand{\HTMLDescription}[1]{%
6237 \renewcommand{\LWR@currentHTMLDescription}{#1}
6238 }
6239
6240 \end{warpall}
```

59 Footnotes

lwarp uses native L^AT_EX footnote code, although with its own \box to avoid the L^AT_EX 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 l warp:

```
\providecommand{\footnotename}{something}
\usepackage{l warp}
```

Similar for sidenotes. For endnotes:

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

For the pagernote package, there is no \pagenotename to define, since there is no \pagenotemark command.

footmisc The footmisc stable option is emulated by l warp.

⚠ 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 l warp preloads footmisc, the stable option must be

⚠ memoir

declared before l warp is loaded:

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{l warp}
...
```

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.

59.1 Regular page footnotes

In HTML documents, footnotes are placed at the bottom of the web page or the section, depending on FootnoteDepth, using the LATEX 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 59.4 for the implementation.

59.2 Minipage footnotes

See section 59.5 for how minipage footnotes are gathered. See section 90.4 for how minipage footnotes are placed into the document.

59.3 Titlepage thanks

See section 66.7 for titlepage footnotes.

59.4 Regular page footnote implementation

for HTML & PRINT: 6241 \begin{warpall}

Ctr **FootnoteDepth** Determines how deeply to place footnotes in the HTML files, similar to `tocdepth`. The default of 3 places footnotes before each `\subsubsection` or higher. See table 11 for a table of L^AT_EX section headings.

6242 \newcounter{FootnoteDepth}
6243 \setcounter{FootnoteDepth}{3}

Ctr **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.)

6244 \newcounter{footnoteReset}
6245 \setcounter{footnoteReset}{0}

6246 \end{warpall}

for HTML output: 6247 \begin{warpHTML}

\LWR@footnotebox Patch L^AT_EX 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.

6248 \newbox{\LWR@footnotebox}

Much of the following has unneeded print-mode formatting removed.

\@makefntext {⟨text⟩}

6249 \long\def\@makefntext#1{\@thefnmark#1}

\@makefnmark

6250 \def\@makefnmark{%
 6251 \@thefnmark%
 6252 }

Footnotes may be in regular text, in which case paragraphs are tagged, or in a table data cell or `\textrimage`, in which case paragraph tags must be added manually.

In a `\textrimage` during `HTML` output, the `\textrimage` 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`.

```
6253 \long\def\LWR@footnotetext#1#2{%
6254 \LWR@traceinfo{\LWR@footnotetext}%
6255 \global\setbox\csname #2\endcsname=\vbox{%
```

Add to any current footnotes:

```
6256 \unvbox\csname #2\endcsname%
```

Remember the footnote number for `\ref`:

```
6257 \protected@edef@\currentlabel{%
6258   \csname p@footnote\endcsname\@thefnmark%
6259 }% \currentlabel
```

Open a group:

```
6260 \color@begingroup%
```

Disable CJK `xpinyin` while generating footnotes.

```
6261 \LWR@disablepinyin%
```

Use `HTML` superscripts in the footnote even when the main text is inside a `\textrimage`, because the footnote will be in `HTML`:

```
6262 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `\textrimage`:

```
6263 \ifthenelse{%
6264   \boolean{\LWR@doingstartpars} \AND%
6265   \cntttest{\value{\LWR@lateximagedepth}}{=}{0}%
6266 }%
6267 {}%
6268 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```

Append the footnote to the list:

```
6269 \makefntext{#1}%
```

Closing paragraph tag:

```

6270      \ifthenelse{%
6271          \boolean{LWR@doingstartpars} \AND%
6272          \cntttest{\value{LWR@lateximagedepth}}{=}{0}%
6273      }%
6274      {\par}%
6275      {%
6276          \LWR@htmlltagc{/ \LWR@tagregularparagraph}%
6277          \LWR@orignewline%
6278      }%

```

Close the group:

```

6279      \color@endgroup%
6280 }% vbox

```

Paragraph handling:

```

6281 \LWR@ensuredoingapar%
6282 }%

```

\LWR@footnotetext {*text*}

```
6283 \long\def\LWR@footnotetext#1{\LWR@footnotetext{#1}{\LWR@footnotebox}}
```

\@footnotetext {*text*}

```
6284 \LetLtxMacro{\footnotetext}{\LWR@footnotetext}
```

59.5 Minipage footnote implementation

Patch L^AT_EX 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.

```
6285 \newbox{\LWR@mpfootnotes}
```

\@mpfootnotetext {*text*}

```

6286 \long\def\@mpfootnotetext#1{%
6287 \LWR@traceinfo{@mpfootnotetext}%
6288 \global\setbox{\LWR@mpfootnotes}\vbox{%
6289     \unvbox{\LWR@mpfootnotes}%
6290     \reset@font\footnotesize%
6291     \hsize\columnwidth%
6292     \parboxrestore%
6293     \protected@edef\@currentlabel{%
6294         \csname p@mpfootnote\endcsname\@thefnmark}%
6295     \color@begingroup%

```

Use paragraph tags if in a tabular data cell or a `\textrimage`:

```

6296      \ifthenelse{%
6297          \boolean{LWR@doingstartpars} \AND%
6298          \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
6299      }%
6300      {}%
6301      {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%

6302      \@makefntext{%
6303          \ignorespaces#1%
6304      }%

```

Don't add the closing paragraph tag if are inside a `\textrimage`:

```

6305      \ifthenelse{\cnttest{\value{LWR@lateximagedepth}}{>}{0}}{%
6306          {}%
6307          {}%
6308          \leavevmode\LWR@orignewline%
6309          \LWR@htmltagc{/}\LWR@tagregularparagraph}%
6310          \LWR@origpar%
6311      }%
6312      \color@endgroup%
6313 }% vbox

```

Paragraph handling:

```

6314 \LWR@ensuredoingapar%
6315 \LWR@traceinfo{@mpfootnotetext: done}%
6316 }

```

`\thempfootnote` Redefined to remove the `\itshape`, which caused an obscure compiling error in some situations.

```

6317 \AtBeginDocument{%
6318     \def\thempfootnote{\alph{mpfootnote}}%
6319 }

```

59.6 Printing pending footnotes

`\LWR@@printpendingfootnotes {⟨footnote counter name⟩}`

```

6320 \newcommand*{\LWR@printpendingfootnotes}[1]{%
6321 \expandafter\ifvoid\csname LWR@#1box\endcsname\else
6322     \LWR@forcenewpage
6323     \begin{BlockClass}{footnotes}
6324     \null
6325     \unvbox\csuse{\LWR@#1box}%
6326     \setbox\csuse{\LWR@#1box}=\vbox{%
6327     \end{BlockClass}%
6328     \ifltxcounter{#1Reset}{%

```

```

6329      \ifnumgreater{\value{#1Reset}}{0}{%
6330          \setcounter{#1}{\value{#1Reset}}%
6331          \addtocounter{#1}{-1}%
6332      }{}%
6333  }{}%
6334 \fi
6335 }
```

\LWR@printpendingfootnotes Enclose the footnotes in a class, print, then clear. For `manynotes`, new footnotes may be added via `\appto`.

```

6336 \newcommand*{\LWR@printpendingfootnotes}{%
6337     \LWR@printpendingfootnotes{footnote}%
6338 }
```

\LWR@maybeprintpendingfootnotes {⟨depth⟩} Used to print footnotes before sections only if formatting for an EPUB or word processor:

```

6339 \newcommand*{\LWR@maybeprintpendingfootnotes}[1]{%
6340 \ifboolexpr{%
6341     not test{\ifnumcomp{#1}{>}{\value{FootnoteDepth}}} or
6342     bool{FormatEPUB} or
6343     bool{FormatWP}
6344 }%
6345 {\LWR@printpendingfootnotes}%
6346 }%
6347 }
```

\LWR@printpendingmpfootnotes Enclose the minipage footnotes in a class, print, then clear.

```

6348 \newcommand*{\LWR@printpendingmpfootnotes}{%
6349 \ifvoid\LWR@mpfootnotes\else
6350     \LWR@forcenewline
6351     \begin{BlockClass}{footnotes}
6352     \null
6353     \unvbox\LWR@mpfootnotes
6354     \setbox\LWR@mpfootnotes=\vbox{%
6355     \end{BlockClass}
6356 \fi
6357 }

6358 \end{warpHTML}
```

60 Marginpars

\marginpar [⟨left⟩] {⟨right⟩} \marginpar may contains paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `
` tags.

\marginparBlock [⟨left⟩] {⟨right⟩} To include block-related macros, use `\marginparBlock`, which

takes the same arguments but creates a <div> instead of a . A line break will occur in the text where the \marginBlock occurs.

for HTML output: 6359 \begin{warpHTML}

\marginpar [⟨left⟩] {⟨right⟩}

```
6360 \renewcommand{\marginpar}[2][]{%
6361 \ifbool{FormatWP}{%
6362 {%
6363 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}{marginblock}%
6364 #2
6365 \end{LWR@BlockClassWP}
6366 }%
6367 {%
6368     \LWR@htmlspanclass{\marginpar}{#2}%
6369 }%
6370 }
```

\marginparBlock [⟨left⟩] {⟨right⟩}

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```
6371 \newcommand{\marginparBlock}[2][]{%
6372 \LWR@stoppars%
6373 \ifbool{FormatWP}{%
6374 {%
6375     \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}{marginblock}%
6376     #2
6377     \end{LWR@BlockClassWP}
6378 }{%
6379     \begin{BlockClass}{width:2in; float:right; margin:10pt}{marginparblock}%
6380     #2
6381     \end{BlockClass}
6382 }%
6383 \LWR@startpars%
6384 }
```

\reversemarginpar

```
6385 \renewcommand*{\reversemarginpar}{}{}
```

\normalmarginpar

```
6386 \renewcommand*{\normalmarginpar}{}{}
```

```
6387 \end{warpHTML}
```

for PRINT output: 6388 \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.

```
6389 \LetLtxMacro\marginparBlock\marginpar
```

```
6390 \end{warpprint}
```

61 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: 6391 `\begin{warpall}`

`Ctr FileDepth {<section depth>}` determines how deeply to break into new HTML files, similar to `tocdepth`. The default of -5 produces one large HTML file.

```
6392 \newcounter{FileDepth}
6393 \setcounter{FileDepth}{-5}
```

`Bool CombineHigherDepths` Combiile higher-level sections together into one file?

```
6394 \newbool{CombineHigherDepths}
6395 \booltrue{CombineHigherDepths}
```

`\FilenameLimit` Maximum length of the generated filenames.

```
6396 \newcommand*{\FilenameLimit}{80}
```

```
6397 \end{warpall}
```

for HTML output: 6398 `\begin{warpHTML}`

`\LWR@thisfilename` The currently-active filename or number. At first, this is the homepage.

```
6399 \AtBeginDocument{
6400 \ifbool{FileSectionNames}%
6401   {\newcommand*{\LWR@thisfilename}{\HomeHTMLfilename}}
6402   {\newcommand*{\LWR@thisfilename}{\emptyset}}
6403 }
```

\LWR@thisfilename The filename being sanitized.

```
6404 \newcommand*{\LWR@thisfilename}{}%
```

\LWR@simplifyname * {*expression*} Simplify \LWR@thisfilename.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```
6405 \NewDocumentCommand{\LWR@simplifyname}{s m}{%
6406 \IfBooleanTF{#1}{%
6407   \StrSubstitute{\LWR@thisfilename}%
6408   {\detokenize{#2}}%
6409   {\detokenize{-}}[\LWR@thisfilename]%
6410 }{%
6411   \StrSubstitute{\LWR@thisfilename}%
6412   {#2}%
6413   {\detokenize{-}}[\LWR@thisfilename]%
6414 }%
6415 }
```

\LWR@simplifycustom User-defined filename simplifications. Redefine with \newcommand.

```
6416 \newcommand*{\LWR@simplifycustom}{}%
```

\FilenameSimplify * {*phrase*} Assign a user-defined filename simplification. Appends to \LWR@simplifycustom.

```
6417 \NewDocumentCommand{\FilenameSimplify}{s m}{%
6418 \IfBooleanTF{#1}{%
6419   \appto{\LWR@simplifycustom}{%
6420     \LWR@simplifyname*{#2}}%
6421 }{%
6422 }{%
6423   \appto{\LWR@simplifycustom}{%
6424     \LWR@simplifyname{#2}}%
6425 }%
6426 }%
6427 }
```

\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.

```
6428 \newcommand*{\LWR@avoiddupfilenames}{%
6429   To avoid duplicate filenames, use the optional\MessageBreak
6430   short Table of Contents entry:\MessageBreak
6431   \space\space\protect\section[Unique name, no math]{Name with math}%
6432   \MessageBreak
6433   or use \protect\texorpdfstring, from the hyperref package:\MessageBreak
6434   \space\space%
6435   \protect\section{\MessageBreak
6436   \space\space\space\space\protect\texorpdfstring\MessageBreak}
```

```

6437           \space\space\space\space\space\space%
6438           {Name with math}{Unique name, no math}\MessageBreak
6439           \space\space}
6440 }
```

\LWR@filenamenoblanks {*filename*}

Convert blanks into dashes, removes short words, store result in \LWR@thisfilename.

Also see \LWR@nullfonts for nullified macros.

```

6441 \newcommand*{\LWR@filenamenoblanks}[1]{%
6442 \begingroup
```

Locally temporarily disable direct-formatting commands, not used in filenames:

```

6443 \LWR@nullfonts%
6444 \renewcommand*{\LWR@htmlltagc}[1]{}
```

```
6445 \edef\LWR@thisnewfilename{#1}%
```

Replaces common macros with hyphens. (\& is done by \LWR@nullfonts.)

```

6446 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}
6447 \LWR@simplifyname{\_}
6448 \LWR@simplifyname{#}
6449 \LWR@simplifyname{\textbackslash}
6450 \LWR@simplifyname{\protect}
6451 \LWR@simplifyname{\ }
6452 \LWR@simplifyname{\textless}
6453 \LWR@simplifyname{\textgreater}
```

```
6454 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%
```

Warn if there is dollar math in the section name:

```

6455 \ifbool{FileSectionNames}{%
6456   \IfSubStr{\LWR@thisnewfilename}{\LWRdollar}{%
6457     \PackageWarning{lwarp}{%
6458       This section name:\MessageBreak
6459       \space\space‘‘\detokenize\expandafter{\#1}’’\MessageBreak
6460       at the line number listed below,\MessageBreak
6461       is using $dollar-delimited math$,
6462       which generates\MessageBreak
6463       complicated file names. It is better to use\MessageBreak
6464       \space\space%
6465       \protect\section{Name with \protect\left( parenthesis math\protect\right)}%
6466       \MessageBreak
6467       The math then will be removed from the file name.\MessageBreak
6468       \MessageBreak
6469       \LWR@avoiddupfilenames%
```

```
6471           \MessageBreak
6472           This section is found before or%
6473       }
6474   }{ }%
6475 }{ }
```

```
6476 \LWR@traceinfo{\LWR@filenamenoblanks edef: !\LWR@thisnewfilename!}%
6477 \fullexpandarg%
```

Convert spaces into hyphens:

```
6478 \LWR@simplifyname*{ }
```

Convert punctuation into hyphens:

```
6479 \LWR@simplifyname*{*}
6480 \LWR@simplifyname*{()}
6481 \LWR@simplifyname*{()}
6482 \LWR@simplifyname*{.}
6483 \LWR@simplifyname*{!}
6484 \LWR@simplifyname*{,}
6485 \LWR@simplifyname*{'}
6486 \LWR@simplifyname*{+}
6487 \LWR@simplifyname*{/}
6488 \LWR@simplifyname*{:}
6489 \LWR@simplifyname*{;}
6490 \LWR@simplifyname*{=}
6491 \LWR@simplifyname*{?}
6492 \LWR@simplifyname*{@}
6493 \LWR@simplifyname*{^}
6494 \LWR@simplifyname*{&}
6495 \LWR@simplifyname*{"}
6496 \LWR@simplifyname*{<}
6497 \LWR@simplifyname*{>}
```

```
6498 \LWR@simplifyname{\LWRbackslash}
```

Braces are removed entirely to avoid extra dashes in the result.

```
6499 \StrSubstitute{\LWR@thisnewfilename}%
6500   {\LWRleftbrace}{\LWRrightbrace}{\LWR@thisnewfilename}%
6501 \StrSubstitute{\LWR@thisnewfilename}%
6502   {\LWRrightbrace}{\LWR@thisnewfilename}%
```

```
6503 \LWR@simplifyname{\LWRpercent}
6504 \LWR@simplifyname{\LWRdollar}
```

```
6505 \LWR@simplifyname*{|}
6506 \LWR@simplifyname*{^}
6507 \LWR@simplifyname*{~}
6508 \LWR@simplifyname*{[]}
6509 \LWR@simplifyname*{[]}
6510 \LWR@simplifyname*{`}
```

Convert short words:

```
6511 \LWR@simplifyname*{-s-}
6512 \LWR@simplifyname*{-S-}
6513 \LWR@simplifyname*{-a-}
6514 \LWR@simplifyname*{-A-}
6515 \LWR@simplifyname*{-an-}
6516 \LWR@simplifyname*{-AN-}
6517 \LWR@simplifyname*{-to-}
6518 \LWR@simplifyname*{-TO-}
6519 \LWR@simplifyname*{-by-}
6520 \LWR@simplifyname*{-BY-}
6521 \LWR@simplifyname*{-of-}
6522 \LWR@simplifyname*{-OF-}
6523 \LWR@simplifyname*{-and-}
6524 \LWR@simplifyname*{-AND-}
6525 \LWR@simplifyname*{-for-}
6526 \LWR@simplifyname*{-FOR-}
6527 \LWR@simplifyname*{-the-}
6528 \LWR@simplifyname*{-THE-}
```

Convert custom words:

```
6529 \LWR@simplifycustom%
```

If pdflATEX and not utf8 encoding, don't try to convert emdash, endash:

```
6530 \ifPDFTeX% pdflatex or dvi latex
6531 \ifdefstring{\inputencodingname}{utf8}{%
6532     \LWR@simplifyname*{-}
6533 %     emdash
6534     \LWR@simplifyname*{-}
6535 %     endash
6536 }{}}%
6537 \else% not PDFTeX
6538     \LWR@simplifyname*{-}
6539     \LWR@simplifyname*{-}
6540 \fi%
```

Convert multiple hyphens:

```
6541 \LWR@simplifyname*{----}
6542 \LWR@simplifyname*{---}
6543 \LWR@simplifyname*{--}
6544 \LWR@simplifyname*{--}
```

If starts with a dash, remove the leading dash:

```
6545 \IfBeginWith{\LWR@thisnewfilename}{\detokenize{-}}{%
6546     \StrGobbleLeft{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
6547 }{}}
```

If ends with a dash, remove the trailing dash:

```

6548 \IfEndWith{\LWR@thisnewfilename}{\detokenize{-}}{%
6549     \StrGobbleRight{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
6550 }{ }%

```

Limits the length of the filename:

```
6551 \StrLeft{\LWR@thisnewfilename}{\FilenameLimit}[\LWR@thisnewfilename]%
```

Return the global result:

```

6552 \global\let\LWR@thisfilename\LWR@thisnewfilename%
6553 \endgroup%
6554 \LWR@traceinfo{\LWR@filenamenoblanks: result is \LWR@thisfilename}%
6555 }%

```

Ctr Remembers which autopage label was most recently generated. Used to avoid duplicates.
 $\LWR@previousautopagelabel$

```

6556 \newcounter{\LWR@previousautopagelabel}
6557 \setcounter{\LWR@previousautopagelabel}{-1}

```

File $*_{\text{html}}.\text{aux}$ A new entry in the $*_{\text{html}}.\text{aux}$ file is used to help cross-references:

```
\newlabel{autopage-<nnn>}{{<x>}{<y>}}
```

$\LWR@newautopagelabel$ $\{\langle \text{pagenumber counter} \rangle\}$

\BaseJobname is added to the label in case xr or xr-hyper are used.

```

6558 \newcommand*{\LWR@newautopagelabel}[1]{%
6559 \ifnumequal{\value{\LWR@previousautopagelabel}}{\value{page}}{%
6560 {}% no action if this autopage label has already been defined
6561 {}%
6562     \label{\BaseJobname-autopage-\arabic{#1}}%
6563     \setcounter{\LWR@previousautopagelabel}{\value{page}}%
6564 }%
6565 }%

```

61.1 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.

$\LWR@replacestrings$ $\{\langle \text{search} \rangle\} \{\langle \text{replace} \rangle\}$

Replaces strings inside \tmpb .

Modified from the original by PETR OLSAK, from the `opmac` package.

```

6566 \bgroup
6567 \catcode`!=3 \catcode?=3
6568
6569 \long\gdef\LWR@replacestrings@addto#1#2{%
6570     \expandafter\def\expandafter#1\expandafter{#1#2}%
6571 }
6572
6573 \gdef\LWR@replacestrings#1#2{%
6574     \long\def\LWR@replacestringsA##1{\def\tmpb{##1}\LWR@replacestringsB}%
6575     \long\def\LWR@replacestringsB##1{%
6576         \ifx##1\relax \else\LWR@replacestrings@addto\tmpb{#2##1}%
6577         \expandafter\LWR@replacestringsB\fi%
6578     }%
6579     \improved version <May 2016> inspired
6580     \long\def\LWR@replacestringsA##1?{%
6581         \def\tmpb{##1}%
6582     }\expandafter\LWR@replacestringsA\tmpb%
6583 }
6584 \egroup

```

\LWR@subHTMLsanitize \LWR@strresult must first be set by \LWR@HTMLsanitize, \LWR@HTMLsanitizeexpand, or \CustomizeMathJax.

```

6585 \catcode`\#=12
6586 \catcode`\&=12
6587 \newcommand{\LWR@subHTMLsanitize}{%

```

The &, <, and > may be interpreted by the browser:

```

6588 \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
6589 \LWR@replacestrings{&}{&}%
6590 \LWR@replacestrings{<}{<}%
6591 \LWR@replacestrings{>}{>}%

```

The double quote occasionally causes problems.

```

6592 \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.

```

6593 \LWR@replacestrings{##}{#}%
6594 \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
6595 }
6596 \catcode`\#=6
6597 \catcode`\&=4

```

\LWR@HTMLsanitize {\text}

```

6598 \newrobustcmd{\LWR@HTMLsanitize}[1]{%

```

Cancel French **babel** character handling, and fully expand the strings:

```

6599 \begingroup%
6600 \LWR@FBcancel%
6601 \fullexpandarg%
6602 \protect\StrSubstitute{\detokenize{#1}}%
6603 {\detokenize{\&}{\detokenize{\&}}[\LWR@strresult]%
6604 \LWR@subHTMLsanitize%
6605 \LWR@strresult%
6606 \endgroup%
6607 }

```

\LWR@HTMLsanitizeexpand {*<text>*}

This version expands the argument before sanitizing it.

```
6608 \newrobustcmd{\LWR@HTMLsanitizeexpand}[1]{%
```

Cancel French **babel** character handling, and fully expand the strings:

```

6609 \begingroup%
6610 \LWR@FBcancel%
6611 \fullexpandarg%

```

The difference between this and \LWR@HTMLsanitize (without “expand”) is the following \expandafter:

```

6612 \protect\StrSubstitute{\detokenize\expandafter{#1}}%
6613 {\detokenize{\&}{\detokenize{\&}}[\LWR@strresult]%
6614 \LWR@subHTMLsanitize%
6615 \LWR@strresult%
6616 \endgroup%
6617 }

```

61.2 Customizing MATHJAX

\LWR@customizedMathJax Additional MATHJAX definitions to be added to the start of each HTML page.

```
6618 \newcommand*{\LWR@customizedMathJax}{}%
```

Bool Used to issue only one warning about using a \CustomizeMathJax per macro.

LWR@warnedcustomizemathjax

```

6619 \newbool{\LWR@warnedcustomizemathjax}
6620 \boolfalse{\LWR@warnedcustomizemathjax}

```

\LWR@subcustomizedmathjax {{*macro definition*}}

```

6621 \newcommand*{\LWR@subcustomizedmathjax}[1]{%
6622 \begingroup%
6623 \LWR@FBcancel%

```

```

6624   \fullexpandarg%
6625   \protect\StrSubstitute{\detokenize{#1}}%
6626     {\detokenize{\&}{\detokenize{\&}}[\LWR@strresult]%
6627 \LWR@subHTMLsanitize%
6628 \xdef\LWR@customizedMathJax{%
6629   \LWR@customizedMathJax%
6630   \LWR@strresult%
6631 }%
6632 \endgroup%
6633 }
6634 \@onlypreamble\LWR@subcustomizedmathjax

```

\CustomizeMathJax {*macro definition*}

A warning is issued if a very long argument is given.

```

6635 \newcommand*{\CustomizeMathJax}[1]{%
6636   \ifbool{\LWR@warnedcustomizemathjax}{}{%
6637     \StrLen{\detokenize{#1}}[\LWR@tempone]%
6638     \ifnumgreater{\LWR@tempone}{200}{%
6639       \AtEndDocument{%
6640         \PackageWarningNoLine{lwarp}{%
6641           To ensure faster MathJax compilation, place each\MessageBreak
6642           custom macro in its own \protect\CustomizeMathJax.\MessageBreak
6643           See the Lwarp documentation regarding customizing\MessageBreak
6644           MathJax%
6645         }%
6646       }%
6647       \booltrue{\LWR@warnedcustomizemathjax}%
6648     }{}%
6649   }%
6650   \appto{\LWR@customizedMathJax}{\LWRbackslash()}%
6651   \LWR@subcustomizedmathjax{#1}%
6652   \appto{\LWR@customizedMathJax}{\LWRbackslash)\par}%
6653 }
6654 \@onlypreamble\CustomizeMathJax

```

\LWR@infoprocessingmathjax {*package name*}

```

6655 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
6656 \typeout{---}
6657 \typeout{Package lwarp: Processing MathJax customizations for #1.}
6658 \typeout{\space\space This may take a moment.}
6659 \typeout{---}
6660 }

```

defaults Default customizations:

In the MATHJAX code, footnotes are only referenced. For equations, they are also generated in the HTML when the L^AT_EX math is generated inside the HTML comment. For other math environments, the \footnotemark/\footnotetext method must be used. See section 8.5.4 regarding \footnotemark.

 \footnotemark

For footnotes, `\footnotename` is used in most cases, however for equation the footnote is picked up from L^AT_EXin `\LWR@doendequation`.

First, `\footnotename` for MATHJAX is copied from L^AT_EX.

```
6661 \providecommand{\footnotename}{\footnote}
6662
6663 % due to warpMathJax:
6664 \end{warpHTML}
6665
6666 \begin{warpMathJax}
6667 \xdef\LWR@customizedMathJax{\LWR@customizedMathJax%
6668   \LWRbackslash(%
6669   \LWRbackslash{}newcommand%
6670   \{\LWRbackslash{}footnotename\}%
6671   \{\footnotename\}%
6672   \LWRbackslash)\par%
6673 }
6674 \end{warpMathJax}
```

`\LWRfootnote` is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to `\footnotename`.

```
6675 \begin{warpMathJax}
6676 \CustomizeMathJax{\def\LWRfootnote{1}}
6677 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{{}^{\mathrm{\#1}}}}
6678 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{{}^{\mathrm{\#1}}}}
6679 \end{warpMathJax}

6680 \begin{warpMathJax}
6681 \CustomizeMathJax{\newcommand\ensuremath[1]{#1}}
6682 \CustomizeMathJax{\% absorb two optional arguments
6683   \newcommand{\LWRframebox}[2][]{\fbox{\#2}}
6684   \newcommand{\framebox}[1][]{\LWRframebox}
6685 }
6686 \CustomizeMathJax{\newcommand{\setlength}[2][]}
6687 \CustomizeMathJax{\newcommand{\addtolength}[2][]}
6688 \CustomizeMathJax{\newcommand{\setcounter}[2][]}
6689 \CustomizeMathJax{\newcommand{\addtocounter}[2][]}
6690 \CustomizeMathJax{\newcommand{\cline}[1][]}
6691 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{\directlua{#1}}}}
6692 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{\directlua{#1}}}}
6693 \end{warpMathJax}
6694
6695 \begin{warpHTML}% due to warpMathJax
```

`\LWR@customizeMathJax` Prints MathJax commands to the HTML output.

```
6696 \newcommand{\LWR@customizeMathJax}{%
6697 \ifbool{mathjax}{%
6698 \LWR@stopars
6699 \LWR@htmlcomment{MathJax customizations:}
6700 }
```

```
6701 \typeout{---}
6702 \typeout{Package lwarf:}
6703 \typeout{Processing MathJax customizations. If this takes too long,}
6704 \typeout{see the Lwarf manual regarding customizing MathJax.}
6705 \begin{BlockClass}{hidden}
6706 \LWR@stoppars
6707 \LWR@customizedMathJax
6708 \LWR@startpars
6709 \end{BlockClass}
6710 \typeout{Done.}
6711 \typeout{---}
6712
6713 \LWR@startpars
6714 }{}
6715 }

6716 \end{warpHTML}
```

for PRINT output: 6717 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```
6718 \newcommand*{\CustomizeMathJax}[1]{}

\FilenameSimplify * {\langle expression \rangle}

6719 \NewDocumentCommand{\FilenameSimplify}{s m}{}

6720 \end{warpprint}
```

for HTML output: 6721 \begin{warpHTML}

\LWR@createfooter If specified, create the first or later web page footer.

```
6722 \newcommand*{\LWR@createfooter}{%
6723     \ifnumless{\value{\LWR@htmlseqfilenumber}}{1}{%
6724         \ifdefempty{\LWR@firstpagebottom}{%
6725             \LWR@htmlelement{footer}
6726
6727             \LWR@firstpagebottom
6728
6729             \LWR@htmlelementend{footer}
6730         }%
6731     }%
6732     \ifdefempty{\LWR@pagebottom}{%
6733         \LWR@htmlelement{footer}
6734
6735         \LWR@pagebottom
6736
6737         \LWR@htmlelementend{footer}
6738     }%
6739 }%
6740 }
```

```
\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.

```
6741 \newcommand*{\LWR@newhtmlfile}[1]{  
6742 \LWR@traceinfo{\LWR@newhtmlfile}}
```

At the bottom of the ending file:

```
6743 \LWR@htmlelementclassend{section}{textbody}  
6744 \LWR@htmlelementclassend{div}{bodycontainer}  
6745 \LWR@htmlelementclassend{div}{bodyandsidetoc}  
6746  
6747 \LWR@printpendingfootnotes  
6748
```

No footer between files if EPUB:

```
6749 \ifbool{FormatEPUB}{}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```
6750 \ifthenelse{\boolean{FormatEPUB} \OR \boolean{FormatWP}}  
6751 {}  
6752 {\ifnumcomp{\value{\LWR@htmlfilename}}{>}{0}{\LWR@botnavigation}{}}
```

End of this HTML file:

```
6753 \LWR@stoppars  
6754 \LWR@htmlltag{/body}\LWR@orignewline  
6755 \LWR@htmlltag{/html}\LWR@orignewline  
6756 \LWR@traceinfo{\LWR@newhtmlfile: about to \LWR@orignewline}  
6757 \LWR@orignewline
```

```
6758 \addtocounter{\LWR@htmlfilename}{1}%  
6759 \addtocounter{\LWR@htmlseqfilename}{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.

```
6760 \ifbool{FileSectionNames}{%  
6761 {%
```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in \LWR@thisfilename.

```
6762 \LWR@filenamenoblanks{#1}%
```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```
6763 \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%
```

If the macro name is not yet defined, this filename is unique.

```
6764 \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.

```
6765 \csdef{\LWR@filename\LWR@hashedname}{}%
6766 }%
```

If the filename is not unique, create an error.

```
6767 \PackageError{lwarp}%
6768   {%
6769     The section name:\MessageBreak
6770     ``#1'',\MessageBreak
6771     at the line number listed below,\MessageBreak
6772     generates the filename\MessageBreak
6773     ``\LWR@thisfilename'',\MessageBreak
6774     which appears to be a duplicate. There is a\MessageBreak
6775     previous section with an identical or similar name.\MessageBreak
6776     While generating file names, Lwarp sanitizes math,\MessageBreak
6777     most symbols, and a few common short words,\MessageBreak
6778     and this may cause a conflict.\MessageBreak
6779     Enter 'H' for possible solutions%
6780   }%
6781   {%
6782     \LWR@avoiddupfilenames%
6783   }%
6784 }%
6785 }%
```

If using file numbers instead of names, the name is set to the next file number.

```
6786 {\renewcommand*{\LWR@thisfilename}{\arabic{\LWR@htmlfilename}}}
```

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.

```
6787 \LWR@traceinfo{\LWR@newhtmlfile: about to print start file}%
```

\LWR@nullfonts to allow math in a section name.

```
6788 \begingroup%
6789 \LWR@nullfonts%
6790 \LWR@htmlblockcomment{%
6791 |Start file|%
6792 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
```

```
6793 }
6794 \endgroup%
```

At the top of the starting file:

```
6795 \LWR@stoppars
6796
```

Start a new file with the given section name:

```
6797 \LWR@filestart[#1]
6798
```

Track the PDF page numbers of the HTML output:

```
6799 \setcounter{LWR@latestautopage}{\value{page}}%
6800 \LWR@newautopagelabel{LWR@latestautopage}%
```

No navigation between files if formatting for an EPUB or word processor:

```
6801 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
6802     {}
6803     {\LWR@topnavigation}
6804
```

No header if between files if formatting for an EPUB or word processor:

```
6805 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
6806     {}
6807     {

6808         \ifdefempty{\LWR@pagetop}{}{
6809             \LWR@htmlelement{header}
6810
6811             \LWR@pagetop
6812
6813             \LWR@htmlelementend{header}
6814         }
6815     }
6816
```

The container for the sidetoc and text body:

```
6817 \LWR@htmlelementclass{div}{bodyandsidetoc}
```

No sidetoc if formatting for an EPUB or word processor:

```
6818 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
6819     {}
6820     {\LWR@sidetoc}
6821
```

Start of the <textbody>:

```
6822 \LWR@htmlelementclass{div}{bodycontainer}
6823 \LWR@htmlelementclass{section}{textbody}
```

Not yet found a new section in this file. Once one is found, a label will be placed for previous/next links.

```
6824 \boolfalse{\LWR@setseqfilelabel}
```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```
6825 \ifthenelse{\boolean{FormatEPUB} \OR \boolean{FormatWP}}%
6826   {}%
6827   {%
6828     \ifcsvvoid{thetitle}{}{%
6829       \LWR@printthetitle%
6830     }%
6831   }%
```

Keep paragraph tags disabled for now:

```
6832 \LWR@stoppars
6833
```

If using MATHJAX, print the customizations here.

```
6834 \LWR@customizeMathJax
```

```
6835 \LWR@traceinfo{\LWR@newhtmlfile: done}
6836 }
```

```
6837 \end{warpHTML}
```

62 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 Section names and the resulting filenames with accented characters are partially supported, depending on the ability of *pdflatex* to generate characters and *pdftotext* to read them. If extra symbols appear in the text, it may be that *pdflatex* is actually producing a symbol over or under a character, resulting in *pdftotext* picking up the accent symbol separately.

⚠ **accents in filenames**

X_ELATEX and LuaLATEX 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: 6838 \begin{warpHTML}

62.1 User-level starred section commands

\ForceHTMLPage For HTML output, forces the next section to be on its own HTML page, if FileDepth allows, even if starred. For use with \printindex and others which generate a starred section which should be on its own HTML page. Also see \ForceHTMLTOC.

For print output, no effect.

```
6839 \newbool{LWR@forcinghtmlpage}
6840 \boolfalse{LWR@forcinghtmlpage}
6841
6842 \newcommand*{\ForceHTMLPage}{%
6843 \global\booltrue{LWR@forcinghtmlpage}%
6844 }
```

\ForceHTMLTOC For HTML output, forces the next section to have a TOC entry, even if starred. For use with \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 \ForceHTMLPage.

For print output, no effect.

```
6845 \newbool{LWR@forcinghtmltoc}
6846 \boolfalse{LWR@forcinghtmltoc}
6847
6848 \newcommand*{\ForceHTMLTOC}{%
6849 \global\booltrue{LWR@forcinghtmltoc}%
6850 }

6851 \end{warpHTML}
```

for PRINT output: 6852 \begin{warpprint}
6853 \newcommand*{\ForceHTMLPage}{}
6854 \newcommand*{\ForceHTMLTOC}{}
6855 \end{warpprint}

for HTML output: 6856 \begin{warpHTML}

62.2 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.

```
6857 \newbool{LWR@mainmatter}
6858 \DeclareDocumentCommand{\mainmatter}{}{%
6859 \booltrue{LWR@mainmatter}%
6860 }
```

\frontmatter Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```
6861 \DeclareDocumentCommand{\frontmatter}{}{%
6862 \boolfalse{LWR@mainmatter}}%
6863 }
```

\backmatter Declare the back matter section of the document. Does not reset the page number.

```
6864 \DeclareDocumentCommand{\backmatter}{}{%
6865 \boolfalse{LWR@mainmatter}}%
6866 }
```

62.3 Sectioning support macros

\LWR@sectionnumber {*<section type>*}

Typeset a section number and its trailing space with css formatting:

```
6867 \newcommand*{\LWR@sectionnumber}[1]{%
6868 \InlineClass{sectionnumber}{#1}}%
6869 }
```

autosec A tag used by the toc and index.

\LWR@createautosec {*<section type>*}

Create an autosection tag.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

```
6870 \newcommand*{\LWR@createautosec}[1]{%
6871 \LWR@htmlltag{%
6872     #1 % space
6873     id=\textquotedbl\textcolor{LWR@color}{\LWR@print@embox{autosec-\arabic{page}}}\textquotedbl%
6874 }%
6875 }
```

\LWR@pushoneclose {*<sectiontype>*} Stacks the new sectioning level's closing tag, to be used when this section is closed some time later.

⚠ \LWR@stoppars must be executed first.

```
6876 \NewDocumentCommand{\LWR@pushoneclose}{m}{%
6877 \LWR@traceinfo{\LWR@pushoneclose #1}}%
6878     \LWR@pushclose{#1}%
6879 }
```

\LWR@startnewdepth {*<sectiontype>*}

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.

⚠ \LWR@stopars must be executed first.

```
6880 \NewDocumentCommand{\LWR@startnewdepth}{m}{%
```

Close any stacked sections up to this new one.

```
6881 \LWR@closeprevious{#1}%
```

Push a new section depth:

```
6882 \LWR@pushoneclose{#1}%
6883 }
```

Ctr `\LWR@prevFileDepth` Remembers the previous `\LWR@FileDepth`.

Initialized to a deep level so that any section will trigger a new HTML page after the home page.

```
6884 \newcounter{\LWR@prevFileDepth}
6885 \setcounter{\LWR@prevFileDepth}{\LWR@depthsubparagraph}
```

`\@secCntFormat {<sectiontype>}`

```
6886 \def\@secCntFormat#1{\csname the#1\endcsname\quad}
```

`\simplechapterdelim` Used by `tocbibind` and `anonchap`.

```
6887 \newcommand*\simplechapterdelim{}
```

`\@chapCntFormat {<sectiontype>}`

\let to `\@secCntFormat` by default, but may be redefined by `\simplechapter` and `\restorechapter` from `tocbibind` or `anonchap`.

```
6888 \let\@chapCntFormat\@secCntFormat
```

`\@partCntFormat {<sectiontype>}`

\let to `\@secCntFormat` by default, but may be redefined by `ctex`.

```
6889 \let\@partCntFormat\@secCntFormat
```

`\@partNameFormat` Prints “Part” for part sections.

Nullified by `ctex`.

```
6890 \newcommand*\@partNameFormat{\LWR@isolate{\partname}~}%
```

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.

```
6891 \newcounter{LWR@currentautosec}
6892 \setcounter{LWR@currentautosec}{1}
```

\LWR@section * [<TOC name>] {<name>} {<sectiontype>}

The common actions for the high-level sectioning commands.

```
6893 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
6894 \IfValueTF{#2}{%
6895   {\LWR@traceinfo{LWR@section: starting #4 #2}}%
6896   {\LWR@traceinfo{LWR@section: starting #4 #3}}%
```

Warn if starting a section inside a :

```
6897   \LWR@spanwarninvalid{section}%
6898 \LWR@maybeprintpendingfootnotes{\csuse{LWR@depth#4}}%
6899 \LWR@stoppars%
6900 \LWR@startnewdepth{#4}%
```

Cancel special `minipage` horizontal space interaction:

```
6901 \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 L^AT_EX page so that TOC and index page number points to the section:

```
6902 \LWR@traceinfo{LWR@section: testing whether to start a new HTML file}%
6903 \IfBooleanT{#1}{\LWR@traceinfo{LWR@section: starred}}%
6904 \ifbool{LWR@forcinghtmlpage}{\LWR@traceinfo{LWR@section: forcinghtmlpage}}{}%
6905 \ifthenelse{%
6906   \%
6907   \(\NOT\equal{#1}{\BooleanTrue}\)\OR%
6908   \(\cnttest{@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)\OR%
6909   \(\boolean{LWR@forcinghtmlpage}\)%
6910 }%
6911 \AND%
6912 \cnttest{@nameuse{LWR@depth#4}}{<=}{\value{FileDepth}}%
6913 \AND%
6914 \%
6915 \NOT\boolean{CombineHigherDepths}\OR%
6916 \cnttest{@nameuse{LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}%
6917 }%
6918 \AND%
```

```

6919      \(% phantomsection
6920          \NOT\isempty{#3}%
6921          \OR%
6922          \(\NOT\equal{#1}{\BooleanTrue}\)%
6923      \)%
6924 }%

```

If so: start a new HTML file:

```

6925 {%
6926     \LWR@traceinfo{\LWR@section: new HTML file}%

```

See if there was an optional TOC name entry:

```

6927     \IfNoValueTF{#2}%

```

If no optional entry

```

6928         {\LWR@newhtmlfile{#3}}%

```

If yes an optional entry

```

6929             {\LWR@newhtmlfile{#2}}%
6930 }% new file

```

Else: No new HTML file:

```

6931 {%

```

Generate a new L^AT_EX page so that TOC and index page number points to the section:

```

6932     \LWR@traceinfo{\LWR@section: not a new HTML file, about to \LWR@orignewpage}%
6933     \LWR@orignewpage%
6934 }% not new file
6935

```

Remember this section's name for \nameref:

```

6936 \IfValueT{#3}{%
6937     \LWR@traceinfo{\LWR@section: about to \LWR@setlatestname}%
6938     \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
6939 }%

```

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.

```

6940 \ifbool{HTMLDebugComments}{%
6941     \begingroup%
6942     \LWR@nullfonts%
6943     \IfBooleanTF{#1}{% starred
6944         {\LWR@htmlcomment{Opening #4*}}%

```

```

6945      {%
6946          \IfNoValueTF{#2}{% short TOC
6947              {\LWR@htmlcomment{Opening #4 ``#3''}}%
6948              {\LWR@htmlcomment{Opening #4 ``#2''}}%
6949          }\LWR@orignewline%
6950      \endgroup%
6951 }{%

```

For inline sections paragraph and subparagraph, start a new paragraph now:

```

6952 \ifthenelse{%
6953     \cnttest{@nameuse{\LWR@depth#4}}{>=}{\LWR@depthparagraph}%
6954 }%
6955     {\LWR@startpars}%
6956     {}%

```

Create the opening tag with an autosec:

```

6957 \LWR@traceinfo{\LWR@section: about to \LWR@createautosec}%
6958 \LWR@createautosec{@nameuse{\LWR@tag#4}}%

6959 \setcounter{\LWR@currentautosec}{\value{page}}%

```

Check if starred:

```

6960 \IfBooleanTF{#1}{%
6961 }%
6962     \LWR@traceinfo{\LWR@section: starred}%

```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```

6963     \ifbool{\LWR@forcinghtmltoc}{%
6964         {%
6965             \addcontentsline{toc}{#4}{%
6966                 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
6967             }%
6968         }%
6969     }%
6970 }% starred

```

Not starred, so step counter and add to TOC:

```
6971 {%
  not starred
}
```

Only add a numbered TOC entry if section number is not too deep:

```

6972 \ifthenelse{%
6973     \cnttest{@nameuse{\LWR@depth#4}}{<=}{\value{secnumdepth}}%
6974 }%
6975     {% if secnumdepth

```

If in the main matter, step the counter and add the TOC entry. For article class, lwarp assumes that all is mainmatter.

```

6976      \LWR@traceinfo{LWR@section: about to test main matter}%
6977      \ifbool{LWR@mainmatter}%
6978      {%
6979          \LWR@traceinfo{LWR@section: yes mainmatter}%
6980          \refstepcounter{#4}%

```

Add main matter numbered TOC entry with the TOC name or the regular name:

```

6981      \LWR@traceinfo{LWR@section: about to addcontentsline}%
6982      \addcontentsline{toc}{#4}%
6983      {%
6984          \protect\numberline{%
6985              \@nameuse{pre#4name}%
6986              \@nameuse{the#4}%
6987              \@nameuse{post#4name}%
6988          }%
6989          {%
6990              \ignorespaces%
6991              \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
6992          }%
6993      }%
6994      \LWR@traceinfo{LWR@section: finished addcontentsline}%
6995  }% end of if main matter

```

If not main matter, add unnumbered TOC name or regular name:

```

6996      {%
6997          \LWR@traceinfo{LWR@section: no main matter}%
6998          \addcontentsline{toc}{#4}%
6999          \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7000      }%
7001  }% end of not main matter
7002 }% end of secnumdepth

```

Deeper than secnumdepth, so add an unnumbered TOC entry:

```

7003      {%
7004          \addcontentsline{toc}{#4}%
7005          \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7006      }%
7007  }%

```

For part, print “Part”:

```

7008      \ifbool{LWR@mainmatter}%
7009      {%
7010          \ifthenelse{%
7011              \(\cnttest{\@nameuse{LWR@depth#4}}{<=}\}%
7012              \{\value{secnumdepth}\}) \AND%
7013              \(\cnttest{\@nameuse{LWR@depth#4}}{=}\{\LWR@depthpart\})}%
7014      }%
7015          \{@partnameformat}%
7016      {()}%

```

Print the section number:

```

7017      \LWR@traceinfo{LWR@section: about to print section number}%
7018      \ifthenelse{%
7019          \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}}{%
7020      }%
7021      {%
7022          \ifstreq{\#4}{part}{%
7023              {\protect\LWR@sectionnumber{\@partcntformat{\#4}}}{%
7024              }{%
7025                  \ifstreq{\#4}{chapter}{%
7026                      {\protect\LWR@sectionnumber{\@chapcntformat{\#4}}}{%
7027                      {\protect\LWR@sectionnumber{\@seccntformat{\#4}}}{%
7028                      }{%
7029                      }{%
7030                      }{%
7031                  \LWR@traceinfo{LWR@section: finished print section number}%
7032              }{%
7033 }% not starred

```

Print the section name:

```

7034 \LWR@traceinfo{LWR@section: about to print the section name}%
7035 \LWR@isolate{\#3}%

```

Close the heading tag, such as /H2:

```

7036 \LWR@traceinfo{LWR@section: about to close the heading tag}%
7037 \LWR@htmltag{\@nameuse{LWR@tag#4end}}%
7038 \LWR@orignewline%

```

Generate a L^AT_EX label.

Track the PDF page numbers of the HTML output.

```

7039 \LWR@traceinfo{LWR@section: about to create the LaTeX label}%
7040 \setcounter{LWR@latestautopage}{\value{page}}%
7041 \LWR@newautopagelabel{LWR@currentautosec}\LWR@orignewline%

```

If this is the first section found in this file, create a label for previous/next links:

```

7042 \ifbool{LWR@setseqfilelabel}{}{%
7043     \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
7044     \booltrue{LWR@setseqfilelabel}%
7045 }%

```

Start paragraph handing unless is an inline paragraph or subparagraph:

```

7046 \ifthenelse{%
7047     \cnttest{\@nameuse{LWR@depth#4}}{<}{\LWR@depthparagraph}}{%
7048 }{%
7049     {\LWR@startpars}}{%
7050 }%

```

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.

```
7051 \ifthenelse{%
7052     \NOT\equal{\#1}{\BooleanTrue}\OR%
7053     \cnttest{@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}%
7054 }%
7055     {% not starred
7056         \setcounter{LWR@prevFileDepth}{\nameuse{LWR@depth#4}}%
7057     }% not starred
7058 }
```

Reset to defaults if not a phantomsection:

```
7059 \ifstrempty{#3}%
7060     {}%
7061     {%
7062         \global\boolfalse{LWR@forcinghtmlpage}%
7063         \global\boolfalse{LWR@forcinghtmltoc}%
7064     }%
7065 %
7066 \LWR@traceinfo{LWR@section: done}%
7067 }
```

62.4 Pre- and post- sectioning names

`\prebookname` Usually null, but is used by `uj*` and `ut*` Japanese classes.
`\postbookname`

```
7068 \providecommand*{\prebookname}{}%
7069 \providecommand*{\postbookname}{}%
```

`\prepartname` Usually null, but is used by `uj*` and `ut*` Japanese classes.
`\postpartname`

```
7070 \providecommand*{\prepartname}{}%
7071 \providecommand*{\postpartname}{}%
```

`\prechaptername` Usually null, but is used by `uj*` and `ut*` Japanese classes.
`\postchaptername`

```
7072 \providecommand*{\prechaptername}{}%
7073 \providecommand*{\postchaptername}{}%
```

`\presectionname` Always null, but provided here for algorithmic simplicity in `\LWR@section`.
`\postsectionname`

```
7074 \providecommand*{\presectionname}{}%
```

```

7075 \let\postsectionname\presectionname
7076
7077 \let\presubsectionname\presectionname
7078 \let\postsubsectionname\postsectionname
7079
7080 \let\presubsubsectionname\presectionname
7081 \let\postsubsubsectionname\postsectionname
7082
7083 \let\preparagraphname\presectionname
7084 \let\postparagraphname\postsectionname
7085
7086 \let\presubparagraphname\presectionname
7087 \let\postsubparagraphname\postsectionname

```

62.5 \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>}

7088 \newcommand{\part@preamble}{}% for koma-script
7089
7090 \DeclareDocumentCommand{\part}{s d() o o d() m}%
7091     \LWR@section{#1}{#3}{#6}{part}%
7092
7093     \part@preamble% for koma-script
7094     \renewcommand{\part@preamble}{}%
7095 }

\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7096 \let\@printcites\relax% for quotchap package
7097
7098 \newcommand{\chapter@preamble}{}% for koma-script
7099
7100 \@ifundefined{chapter}
7101 {}
7102 %
7103 \DeclareDocumentCommand{\chapter}{s d() o o d() m}%
7104     \LWR@section{#1}{#3}{#6}{chapter}%
7105
7106     \@printcites% for quotchap package
7107
7108     \chapter@preamble% for koma-script
7109     \renewcommand{\chapter@preamble}{}%
7110 }
7111 }

```

```

\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7112 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
7113     \LWR@section{#1}{#3}{#6}{section}%
7114 }

\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7115 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
7116     \LWR@section{#1}{#3}{#6}{subsection}%
7117 }

\subsubsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7118 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
7119     \LWR@section{#1}{#3}{#6}{subsubsection}%
7120 }

\paragraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7121 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
7122     \LWR@section{#1}{#3}{#6}{paragraph}%
7123 }

\subparagraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7124 \DeclareDocumentCommand{\subparagraph}{s d() o o d() m}{%
7125     \LWR@section{#1}{#3}{#6}{subparagraph}%
7126 }

7127 \end{warpHTML}

```

63 Starting a new file

for HTML & PRINT: 7128 \begin{warpall}

\HTMLLanguage Default language for the HTML lang tag.

```

7129 \newcommand*{\LWR@currentHTMLLanguage}{en-US}
7130
7131 \newcommand*{\HTMLLanguage}[1]{%
7132     \renewcommand*{\LWR@currentHTMLLanguage}{#1}%
7133 }

```

\theHTMLTitleSeparator May be used inside \theHTMLTitleSection to separate the website's overall HTML title and the particular page's section name.

```

7134 \ifPDFTeX% pdflatex or dvi latex
7135   \ifdefstring{\inputencodingname}{utf8}{%
7136     \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMdash
7137   }{%
7138     \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7139   }%
7140 \else%
7141   \ifpTeX%
7142     \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7143   \else%
7144     \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMdash
7145   \fi%
7146 \fi%

```

`\HTMLTitleBeforeSection` Sets the `HTML` page's meta title tag to show the website title before the section name.

```

7147 \newcommand*{\HTMLTitleBeforeSection}{%
7148   \def\theHTMLTitleSection{%
7149     \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
7150   }%
7151 }

```

`\HTMLTitleAfterSection` Sets the `HTML` page's meta title tag to show the section name before the website title.

```

7152 \newcommand*{\HTMLTitleAfterSection}{%
7153   \def\theHTMLTitleSection{%
7154     \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
7155   }%
7156 }

```

`\theHTMLTitleSection` Forms the `HTML` page's meta title tag. The default is to show the website title before the section name.

```
7157 \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.

```

7158 \newcommand*{\theHTMLSection}{}%
7159 \end{warpall}

```

for HTML output: 7160 `\begin{warpHTML}`

`\LWR@filestart` [*<section name>*] Creates the opening `HTML` tags.

```

7161 \newcommand*{\LWR@filestart}[1][]{%
7162 \LWR@traceinfo{\LWR@filestart !#1!}%

```

Locally temporarily disable direct-formatting commands:

```
7163 \begingroup%
7164 \LWR@nullfonts%
```

Save the section name for use while creating the **HTML** meta title tag:

```
7165 \edef\theHTMLSection{\#1}%
```

Remove extra material:

```
7166 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]
7167 \StrSubstitute{\theHTMLSection}{\detokenize{---}}{\detokenize{-}}[\theHTMLSection]
7168 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]
7169 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]
7170 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]
```

If starts with a dash, remove the leading dash:

```
7171 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{%
7172     \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
7173 }{}}
```

Create the page's **HTML** header:

```
7174 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline
```

The language is user-adjustable:

```
7175 \LWR@htmltag{%
7176     html lang=\LWR@orig@textquotedbl\currentHTMLLanguage\LWR@orig@textquotedbl%
7177 }\LWR@orignewline
```

Start of the meta data:

```
7178 \LWR@htmltag{head}\LWR@orignewline
```

Charset is fixed at UTF-8:

```
7179 \LWR@htmltag{%
7180     meta charset=\LWR@orig@textquotedbl{}UTF-8\LWR@orig@textquotedbl\ /%
7181 }\LWR@orignewline
```

Author:

```
7182 \ifthenelse{\equal{\theHTMLAuthor}{}}{%
7183     {}%
7184     {%
7185         \LWR@htmltag{%
7186             meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl\ % space
7187             content=\LWR@orig@textquotedbl\theHTMLAuthor\LWR@orig@textquotedbl\ /%
7188         }\LWR@orignewline%
7189     }%
}
```

lwarp is the generator:

```

7190 \LWR@htmltag{%
7191     meta % space
7192     name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl\ % space
7193     content=\LWR@orig@textquotedbl{}LaTeX Lwarp package\LWR@orig@textquotedbl\ /%
7194 }\LWR@orignewline%

```

If there is a description, add it now:

```

7195 \ifdefempty{\LWR@currentHTMLDescription}{}{%
7196     \LWR@htmltag{%
7197         meta name=\LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl\ % space
7198         content=\LWR@orig@textquotedbl{}\LWR@currentHTMLDescription\LWR@orig@textquotedbl\ /%
7199     }\LWR@orignewline
7200 }%

```

Mobile-friendly viewport:

```

7201 \LWR@htmltag{%
7202     meta % space
7203     name=\LWR@orig@textquotedbl{}viewport\LWR@orig@textquotedbl\ % space
7204     content=\LWR@orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR@orig@textquotedbl\ /%
7205 }\LWR@orignewline

```

IE patch:

```

7206 \LWR@htmltag{!-`-[if lt IE 9]}\LWR@orignewline
7207 \LWR@htmltag{%
7208     script % space
7209     src=\LWR@orig@textquotedbl{}%
7210         http://html5shiv.googlecode.com/svn/trunk/html5.js%
7211     \LWR@orig@textquotedbl%
7212 }%
7213 \LWR@htmltag{/script}\LWR@orignewline
7214 \LWR@htmltag{![endif]}-\}\LWR@orignewline

```

The page's title, if there is one. A section name is also added if given.

```

7215 \ifthenelse{\equal{\theHTMLTitle}{}}{%
7216     {}%
7217     {%
7218         \LWR@htmltag{title}%
7219         \ifdefempty{\theHTMLSection}{%
7220             {\theHTMLTitle}%
7221             {\theHTMLTitleSection}%
7222             \LWR@htmltag{/title}\LWR@orignewline%
7223         }%

```

The page's stylesheet:

```

7224 \LWR@htmltag{%
7225     link % space
7226     rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
7227     type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
7228     href=\LWR@orig@textquotedbl{}\LWR@currentcss\LWR@orig@textquotedbl\ /%

```

```
7229 }%
7230 \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.

```
7231 \ifbool{mathjax}%
7232 {%
7233   \begingroup%
7234   \LWR@restoreoriglists%
7235   \boolfalse{\LWR@verbtags}%

7236     \IfFileExists{\LWR@mathjaxfilename}%
7237       {\verbatiminput{\LWR@mathjaxfilename}}%
7238       {%
7239         \PackageError{lwarp}%
7240           {%
7241             \protect\MathJaxFilename\space specified the file\MessageBreak
7242               \space\space\LWR@mathjaxfilename\MessageBreak
7243                 which does not exist%
7244           }%
7245           {Specify an existing file, or remove \protect\MathJaxFilename.}%
7246       }%
7247     \booltrue{\LWR@verbtags}%
7248     \endgroup%
7249     \LWR@stoppars%
7250 }% end of mathjax
7251 {}%
```

End of the header:

```
7252 \LWR@htmltag{/head}\LWR@orignewline
```

Start of the body:

```
7253 \LWR@htmltag{body}\LWR@orignewline
7254 \endgroup
7255 \LWR@traceinfo{\LWR@filestart: done}
7256 }

7257 \end{warpHTML}
```

64 Starting HTML output

for HTML output: 7258 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
7259 \catcode`\$=\active
7260 \newcommand*\LWR@LwarpStart{%
7261 {%
7262 \LWR@traceinfo{\LWR@l warpStart}}
```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```
7263 \ifbool{FormatWP}{%
7264     \setcounter{FileDepth}{-5}%
7265     \boolexpr{HTMLDebugComments}%
7266 }{}
```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```
7267 \edef\LWR@strresult{\HomeHTMLFilename}
7268 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
7269 \edef\LWR@strresult{\HTMLFilename}
7270 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}
```

Force onecolumn and empty page style:

```
7271 \LWR@origonecolumn%
7272 \LWR@origpagestyle{empty}%
```

No black box for overfull lines:

```
7273 \overfullrule=0pt
```

Reduce chance of line overflow when HTML tags are added:

```
7274 \LWR@print@footnotesize%
```

In PDF output, don't allow line breaks to interfere with HTML tags:

```
7275 \LWR@print@raggedright%
7276 \LetLtxMacro{\}{\LWR@endofline}}%
```

Spread the lines for *pdftotext* to read them well:

```
7277 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
7278 \setlength{\parindent}{0pt}
7279 \setlength{\parskip}{2ex}
```

For the *lateximage* record file:

```
7280 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
7281 \setlength{\belowcaptionskip}{0ex}
7282 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
7283 \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:

```
7284 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
7285 \global\boolfalse{LWR@doingapar}
7286 \global\boolfalse{LWR@doingstartpars}
```

Document and page settings:

```
7287 \mainmatter
7288 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
7289 \LWR@traceinfo{LWR@lwarpStart: Starting new file.}
7290 \LWR@filestart
7291 \LWR@traceinfo{LWR@lwarpStart: Generating first header.}
```

```
7292 \ifdefempty{\LWR@firstpagetop}{}{%
7293   \LWR@htmlltag{header}\LWR@orignewline
7294   \LWR@startpars
7295   \LWR@firstpagetop
7296   \LWR@stoppars
7297   \LWR@htmlltag{/header}\LWR@orignewline
7298 }%
```

```
7299 \LWR@htmlelementclass{div}{bodywithoutsidetoc}
7300 \LWR@htmlelementclass{div}{bodycontainer}
7301 \LWR@traceinfo{LWR@lwarpStart: Generating textbody.}
7302 \LWR@htmlelementclass{section}{textbody}
```

Create a label for previous/next links, and remember it has been done:

```
7303 \booltrue{LWR@setseqfilelabel}%
7304 \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}
```

Patch the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L^AT_EX environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

7305 \LWR@patchlists

Ensure that math mode is active to call `lwarp`'s patches:

7306 \catcode`\$=\active

Required for `\nameref` to work with SVG math:

7307 \immediate\write\@mainaux{\catcode`\\$=\active}%
7308 \LetLtxMacro{\LWR@syntaxhighlight}{\balance} for editor syntax highlighting

Allow HTML paragraphs to begin:

7309 \LWR@startpars

If using MATHJAX, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

7310 \LWR@customizeMathJax

First autopage label in case a figure occurs early.

7311 \setcounter{\LWR@latestautopage}{\value{page}}%
7312 \LWR@newautopagelabel{\LWR@currentautosec}%

7313 \LWR@traceinfo{\LWR@lwarpStart: done}%
7314 }%
7315 \catcode`\$=3% math shift until lwarp starts

7316 \end{warpHTML}

65 Ending HTML output

for HTML output: 7317 \begin{warpHTML}

\LWR@requesttoc {<boolean>} {<suffix>} Requests that a TOC, LOF, or LOTbe generated.

7318 \newcommand*{\LWR@requesttoc}[2]{%
7319 \ifbool{#1}{%
7320 {%
7321 \expandafter\newwrite\@nameuse{tf@#2}%
7322 \immediate\openout \@nameuse{tf@#2} \jobname.\#2\relax
7323 }{}%
7324 }}

\LWR@LwarpEnd Final stop of all HTML output:

```
7325 \newcommand*\LWR@LwarpEnd{  
7326 {  
7327 \LWR@stoppars  
7328 \LWR@closeprevious{finished}}
```

At the bottom of the ending file:

Close the textbody:

```
7329 \label{\BaseJobname-autofile-last}  
7330 \LWR@htmlelementclassend{section}{textbody}  
7331 \LWR@htmlelementclassend{div}{bodycontainer}  
7332 \LWR@htmlelementclassend{div}{bodyandsidetoc}
```

Print any pending footnotes:

```
7333 \LWR@printpendingfootnotes
```

Create the footer if not EPUB

```
7334 \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.

```
7335 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}  
7336 {}  
7337 {  
7338   \ifnumcomp{\value{\LWR@htmlfilename}}{>}{0}{\LWR@botnavigation}{}  
7339 }
```

```
7340 \LWR@stoppars% final stop of all paragraphs
```

Finish the HTML file:

```
7341 \LWR@htmlltag{/body}\LWR@orignewline  
7342 \LWR@htmlltag{/html}\LWR@orignewline
```

Seems to be required sometimes:

```
7343 \LWR@orignewpage  
7344 }
```

\enddocument If labels have not changed, mark successful completion of the `lateximages.txt` file.
Executed as everything is being shut down.

```
7345 \xpatchcmd{\enddocument}{  
7346   {%
```

```

7347      \if@tempswa
7348          \@latex@warning@no@line{Label(s) may have changed.
7349          Rerun to get cross-references right}%
7350          \fi
7351      }
7352  {%
7353      \if@tempswa
7354          \@latex@warning@no@line{Label(s) may have changed.
7355          Rerun to get cross-references right}%
7356      \else
7357          \immediate\write\LWR@lateximagesfile{%
7358              |end|end|end|%
7359          }%
7360      \fi
7361  }
7362  {}
7363  {
7364      \AtEndDocument{
7365          \PackageWarningNoLine{lwarp}
7366          {%
7367              Could not patch \protect\enddocument.\MessageBreak
7368              If labels have changed, be sure to recompile before\MessageBreak
7369              creating lateximages with\MessageBreak
7370              \space\space lwarpmk limages,\MessageBreak
7371              or the images may be corrupt%
7372          }%
7373      }%
7374  }%
7375 \end{warpHTML}

```

66 Title page

package support

⚠ load order

lwarp supports the native L^AT_EX titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

\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 66.8.

affiliation

lwarp provides for the \author macro an additional \affiliation macro to provide an affiliation and other additional information for each author in the title page. The affiliation information is removed when using titlingpage's \theauthor in the main text.

reusing titlepage information

The titling package maintains the definitions of \thetitle, \theauthor, 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 \thanks and \affiliation removed, and for \author the \and is replaced to generate a simple inline list of authors separated by commas. Note: \theauthor does not work well with authblk unless the traditional L^AT_EX syntax is used.

⚠ \theauthor, authblk

custom titlepages

\printtitle, \printauthor, etc., are provided for use inside a custom titlepage or

`\titlingpage` environment, and these retain the `\thanks` and `\affiliation`.

`\printthanks` `\printthanks` has been added to force the printing of thanks inside a `\titlingpage` environment when `\maketitle` is not used.

 `\thanks` Inside a `\titlepage` or `\titlingpage` environment, use `\thanks` instead of `\footnote` for acknowledgements, etc.

66.1 Setting the title, etc.

The following provide setting commands for both `HTML` and print outputs.

`\author` `\and` `\{<author>\}` While using `\maketitle` and print mode, the author is treated as a single-column tabular and the `\and` 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

```
\author{Name \\ Affiliation \and Second Name \\ Second Affiliation}
```

For `HTML`, the entire author block is placed inside a `<div>` of class `author`, and each individual author is inside a `<div>` of class `oneauthor`.

`\@title` `\@author` `\@date` `\@title`, `\@author`, and `\@date` store the values as originally assigned, including any `\thanks`, `\and`, or `\affiliation`. These are low-level macros intended to be used by other macros only inside a `\titlepage` or `\titlingpage`, and are used by `\maketitle`. 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 `<div>`s of class `oneauthor`, all of which are combined into one `<div>` of class `author`.

`\printtitle` `\printauthor` `\printdate` `\printtitle`, etc. are user-level macros intended to be used in custom `\titlepage` or `\titlingpage` environments in cases where `\maketitle` is not desired. These commands preserve the `\thanks`, etc., and should not be used in the main text.

`\thetitle` `\theauthor` `\thedate` `\HTMLPageBottom` `\thetitle`, `\theauthor`, and `\thedate` are available if `\titling` has been loaded, and are sanitized user-level versions from which have been removed the `\thanks` and `\affiliation`, and `\and` is changed for inline text usage. The author is printed inline without `\affiliation` or `\thanks`, with `\and` 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 `LATEX` 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.

66.2 \if@titlepage

for HTML & PRINT: 7376 \begin{warpall}

\if@titlepage Some classes do not provide \if@titlepage. In this case, provide it and force it false.

```
7377 \ifcscsv{\@titlepagefalse}{  
7378     \newif\if@titlepage  
7379     \@titlepagefalse  
7380 }{}  
  
7381 \end{warpall}
```

66.3 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: 7382 \begin{warpall}
7383 \providerobustcmd{\affiliation}[1]{}
7384 \end{warpall}

for PRINT output: 7385 \begin{warpprint}

```
7386 \AtBeginEnvironment{titlepage}{  
7387 \renewrobustcmd{\affiliation}[1]{\\ \textsc{\small#1}}  
7388 }  
7389  
7390 \AtBeginDocument{  
7391 \@ifpackageloaded{titling}{  
7392 \AtBeginEnvironment{titlingpage}{  
7393 \renewrobustcmd{\affiliation}[1]{\\ \textsc{\small#1}}  
7394 }  
7395 }% titling loaded  
7396 }% AtBeginDocument  
  
7397 \end{warpprint}
```

for HTML output: 7398 \begin{warpHTML}

Env titlepage Sets up a `<div>` of class `titlepage`. Provided even for `memoir` class, since it is used by `\maketitle`.

```

7399 \DeclareDocumentEnvironment{titlepage}{}{%
7400 {%
7401 \renewrobustcmd{\affiliation}[1]{\InlineClass{affiliation}{##1}}%
7402 \LWR@printpendingfootnotes%
7403 \LWR@forcenewpage%
7404 \BlockClass{titlepage}%
7405 }%
7406 {%
7407 \endBlockClass%
7408 \LWR@printpendingfootnotes%
7409 }%
7410 \end{warpHTML}

```

66.4 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: 7411 `\begin{warpprint}`
 7412 `\newcommand*{\printthanks}{\@thanks}`
 7413 `\end{warpprint}`

for HTML output: 7414 `\begin{warpHTML}`
 7415 `\newcommand*{\printthanks}{\LWR@stoppars\@thanks\LWR@startpars}`
 7416 `\end{warpHTML}`

66.5 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: 7417 `\begin{warpHTML}`

```

\printtitle

7418 \newcommand*{\printtitle}{%
7419 {%
7420   \LWR@stoppars%
7421   \LWR@htmltag{\LWR@tagtitle}%
7422   \@title%
7423   \LWR@htmltag{\LWR@tagtitleend}%
7424   \LWR@startpars%
7425 }

```

`\LWR@printthetitle` A private version which prints the title without footnotes, used to title each `HTML` page.

```

7426 \newcommand*{\LWR@printthetitle}{%
7427 {%
7428     \LWR@stoppars%
7429     \LWR@htmlltag{\LWR@tagtitle}%
7430     \thetitle%
7431     \LWR@htmlltag{\LWR@tagtitleend}%
7432     \LWR@startpars%
7433 }

```

\printauthor HTML version.

```
7434 \newcommand*{\printauthor}{%
```

The entire author block is contained in a <div> named author:

```
7435 \begin{BlockClass}{author}
```

\and finishes one author and starts the next:

```

7436 \renewcommand{\and}{%
7437 \end{BlockClass}%
7438 \begin{BlockClass}{oneauthor}%
7439 }

```

Individual authors are contained in a <div> named oneauthor:

```

7440 \begin{BlockClass}{oneauthor}%
7441 @author%
7442 \end{BlockClass}%
7443 \end{BlockClass}%
7444 }

```

\printdate

```

7445 \newcommand*{\printdate}{%
7446 \begin{BlockClass}{titledate}%
7447 @date%
7448 \end{BlockClass}%
7449 }

```

```
7450 \end{warpHTML}
```

66.6 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: 7451 \begin{warpprint}

```
\printtitle  
7452 \newcommand*{\printtitle}{{\Huge\@title}}
```

```
\printauthor Print mode.  
7453 \newcommand*{\printauthor}{  
7454     {\large\begin{tabular}[t]{c}\@author\end{tabular}}}
```

```
\printdate  
7455 \newcommand*{\printdate}{{\small\textit{@date}}}  
7456 \end{warpprint}
```

66.7 \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 59 for other kinds of footnotes.

See \thanksmarkseries{series}, below, to set the style of the footnote marks.

```
for HTML output: 7457 \begin{warpHTML}  
  
7458 @ifclassloaded{memoir}  
7459 {  
7460 \newcommand{\LWR@setfootnoteseries}{%  
7461     \renewcommand\thefootnote{\@arabic\c@footnote} %  
7462 }% not memoir  
7463 \if@titlepage  
7464 \newcommand{\LWR@setfootnoteseries}{%  
7465     \renewcommand\thefootnote{\@arabic\c@footnote} %  
7466 }  
7467 \else  
7468 \newcommand{\LWR@setfootnoteseries}{%  
7469     \renewcommand\thefootnote{\@fnsymbol\c@footnote} %  
7470 }  
7471 }  
7472 \fi  
7473 }% not memoir
```

\LWR@maketitlesetup Patches \thanks macros.

```
7474 \newcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
7475 \LWR@setfootnoteseries  
7476 \def\@makefnmark{\textsuperscript{\thefootnote}}
```

```
\thefootnote \nameuse{arabic}{footnote}, or
\thefootnote \nameuse{fnsymbol}{footnote}
```

Redefine the footnote text:

```
7477 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
7478 \textsuperscript{\@thefnmark}~%
```

```
\makethanksmark \thanksfootmark \tmark \atmark \itshape a (or similar)
```

Print the text:

```
7479 ##1%
7480 }%
7481 }
```

```
\@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*.

```
7482 \def\LWR@HTML@fnsymbol#1{%
7483   \ifcase#1\or *\or
7484   \HTMLentity{dagger}\or
7485   \HTMLentity{Dagger}\or
7486   \HTMLentity{sect}\or
7487   \HTMLentity{para}\or
7488   \HTMLunicode{2016}\or
7489   **\or
7490   \HTMLentity{dagger}\HTMLentity{dagger} \or
7491   \HTMLentity{Dagger}\HTMLentity{Dagger} \else
7492   \ctrerr\fi%
7493 }
7494 \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.

```
7495 \renewcommand*\maketitle{%
```

An HTML titlepage <div> is used for all classes.

```
7496 \begin{titlepage}
```

Set up special patches:

```
7497 \LWR@maketitlesetup
```

Typeset the title, etc:

7498 \@maketitle

Immediately generate any \thanks footnotes:

7499 \LWR@stoppars \@thanks \LWR@startpars

Close the HTML titlepage div and cleanup:

```
7500 \end{titlepage}
7501 \setcounter{footnote}{0}%
7502 \global\let\thanks\relax
7503 \global\let\maketitle\relax
7504 \global\let\@maketitle\relax
7505 \global\let\@thanks\empty
7506 \global\let\@author\empty
7507 \global\let\@date\empty
7508 \global\let\@title\empty
7509 \global\let\title\relax
7510 \global\let\author\relax
7511 \global\let\date\relax
7512 \global\let\and\relax
7513 }
```

\@maketitle HTML mode. Typesets the title, etc.:

```
7514 \DeclareDocumentCommand{\@maketitle}{}{%
7515   \LWR@stoppars%
7516   \LWR@htmlltag{\LWR@tagtitle}%
7517   \@title%
7518   \LWR@htmlltag{\LWR@tagtitleend}%
7519   \LWR@startpars%
7520   \begin{BlockClass}{author}%
```

For **IEEEtran** class:

```
7521 \renewcommand*\{\cr\}{}%
7522 \renewcommand*\{\crr\}{}%
7523 \renewcommand*\{\noalign\}{}%
7524 \renewcommand{\and}{%
7525   \end{BlockClass}%
7526   \begin{BlockClass}{oneauthor}%
7527 }%
7528 \begin{BlockClass}{oneauthor}%
7529 \author%
7530 \end{BlockClass}%
7531 \end{BlockClass}%
7532 \begin{BlockClass}{titledate}%
7533 \date%
7534 \end{BlockClass}%
7535 }
```

\LWR@titlingmaketitle \maketitle for use inside an HTML titlingpage environment.

```
7536 \newcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
7537 \LWR@stoppars@thanks\LWR@startpars
```

Set up special patches:

```
7538 \LWR@maketitlesetup
```

Typeset the title, etc:

```
7539 \@maketitle
```

Immediately generate any \thanks footnotes:

```
7540 \LWR@stoppars@thanks\LWR@startpars
7541 }
```

```
7542 \end{warpHTML}
```

66.8 \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: 7543 \begin{warpall}

\AddSubtitlePublished Adds \published and \subtitle, and related.

```
7544 \newcommand*{\AddSubtitlePublished}{%
7545 @ifpackageloaded{titling}{% yes titling package
7546 \newcommand{\@published}{}%
7547 \newcommand{\published}[1]{\gdef\@published{\#1}}%
7548 \renewcommand*{\maketitlehooka}{\printpublished}%
7549 \newcommand*{\printpublished}{%
7550 \warpprintonly{\begin{center}\unskip}%
7551 \begin{BlockClass}{published}}%
```

```

7552      \warpprintonly{\large\itshape}%
7553      \@published%
7554      \end{BlockClass}%
7555      \warpprintonly{\end{center}}%
7556  }%
7557  \newcommand{\@subtitle}{%
7558  \newcommand{\subtitle}[1]{\gdef\@subtitle{##1}}%
7559  \renewcommand*{\maketitlehookb}{\printsubtitle}%
7560  \newcommand*{\printsubtitle}{%
7561      \warpprintonly{\begin{center}\unskip}%
7562      \begin{BlockClass}{subtitle}%
7563      \warpprintonly{\Large\itshape}%
7564      \@subtitle%
7565      \end{BlockClass}%
7566      \warpprintonly{\end{center}}%
7567  }%
7568 }% yes titling package
7569 { % no titling package

7570  \def\@published{}%
7571  \DeclareDocumentCommand{\published}{m}{\gdef\@published{##1}}%
7572  \DeclareDocumentCommand{\printpublished}{}{%
7573  \def\@subtitle{}%
7574  \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{##1}}%
7575  \DeclareDocumentCommand{\printsubtitle}{}{%
7576 }% no titling package
7577 }% \AddSubtitlePublished

7578 \end{warpall}

```

67 Abstract

The following code replaces the L^AT_EX default, and will itself be replaced later if the `abstract` package is loaded.

for HTML output: 7579 `\begin{warpHTML}`

`\abstractname` User-redefinable title for the abstract.

Also over-written by the `babel` package.

7580 `\providecommand*{\abstractname}{Abstract}`

Some classes allow an optional name, so it is allowed here.

Env `abstract`

```

7581 \DeclareDocumentEnvironment{abstract}{O{\abstractname}{}}
7582 {
7583     \LWR@forcenewpage

```

```

7584     \BlockClass{abstract}
7585     \BlockClassSingle{abstracttitle}{#1}
7586 }
7587 {
7588     \endBlockClass
7589 }

7590 \end{warpHTML}

```

68 Quote and verse

68.1 Attributions

\attribution {<name>}

For use with quote, quotation, verse:

Ex: "A quotation." \attribution{\textsc{Author Name}\\\textsl{Book Title}}

for HTML & PRINT:

```

7591 \begin{warpall}
7592 \newcommand{\attribution}[1]{
7593     \begin{flushright}
7594     \unskip
7595     #1
7596     \end{flushright}%
7597 }
7598 \end{warpall}

```

for HTML output:

```

7599 \begin{warpHTML}
7600 \newcommand{\LWR@HTML@attribution}[1]{%
7601     \LWR@stoppars%
7602     \begin{BlockClass}{attribution}
7603     #1
7604     \end{BlockClass}
7605     \LWR@startpars%
7606 }
7607 \LWR@formatted{attribution}
7608 \end{warpHTML}

```

68.2 Quotes, quotations

for HTML output: 7609 \begin{warpHTML}

Env quote

```

7610 \newenvironment*{\LWR@HTML@quote}{%
7611 {
7612     \LWR@forcenewpage
7613     \LWR@htmlblocktag{blockquote}

```

```

7614 }
7615 {\LWR@htmlblocktag{/blockquote}}
7616
7617 \LWR@formattede{quote}

Env quotation

7618 \newenvironment*{\LWR@HTML@quotation}
7619 {
7620     \LWR@forcenewpage
7621     \LWR@htmlblocktag{blockquote}
7622 }
7623 {\LWR@htmlblocktag{/blockquote}}
7624
7625 \LWR@formattede{quotation}

7626 \end{warpHTML}

```

68.3 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 `\HTMLvleftskip` 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 `pdftotext`'s ability to discern the layout (`-layout` option) of the text in the `HTML`-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLvleftskip` 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.
- ⚠ `verse margin`

68.3.1 L^AT_EX core verse environment

for HTML output: 7627 `\begin{warpHTML}`

Env `verse`

```

7628 \newenvironment{LWR@HTML@verse}
7629     {\let\\newline% lwarp
7630      \list{}{\itemsep      \z@
7631          \itemindent -1.5em%
7632          \listparindent\itemindent
7633          \rightmargin \leftmargin
7634          \advance\leftmargin 1.5em}%
7635          \item\relax}
7636      {\endlist}
7637
7638 \LWR@formattedenv{verse}

7639 \end{warpHTML}

```

for HTML & PRINT: 7640 `\begin{warpall}`

68.3.2 `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.

```

7641 \newlength{\HTMLvleftskip}
7642 \setlength{\HTMLvleftskip}{1em}

```

Len `\HTMLleftmargini` Sets `\leftmargini` inside a `verse` environment in HTML.

```

7643 \newlength{\HTMLleftmargini}
7644 \setlength{\HTMLleftmargini}{4.5em}

7645 \end{warpall}

```

69 Verbatim and tabbing

for HTML & PRINT: 7646 `\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.

```

7647 \newlength{\VerbatimHTMLWidth}
7648 \setlength{\VerbatimHTMLWidth}{4in}
7649 \end{warpall}

```

for HTML output: 7650 `\begin{warpHTML}`

Bool LWR@verbtags Used to temporarily turn off verbatim tags while doing \verbatiminput in the HTML head.

```
7651 \newbool{LWR@verbtags}
7652 \booltrue{LWR@verbtags}
```

\LWR@atbeginverbatim [<1: style>] [<2: negative \baselineskip \vspace>] [<3: class>]

Encloses a verbatim environment with the given css class.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
7653 \newcommand*{\LWR@atbeginverbatim}[3][]{%
7654 {%
```

Avoid excessive space between lines:

```
7655 \setlength{\parskip}{0ex} %
```

Stop generating HTML paragraph tags:

```
7656 \LWR@stoppars%
```

Create a new pre of the given class. The tags may temporarily be turned off for internal use, such as loading the MATHJAX script.

```
7657 \ifbool{LWR@verbtags}{%
7658     \LWR@htmltag{pre class=\textquotedbl#3\textquotedbl%
7659         \ifthenelse{\equal{\#1}{}}{\style=\textquotedbl#1\textquotedbl}%
7660     }%
7661     \LWR@orignewline% pre
7662     \leavevmode\unskip\LWR@print@vspace*{-\#2\baselineskip}%
7663 }{}}
```

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.

```
7664 \begingroup%
```

```
7665 % \LWR@print@normalsize%
7666 \LWR@print@normalfont%
7667 \LWR@origttfamily%
7668 \LWR@print@small%
```

Since inside a <pre>, restore the original list processing:

```
7669 \LWR@restoreoriglists%
```

Turn off babel-french extra space before punctuation:

```
7670 \LWR@FBcancel%
```

Do not produce HTML tags for \hspace inside a verse par. Restore plain L^AT_EX \hspace functionality:

```
7671 \LWR@select@print@hspace%
7672 }
```

\LWR@afterendverbatim {<*negative* \baselineskip \vspace>}

Finishes enclosing a verbatim environment.

```
7673 \newcommand*{\LWR@afterendverbatim}[1]{%
7674 \endgroup%
7675 \par%
```

At the end of the environment, close the pre:

```
7676 \ifbool{\LWR@verbtags}{%
7677   \LWR@print@vspace*{-\baselineskip}%
7678   \noindent\LWR@htmltag{/pre}\LWR@orignewline% pre
7679 }{}}
```

Resume regular paragraph handling:

```
7680 \LWR@startpars%
7681 }
```

\verbatiminput {<*filename*>}

Patch \verbatiminput to add HTML tags:

```
7682 \newcommand{\LWR@HTML@verbatim@input}[2]{%
7683   \ifbool{\LWR@verbtags}{\LWR@forcenewpage}{%
7684     \LWR@atbeginverbatim{2.5}{Verbatim}%
7685     \LWR@print@verbatim@input{\#1}{\#2}%
7686     \LWR@afterendverbatim{1.5}%
7687 }
7688
7689 \LWR@formatted{verbatim@input}
```

Env verbatim

```
7690 \AfterEndPreamble{
7691 \LWR@traceinfo{Patching verbatim.}
7692 \AtBeginEnvironment{verbatim}{%
7693   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
7694     {}%
7695     {}%
7696     \LWR@forcenewpage%
7697     \LWR@atbeginverbatim{2.5}{verbatim}%
7698   }%
7699 }
7700 \AfterEndEnvironment{verbatim}{%
```

```

7701 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7702   {}%
7703   {}%
7704     \LWR@afterendverbatim{1}%
7705   {}%
7706 }
7707 }
```

`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.

```

7708 \newcommand*{\LWR@HTML@tabbing}{%
7709   \LWR@forcenewpage%
7710   \LWR@atbeginverbatim{3}{tabbing}%
7711   \let\enskip\LWR@origenskip%
7712   \let\quad\LWR@origquad%
7713   \let\qquad\LWR@origqquad%
7714   \let~\LWR@origtilde%
7715   \let,\LWR@origcomma%
7716   \let\thinspace\LWR@origthinspace%
7717   \let\negthinspace\LWR@orignegthinspace%
7718   \LWR@print@tabbing%
7719 }
7720
7721 \newcommand*{\LWR@HTML@endtabbing}{%
7722   \LWR@print@endtabbing%
7723   \LWR@afterendverbatim{1}%
7724 }
7725
7726 \LWR@formatted{tabbing}
7727 \LWR@formatted{endtabbing}

7728 \end{warpHTML}
```

70 Theorems

`\newtheorem` $\{\langle text \rangle\} [\langle counter \rangle] — or — [\langle oldname \rangle] \{\langle text \rangle\}$

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 `` of class `theoremlabel`.
- The contents are placed inside a `<div>` of class `theoremcontents`.

for HTML output: 7729 `\begin{warpHTML}`

```

\@begintheorem {⟨name⟩} {⟨number⟩}

7730 \renewcommand{\@begintheorem}[2]{%
7731 \LWR@forcenewpage
7732 \BlockClass{theoremcontents}
7733 \trivlist
7734 \item[{\InlineClass{theoremlabel}{#1\ #2\ }}]\itshape
7735 }

\@opargbegintheorem {⟨name⟩} {⟨number⟩} {⟨oparg⟩}

7736 \renewcommand{\@opargbegintheorem}[3]{%
7737 \LWR@forcenewpage
7738 \BlockClass{theoremcontents}
7739 \trivlist
7740 \item[{\InlineClass{theoremlabel}{#1\ #2\ (#3)\ }}]\itshape
7741 }

\@endtheorem

7742 \renewcommand*{\@endtheorem}{%
7743 \endtrivlist
7744 \endBlockClass% theoremcontents
7745 }

7746 \end{warpHTML}

```

71 Lists

The environments `itemize`, `enumerate`, and `description` are patched when `lwarp` is started. These patches support the standard L^AT_EX 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 L^AT_EX 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 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`.

71.1 List environment

for HTML output: 7747 `\begin{warpHTML}`

\LWR@printcloselist May be locally redefined by `enumerate` or `description`.

7748 `\newcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}`

\LWR@printopenlist May be locally redefined by `enumerate` or `description`.

7749 `\newcommand*{\LWR@printopenlist}{ul style="\LWR@print@mbox{list-style-type:none}"}`

\@mklab Removes PDF spacing.

```
7750 \AtBeginDocument{  
7751 \def\@mklab#1{  
7752 %     \hfil %  
7753 #1}  
7754 \let\makelabel\@mklab  
7755 }
```

\@donoparitem Modified for HTML output by replacing TeX boxes with plain text. Also removes PDF spacing.

```
7756 \def\@donoparitem{  
7757     \@noparitemfalse  
7758 %     \global\setbox\@labels\hbox{\hskip -\leftmargin  
7759 %                                         \unhbox\@labels  
7760 %                                         \hskip \leftmargin}  
7761 %     \if@minipage\else  
7762 %         \tempskipa\lastskip  
7763 %         \vskip -\lastskip  
7764 %         \advance\tempskipa\outerparskip  
7765 %         \advance\tempskipa -\parskip  
7766 %         \vskip\tempskipa  
7767 %     \fi  
7768 }
```

\@item Modified for HTML output by replacing TeX boxes with plain text. Also removes PDF spacing.

7769 `\def\LWR@HTML@item[#1]{%`

```
7770 \LWR@traceinfo{@item}
7771 \if@noperitem
7772   \odonoperitem
7773 \else
7774 %   \if@inlabel
7775 %     \indent
7776     \par
7777 %   \fi
7778   \ifhmode
7779     \unskip\unskip
7780     \par
7781   \fi
7782 \if@newlist
7783   \if@nobreak
7784     \nbitem
7785   \else
7786     \addpenalty\begin{parpenalty}
7787 %     \addvspace\topsep
7788 %     \addvspace{-\parskip}%
7789   \fi
7790 \else
7791 %   \addpenalty\itempenalty
7792 %   \addvspace\itemsep
7793 \fi
7794 \global\inlabeltrue
7795 \fi
7796 % \everypar{%
7797 %   \minipagefalse
7798 \global\newlistfalse

7799 % \if@inlabel
7800 %   \global\inlabelfalse

7801 %   {\setbox\z@\lastbox
7802 %     \ifvoid\z@
7803 %       \kern-\itemindent
7804 %     \fi}%

7805 %   \box@labels
7806 %   \penalty\z@
7807 \fi

7808 % \if@nobreak
7809 %   \nobreakfalse
7810 %   \clubpenalty \zM
7811 % \else
7812 %   \clubpenalty \clubpenalty
7813 %   \everypar{}%
7814 % \fi}%

7815 \if@noitemarg
7816 @noitemargfalse
7817 \if@nmbrlist
```

```

7818      \refstepcounter@listctr
7819      \fi
7820  \fi

7821      \makelabel{\#1} % extra space
7822 %   \sbox\@tempboxa{\makelabel{\#1}%
7823 %   \global\setbox\@labels\hbox{%
7824 %       \unhbox\@labels
7825 %       \hskip \itemindent
7826 %       \hskip -\labelwidth
7827 %       \hskip -\labelsep
7828 %       \ifdim \wd\@tempboxa >\labelwidth
7829 %           \box\@tempboxa

7830 %     \else
7831 %         \hbox to\labelwidth {\unhbox\@tempboxa}%
7832 %     \fi
7833 %     \hskip \labelsep}%
7834 \ignorespaces%
7835 }

\@nbitem

7836 \def\@nbitem{%
7837 %   \tempskipa\@outerparskip
7838 %   \advance\tempskipa -\parskip
7839 %   \addvspace\@tempskipa
7840 }

```

\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.

```

7841 \newcommand*\LWR@listitem{%
7842 \LWR@stoppars%
7843 \LWR@startnewdepth{listitem}%
7844 \LWR@htmltag{li}%
7845 \LWR@startpars%
7846 \LWR@origitem%
7847 }

```

\LWR@nulllistfills Nullifies various TEX fill commands, in case they are used inside \makelabel. Problems are caused when these are nullified all the time.

```

7848 \newcommand*\LWR@nulllistfills{%
7849 \renewcommand*\hss{}%
7850 \renewcommand*\llap[1]{\hbox{#1}}%
7851 \renewcommand*\rlap[1]{\hbox{#1}}%
7852 \renewcommand*\hfil{}%

```

```

7853 \renewcommand*\{\hfilneg\}{ }%
7854 \renewcommand*\{\hfill\}{ }%
7855 }

Env  list  {\langle label\rangle} {\langle commands\rangle}

7856 \newcommand*{\LWR@liststart}{%
7857 \LWR@traceinfo{\LWR@liststart}%
7858 \LWR@stoppars%
7859 \LWR@pushoneclose{list}%
7860 \LWR@htmlltag{\LWR@printopenlist}\LWR@orignewline%
7861 \LWR@startpars%
7862 \setlength{\topsep}{0pt}%
7863 \setlength{\partopsep}{0pt}%
7864 \setlength{\itemsep}{0pt}%
7865 \setlength{\parsep}{0pt}%
7866 \setlength{\leftmargin}{0pt}%
7867 \setlength{\rightmargin}{0pt}%
7868 \setlength{\listparindent}{0pt}%
7869 \setlength{\itemindent}{0pt}%
7870 \setlength{\labelsep}{1em}%
7871 \LWR@nulllistfills%
7872 }

7873 \newcommand*{\LWR@listend}{%
7874 \LWR@traceinfo{\LWR@listend}%
7875 \LWR@stoppars%
7876 \LWR@closeprevious{list}%
7877 \LWR@startpars%
7878 }

```

71.2 Itemize

\LWR@itemizeitem [\langle label\rangle]

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.

```

7879 \newcommand*{\LWR@itemizeitem}{%
7880 \LWR@stoppars%
7881 \LWR@startnewdepth{listitem}%
7882 \LWR@htmlltag{li}%
7883 \LWR@startpars%
7884 \LWR@origitem%
7885 }

```

Env itemize [\langle options\rangle]

```
7886 \newcommand*{\LWR@itemizestart}{%
```

```

7887 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
7888 \renewcommand*{\LWR@printopenlist}{ul style="\LWR@print@mbox{list-style-type:none}"}
7889 \let\item\LWR@itemizeitem%
7890 \LWR@nulllistfills%
7891 }

```

71.3 Enumerate

An HTML unordered list is used with customized L^AT_EX-generated labels.

Env `enumerate` [*<options>*]

```

7892 \newcommand*{\LWR@enumeratestart}{%
7893 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
7894 \renewcommand*{\LWR@printopenlist}{ul style="\LWR@print@mbox{list-style-type:none}"}
7895 \let\item\LWR@itemizeitem%
7896 \LWR@nulllistfills%
7897 }

```

71.4 Description

`\LWR@descitem` [*<label>*] Handles an `\item` inside a description.

```

7898 \newcommand*{\LWR@descitem}[1][]{%
7899 {%
7900 \LWR@stoppars%
7901 \LWR@setlatestname{#1}%
7902 \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.

```

7903 \begingroup%
7904 \let\LWR@orig@desc@makelabel\makelabel
7905 \renewcommand*{\makelabel}[1]{%
7906     \LWR@htmlltag{dt}%
7907     \LWR@orig@desc@makelabel{#1}%
7908     \LWR@htmlltag{/dt}%
7909 }
7910 \LWR@select@html@nohspace%
7911 \LWR@origitem[#1]%
7912 \endgroup%
7913 \LWR@orignewline%
7914 \LWR@htmlltag{dd}%
7915 \LWR@startpars%
7916 }

```

Env `description` [*<options>*]

```

7917 \newcommand*{\LWR@descriptionstart}{%
7918 \renewcommand*{\LWR@printcloselist}{\LWR@printclosedescription}
7919 \renewcommand*{\LWR@printopenlist}{\let\item\LWR@descitem%
7920 \let\item\LWR@descitem%
7921 \LWR@nulllistfills%
7922 }

```

71.5 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 L^AT_EX environments, as well as those provided by enumitem, enumerate, and paralist.

```

7923 \newcommand*{\LWR@patchlists}{%
7924     \LetLtxMacro\item\LWR@listitem%
7925     \LetLtxMacro\@item\LWR@HTML@item%
7926     \renewcommand*{\@trivlist}{%
7927         \LWR@traceinfo{@trivlist start}%
7928         \LWR@liststart%
7929         \LWR@orig@trivlist%
7930         \LWR@traceinfo{@trivlist done}%
7931     }%
7932     \renewcommand*{\trivlist}{%
7933         \LWR@traceinfo{trivlist}%
7934         \LWR@origtrivlist%
7935     }%
7936     \renewcommand*{\endtrivlist}{%
7937         \LWR@traceinfo{endtrivlist start}%
7938         \LWR@origendtrivlist\LWR@listend%
7939         \LWR@traceinfo{endtrivlist done}%
7940     }%
7941     \renewcommand*{\itemize}{%
7942         \LWR@itemizestart\LWR@origitemize%
7943     }%
7944     \renewcommand*{\enumerate}{%
7945         \LWR@enumeratestart\LWR@origenumerate%
7946     }%
7947     \renewcommand*{\description}{%
7948         \LWR@descriptionstart\LWR@origdescription%
7949     }%
7950 }

```

\LWR@restoreoriglists Restores the original trivlist environment.

```

7951 \newcommand*{\LWR@restoreoriglists}{%
7952     \LWR@traceinfo{\LWR@restoreoriglists}%
7953     \LetLtxMacro\item\LWR@origitem%
7954     \LetLtxMacro\@item\LWR@orig@item%
7955     \let\@trivlist\LWR@orig@trivlist%

```

```

7956   \let\trivlist\LWR@origtrivlist%
7957   \let\endtrivlist\LWR@origendtrivlist%
7958   \LetLtxMacro\itemize\LWR@origitemize%
7959   \LetLtxMacro\enditemize\LWR@endorigitemize%
7960   \LetLtxMacro\enumerate\LWR@origenumerate%
7961   \LetLtxMacro\endenumerate\LWR@endorigenumerate%
7962   \LetLtxMacro\description\LWR@origdescription%
7963   \LetLtxMacro\enddescription\LWR@endorigdescription%
7964   \let\@mkLab\LWR@orig@mkLab%
7965   \let\makelabel\LWR@origmakelabel%
7966   \let\@donoparitem\LWR@orig@donoparitem%
7967   \let\@nbitem\LWR@orig@nbitem%
7968 }

7969 \end{warpHTML}

```

72 Tabular

This is arguably the most complicated part of the entire package. Numerous tricks are employed to handle the syntax of the L^AT_EX core and the various tabular-related packages.

72.1 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.

```

\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 % because & is used in a
definition
\newenvironment{outerenvironment}
{
\begin{tabular}{cc}
left & right \\
\end{tabular}
}
{
\TabularMacro\ResumeTabular
left & right \\
\end{tabular}
}
\StopDefiningTabulars
```

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.

⚠ \newcolumntype

- \newcolumntype 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 \warphHTML environment, if a “Misplaced \noalign” error occurs, change

```
This & That \endhead
```

to

```
\warpprintonly{This & That \endhead}
```

⚠ \warpprintonly**⚠ Misplaced \noalign**

and likewise with the other \end headings. Keep the \endfirsthead row unchanged, as it is still relevant to HTML output.

Other:

- tabularx ignores the width, but X columns do produce paragraph columns or multicolumns.

longtable headings

- 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 \\}
```

- In L^AT_EX, a tabular may be placed inside a minipage, but in HTML a <table> may not be inside a . If this situation is detected, a warning is printed instructing the user to isolate the using \warpprintonly or the warpprint environment.

for HTML output: 7970 \begin{warpHTML}

72.2 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.

72.2.1 arydshln

Emulated by the original L^AT_EX non-dashed versions.

```
7971 \LetLtxMacro{\hdashline}{\hline}
7972 \LetLtxMacro{\cdashline}{\cline}
7973 \LetLtxMacro{\firstdashline}{\hline}
7974 \LetLtxMacro{\lastdashline}{\hline}
```

72.3 Token lookahead

Used by \LWR@futureonospacelet to look at the next token.

\LWR@mynexttoken

```
7975 \newcommand{\LWR@mynexttoken}{\relax}
```

\futurelet copies the next token then executes a function to analyze it.

\LWR@futurenonospacelet does the same, but ignores intervening white space

Based on the booktabs style:

\LWR@futurenonospacelet

```
7976 \def\LWR@futurenonospacelet#1{\def\LWR@cs{#1}%
7977 \afterassignment\LWR@fnslone\let\nexttoken= }
7978
7979 \def\LWR@fnslone{\expandafter\futurelet\LWR@cs\LWR@fnsltwo}
7980
7981 \def\LWR@fnsltwo{%
7982 \expandafter\ifx\LWR@cs@\sptoken\let\next=\LWR@fnsthree%
7983 \else\let\next=\nexttoken\fi\next}
7984
7985 \def\LWR@fnsthree{\afterassignment\LWR@fnslone\let\next= }
```

\LWR@getmynexttoken Looks ahead and copies the next token into \LWR@mynexttoken.

```
7986 \newcommand*\LWR@getmynexttoken}{%
7987     \LWR@traceinfo{\LWR@getmynexttoken}%
7988 % nothing must follow this next line
7989     \LWR@futurenonospacelet\LWR@mynexttoken\LWR@tabledatacolumntag
7990 }
```

72.4 Tabular variables

In order to support nested tabulars, each of these is used locally. For local counters, etoolbox's \defcounter and l warp's new \defaddtocounter are used.

Bool LWR@startedrow True if should print a row tag before this column.

```
7991 \newbool{\LWR@startedrow}
7992 \boolefalse{\LWR@startedrow}
```

Bool LWR@tabularcelladded True if have added a data cell for this position.

```
7993 \newbool{\LWR@tabularcelladded}
7994 \boolefalse{\LWR@tabularcelladded}
```

Ctr LWR@hlines Number of \hlines or \midrules above the next row.

```
7995 \newcounter{\LWR@hlines}
```

Ctr LWR@hdashedlines Number of arydshln dashed lines above the next row.

```
7996 \newcounter{\LWR@hdashedlines}
```

Bool LWR@doingtbrule True if the next row will have a top/bottom rule above it.

```
7997 \newbool{LWR@doingtbrule}
7998 \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.

```
7999 \newbool{LWR@doingcmidrule}
8000 \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.

```
8001 \newbool{LWR@tableparcell}
```

Bool LWR@skippingmrowcell True if are doing an empty \multirow cell, and thus there is no data tag to close.

```
8002 \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.

```
8003 \newbool{LWR@skippingmcolrowcell}
```

Bool LWR@usedmultirow Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

```
8004 \newbool{LWR@usedmultirow}
```

Bool LWR@foundmrowcell Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

```
8005 \newbool{LWR@foundmrowcell}
```

Bool LWR@skipatbang True if just finished a \multicolumn so should not create the trailing @ or ! columns table data cells.

```
8006 \newbool{LWR@skipatbang}
```

Bool LWR@emptyatbang True if finishing a row and should print empty @ or ! column table data cells.

```
8007 \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.

```
8008 \newbool{LWR@intabularmetadata}
8009 \boolfalse{LWR@intabularmetadata}
```

Bool LWR@exittingtabular When \end is found, turns off the next opening data tag.

```
8010 \newbool{LWR@exittingtabular}
```

Bool LWR@tabularmutemods Mutes HTML output for @, !, < and >.

This is used while printing the final row to generate \bottomrules.

```
8011 \newbool{LWR@tabularmutemods}
```

Bool LWR@validtablecol True if found a valid table column type.

```
8012 \newbool{LWR@validtablecol}
```

Bool LWR@opttablecol True if found a table column optional argument.

```
8013 \newbool{LWR@opttablecol}
```

Used to add a style to a table data cell:

```
8014 \newbool{LWR@tdhavecellstyle}
```

Ctr LWR@tabularDepth Tracks whether & is being used inside a tabular.

```
8015 \newcounter{LWR@tabulardepth}
```

```
8016 \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.

```
8017 \newcounter{LWR@tabularpardepth}
```

```
8018 \setcounter{LWR@tabularpardepth}{0}
```

```
8019 \newcommand*{\LWR@colsresult}{}%temp storage for column format results
```

```
8020 \newcommand*{\LWR@position}{}%
```

```
8021 \newcommand*{\LWR@pleft}{}%
```

```
8022 \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 L^AT_EX table column, without @, !, >, <, or the vertical bar.

\LWR@strresult Holds the result of Str functions.

```
8023 \providecommand*{\LWR@strresult}{}%
```

```
8024 \providecommand*{\LWR@strresulttwo}{}%
```

\LWR@origcolspec Holds the original column specs given to tabular.

```
8025 \newcommand*{\LWR@origcolspec}{}%
```

Ctr `LWR@tablecolspecwidth` Holds the number of tokens in the table columns specification.

This is 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.)

```
8026 \newcounter{LWR@tablecolspecwidth}
```

Ctr `LWR@tablecolspecindex` While parsing the `LATEX` table column specification, starts at 1 and is incremented per token of the specification.

```
8027 \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.

```
8028 \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`.)

```
8029 \newcounter{LWR@tabletotalLaTeXcols}
```

Ctr `LWR@tabletotalLaTeXcolsnext` Holds the next `LATEX` table column index while parsing, equal to one more than `LWR@tabletotalLaTeXcols`.

```
8030 \newcounter{LWR@tabletotalLaTeXcolsnext}
```

`LWR@colatspec` A data array of specifications for @ columns. The leftmost's index is `leftheadge`, the others are counter values. See section 41.

`LWR@colbangspec` A data array of specifications for ! columns. The leftmost's index is `leftheadge`, the others are counter values. See section 41.

`LWR@colbeforespec` A data array of specifications for > columns.

`LWR@col afterspec` 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.

```
8031 \newcounter{LWR@cellcolordepth}
```

72.4.1 Multicolumn variables

```
8032 \newcounter{LWR@tablemulticolwidth}
```

Indexes into the multicolumn specification:

```
8033 \newcounter{LWR@tablemulticolspos}
```

Remembers multicolumn vertical rules if found in the column spec.

```
8034 \newcounter{LWR@mcolvertbarsl}
8035 \newcounter{LWR@mcolvertbarsr}
8036 \newcounter{LWR@mcolvertbarsldash}
8037 \newcounter{LWR@mcolvertbarsrdash}
8038 \newbool{LWR@mcolvertbaronleft}
```

72.4.2 Longtable variables

Bool LWR@starredlongtable Per the caption package, step the counter if longtable*.

```
8039 \newbool{LWR@starredlongtable}
8040 \boolexfalse{LWR@starredlongtable}
```

72.4.3 Midrule variables

Ctr LWR@midrulecounter Indexes across the LWR@midrules and LWR@trim<l/r>rules data arrays.

```
8041 \newcounter{LWR@midrulecounter}
```

72.5 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>

\LWR@insertatbangcols

```
8042 \newcommand*{\LWR@insertatbangcols}{%
8043     \ifbool{LWR@skipatbang}{%
8044         {}%
8045     }{%
8046         \LWR@printatbang{at}{\arabic{LWR@tableLaTeXcolindex}}%
8047         \LWR@printatbang{bang}{\arabic{LWR@tableLaTeXcolindex}}%
8048     }%
8049 }
```

\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.

```
8050 \newcommand*{\LWR@closetabledatacell}{%
8051     \booltrue{LWR@intabularmetadata}%
8052     \ifbool{LWR@exittingtabular}{%
8053         {%
```

```

8054      \LWR@stopars%
8055  }%
8056  {%
8057  {%
8058  \ifboolexpr{bool{\LWR@skippingmrowcell} or bool{\LWR@skippingmcolrowcell}}{%
8059      \LWR@stopars%

```

If not skipping a `\multicolumn{row}` cell, insert the @ and ! columns after this non-existent column.

```

8060      \ifbool{\LWR@skippingmcolrowcell}{%
8061          {}%
8062          {\LWR@insertatbangcols}%
8063      }%
8064      {%
8064      \LWR@not skippingmrowcell

```

Insert any < then any @ and ! column contents, unless muted for the `\bottomrule` or a `\multicolumn`:

```

8065      \unskip%
8066      \ifboolexpr{%
8067          bool{\LWR@tabularmutemods} or
8068          bool{\LWR@skipatbang} or
8069          bool{\LWR@emptyatbang}%
8070      }%
8071      {}%
8072      {%
8073          \LWR@getexparray{\LWR@colaferspec}%
8074          {\arabic{\LWR@tableLaTeXcolindex}}%
8075      }%

```

Close paragraphs:

```

8076      \LWR@stopars%
8077      \boolexfalse{\LWR@tableparcell}%

```

Close the table data cell.

Close any color <div>s.

```

8078      \whileboolexpr{test {\ifnumcomp{\value{\LWR@cellcolordepth}}{>}{0}}}{%
8079          \LWR@htmlltag{/div}\LWR@orignewline%
8080          \defaddtocounter{\LWR@cellcolordepth}{-1}%
8081      }%

```

Skip the @ and ! cells if are closing a multicolumn cell.

```

8082      \leavevmode\unskip\LWR@htmlltag{/td}\LWR@orignewline%
8083      \global\booltrue{\LWR@tabularcelladded}%
8084      \LWR@insertatbangcols%
8085      {%
8086      \LWR@not skipping mrowcell
8086      \LWR@not exiting tabular

```

```
8087 \boolfalse{LWR@skippingmrowcell}%
8088 \boolfalse{LWR@skippingmcolrowcell}%
8089 \boolfalse{LWR@skipatbang}%
```

Color control. Column is set by `>{}` for each cell, so it must be cleared here.

```
8090 \def\LWR@cellHTMLcolor{}%
8091 \def\LWR@columnHTMLcolor{}%
8092 \defcounter{LWR@cellcolordepth}{0}%
8093 }
```

When not used inside a `tabular`, & performs its original function as recorded here (with catcode 4).

```
8094 \let\LWR@origampmacro&
8095 \end{warpHTML}
```

72.5.1 Handling &

for HTML output: 8096 `\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.

```
8097 \newcommand*\LWR@tabularampersand{%
8098   \LWR@traceinfo{LWR@tabularampersand}%
8099   \ifnumcomp{\value{LWR@tabulardepth}}{>}{0}%
8100   {%
```

If not skipping a multirow cell, close the current data cell.

```
8101 \unskip%
8102 \LWR@closetabledatacell%
```

Move to the next column.

```
8103 \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8104 \global\boolfalse{LWR@tabularcelladded}%
```

Look at the next token to decide multi or single column data tag.

```
8105 \LWR@getmynexttoken%
8106 }%
```

If not inside a tabular, performs the original action:

```
8107      {%
8108          \LWR@origampmacro%
8109      }%
8110 }
```

& 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.

72.5.2 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.

```
8111 \newcommand*{\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
8112 \ifboolexpr{%
8113     not bool {\LWR@exittingtabular} or%
8114     bool{\LWR@doingtbrule} or%
8115     bool{\LWR@doingcmidrule} or%
8116     test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
8117     test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}} or%
8118     bool{\LWR@startedrow}%
8119 }{%
```

To temporarily turn off \LWR@exittingtabular so that table data tags will still be generated:

If generating a final row for the \bottomrule borders, turn off the @, !, <, and > column output:

```
8120 \ifbool{\LWR@exittingtabular}{%
8121     \booltrue{\LWR@tabularmutemods}%
8122 }{%
8123     \boolfalse{\LWR@tabularmutemods}%
8124 }%
```

Locally reenable the table data tags until finished with the final row:

```
8125 \boolfalse{\LWR@exittingtabular}%
```

Generate table data tags and ampersands until the right edge:

```

8126      \whileboolexpr{%
8127          test {
8128              \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{}
8129                  {\value{LWR@tabletotalLaTeXcols}}
8130          } or %
8131          (%
8132              \bool{LWR@intabularmetadata} and%
8133              not \bool{LWR@tabularcelladded} and%
8134              test {
8135                  \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{}
8136                      {\value{LWR@tabletotalLaTeXcols}}
8137              }%
8138          )%
8139      }%
8140  {%
8141      \LWR@tabledataasinglecolumntag%

```

The following is essentially `\LWR@tabularampersand` with `LWR@emptyatbang` added to empty the following cells:

```

8142      \LWR@closetabledatacell%
8143      \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
8144      \global\boolfalse{LWR@tabularcelladded}%
8145      \booltrue{LWR@emptyatbang}%

```

Starts the next cell:

```

8146      \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{}
8147          {\value{LWR@tabletotalLaTeXcols}}%
8148          {(\LWR@getmynexttoken)}%
8149      }%
8150  )%

```

Reenable the original `LWR@exittingtabular` to close the entire table:

```

8151      \ifbool{LWR@tabularmutemods}{%
8152          \booltrue{LWR@exittingtabular}%
8153      }{%
8154          \boolfalse{LWR@exittingtabular}%
8155      }%
8156      \boolfalse{LWR@tabularmutemods}%

8157      \boolfalse{LWR@emptyatbang}%
8158  }{}% ifboolexpr
8159 }

```

72.6 Handling \\

Inside tabular, `\\\` is redefined to `\LWR@tabularendofline`

Throws away options `\[dim]` or `**`

\LWR@tabularendofline

8160 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%

Finish the row:

```
8161     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{}
8162         {\value{LWR@tabletotalLaTeXcols}}%
8163         {\LWR@tabularfinishrow}%
8164         {\LWR@closetabledatamax}%
8165     \LWR@htmllag{/tr}\LWR@orignewline%
```

xcolor row color support:

8166 \@rowc@lors%

No longer inside a data cell:

8167 \booltrue{LWR@intabularmetadata}%

Not yet started a table row:

8168 \boolfalse{LWR@startedrow}%

Additional setup:

```
8169     \defcounter{LWR@hlines}{0}%
8170     \defcounter{LWR@hdashedlines}{0}%
8171     \boolfalse{LWR@doingtbrule}%
8172     \boolfalse{LWR@doingcmidrule}%
8173     \LWR@clearmidrules%
```

8174 \def\LWR@rowHTMLcolor{}%

Start at first column:

8175 \defcounter{LWR@tableLaTeXcolindex}{1}%

Have not yet added data in this column:

8176 \global\boolfalse{LWR@tabularcelladded}%

Allow TeX to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```
8177     \LWR@stopars%
8178     \LWR@origpar%
```

Look at the next token to decide between single column data tag or a special case:

```
8179     \LWR@getmynexttoken%
8180 }
```

72.7 Looking ahead in the column specifications

```
\LWR@columnspeclookahead {⟨offset⟩}
```

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}.

```
8181 \newcommand*{\LWR@columnspeclookahead}[1]{%
8182     \setcounter{LWR@tempcountone}{\value{\LWR@tablecolsindex}}%
8183     \addtocounter{LWR@tempcountone}{#1}%
8184     \fullexpandarg%
8185     \StrChar{\LWR@origcolspec}{\arabic{LWR@tempcountone}}[\LWR@strresulttwo]%
```

Get the contents of the first group in \LWR@strresulttwo:

```
8186     \exploregroups%
8187     \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
8188     \noexploregroups%
8189 }
```

72.8 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```
8190 \newcommand*{\LWR@colparameter}[]
```

\LWR@parseatcolumn Handles @{text} columns.

```
8191 \newcommand*{\LWR@parseatcolumn}[%
```

Move to the next token after the '@':

```
8192     \LWR@traceinfo{@ column}%
8193     \defaddtocounter{LWR@tablecolsindex}{1}%
```

Read the next token into \LWR@colparameter, expanding once:

```
8194     \LWR@traceinfo{about to read the next token:}%
8195     \expandarg%
8196     \StrChar{\LWR@origcolspec}%
8197         {\arabic{LWR@tablecolsindex}}[\LWR@colparameter]%
8198     \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
8199     \LWR@traceinfo{have now read the next token}%
8200     \ifnumcomp{\value{LWR@tabletotalTeXcols}}{=}{0}%
8201     {% left edge of the table:
8202         \LWR@traceinfo{@ the left edge}%
8203         \LWR@setexparray[LWR@colatspec]%
```

```

8204      {leftedge}%
8205      {\expandafter\@firstofone\LWR@colparameter}%
8206      \LWR@traceinfo{at the left edge: %
8207          \LWR@getexpararray{\LWR@colatspec}{leftedge}}%
8208      }%
8209      {% not at the left edge:
8210          \LWR@traceinfo{not at the left edge}%
8211          \LWR@setexpararray{\LWR@colatspec}%
8212              {\arabic{\LWR@tabletotalLaTeXcols}}%
8213              {\expandafter\@firstofone\LWR@colparameter}%
8214          \LWR@traceinfo{at \arabic{\LWR@tabletotalLaTeXcols}: %
8215              \LWR@getexpararray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcols}}}%
8216      }%
8217      \let\LWR@colparameter\relax%
8218      \booltrue{\LWR@validtablecol}%
8219 }

```

\LWR@parsebangcolumn Handles !{text} columns.

```
8220 \newcommand*{\LWR@parsebangcolumn}{%
```

Move to the next token after the '!':

```

8221 \LWR@traceinfo{bang column}%
8222 \defaddtocounter{\LWR@tablecolsindex}{1}%

```

Read the next token into \LWR@colparameter, expanding once:

```

8223 \LWR@traceinfo{about to read the next token:}%
8224 \expandarg%
8225 \StrChar{\LWR@origcolsindex}%
8226 {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8227 \fullexpandarg%

```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8228 \LWR@traceinfo{have now read the next token}%
8229 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8230 {% left edge of the table:
8231     \LWR@traceinfo{at the left edge}%
8232     \LWR@setexpararray{\LWR@colbangspec}%
8233     {leftedge}%
8234     {\expandafter\@firstofone\LWR@colparameter}%
8235 }%
8236 {% not at the left edge:
8237     \LWR@traceinfo{not at the left edge}%
8238     \LWR@setexpararray{\LWR@colbangspec}%
8239     {\arabic{\LWR@tabletotalLaTeXcols}}%
8240     {\expandafter\@firstofone\LWR@colparameter}%
8241     \LWR@traceinfo{bang \arabic{\LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
8242 }%
8243 \let\LWR@colparameter\relax%
8244 \booltrue{\LWR@validtablecol}%
8245 }

```

\LWR@parsebeforecolumn Handles >{text} columns.

```
8246 \newcommand*{\LWR@parsebeforecolumn}{%
```

Move to the next token after the '>':

```
8247 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```
8248 \expandarg%
8249 \StrChar{\LWR@origcolspec}%
8250 {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8251 \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
8252 \LWR@setexpparray{\LWR@colbeforespec}%
8253 {\arabic{\LWR@tabletotalLaTeXcolsnext}}%
8254 {\expandafter\@firstofone\LWR@colparameter}%
8255 \let\LWR@colparameter\relax%
8256 \booltrue{\LWR@validtablecol}%
8257 }
```

\LWR@parseaftercolumn Handles <{text} columns.

```
8258 \newcommand*{\LWR@parseaftercolumn}{%
```

Move to the next token after the '<':

```
8259 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```
8260 \expandarg%
8261 \StrChar{\LWR@origcolspec}%
8262 {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8263 \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
8264 \LWR@setexpparray{\LWR@col afterspec}%
8265 {\arabic{\LWR@tabletotalLaTeXcols}}%
8266 {\expandafter\@firstofone\LWR@colparameter}%
8267 \let\LWR@colparameter\relax%
8268 \booltrue{\LWR@validtablecol}%
8269 }
```

\LWR@parsebarcolumn Handles vertical rules.

```
8270 \newcommand*{\LWR@parsebarcolumn}{%
8271 \LWR@traceinfo{\LWR@parsebarcolumn}}%
```

Remember the bar at this position:

```

8272   \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8273     {% left edge of the table:
8274       \edef\LWR@tempone{\LWR@getexpparray{LWR@colbarspec}{leftedge}}%
8275       \ifdefstring{\LWR@tempone}{tvertbarl}%
8276         {\LWR@setexpparray{LWR@colbarspec}{leftedge}{tvertbarldouble}}%
8277         {\LWR@setexpparray{LWR@colbarspec}{leftedge}{tvertbarl}}%
8278     }%
8279     {% not at the left edge:
8280       \edef\LWR@tempone{%
8281         \LWR@getexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
8282       }%
8283       \ifdefstring{\LWR@tempone}{tvertbarr}%
8284       {%
8285         \LWR@setexpparray{LWR@colbarspec}%
8286           {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdouble}}%
8287       }%
8288       {%
8289         \LWR@setexpparray{LWR@colbarspec}%
8290           {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarr}}%
8291     }%
8292   }%
8293   \booltrue{LWR@validtablecol}%
8294 }
```

\LWR@parsecoloncolumn

Handles vertical rules.

```

8295 \newcommand*{\LWR@parsecoloncolumn}{%
8296   \LWR@traceinfo{LWR@parsecoloncolumn}%
```

Remember the bar at this position:

```

8297   \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8298     {% left edge of the table:
8299       \edef\LWR@tempone{\LWR@getexpparray{LWR@colbarspec}{leftedge}}%
8300       \ifdefstring{\LWR@tempone}{tvertbarldash}%
8301         {\LWR@setexpparray{LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
8302         {\LWR@setexpparray{LWR@colbarspec}{leftedge}{tvertbarldash}}%
8303     }%
8304     {% not at the left edge:
8305       \edef\LWR@tempone{%
8306         \LWR@getexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
8307       }%
8308       \ifdefstring{\LWR@tempone}{tvertbarrdash}%
8309         {\LWR@setexpparray{LWR@colbarspec}%
8310           {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
8311         {\LWR@setexpparray{LWR@colbarspec}%
8312           {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
8313     }%
8314   \booltrue{LWR@validtablecol}%
8315 }
```

\LWR@parsesemicoloncolumn Handles vertical rules.

8316 \newcommand*\{\LWR@parsesemicoloncolumn\}{%

Treat ; as a : column:

8317 \LWR@parsecoloncolumn%

Skip the following width token:

8318 \defaddtocounter{\LWR@tablecolsindex}{1}%
 8319 }

72.9 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.

8320 \newcommand*\{\LWR@parsenormalcolumn\}[1]{%
 8321 \defaddtocounter{\LWR@tabletotalLaTeXcols}{1}%
 8322 \defaddtocounter{\LWR@tabletotalLaTeXcolsnext}{1}%
 8323 \LWR@setexpparray{\LWR@tablecolspec}{\arabic{\LWR@tabletotalLaTeXcols}}{\#1}%
 8324 \LWR@traceinfo{normal column \arabic{\LWR@tabletotalLaTeXcols}: #1}%
 8325 \LWR@setexpparray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
 8326 \LWR@setexpparray{\LWR@colbangspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
 8327 \LWR@setexpparray{\LWR@colbeforespec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
 8328 \LWR@setexpparray{\LWR@colafterspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
 8329 \LWR@setexpparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
 8330 \booltrue{\LWR@validtablecol}%
 8331 }

72.10 Parsing ‘p’, ‘m’, or ‘b’ columns

\LWR@parsepcolumn {\langle thiscolumn\rangle} The width will be ignored.

8332 \newcommand*\{\LWR@parsepcolumn\}[1]{%

Converts to the given column type:

8333 \LWR@parsenormalcolumn{\#1}%

Skips the following width token:

8334 \defaddtocounter{\LWR@tablecolsindex}{1}%
 8335 }

72.11 Parsing ‘w’ columns

\LWR@parsewcolumn The width will be ignored.

```
8336 \newcommand*{\LWR@parsewcolumn}{%
8337     \LWR@columnspeclookahead{1}%
8338     \expandafter\LWR@parseenormalcolumn\expandafter{\LWR@strresulttwo}%
}
```

Skips the following width and alignment tokens:

```
8339     \defaddtocounter{\LWR@tablecolspectindex}{2}%
8340 }
```

72.12 Parsing ‘*’ columns

\LWR@parsestarcolumn Star columns should already have been expanded, so this should never be used.

```
8341 \newcommand*{\LWR@parsestarcolumn}{%
8342     \defaddtocounter{\LWR@tablecolspectindex}{2}%
8343 }
```

72.13 Parsing ‘D’ columns

From the `dcolumn` package.

\LWR@parseDcolumn {*thiscolumn*} The three parameters will be ignored.

```
8344 \newcommand*{\LWR@parseDcolumn}[1]{%
```

Converts to the given column type.

```
8345     \LWR@parseenormalcolumn{#1}%

```

Skips the following three parameters.

```
8346     \defaddtocounter{\LWR@tablecolspectindex}{3}%
8347 }
```

72.14 Expanding the star column specifications

Ctr \LWR@starcount Internal count for duplicating star columns.

```
8348 \newcount\LWR@starcount
```

\LWR@expcolspec Temporary storage used to build the expanded column specifier.

```
8349 \newcommand*{\LWR@expcolspec}{}%
```

Ctr \LWR@splitstarindex Indexes into the column specifiers.

```
8350 \newcounter{LWR@splitstarindex}
```

Ctr \LWR@splitstarcopies Number of copies.

```
8351 \newcounter{LWR@splitstarcopies}
```

\LWR@splitstarcontents Contents to duplicate.

```
8352 \newcommand*{\LWR@splitstarcontents}{}%
```

\expandcolspec Expands \LWR@origcolspec for star columns.

```
8353 \newcommand*{\expandcolspec}{%
```

Find the position of any star token.

```
8354 \StrPosition{\LWR@origcolspec}{*}[\LWR@tempone]%
```

Expand until no stars are found:

```
8355 \whileboolexpr{ test {\ifnumgreater{\LWR@tempone}{0}}}%
8356 {%
```

Begin with any characters to the left of the star.

```
8357 \setcounter{LWR@splitstarindex}{\LWR@tempone}%
8358 \addtocounter{LWR@splitstarindex}{-1}%
8359 \StrLeft{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\LWR@expcolspec]%
```

Move past the star to remember its number of copies.

```
8360 \addtocounter{LWR@splitstarindex}{2}%
8361 \StrChar{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\LWR@tempone]%
8362 \setcounter{LWR@splitstarcopies}{\expandafter\firstofone\LWR@tempone}%
```

Move past the number of copies and remember the contents.

```
8363 \addtocounter{LWR@splitstarindex}{1}%
8364 \StrChar{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\LWR@splitstarcontents]%
```

For each copy, append the contents.

```
8365 \ifnumgreater{\value{LWR@splitstarcopies}}{0}%
8366 {%
8367 \LWR@starcount=\value{LWR@splitstarcopies}%
8368 \loop
8369 \appto{\LWR@expcolspec}{%
```

Table 12: Tabular baseline

1	p	m	b	r
			bot	
			mid	bot
1	par	mid	bot	r
	par	mid		
	par			

(Remove the enclosing braces.)

```

8370           \expandafter\@firstofone\LWR@splitstarcontents%
8371           }%
8372           \advance \LWR@starcount -1
8373           \ifnum \LWR@starcount>0 \repeat
8374   }{}%

```

Remove any token to the left, and append the rightmost remaining tokens.

```

8375   \StrGobbleLeft{\LWR@origcolspec}{\value{\LWR@splitstarindex}}[\colspecremainder]%
8376   \appto{\LWR@expcolspec}{\colspecremainder}%

```

Remember the final result.

```
8377   \edef\LWR@origcolspec{\LWR@expcolspec}%
```

See if more stars exist.

```

8378   \StrPosition{\LWR@origcolspec}{*}[\LWR@tempone]%
8379   }%
8380 }
```

72.15 Parsing the column specifications

⚠ tabular baselines

HTML CSS cannot exactly match the L^AT_EX concept of a baseline for a table row. Table 12 shows the L^AT_EX 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 L^AT_EX column per entry. The final number of L^AT_EX columns in each row is stored in \LWR@tabletotalLaTeXcols,

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, L^AT_EX 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 L^AT_EX 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.
-

which is the number of & and \\ in each line, but which does not include @, !, <, > specifications in the count.

```
8381 \newcommand*{\LWR@parsetablecols}[1]{%
8382     \LWR@traceinfo{\LWR@parsetablecols}%
}
```

Remember the original supplied column spec:

```
8383     \renewcommand*{\LWR@origcolspec}{#1}%

```

Remove spaces:

```
8384     \expandarg%
8385     \StrSubstitute{\LWR@origcolspec}{ }{}[\LWR@origcolspec]%
```

Expand any star columns:

```
8386     \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:

```
8387     \defcounter{\LWR@tabletotalLaTeXcols}{0}%
8388     \defcounter{\LWR@tabletotalLaTeXcolsnext}{1}%
8389     \LWR@setexpparray{\LWR@colatsspec}{leftedge}{}%
8390     \LWR@setexpparray{\LWR@colatsspec}{1}{}%
8391     \LWR@setexpparray{\LWR@colatsspec}{2}{}%
8392     \LWR@setexpparray{\LWR@colatsspec}{3}{}%
8393     \LWR@setexpparray{\LWR@colbangspec}{leftedge}{}%
8394     \LWR@setexpparray{\LWR@colbangspec}{1}{}%
8395     \LWR@setexpparray{\LWR@colbangspec}{2}{}%
8396     \LWR@setexpparray{\LWR@colbangspec}{3}{}%
8397     \LWR@setexpparray{\LWR@colbeforespec}{1}{}%
8398     \LWR@setexpparray{\LWR@colbeforespec}{2}{}%
8399     \LWR@setexpparray{\LWR@colbeforespec}{3}{}%
8400     \LWR@setexpparray{\LWR@colafterspec}{1}{}%
8401     \LWR@setexpparray{\LWR@colafterspec}{2}{}%
8402     \LWR@setexpparray{\LWR@colafterspec}{3}{}%
8403     \LWR@setexpparray{\LWR@colbarspec}{leftedge}{}%
8404     \LWR@setexpparray{\LWR@colbarspec}{1}{}%
8405     \LWR@setexpparray{\LWR@colbarspec}{2}{}%
8406     \LWR@setexpparray{\LWR@colbarspec}{3}{}%
```

Starting at the first column specification:

```
8407     \defcounter{\LWR@tablecolspecindex}{1}%

```

Place the colspecs string length into `\LWR@strresult`, and remember the number of characters in the column specification:

```

8408      \expandarg%
8409      \StrLen{\LWR@origcolsing}{[\LWR@strresult]}%
8410      \fullexpandarg%
8411      \LWR@traceinfo{original column spec length: \LWR@strresult}%
8412      \defcounter{LWR@tablecolsingwidth}{\LWR@strresult}%

```

Haven't seen any optional arguments so far

```
8413      \boolfalse{LWR@opttablecol}%
```

Scan through the column specifications:

```

8414      \whileboolexpr{%
8415          not test{%
8416              \ifnumcomp{\value{LWR@tablecolsingindex}}{>}{%
8417                  {\value{LWR@tablecolsingwidth}}%}
8418              }%
8419          }%
8420      {%

```

Place the next single-character column type into \LWR@strresult:

```

8421      \expandarg%
8422      \StrChar{\LWR@origcolsing}{\arabic{LWR@tablecolsingindex}}[\LWR@strresult]%
8423      \LWR@traceinfo{position \arabic{LWR@tablecolsingindex}: \LWR@strresult}%
8424      \fullexpandarg%

```

Not yet found a valid column type:

```
8425      \boolfalse{LWR@validtablecol}%
```

Skip over any optional arguments, such as `\siunitx S` column:

```
8426      \IfStrEq{\LWR@strresult}{}{\booltrue{LWR@opttablecol}}{}
```

Throw away anything found inside the optional argument:

```

8427      \ifbool{LWR@opttablecol}{%
8428          {}% inside an optional argument
8429          {}% not an optional tabular argument

```

Not inside an optional argument, so consider the column type:

```

8430      \IfStrEq{\LWR@strresult}{l}{\LWR@parsonormalcolumn{l}}{%
8431      \IfStrEq{\LWR@strresult}{c}{\LWR@parsonormalcolumn{c}}{%
8432      \IfStrEq{\LWR@strresult}{r}{\LWR@parsonormalcolumn{r}}{%
8433      \IfStrEq{\LWR@strresult}{L}{\LWR@parsonormalcolumn{l}}{%
8434      \IfStrEq{\LWR@strresult}{C}{\LWR@parsonormalcolumn{c}}{%
8435      \IfStrEq{\LWR@strresult}{R}{\LWR@parsonormalcolumn{r}}{%
8436      \IfStrEq{\LWR@strresult}{J}{\LWR@parsonormalcolumn{l}}{%
8437      \IfStrEq{\LWR@strresult}{S}{\LWR@parsonormalcolumn{c}}{%
8438      \IfStrEq{\LWR@strresult}{s}{\LWR@parsonormalcolumn{c}}{%

```

```

8439  \IfStrEq{\LWR@strresult}{\detokenize{@}}{\LWR@parseatcolumn}{ }%
8440  \IfStrEq{\LWR@strresult}{!}{\LWR@parsebangcolumn}{ }%
8441  \IfStrEq{\LWR@strresult}{>}{\LWR@parsebeforecolumn}{ }%
8442  \IfStrEq{\LWR@strresult}{<}{\LWR@parseaftercolumn}{ }%
8443  \IfStrEq{\LWR@strresult}{|}{\LWR@parsebarcolumn}{ }%
8444  \IfStrEq{\LWR@strresult}{:}{\LWR@parsecoloncolumn}{ }%
8445  \IfStrEq{\LWR@strresult}{;}{\LWR@parsingcoloncolumn}{ }%

8446  \IfStrEq{\LWR@strresult}{p}{\LWR@parsepcolumn{p}}{ }%
8447  \IfStrEq{\LWR@strresult}{m}{\LWR@parsepcolumn{m}}{ }%
8448  \IfStrEq{\LWR@strresult}{b}{\LWR@parsepcolumn{b}}{ }%

8449  \IfStrEq{\LWR@strresult}{w}{\LWR@parsewcolumn}{ }%
8450  \IfStrEq{\LWR@strresult}{W}{\LWR@parsewcolumn}{ }%

```

A star column:

```
8451  \IfStrEq{\LWR@strresult}{*}{\LWR@parsestarcolumn}{ }%
```

From the **dcolumn** package:

```
8452  \IfStrEq{\LWR@strresult}{D}{\LWR@parseDcolumn{c}}{ }%
```

From the **tabularx** package. X column has no parameter, but will be given paragraph tags.

```
8453  \IfStrEq{\LWR@strresult}{X}{\LWR@parsingnormalcolumn{X}}{ }%
```

Many people define centered versions “P”, “M”, and “B”:

```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

```

8454  \IfStrEq{\LWR@strresult}{P}{\LWR@parsepcolumn{P}}{ }%
8455  \IfStrEq{\LWR@strresult}{M}{\LWR@parsepcolumn{M}}{ }%
8456  \IfStrEq{\LWR@strresult}{B}{\LWR@parsepcolumn{B}}{ }%

```

If this column was an invalid column type, convert it to an **l** column:

```

8457  \ifbool{\LWR@validtablecol}{ }{%
8458      \LWR@traceinfo{invalid column type: \LWR@strresult}{ }%
8459      \LWR@parsingnormalcolumn{l}{ }%
8460  }{ }%
8461  }% not an optional column argument

```

If read the closing bracket, no longer inside the optional argument:

```
8462  \IfStrEq{\LWR@strresult}{[]}{\boolfalse{\LWR@opttablecol}}{ }%
```

Move to the next character:

```
8463     \defaddtocounter{LWR@tablecolspeccindex}{1}%
8464     }% whiledo
8465 }%
```

72.16 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.

```
8466 \@ifundefined{rownum}{\newcount\rownum}{}
```

`\@rowcolors` Emulated in case `xcolor` is not used.

```
8467 \newcommand*\@rowcolors{}
```

`\@rowc@lors` Emulated in case `xcolor` is not used.

```
8468 \newcommand*\@rowc@lors{}
```

`\LWR@xcolorrowHTMLcolor` Emulated `xcolor` row color.

```
8469 \newcommand*\LWR@xcolorrowHTMLcolor{}
```

`\LWR@columnHTMLcolor` `HTMLstyle` code for the column color.

```
8470 \def\LWR@columnHTMLcolor{}
```

`\LWR@rowHTMLcolor` `HTMLstyle` code for the row color.

```
8471 \def\LWR@rowHTMLcolor{}
```

`\LWR@cellHTMLcolor` `HTMLstyle` code for the cell color.

```
8472 \def\LWR@cellHTMLcolor{}
```

`\LWR@ruleHTMLcolor` `HTMLstyle` code for the rule color.

```
8473 \newcommand*\LWR@ruleHTMLcolor{}
```

\rowcolor [*model*] {[*color*] [*left overhang*] [*right overhang*] Print version. The HTML version is in `lwarf-colortbl`. Used before starting a tabular data cell, thus `\LWR@getmynexttoken`.

```
8474 \newcommand*{\rowcolor}{\LWR@getmynexttoken}%
```

\arrayrulecolor [*model*] {[*color*]}

\arrayrulecolornexttoken [*model*] {[*color*]}

Print versions for use outside and inside a tabular:

```
8475 \newcommand{\arrayrulecolor}[2][named]{}
```

```
8476 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}
```

\doublerulesepcolor [*model*] {[*color*]}

\doublerulesepcolornexttoken [*model*] {[*color*]}

Print versions for use inside and outside a tabular:

```
8477 \newcommand{\doublerulesepcolor}[2][named]{}
```

```
8478 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
```

72.17 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.

```
8479 \newcommand*{\LWR@maybenewtablerow}{%
8480   %
8481   \ifbool{\LWR@startedrow}{%
8482     {}% started the row
8483     {}% not started the row
8484 }
```

Remember that now have started the row:

```
8484 \booltrue{\LWR@startedrow}%
```

Create the row tag, with a class if necessary.

```
8485 \booltrue{\LWR@intabularmetadata}%
8486 \ifboolexpr{%
8487   test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} \or%
8488   test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}}%
8489 }%
8490 {%
8491   \LWR@htmlltag{tr class="hline"}%
8492   \LWR@orignewline%
8493 }%
8494 {%
8495   {}% not doing hline
8496 }
```

```

8495           \ifbool{\LWR@doingtbrule}{%
8496             {%
8497               \ifdefvoid{\LWR@ruleHTMLcolor}{%
8498                 \LWR@htmltag{tr class="tbrule"}{%
8499                   }{%
8500                     \LWR@htmltag{%
8501                       tr class="tbrule" % space
8502                         style="border-top: 1px solid % space
8503                           \LWR@origpound\LWR@ruleHTMLcolor "%
8504                     }%
8505                   }%
8506                   \LWR@orignewline%
8507                 }%
8508                 {\LWR@htmltag{tr}\LWR@orignewline}%
8509             }% end of not doing hline
8510         }% end of not started the row
8511     }

```

72.18 Printing vertical bar tags

\LWR@printbartag {*<index>*}

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```

8512 \newcommand*{\LWR@printbartag}[1]{%
8513   \LWR@traceinfo{\LWR@printbartag !#1!}{%
8514     \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}{%
8515       }% muting or empty
8516       \% not muting
8517         \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{#1}}{%
8518           \ifdefempty{\LWR@tempone}{}{\LWR@tempone}%
8519         }% not muting
8520       \LWR@traceinfo{\LWR@printbartag done}%
8521     }

```

72.19 Printing @ or ! tags

\LWR@printatbang {*at—or—bang>*} {*<index>*}

```
8522 \newcommand*{\LWR@printatbang}[2]{%
```

Fetch the column at or bang spec:

```

8523   \xdef\LWR@atbangspec{\LWR@getexpparray{\LWR@col#1spec}{#2}}{%
8524     \LWR@traceinfo{@bang: #2 !\LWR@atbangspec!}{%

```

Only generate if is not empty;

```

8525   \ifdefempty{\LWR@atbangspec}{%
8526     {}%

```

```

8527      {% not empty
8528          \LWR@htmltag{%
8529              td class="td#1%
8530                  \LWR@subaddcmidruletrim{}{}%
8531                  \LWR@printbartag{\#2}%
8532                  "%
8533                  \LWR@tdstartstyles%
8534                  \LWR@addcmidrulewidth%
8535                  \LWR@addcdashline%
8536                  \LWR@addtabularrulecolors%
8537                  \LWR@tdendstyles%
8538          }%

```

Create an empty cell if muting for the \bottomrule:

```

8539      \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}{%
8540          {}%
8541          {\LWR@atbangspec}%
8542      }%
8543          \LWR@htmltag{/td}\LWR@orignewline%
8544          \global\booltrue{\LWR@tabularcelladded}%
8545      }% not empty
8546 }%

```

\LWR@addleftmostbartag

```

8547 \newcommand*{\LWR@addleftmostbartag}{%
8548     \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
8549         \LWR@printbartag{leftedge}%
8550     }{}%
8551 }

```

\LWR@tabularleftedge

```

8552 \newcommand*{\LWR@tabularleftedge}{%
8553     \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
8554         {}%
8555             \LWR@printatbang{at}{leftedge}%
8556             \LWR@printatbang{bang}{leftedge}%
8557         }% left edge
8558     }% not left edge
8559 }

```

72.20 Data opening tag

\LWR@thiscolspec Temporary storage.

```
8560 \newcommand*{\LWR@thiscolspec}{}%
```

\LWR@tabledatasinglecolumntag Print a table data opening tag with style for alignment and color.

```

8561 \newcommand*{\LWR@tabledatasinglecolumntag}{%
8562 {%
8563   \LWR@traceinfo{\LWR@tabledatasinglecolumntag}%
8564   \LWR@maybenewtablerow%

```

Don't start a new paragraph tag if have already started one:

```

8565   \ifbool{\LWR@intabularmetadata}{%
8566   {%

```

If have found the end of tabular command, do not create the next data cell:

```

8567   \ifbool{\LWR@exittingtabular}{}{%
8568   {%

```

Print the @ and ! contents before first column:

```

8569   \LWR@tabularleftedge%

```

Fetch the current column's alignment character into \LWR@strresult:

```

8570   \xdef\LWR@strresult{%
8571   \LWR@getexparray{\LWR@tablecolspec}{\arabic{\LWR@tableLaTeXcolindex}}%
8572   }%

```

print the start of a new table data cell:

```

8573   \LWR@traceinfo{\LWR@tabledatasinglecolumntag: about to print td tag}%
8574   \LWR@htmlltag{%
8575     td class="td"%

```

append this column's spec:

```

8576   \LWR@strresult%

```

If this column has a cmidrule, add “rule” to the end of the HTML class tag. Also add vertical bar tags.

```

8577   \LWR@addcmidruletrim%
8578   \LWR@addleftmostbartag%
8579   \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
8580   "%

```

Add styles for rules, alignment:

```

8581   \LWR@tdstartstyles%
8582   \LWR@addcmidrulewidth%
8583   \LWR@addcdashline%

8584   \xdef\LWR@thiscolspec{%
8585   \LWR@getexparray{\LWR@tablecolspec}{%
8586     {\arabic{\LWR@tableLaTeXcolindex}}%}
8587   }%
8588   \LWR@addformatwpalignment{\LWR@thiscolspec}%

```

Add styles for cell and rule colors:

```

8589          \LWR@addtabulararrowcolor%
8590          \LWR@addtabularrulecolors%

8591          \LWR@tdendstyles%
8592      }% HTML td
8593      \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done printing td tag}%

```

If this is a p, m, b, or X column, allow paragraphs:

```

8594          \ifboolexpr{%
8595              test{ \ifdefstring{\LWR@strresult}{p} } or
8596              test{ \ifdefstring{\LWR@strresult}{m} } or
8597              test{ \ifdefstring{\LWR@strresult}{b} } or
8598              test{ \ifdefstring{\LWR@strresult}{P} } or
8599              test{ \ifdefstring{\LWR@strresult}{M} } or
8600              test{ \ifdefstring{\LWR@strresult}{B} } or
8601              test{ \ifdefstring{\LWR@strresult}{X} }%
8602          }%
8603          {% allow pars
8604          \LWR@traceinfo{\LWR@tabledatasinglecolumntag: about to \LWR@startpars}%
8605          \booltrue{\LWR@tableparcell}%
8606          \LWR@startpars%
8607          \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done with \LWR@startpars}%
8608          }% allow pars
8609          {}% no pars

```

Print the > contents unless muted for the \bottomrule:

```

8610          \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
8611          {}%
8612          {}%
8613          \LWR@getexpparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}%
8614          }%
8615          \boolfalse{\LWR@intabularmetadata}%
8616          }% not exiting tabular
8617          }{}% in tabular metadata
8618          \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done}%
8619 }%

```

72.21 Midrules

- LWR@midrules LWR@midrules is a data array (section 41) 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 41) of columns containing l if a midrule should be left trimmed for each column.
- LWR@trimrrules LWR@trimrrules is a data array (section 41) of columns containing r if a midrule should be right trimmed for each column.
- LWR@cdashlines LWR@cdashlines is a data array (section 41) 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.

```
8620 \newlength{\LWR@heavyrulewidth}
8621 \setlength{\LWR@heavyrulewidth}{.08em}
```

Len \LWR@lightrulewidth The default width of the rule.

```
8622 \newlength{\LWR@lightrulewidth}
8623 \setlength{\LWR@lightrulewidth}{.05em}
```

Len \LWR@cmidrulewidth The default width of the rule.

```
8624 \newlength{\LWR@cmidrulewidth}
8625 \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.

```
8626 \newlength{\LWR@thiscmidrulewidth}
8627 \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.

```
8628 \newcommand*{\LWR@clearmidrules}
8629 {%
8630     \defcounter{LWR@midrulecounter}{1}%
8631     \whileboolexpr{%
8632         not test{%
8633             \ifnumcomp{\value{LWR@midrulecounter}}{>}%
8634                 {\value{LWR@tabletotalLaTeXcols}}%
8635         }%
8636     }%
8637     {%
8638         \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{0pt}%
8639         \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
8640         \LWR@setexparray{LWR@trimlrules}{\arabic{LWR@midrulecounter}}{}%
8641         \LWR@setexparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{}%
8642         \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
8643         \defaddtocounter{LWR@midrulecounter}{1}%
8644     }%
8645 }
```

\LWR@subcmidrule {*width*} {*trim*} {*leftcolumn*} {*rightcolumn*}

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.

```

8646 \newcommand*{\LWR@subcmidrule}[4]{%
8647     \defcounter{LWR@midrulecounter}{#3}%
8648     \whileboolexpr{%
8649         not test {%
8650             \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}%
8651         }%
8652     }%
8653     {%
8654         \LWR@setexpparray{\LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
8655         \defaddtocounter{LWR@midrulecounter}{1}%
8656     }%
8657     \IfSubStr{#2}{l}{\LWR@setexpparray{\LWR@trimlrules}{#3}{l}}{}%
8658     \IfSubStr{#2}{r}{\LWR@setexpparray{\LWR@trimrrules}{#4}{r}}{}%
8659     \booltrue{LWR@doingcmidrule}%
8660 }
```

`\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.

```

8661 \NewDocumentCommand{\LWR@docmidrule}{%
8662     O{\LWR@cmidrulewidth} D(){} >{\SplitArgument{1}{-}m}%
8663     {\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.

```

8664 \newcommand*{\LWR@subcdashline}[2]{%
8665     \defcounter{LWR@midrulecounter}{#1}%
8666     \whileboolexpr{%
8667         not test {%
8668             \ifnumcomp{\value{LWR@midrulecounter}}{>}{#2}%
8669         }%
8670     }%
8671     {%
8672         \LWR@setexpparray{\LWR@cdashlines}{\arabic{LWR@midrulecounter}}{Y}%
8673         \defaddtocounter{LWR@midrulecounter}{1}%
8674     }%
8675     \booltrue{LWR@doingcmidrule}%
8676 }
```

`\LWR@docdashline {⟨leftcolumn-rightcolumn⟩}`

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

```

8677 \NewDocumentCommand{\LWR@docdashline}{%
8678     >{\SplitArgument{1}{-}m}%
8679     {%
8680         \LWR@subcdashline#1%
8681     }

```

\LWR@tdstartstyles Begins possibly adding a table data cell style.

```
8682 \newcommand*{\LWR@tdstartstyles}{\boolfalse{\LWR@tdhavecellstyle}}
```

\LWR@tdaddstyle Starts adding a table data cell style.

```

8683 \newcommand*{\LWR@tdaddstyle}{%
8684     \ifbool{\LWR@tdhavecellstyle}{%
8685         ; }%
8686         { style="}%
8687     \booltrue{\LWR@tdhavecellstyle}%
8688 }

```

\LWR@tdendstyles Finishes possibly adding a table data cell style. Prints the closing quote.

```

8689 \newcommand*{\LWR@tdendstyles}{%
8690     \ifbool{\LWR@tdhavecellstyle}{%
8691         {%
8692             "%%
8693             \boolfalse{\LWR@tdhavecellstyle}%
8694         }{}%
8695 }

```

\LWR@subaddcmidruletrim {*lefttrim*} {*righttrim*} Adds a \cmidrule with optional trim.

```

8696 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
8697     \setlength{\LWR@templengthone}{%
8698         \LWR@getexpararray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}%
8699     }%
8700     \ifdimcomp{\LWR@templengthone}{>}{0pt}%
8701         {%

```

Print the class with left and right trim letters appended:

```
8702 \LWR@origtilde tdrule#1#2%
```

Remember the width of the rule:

```

8703     \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
8704     }%
8705     {%
8706         \setlength{\LWR@thiscmidrulewidth}{0pt}%
8707     }%
8708 }

```

`\LWR@addcmidruletrim` Adds left or right trim to a `\cmidrule`.

```
8709 \newcommand*{\LWR@addcmidruletrim}{%
8710     \LWR@subaddcmidruletrim%
8711     {\LWR@getexpparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%  
8712     {\LWR@getexpparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%  
8713 }
```

\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.

```
8714 \newcommand{\LWR@addrulewidth}[2]{%
```

Only add a custom width if `thiswidth` is different than the `defaultwidth`, or if a color is being used:

```
8715 \ifboolexpr{%
8716     test{\ifdimcomp{#1}{=}{0pt}} or
8717     (
8718         ( test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP} )
8719         and ( test {\ifdefvoid{\LWR@ruleHTMLcolor}} )
8720     )
8721 }
8722 {}% default width and color
8723 {}% custom width and/or color
```

Ensure that the width is wide enough to display in the browser:

8724 \LWR@forceminwidth{#1} %

Begin adding another style:

8725 \LWR@tdaddstyle%

border-top:\W@printlength{\W@at\eastonent} solid % space

If default gray, the darkness of the color depends on the thickness of the rule:

```
8727 \ifdefvoid{\LWR@ruleHTMLcolor}{%
8728     \ifdimcomp{#1}{<}{\LWR@lightrulewidth}{%
8729         {\LWR@origpound{}A0A0A0}%
8730         {% lightrule or heaver
8731             \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}{%
8732                 {\LWR@origpound{}808080}%
8733                 {black}%
8734             }% lightrule or heavier
8735         }%{%
8736     }\LWR@origpound\LWR@ruleHTMLcolor%
```

```

8737      }%
8738      }% custom width and/or color
8739 }

```

\LWR@addcmidrulewidth Adds a style for the rule width.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

8740 \newcommand{\LWR@addcmidrulewidth}{%
8741     \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
8742 }

```

\LWR@addcdashline Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

8743 \newcommand{\LWR@addcdashline}{%
8744     \edef\LWR@tempone{%
8745         \LWR@getexparray{\LWR@cdashlines}{\arabic{\LWR@tableLaTeXcolindex}}%
8746     }%
8747     \ifdefstring{\LWR@tempone}{Y}{%
8748         \LWR@tdaddstyle%
8749         border-top: 1pt dashed %
8750         \ifdefvoid{\LWR@ruleHTMLcolor}{%
8751             {black}%
8752             {\LWR@origpound\LWR@ruleHTMLcolor}%
8753         }{}%
8754     }

```

\LWR@WPcell {\text-align} {\vertical-align}

```

8755 \newcommand*{\LWR@WPcell}[2]{%
8756     \LWR@tdaddstyle%
8757     \LWR@print@mbox{text-align:#1}; \LWR@print@mbox{vertical-align:#2}%
8758 }

```

\LWR@addformatwpalignment If FormatWP, adds a style for the alignment.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

8759 \newcommand*{\LWR@addformatwpalignment}[1]{%
8760     \ifbool{FormatWP}{%
8761         \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{}%
8762         \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{}%
8763         \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{}%
8764         \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{}%
8765         \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{}%
8766         \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{}%
8767         \IfSubStr{#1}{P}{\LWR@WPcell{center}{bottom}}{}%
8768         \IfSubStr{#1}{M}{\LWR@WPcell{center}{middle}}{}%
8769         \IfSubStr{#1}{B}{\LWR@WPcell{center}{top}}{}%
8770     }{}%
8771 }

```

72.22 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.

```

8772 \newcommand*\LWR@addtabulararrowcolor{%
8773   \ifbool{\LWR@tabularmutemods}{}
8774     \ifdefvoid{\LWR@rowHTMLcolor}{%
8775       \ifdefvoid{\LWR@xcolorrowHTMLcolor}{}
8776         \% xcolor row color
8777         \LWR@tdaddstyle%
8778         background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
8779       }%
8780     }%
8781     \% explicit row color
8782     \LWR@tdaddstyle%
8783     background:\LWR@origpound\LWR@rowHTMLcolor%
8784   }%
8785 }%
8786 }
```

\LWR@addtabularrulecolor Adds a cell's horizontal rule color style, if needed.

```
8787 \newcommand*\LWR@addtabularrulecolor{%
```

If either form of horizontal rule is requested:

```

8788 \ifboolexpr{%
8789   test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
8790   test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}} or%
8791   bool{\LWR@doingtbrule}%
8792 }{}
```

If there is a no custom color:

```

8793   \ifdefvoid{\LWR@ruleHTMLcolor}{%
8794     \%%
8795     \ifnumcomp{\value{\LWR@hlines}}{>}{1}%
8796     \%%
8797     \LWR@tdaddstyle%
8798     border-top: 4px double%
8799   }%
8800   \ifnumcomp{\value{\LWR@hdashedlines}}{>}{1}%
8801   \%%
8802   \LWR@tdaddstyle%
8803   border-top: 2px dashed%
8804   }%
8805   \ifnumcomp{\value{\LWR@hdashedlines}}{=}{1}%
8806   \%%
8807   \LWR@tdaddstyle%
8808   border-top: 1px dashed%
8809 }{}}
```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```
8810      }%
```

If there is a custom color:

```
8811      {%
8812          \ifnumcomp{\value{LWR@hlines}}{>}{1}%
8813          {%
8814              \LWR@tdaddstyle%
8815              border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
8816          }{%
8817              \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
8818              {%
8819                  \LWR@tdaddstyle%
8820                  border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
8821              }{%
8822                  \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
8823                  {%
8824                      \LWR@tdaddstyle%
8825                      border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
8826                  }{%
8827                      \LWR@tdaddstyle%
8828                      border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
8829                  }{}}%
8830          }%
8831      }{%
8832 }
```

\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.

```
8833 \newcommand*{\LWR@addtabularrulecolors}{%
```

Custom horizontal rule color:

```
8834      \LWR@addtabularhrulecolor%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
8835      \ifbool{LWR@tabularmutemods}{}{%
```

If at the leftmost cell, possibly add a leftmost vertical rule:

```
8836      \ifnumequal{\value{LWR@tableLaTeXcolindex}}{1}{%
```

Fetch the left edge's vertical bar specification:

```
8837      \edef\LWR@tempone{\LWR@getexparray{\LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```

8838         \ifdefstring{\LWR@tempone}{tvertbarl}{%
8839             \LWR@tdaddstyle%
8840             border-left: 1px solid % space
8841             \LWR@verruleHTMLcolor%
8842         }{%
8843         \ifdefstring{\LWR@tempone}{tvertbarldouble}{%
8844             \LWR@tdaddstyle%
8845             border-left: 4px double % space
8846             \LWR@verruleHTMLcolor%
8847         }{%
8848         \ifdefstring{\LWR@tempone}{tvertbarldash}{%
8849             \LWR@tdaddstyle%
8850             border-left: 1px dashed % space
8851             \LWR@verruleHTMLcolor%
8852         }{%
8853         \ifdefstring{\LWR@tempone}{tvertbarldoubledash}{%
8854             \LWR@tdaddstyle%
8855             border-left: 2px dashed % space
8856             \LWR@verruleHTMLcolor%
8857         }{%
8858     }{%

```

Possibly add a right vertical rule for this cell:

```

8859         \edef\LWR@tempone{%
8860             \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tableTeXcolindex}}%
8861         }%
8862         \ifdefstring{\LWR@tempone}{tvertbarr}{%

```

Add a custom style if a vertical bar was requested:

```

8863             \LWR@tdaddstyle%
8864             border-right: 1px solid \LWR@verruleHTMLcolor%
8865         }{%
8866         \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
8867             \LWR@tdaddstyle%
8868             border-right: 4px double \LWR@verruleHTMLcolor%
8869         }{%
8870         \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
8871             \LWR@tdaddstyle%
8872             border-right: 1px dashed \LWR@verruleHTMLcolor%
8873         }{%
8874         \ifdefstring{\LWR@tempone}{tvertbarrdoubledash}{%
8875             \LWR@tdaddstyle%
8876             border-right: 2px dashed \LWR@verruleHTMLcolor%
8877         }{%
8878     }%
8879 }

```

\LWR@subaddtabularcellcolor {<HTML color>}

```

8880 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
8881     \LWR@htmltag{div class="cellcolor" style="%"
8882         background:\LWR@origpound{}{}#1 %

```

```

8883      " }%
8884      \defaddtocounter{\LWR@cellcolordepth}{1}%
8885 }

```

\LWR@addtabularcellcolor Adds a cell color style, if needed.

```

8886 \newcommand*{\LWR@addtabularcellcolor}{%
8887     \ifdefvoid{\LWR@cellHTMLcolor}%
8888     {%
8889         \ifdefvoid{\LWR@rowHTMLcolor}%
8890         {%
8891             \ifdefvoid{\LWR@xcolorrowHTMLcolor}%
8892             {%
8893                 \ifdefvoid{\LWR@columnHTMLcolor}%
8894                 {%
8895                     {\LWR@subaddtabularcellcolor{\LWR@columnHTMLcolor}}%
8896                 }%
8897                 {\LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}%
8898             }%
8899             {\LWR@subaddtabularcellcolor{\LWR@rowHTMLcolor}}%
8900         }%
8901     {\LWR@subaddtabularcellcolor{\LWR@cellHTMLcolor}}%
8902 }

```

72.23 Multicolumns

72.23.1 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.

```

8903 \newcommand*{\LWR@printmccoltype}[1]{%
8904     \LWR@traceinfo{lwr@printmccoltype -#1-}%

```

Get one token of the column spec:

```

8905     \StrChar{#1}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%

```

Add to the HTML tag depending on which column type is found:

```

8906     \IfStrEq{\LWR@strresult}{l}{l}{ }%
8907     \IfStrEq{\LWR@strresult}{c}{c}{ }%
8908     \IfStrEq{\LWR@strresult}{r}{r}{ }%
8909     \IfStrEq{\LWR@strresult}{p}{p}{ }%
8910     \IfStrEq{\LWR@strresult}{m}{m}{ }%
8911     \IfStrEq{\LWR@strresult}{b}{b}{ }%
8912     \IfStrEq{\LWR@strresult}{P}{P}{ }%
8913     \IfStrEq{\LWR@strresult}{M}{M}{ }%
8914     \IfStrEq{\LWR@strresult}{B}{B}{ }%

```

```

8915   \IfStrEq{\LWR@strresult}{w}{%
8916     \IfStrEq{\LWR@strresult}{W}{%
8917       \IfStrEq{\LWR@strresult}{S}{%
8918         \IfStrEq{\LWR@strresult}{s}{%
8919           \IfStrEq{\LWR@strresult}{X}{%
8920             \IfStrEq{\LWR@strresult}{|}{%
8921               {%
8922                 \ifbool{LWR@mcolvertbaronleft}{%
8923                   {\defaddtocounter{LWR@mcolvertbarsl}{1}}% left edge
8924                   {\defaddtocounter{LWR@mcolvertbarsr}{1}}% not left edge
8925                 }%
8926               {%
8927                 \IfStrEq{\LWR@strresult}{:}{%
8928                   {%
8929                     \ifbool{LWR@mcolvertbaronleft}{%
8930                       {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
8931                       {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
8932                     }%
8933                   {%
8934                     \IfStrEq{\LWR@strresult}{;}{%
8935                       {%
8936                         \ifbool{LWR@mcolvertbaronleft}{%
8937                           {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
8938                           {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
8939                         }%
8940                         {\boolexpr{\ifboolexpr{\LWR@mcolvertbaronleft}{}}}%
8941                       }%
8942                     }%
8943                   \LWR@traceinfo{lwr@printmccoltype done}%
8944 }

```

\LWR@multicolpartext {*num parameters*} Print the data with paragraph tags, advance to bypass the given number of parameters.

```

8945 \newcommand*{\LWR@multicolpartext}[1]{%
8946   \LWR@startpars%
8947   \LWR@multicoltext%
8948   \defaddtocounter{LWR@tablemulticolspos}{#1}%
8949   \LWR@stoppars%
8950 }

```

\LWR@multicolother {*colspec*} For @, !, >, <, print the next token without paragraph tags:

```

8951 \newcommand*{\LWR@multicolother}[1]{%
8952   \defaddtocounter{LWR@tablemulticolspos}{1}%
8953   \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
8954   \LWR@strresult%

```

A valid column data type was found:

```
8955     \booltrue{LWR@validtablecol}%
8956 }
```

\LWR@multicolskip Nothing to print for this column type.

```
8957 \newcommand*{\LWR@multicolskip}{%
```

A valid column data type was found:

```
8958     \booltrue{LWR@validtablecol}%
8959 }
```

\LWR@printmccoldata {*<colspec>*} Print the data for any valid column type found.

```
8960 \newcommand*{\LWR@printmccoldata}[1]{%
8961     \LWR@traceinfo{lwr@printmccoldata -#1}%
}
```

Not yet found a valid column type:

```
8962     \boolfalse{LWR@validtablecol}%

```

Get one token of the column spec, into a local copy in case nested.

```
8963     \StrChar{-#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
8964     \edef\LWR@printmccoldatatoken{\LWR@strresult}%

```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```
8965     \IfStrEq{\LWR@printmccoldatatoken}{l}{\LWR@multicoltext}{}%
8966     \IfStrEq{\LWR@printmccoldatatoken}{c}{\LWR@multicoltext}{}%
8967     \IfStrEq{\LWR@printmccoldatatoken}{r}{\LWR@multicoltext}{}%
8968     \IfStrEq{\LWR@printmccoldatatoken}{D}{%
8969         \defaddtocounter{LWR@tablemulticolspos}{3}%
8970         \LWR@multicoltext%
8971     }{}%
8972     \IfStrEq{\LWR@printmccoldatatoken}{p}{\LWR@multicolpartext{2}}{}%
8973     \IfStrEq{\LWR@printmccoldatatoken}{m}{\LWR@multicolpartext{2}}{}%
8974     \IfStrEq{\LWR@printmccoldatatoken}{b}{\LWR@multicolpartext{2}}{}%
8975     \IfStrEq{\LWR@printmccoldatatoken}{P}{\LWR@multicolpartext{2}}{}%
8976     \IfStrEq{\LWR@printmccoldatatoken}{M}{\LWR@multicolpartext{2}}{}%
8977     \IfStrEq{\LWR@printmccoldatatoken}{B}{\LWR@multicolpartext{2}}{}%
8978     \IfStrEq{\LWR@printmccoldatatoken}{w}{\LWR@multicolpartext{3}}{}%
8979     \IfStrEq{\LWR@printmccoldatatoken}{W}{\LWR@multicolpartext{3}}{}%
8980     \IfStrEq{\LWR@printmccoldatatoken}{S}{\LWR@multicoltext}{}%
8981     \IfStrEq{\LWR@printmccoldatatoken}{s}{\LWR@multicoltext}{}%
```

```

8982  \IfStrEq{\LWR@printmccoldatatoken}{X}{\LWR@multicolpartext{1}}{}%
8983  \IfStrEq{\LWR@printmccoldatatoken}{|}{\LWR@multicolskip}{}%
8984  \IfStrEq{\LWR@printmccoldatatoken}{:}{\LWR@multicolskip}{}%
8985  \IfStrEq{\LWR@printmccoldatatoken}{;}{\LWR@multicolskip}{}%
8986    \LWR@multicolskip%
8987    \defaddtocounter{LWR@tablemulticolspos}{1} skip parameter
8988  }{}%
8989 \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{@}}{\LWR@multicolother{#1}}{}%
8990 \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{!}}{\LWR@multicolother{#1}}{}%
8991 \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{>}}{\LWR@multicolother{#1}}{}%
8992 \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{<}}{\LWR@multicolother{#1}}{}%

```

If an invalid column type:

```
8993 \ifbool{LWR@validtablecol}{}{\LWR@multicoltext}{}%
```

Tracing:

```

8994 \LWR@traceinfo{lwr@printmccoldata done}%
8995 }
```

\parsemulticolumnalignment {⟨1: colspec⟩} {⟨2: printresults⟩}

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.

```

8996 \newcommand*{\LWR@parsemulticolumnalignment}[2]{%
8997   \defcounter{LWR@tablemulticolspos}{1}%
8998   \StrLen{#1}[\LWR@strresult]%
8999   \defcounter{LWR@tablemulticolswidth}{\LWR@strresult}%

```

Scan across the tokens in the column spec:

```

9000 \whileboolexpr{%
9001   not test {%
9002     \ifnumcomp{\value{LWR@tablemulticolspos}}{>}{%
9003       \value{LWR@tablemulticolswidth}}{%
9004     }%
9005   }%
9006 }
```

Execute the assigned print function for each token in the column spec:

```
9007 #2{#1}%
```

Move to the next token in the column spec:

```

9008   \defaddtocounter{LWR@tablemulticolspos}{1}%
9009 }%
9010 }
```

72.23.2 Multicolumn factored code

```
\LWR@addmulticolvertrulecolor
```

```
9011 \newcommand*{\LWR@addmulticolvertrulecolor}{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9012 \ifbool{\LWR@tabularmutemods}{}{%
```

Left side:

```
9013 \ifnumcomp{\value{\LWR@mcolvertbarsl}}{=}{1}{%
9014   \LWR@tdaddstyle%
9015   border-left: 1px solid \LWR@vertruleHTMLcolor%
9016 }{%
9017 \ifnumcomp{\value{\LWR@mcolvertbarsl}}{>}{1}{%
9018   \LWR@tdaddstyle%
9019   border-left: 4px double \LWR@vertruleHTMLcolor%
9020 }{%
9021 \ifnumcomp{\value{\LWR@mcolvertbarsldash}}{=}{1}{%
9022   \LWR@tdaddstyle%
9023   border-left: 1px dashed \LWR@vertruleHTMLcolor%
9024 }{%
9025 \ifnumcomp{\value{\LWR@mcolvertbarsldash}}{>}{1}{%
9026   \LWR@tdaddstyle%
9027   border-left: 2px dashed \LWR@vertruleHTMLcolor%
9028 }}
```

Right side:

```
9029 \ifnumcomp{\value{\LWR@mcolvertbarsr}}{=}{1}{%
9030   \LWR@tdaddstyle%
9031   border-right: 1px solid \LWR@vertruleHTMLcolor%
9032 }{%
9033 \ifnumcomp{\value{\LWR@mcolvertbarsr}}{>}{1}{%
9034   \LWR@tdaddstyle%
9035   border-right: 4px double \LWR@vertruleHTMLcolor%
9036 }{%
9037 \ifnumcomp{\value{\LWR@mcolvertbarsrdash}}{=}{1}{%
9038   \LWR@tdaddstyle%
9039   border-right: 1px dashed \LWR@vertruleHTMLcolor%
9040 }{%
9041 \ifnumcomp{\value{\LWR@mcolvertbarsrdash}}{>}{1}{%
9042   \LWR@tdaddstyle%
9043   border-right: 2px dashed \LWR@vertruleHTMLcolor%
9044 }{%
9045 }}
```

```
9046 }%
```

```
9047 \newcommand{\LWR@multicoltext}{}
```

To find multicolumn right trim:

```

9048 \newcounter{LWR@lastmulticolumn}

\LWR@domulticolumn {[<1: vpos>] [<2: #rows>] {<3: numLaTeXcols>} {<4: numHTMLcols>} {<5: colspec>} {<6: text>}

9049 \NewDocumentCommand{\LWR@domulticolumn}{o o m m +m}{%
9050     \LWR@traceinfo{LWR@domulticolumn -#1- -#2- -#4- -#5-}%

```

Remember the text to be inserted, and remember that a valid column type was found:

```

9051     \renewcommand{\LWR@multicoltext}{%
9052         #6%
9053         \booltrue{LWR@validtablecol}%
9054     }%

```

Compute the rightmost column to be included. This is used to create the right trim.

```

9055     \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
9056     \defaddtocounter{LWR@lastmulticolumn}{#3}%
9057     \defaddtocounter{LWR@lastmulticolumn}{-1}%

```

Row processing:

```
9058     \LWR@maybenewtablerow%
```

Begin the opening table data tag:

```

9059     \LWR@htmlltag{%
9060         td colspan="#4" %
9061         \IfValueT{#2}{ % rows?
9062             rowspan="#2" %
9063         }%
9064         class="td%

```

Print the column type and vertical bars:

```

9065     \defcounter{LWR@mcolvertbarsl}{0}%
9066     \defcounter{LWR@mcolvertbarsr}{0}%
9067     \defcounter{LWR@mcolvertbarsldash}{0}%
9068     \defcounter{LWR@mcolvertbarsrdash}{0}%
9069     \booltrue{LWR@mcolvertbaronleft}%
9070     \LWR@parsemulticolumnalignment{#5}{\LWR@printmccoltype}%

```

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:

```

9071     \LWR@subaddcmidruletrim%
9072     {%
9073         \LWR@getexpparray{LWR@trimlrules}%

```

```

9074          {\arabic{LWR@tableLaTeXcolindex}}%
9075      }%
9076      {%
9077          \LWR@getexpparray{\LWR@trimrrules}%
9078          {\arabic{LWR@lastmulticolumn}}%
9079      }%

```

Also add vertical bar class.

```

9080      \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{ }%
9081      \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{ }%
9082      \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{ }%
9083      \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{ }%
9084      \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{ }%
9085      \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{%
9086          tvertbarldoubledash}{ }%
9087      \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{ tvertbarrdash}{ }%
9088      \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{%
9089          tvertbarrdoubledash}{ }%

```

Close the class tag's opening quote:

```

9090      "%
9091      \LWR@tdstartstyles%

```

Style for vertical position:

```

9092      \IfValueT{#1}{% vpos?
9093          \ifstrequal{#1}{b}{%
9094              {%
9095                  \LWR@tdaddstyle%
9096                  \LWR@print@mbox{vertical-align:bottom}%
9097              }{ }%
9098          \ifstrequal{#1}{t}{%
9099              {%
9100                  \LWR@tdaddstyle%
9101                  \LWR@print@mbox{vertical-align:top}%
9102              }{ }%
9103          }% vpos?

```

Style for row colors:

```
9104      \LWR@addtabulararrowcolor%
```

Other styles:

```

9105      \LWR@addcmidrulewidth%
9106      \LWR@addcdashline%
9107      \LWR@addtabularhrulecolor%
9108      \LWR@addmulticolvertrulecolor%
9109      \LWR@addformatwpalignment{#5}%
9110      \LWR@tdendstyles%
9111  }% end of the opening table data tag

```

```

9112     \boolfalse{LWR@intabularmetadata}%
9113     \LWR@parsemulticolumnalignment{\#5}{\LWR@printmccoldata}%
9114 }

```

72.23.3 Multicolumn

```

\LWR@htmlmulticolumn {\langle numcols \rangle} {\langle alignment \rangle} {\langle text \rangle}

9115 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}%
9116 {%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```
9117     \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{\#1}%
```

Create the multicolumn tag:

```
9118     \LWR@domulticolumn{\#1}{\arabic{LWR@tabhtmlcoltotal}}{\#2}{\#3}%

```

Move to the next L^AT_EX column:

```

9119     \defaddtocounter{LWR@tableLaTeXcolindex}{\#1}%
9120     \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%

```

Skip any trailing @ or ! columns for this cell:

```

9121     \booltrue{LWR@skipatbang}%
9122 }

```

72.23.4 Longtable captions

longtable captions use \multicolumn.

Per the caption package. User-redefinable float type.

```
9123 \providecommand*{\LTcaptype}{table}
```

```

\LWR@longtabledatacaptiontag * [\langle toc entry \rangle] {\langle caption \rangle}

9124 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}%
9125 {%

```

Remember the latest name for \nameref:

```

9126     \IfValueTF{\#2}{% optional given?
9127         \ifblank{\#2}{% optional empty?
9128             {\LWR@setlatestname{\#3}}% empty
9129             {\LWR@setlatestname{\#2}}% given and non-empty
9130         }% optional given
9131         {\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:

```
9132      \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag:

```
9133      \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
9134          {\arabic{LWR@tabhtmlcoltotal}}%
9135          {P}%
9136      {\% \LWR@domulticolumn
9137          \IfBooleanTF{#1}{star?}
```

Star version, show a caption but do not make a LOT entry:

```
9138      {\% yes star
9139          \LWR@figcaption%
9140          \LWR@isolate{#3}%
9141          \endLWR@figcaption%
9142      }%
9143      {\% No star:
```

Not the star version:

Don't step the counter if \caption[]{}{A caption.}

```
9144      \ifbool{LWR@starredlongtable}{%
9145          {%
9146              \ifblank{#2}{ TOC entry
9147                  {}%
9148                  {%
9149                      \refstepcounter{\LTcaptype}%
9150                      \protected@edef{\currentlabel}{%
9151                          \nameuse{p@\LTcaptype}\nameuse{the\LTcaptype}%
9152                      }%
9153                  }%
9154          }{}}
```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```
9155      \LWR@figcaption%
9156      \LWR@isolate{\nameuse{fnum@\LTcaptype}}%
9157      \CaptionSeparator%
9158      \LWR@isolate{#3}%
9159      \endLWR@figcaption%
```

See if an optional caption was given:

```
9160      \ifblank{#2}{ TOC entry empty}
```

if the optional caption was given, but empty, do not form a TOC entry

```
9161      {}%
```

If the optional caption was given, but might only be []:

```
9162      { \% TOC entry not empty
9163          \IfNoValueTF{\#2}{% No TOC entry?}
```

The optional caption is []:

```
9164      { \% No TOC entry
9165          \addcontentsline%
9166          {\@nameuse{ext@\LTcaptype}}%
9167          {\LTcaptype}%
9168          {%
9169              \protect\newline%
9170              {\LWR@isolate{\@nameuse{p@\LTcaptype}}\@nameuse{the\LTcaptype}}%
9171                  {\ignorespaces \LWR@isolate{\#3}\protect\relax}%
9172              }%
9173          }% end of No TOC entry
```

The optional caption has text enclosed:

```
9174      { \% yes TOC entry
9175          \addcontentsline%
9176          {\@nameuse{ext@\LTcaptype}}%
9177          {\LTcaptype}%
9178          {%
9179              \protect\newline%
9180              {\LWR@isolate{\@nameuse{p@\LTcaptype}}\@nameuse{the\LTcaptype}}%
9181                  {\ignorespaces \LWR@isolate{\#2}\protect\relax}%
9182              }%
9183          }% end of yes TOC entry
9184      }% end of TOC entry not empty
9185  }% end of no star
```

Skip any trailing @ or ! columns for this cell:

```
9186      \booltrue{\LWR@skipatbang}%
9187  }% end of \LWR@domulticolumn
9188  \defaddtocounter{\LWR@tableLaTeXcolindex}{\value{\LWR@tabletotalLaTeXcols}}%
9189  \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}
9190
9191 }
```

72.23.5 Counting HTML tabular columns

The L^AT_EX 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 L^AT_EX \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.

```
9192 \newcounter{LWR@tabhtmlcolindex}
9193 \newcounter{LWR@tabhtmlcolend}
9194 \newcounter{LWR@tabhtmlcoltotal}
```

```
\LWR@subtabularhtmlcolumns {⟨index⟩}
```

Factored from `\LWr@tabularhtmlcolumns`, which follows.

```
9195 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%
```

Temporarily define a macro equal to the @ specification for this column:

```
9196 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colatspec}{#1}}%
```

If the @ specification is not empty, add to the count:

```
9197 \ifdefempty{\LWR@atbangspec}%
9198   {}%
9199   {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%
```

Likewise for the ! columns:

```
9200 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colbangspec}{#1}}%
9201 \ifdefempty{\LWR@atbangspec}%
9202   {}%
9203   {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%
9204 }
```

```
\LWR@tabularhtmlcolumns {⟨starting LATEX column⟩} {⟨number LATEX columns⟩}
```

Compute the total number of **HTML** columns being spanned, considering the starting **L^AT_EX** table column and the number of **L^AT_EX** 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`.

```
9205 \newcommand*{\LWR@tabularhtmlcolumns}[2]{%
```

Count the starting index, compute ending index, and begin with the count being the **L^AT_EX** span, to which additional @ and ! columns may be added:

```
9206 \defcounter{LWR@tabhtmlcolindex}{#1}%
9207 \defcounter{LWR@tabhtmlcoltotal}{#2}%
9208 \defcounter{LWR@tabhtmlcolend}{#1}%
9209 \defaddtocounter{LWR@tabhtmlcolend}{#2}%
```

If at the left edge, add the at/bang columns for the left edge:

```
9210 \ifnumcomp{\value{LWR@tabhtmlcolindex}}{=}{1}{%
9211   \LWR@subtabularhtmlcolumns{leftedge}%
9212 }{}
```

Walk across the L^AT_EX columns looking for @ and ! columns:

```

9213     \whileboolexpr{%
9214         test {%
9215             \ifnumcomp{\value{LWR@tabhtmlcolindex}}{<}{\value{LWR@tabhtmlcolend}}{%
9216                 }%
9217             }%
9218             {%
9219                 \LWR@subtabularhtmlcolumns{\arabic{LWR@tabhtmlcolindex}}{%
9220                     \defaddtocounter{LWR@tabhtmlcolindex}{1}%
9221                 }% whiledo
9222             }%
9223 \end{warpHTML}
```

72.24 Multirow if not loaded

A default defintion in case `multirow` is not loaded. This is used during table parsing.

```

9224 \begin{warpHTML}
9225 \newcommand{\multirow}[2][c]{}
9226 \end{warpHTML}
```

72.25 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a `\teximage`.

See section 372 for the HTML versions.

for HTML & PRINT: 9227 `\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.

```
9228 \AtBeginDocument{
```

`\@ifundefined{@xmultirow}` determines if `multirow` was never loaded.

Null action if not loaded:

```
9229 \@ifundefined{@xmultirow}{%
9230 {
```

```

9231 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9232   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9233   {}%
9234 }% no version of multirow was loaded
9235 {% @xmultirow defined, so some version of multirow was loaded

```

\@ifpackageloading{multirow} determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The print version:

```

9236 \@ifpackageloading{multirow}{% v2.0 or newer
9237 \ifpackagelater{multirow}{2016/09/01}{2016/09/27 for v2.0
9238 {% v2.0+:
9239 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9240   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9241   {\multicolumn{#1}{#2}{\@xmultirow[#3]{#4}{#5}{#6}{#7}{#8}}}%
9242 }
9243 {% loaded but older, probably not executed:
9244 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9245   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9246   {\multicolumn{#1}{#2}{\@xmultirow[#4]{#5}{#6}{#7}{#8}}}%
9247 }
9248 }% packageloading{multirow}

```

If not `\ifpackageloading{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.

```

9249 {% v1.6 or older did not \ProvidePackage
9250 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9251   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9252   {\multicolumn{#1}{#2}{\@xmultirow[#4]{#5}{#6}{#7}{#8}}}%
9253 }
9254
9255 }% \@ifundefined{@xmultirow}
9256
9257 \providecommand*{\multicolumnrow}{\LWR@print@multicolumnrow}
9258
9259 }% AtBeginDocument

```

```
9260 \end{warpall}
```

72.26 Utility macros inside a table

for HTML output: 9261 `\begin{warpHTML}`

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
9262 \newcommand*{\LWR@donothing}{}%
```

In case `array` is not loaded:

```
9263 \let\firsthline\relax
9264 \let\lasthline\relax
9265 \newcommand*\{\\firsthline}{}%
9266 \newcommand*\{\\lasthline}{}%
```

In case `bigdelim` is not loaded:

```
9267 \newcommand*\{\\ldelim}{}%
9268 \newcommand*\{\\rdelim}{}%
9269 \end{warpHTML}
```

72.27 Special-case tabular markers

for HTML & PRINT: 9270 `\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.

```
9271 \newcommand*\{\\TabularMacro}{}%
9272 \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 % because & is used in a definition
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars
```

for HTML output: 9273 `\begin{warpHTML}`

```
9274 \newcommand*\{\\ResumeTabular}{%
9275   \boolfalse{LWR@exittingtabular}}%
```

```

9276 \boolfalse{LWR@tabularmutemods}%
9277 \LWR@getmynexttoken%
9278 }

9279 \end{warpHTML}

for PRINT output: 9280 \begin{warpprint}

9281 \newcommand*\{\ResumeTabular}{}}

9282 \end{warpprint}

```

72.28 Checking for a new table cell

for HTML output: 9283 \begin{warpHTML}

\LWR@tabledatacolumntag Open a new HTML table cell unless the next token is for a macro which does not create data, such as \hline, \toprule, etc:

```

9284 \newcommand*\{\LWR@tabledatacolumntag}%
9285 {%
9286 \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:

```
9287 \global\let\LWR@mynextaction\LWR@tabledatasinglecolumntag%
```

If exiting the tabular:

```

9288 \ifdefequal{\LWR@mynexttoken}{\end}%
9289 {\booltrue{\LWR@exittingtabular}}{}%

```

longtable can have a caption in a cell

```

9290 \ifdefequal{\LWR@mynexttoken}{\caption}%
9291 {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

Look for other things which would not start a table cell:

```

9292 \ifdefequal{\LWR@mynexttoken}{\multicolumn}%
9293 {\global\let\LWR@mynextaction\LWR@donothing}{}%
9294 \ifdefequal{\LWR@mynexttoken}{\multirow}%
9295 {\global\let\LWR@mynextaction\LWR@donothing}{}%
9296 \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}%
9297 {\global\let\LWR@mynextaction\LWR@donothing}{}%
9298 \ifdefequal{\LWR@mynexttoken}{\noalign}%
9299 {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

If an `\mrowcell`, this is a cell to be skipped over:

```
9300 \ifdefequal{\LWR@mynexttoken}{\mrowcell}%
9301   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
```

If an `\mcolrowcell`, this is a cell to be skipped over:

```
9302 \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}%
9303   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9304 \ifdefequal{\LWR@mynexttoken}{\TabularMacro}%
9305   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9306 \ifdefequal{\LWR@mynexttoken}{\hline}%
9307   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9308 \ifdefequal{\LWR@mynexttoken}{\firsthline}%
9309   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9310 \ifdefequal{\LWR@mynexttoken}{\lasthline}%
9311   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9312 \ifdefequal{\LWR@mynexttoken}{\toprule}%
9313   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9314 \ifdefequal{\LWR@mynexttoken}{\midrule}%
9315   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9316 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
9317   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9318 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
9319   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9320 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
9321   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9322 \ifdefequal{\LWR@mynexttoken}{\cline}%
9323   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9324 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
9325   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9326 \ifdefequal{\LWR@mynexttoken}{\hhline}%
9327   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9328 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
9329   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

9330 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
9331   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
```

```

9332  \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
9333      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9334  \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
9335      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9336  \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
9337      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9338  \ifdefequal{\LWR@mynexttoken}{\ldelim}%
9339      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9340  \ifdefequal{\LWR@mynexttoken}{\rdelim}%
9341      {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

For arydshln:

```

9342  \ifdefequal{\LWR@mynexttoken}{\hdashline}%
9343      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9344  \ifdefequal{\LWR@mynexttoken}{\cdashline}%
9345      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9346  \ifdefequal{\LWR@mynexttoken}{\firstdashline}%
9347      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9348  \ifdefequal{\LWR@mynexttoken}{\lastdashline}%
9349      {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

Ignore an empty line between rows:

```

9350  \ifdefequal{\LWR@mynexttoken}{\par}%
9351      {\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:

```

9352  \LWR@traceinfo{\LWR@tabledatacolumntag: about to do mynext}%
9353  \LWR@mynextaction%
9354  \LWR@traceinfo{\LWR@tabledatacolumntag: done}%
9355 }%
9356 \end{warpHTML}

```

72.29 \mrowcell

for HTML & PRINT: 9357 \begin{warpall}

- ⚠ **\mrowcell** The user must insert \mrowcell into any \multirow cells which must be skipped. This command has no action during print output.

```
9358 \newcommand*\{\\mrowcell\}{}%
```

```
9359 \end{warpall}
```

72.30 \mcolrowcell

for HTML & PRINT: 9360 \begin{warpall}

- ⚠ **\mcolrowcell** The user must insert \mcolrowcell into any \multicolumn cells which must be skipped. This command has no action during print output.

```
9361 \newcommand*\{\\mcolrowcell\}{}%
```

```
9362 \end{warpall}
```

72.31 HTML tabular environment

for HTML output: 9363 \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.

```
9364 \providetcommand*\{\\toprule\}[1][]{\\hline}
9365 \providetcommand*\{\\midrule\}[1][]{\\hline}
9366 \providetcommand*\{\\cmidrule\}{\\cline}
9367 \providetcommand*\{\\bottomrule\}[1][]{\\hline}
9368 \providetcommand*\{\\addlinespace\}[1][]{}
9369 \providetcommand*\{\\morecmidrules\}{}%
9370 \providetcommand*\{\\specialrule\}[3]{\\hline}
```

\noalign {⟨text⟩} Redefined for use inside tabular.

```
9371 \LetLtxMacro{\LWR@orignoalign}{\\noalign}
9372
9373 \newcommand{\LWR@tabularnoalign}[1]{%
9374   \\advance\\rownum\\m@ne%
9375   \\LetLtxMacro{\LWR@save@xcolorrowHTMLcolor}{\\LWR@xcolorrowHTMLcolor}%
9376   \\renewcommand*\{\\LWR@xcolorrowHTMLcolor\}{}%
9377   \\multicolumn{\\value{\\LWR@tabletotalLaTeXcols}}{\\l}{\\#1} \\
9378   \\LetLtxMacro{\LWR@xcolorrowHTMLcolor}{\\LWR@save@xcolorrowHTMLcolor}%
9379   % \\@rowc@lors%
9380   \\LWR@getmynexttoken%
9381 }
```

\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.

```

9382 \AtBeginDocument{
9383
9384 \@ifpackageloaded{l warp-tables}
9385 {
9386     \newcommand*\{\LWR@HTMLhline}[1][]{%
9387         \ifbool{FormatWP}{%
9388             {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
9389                 {\defaddtocounter{LWR@hlines}{1}}{%
9390                     \LWR@getmynexttoken}{%
9391                 }{%
9392             }{%
9393                 \newcommand*\{\LWR@HTMLhline}{%
9394                     \ifbool{FormatWP}{%
9395                         {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
9396                             {\defaddtocounter{LWR@hlines}{1}}{%
9397                                 \LWR@getmynexttoken}{%
9398                             }{%
9399                         }{%
9400 }% AtBeginDocument

```

\LWR@HTMLcline {*columns*}

```

9401 \NewDocumentCommand{\LWR@HTMLcline}{m}{%
9402     {\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.

```

9403 \newcommand{\LWR@tabular@warpprintonly}[1]{%
9404     \ifbool{warpingprint}{#1}{}{%
9405         \LWR@getmynexttoken{%
9406     }{%

```

\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 column parsing code, which uses `xstring`.

```

9407 \AtBeginDocument{
9408 \@ifundefined{NoAutoSpacing}{%
9409     \% no babel-french
9410     \newcommand*\{\LWR@nullifyNoAutoSpacing}{}{%
9411 }% no babel-french
9412 \% yes babel-french
9413     \newcommand*\{\LWR@nullifyNoAutoSpacing}{%
9414         \NoAutoSpacing{%
9415             \renewcommand*\{\NoAutoSpacing}{}{%
9416                 \renewcommand*\{\LWR@FBcancel}{}{%
9417             }{%

```

```
9418 }% yes babel-french
9419 }% AtBeginDocument
```

```
Env tabular <direction> [<vertposition>] {<colspecs>}
```

The <direction> is from plect for Japanese documents, and is ignored.

```
9420 \StartDefiningTabulars
9421
9422 \NewDocumentCommand{\LWR@HTML@@tabular}{d<> o m}
9423 {%
9424     \LWR@traceinfo{\LWR@HTML@@tabular started}%
}
```

⚠ <table> inside

In L^AT_EX, a tabular may be placed inside a minipage, but in HTML a <table> may not be inside a . Since there may be several nested s, with an unknown number of other objects between, it is hard to undo all these 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 . 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 . Since this is such a sloppy situation, a warning is issued here instructing the user to please isolate the to print-only.

```
9425     \LWR@spanwarnformat{tabular}%
9426     \addtocounter{\LWR@tabulardepth}{1}%
```

Not yet started a table row:

```
9427     \boolearnfalse{\LWR@startedrow}%
```

Not yet doing any rules:

```
9428     \defcounter{\LWR@hlines}{0}%
9429     \defcounter{\LWR@hdashedlines}{0}%
9430     \boolearnfalse{\LWR@doingtbrule}%
9431     \boolearnfalse{\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.

```
9432     \LWR@nullifyNoAutoSpacing%
```

Have not yet found the end of tabular command. Unmute the @ and ! columns.

```
9433     \boolearnfalse{\LWR@exittingtabular}%
9434     \boolearnfalse{\LWR@tabularmutemods}%
```

Error if failed to use \mrowcell or \mcolrowcell when needed.

```
9435     \boolearnfalse{\LWR@usedmultirow}%
9436     \boolearnfalse{\LWR@foundmrowcell}%
```

```
9437 \renewcommand*\LWR@multicoltext{}%
```

Create the table tag:

```
9438 \booltrue{\LWR@intabularmetadata}%
9439 \LWR@traceinfo{\LWR@tabular: About to \LWR@forecenewpage.}%
9440 \LWR@forcenewpage
9441 \LWR@htmlblocktag{table}%
```

Parse the table columns:

```
9442 \LWR@parsetablecols{#3}%
```

Table col spec is: \LWR@tablecols which is a string of llccrr, etc.

Do not place the table inside a paragraph:

```
9443 \LWR@stoppars%
```

Track column #:

```
9444 \defcounter{\LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
9445 \global\boolfalse{\LWR@tabularcelladded}%
```

Start looking for midrules:

```
9446 \LWR@clearmidrules%
```

\\" becomes a macro to end the table row:

```
9447 \LetLtxMacro{\\"}{\LWR@tabularendofline}%
```

\warpprintonly inside a tabular must grab the next token.

```
9448 \LetLtxMacro{\warpprintonly}{\LWR@tabular@warpprintonly}%
```

The following adjust for colortbl.

```
9449 \LetLtxMacro{\arrayrulecolor}{\arrayrulecolor\nexttoken}%
9450 \LetLtxMacro{\doublerulesepcolor}{\doublerulesepcolor\nexttoken}%
9451 \def{\LWR@columnHTMLcolor}{}%
9452 \def{\LWR@rowHTMLcolor}{}%
9453 \def{\LWR@cellHTMLcolor}{}%
9454 @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.

```
9455 \ifdefvoid{\LWR@ruleHTMLcolor}%
9456 {\edef{\LWR@vertruleHTMLcolor}{black}}%
9457 {\edef{\LWR@vertruleHTMLcolor}{\LWR@origpound\LWR@ruleHTMLcolor}}%
```

Tracking the depth of cell color <div>s:

```
9458 \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 **tbls** package.

```
9459 \LWR@traceinfo{LWR@@HTML@tabular: redefining macros}%
9460 \LetLtxMacro\noalign{\LWR@tabularnoalign}%
9461 \LetLtxMacro\hline{\LWR@HTMLhline}%
9462 \LetLtxMacro\cline{\LWR@HTMLcline}%

9463 \DeclareDocumentCommand{\hdashline}{o}{%
9464   \ifboolexpr{FormatWP}{%
9465     {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
9466       {\defaddtocounter{LWR@hdashedlines}{1}}{%
9467         \LWR@getmynexttoken}}%
9468   }%
9469 \DeclareDocumentCommand{\cdashline}{m}{%
9470   \LWR@docdashline{##1}\LWR@getmynexttoken}%
9471 }%
9472 \DeclareDocumentCommand{\firstdashline}{o}{%
9473   \ifboolexpr{FormatWP}{%
9474     {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
9475       {\defaddtocounter{LWR@hdashedlines}{1}}{%
9476         \LWR@getmynexttoken}}%
9477   }%
9478 \DeclareDocumentCommand{\lastdashline}{o}{%
9479   \ifboolexpr{FormatWP}{%
9480     {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
9481       {\defaddtocounter{LWR@hdashedlines}{1}}{%
9482         \LWR@getmynexttoken}}%
9483   }%
```

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.

```
9484 \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
9485 \renewcommand*\mrowcell{%
9486   \LWR@maybenewtablerow%
9487   \LWR@tabularleftedge%
9488   \booltrue{\LWR@skippingmrowcell}%
9489   \booltrue{\LWR@foundmrowcell}%
9490 }%
9491 \renewcommand*\mcolrowcell{%
9492   \LWR@maybenewtablerow%
9493   \booltrue{\LWR@skippingmcolrowcell}%
9494   \booltrue{\LWR@foundmrowcell}%
9495 }
```

```

9495      }%
9496      \LetLtxMacro\caption\longtabledatacaptiontag%

```

Reset for new processing:

```

9497      \boolfalse{LWR@tableparcell}%
9498      \boolfalse{LWR@skippingmrowcell}%
9499      \boolfalse{LWR@skippingmcolrowcell}%
9500      \boolfalse{LWR@skipatbang}%
9501      \boolfalse{LWR@emptyatbang}%

```

Set & for its special meaning inside the tabular:

```

9502      \StartDefiningTabulars%
9503      \protected\gdef&{\LWR@tabularampersand}%

```

Locally force any minipages to be fullwidth, until the end of the tabular:

```

9504      \booltrue{LWR@forceminipagefullwidth}%

```

Nest one level deeper of tabular paragraph handling:

```

9505      \addtocounter{LWR@tabularpardepth}{1}%

```

Look ahead for a possible table data cell:

```

9506      \LWR@traceinfo{LWR@@HTML@tabular: about to LWR@getmynexttoken}%
9507      \LWR@getmynexttoken%
9508 }%

```

Ending the environment:

```

9509 \newcommand*{\LWR@HTML@endtabular}%
9510 {%
9511     \LWR@traceinfo{LWR@HTML@endtabular}%

```

Unnest one level of tabular paragraph handling:

```

9512      \addtocounter{LWR@tabularpardepth}{-1}%
9513      \ifboolexpr{%
9514          test {%
9515              \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}%
9516                  {\value{LWR@tabletotalLaTeXcols}}%
9517          } or %
9518          (%
9519              \bool{LWR@intabularmetadata} and%
9520              not \bool{LWR@tabularcelladded} and%
9521              test {%
9522                  \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}%
9523                      {\value{LWR@tabletotalLaTeXcols}}%
9524              }%
9525          )%
9526      }%
9527  {%

```

```

9528      \LWR@tabularfinishrow%
9529      }%
9530      {%
9531          \LWR@closetabledatacell%
9532      }%
9533      \LWR@htmlblocktag{/tr}%

```

xcolor row color support:

```

9534      \@rowc@lors%
9535      \LWR@htmlblocktag{/table}%
9536      \boolfalse{\LWR@intabularmetadata}%

```

Unnest one level of tabular:

```
9537      \addtocounter{\LWR@tabulardepth}{-1}%

```

Restore & to its usual meaning:

```

9538      \ifnumequal{\value{\LWR@tabulardepth}}{0}{%
9539          \protected\gdef&{\LWR@origampmacro}%
9540          \StopDefiningTabulars%
9541      }{ }%

```

Error if used \multirow or \multicolumn without using \mrowcell or \mcolrowcell.

```

9542      \ifbool{\LWR@usedmultirow}{%
9543          \ifbool{\LWR@foundmrowcell}{%
9544              {}%
9545              {}%
9546                  \PackageError{lwarp}{%
9547                      {}%
9548                          When using \protect\multirow, \protect\multicolumn, \MessageBreak
9549                          or the bigdelim package, \MessageBreak
9550                          place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
9551                          in empty cells which are to be skipped.\MessageBreak
9552                          See the Lwarp package documentation:\MessageBreak
9553                          "Special cases and limitations" -> "Tabular"
9554                  }%
9555                  {}%
9556                      See the Lwarp package documentation:\MessageBreak
9557                      "Special cases and limitations" -> "Tabular".
9558                  }%
9559              }%
9560          }{ }%
9561      \LWR@traceinfo{\LWR@HTML@endtabular finished}%
9562  }%
9563  \csletcs{\LWR@HTML@endtabular*}{\LWR@HTML@endtabular}%
9565
9566 \StopDefiningTabulars

```

`siunitx` may redefine `tabular`, so set the following later:

```

9567 \AtBeginDocument{
9568   \LetLtxMacro{\LWR@origendtabular}{\endtabular}
9569   \csletcs{\LWR@origendtabular*}{\endtabular*}
9570   \LWR@formatted{@tabular}
9571   \LWR@formatted{endtabular}
9572   \LWR@formatted{endtabular*}
9573 }

9574 \end{warpHTML}
```

73 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>}{{<imagenum>}}
```

Table 14 shows the data structures related to cross-referencing.

for HTML output: 9575 `\begin{warpHTML}`

73.1 Setup

`\@currentlabelname` To remember the most recently defined section name, description, or caption, for `\nameref`.

```
9576 \def\@currentlabelname{\linkhomename}%
```

`\LWR@stripperiod` `{<text>} [<.>]`

Removes a trailing period.

```
9577 \def\LWR@stripperiod#1.\ltx@empty#2@nil{#1}%
```

`\LWR@setlatestname` `{<object name>}`

Removes `\label`, strips any final period, and remembers the result.

```
9578 \newcommand*{\LWR@setlatestname}[1]{%
```

Table 14: Cross-referencing data structures

Original LATEX:	(print and HTML)
\refstepcounter: Steps the counter and sets \currentlabel.	
\currentlabel: \p@<ctr>\the<ctr> Updated by \refstepcounter.	
\label: Writes to the .aux file: \newlabel{<label>}{{\currentlabel}{\thepage}}	
\newlabel: When the .aux file is read, sets \r@<label>.	
\r@<label>: Set to: {{\currentlabel}{\thepage}}	
\ref: Returns the first part of \r@<label>.	
\pageref: Returns the second part of \r@<label>.	
Added by l warp:	(HTML only)
\label: Adds HTML tags (section 73.3), and another .aux entry (section 73.2). If memoir is used, its \mem@old@label points to l warp's version, and cleveref patches.	
\newlabel: Unchanged. When the .aux file is read, sets \r@<label>@l warp.	
\r@<label>@l warp: Set to {{section_name}{file_name}{depth}{number}}: \LWR@nameref: The section name for this label. \LWR@htmlfileref: The filenumber or name for this label. \LWR@teximagedepthref: The teximagedepth for this label. \LWR@teximagenumberref: The teximagenumber for this label.	
\nameref: Emulated from hyperref for l warp. See section 73.4.	
\ref and \nameref: Adds HTML tags. See section 73.4.	
Added by amsmath:	(print and HTML)
\label: Execution is delayed until the math environment is completed.	
\ltx@label: LATEX \label, (HTML: patched by l warp,) later patched by cleveref.	
Added by cleveref:	(print and HTML)
\refstepcounter: Added: sets \cref@currentlabel.	
\cref@currentlabel: (<type>=<ctr> unless an alias is used): [<type>][\arabic{<ctr>}][<parent ctrs>]{\p@<ctr>\the<ctr>} Also see section 59.4 for use with footnotes.	
\label: Writes to the .aux file: \newlabel{<label>@cref}{{\cref@currentlabel}{\thepage}}	
\newlabel: Unchanged. When the .aux file is read, sets \r@<label>@cref.	
\r@<label>@cref: Set to: {{\cref@currentlabel}{\thepage}}	
Utility functions: See \cref@getlabel, \cref@gettype, \cref@getcounter, \cref@getprefix.	
Cross-referencing names: \crefname and \Crefname assign human-readable names for references to this counter type.	
Additionally patched by l warp:	(HTML only)
\cref, etc.: Modified for l warp. See section 88.	
\Label inside math: See section 80.7.1.	
Footnotes: See \noteentry in section 59.4.	

Remove \label and other commands from the name, the strip any final period. See `gettitledstring`.

```
9579     \GetTitleStringExpand{#1}%
9580     \edef\@currentlabelname{\detokenize\expandafter{\GetTitleStringResult}}%
9581     \edef\@currentlabelname{%
9582         \expandafter\LWR@stripperiod\@currentlabelname%
9583         \ltx@empty.\ltx@empty@nil%
9584     }%
9585 }
```

73.2 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>}%
{<limagedepth>}{{<limagenumber>}}}
```

See:

<http://tex.stackexchange.com/questions/57194/extract-section-number-from-equation-reference>

`\LWR@setref {<args list>} {<selector>} {<label>}`

`@setref` without the `\null` (`\hbox`), and without the warning messages. Each caused problems with `lwarp` references. The regular reference will cause the warning.

```
9586 \def\LWR@setref#1#2#3{%
9587   \ifx#1\relax%
9588     ??%
9589   \else%
9590     \expandafter#2#1%
9591   \fi}
```

`\LWR@nameref {<label>}` Returns the section name for this label:

```
9592 \newcommand*{\LWR@nameref}[1]{%
9593   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@firstoffour{#1}%
9594 }
```

`\LWR@htmlfileref {<label>}` Returns the file number or name for this label:

```
9595 \newcommand*{\LWR@htmlfileref}[1]{%
9596   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@secondoffour{#1}%
9597 }
```

`\LWR@lateximagedepthref {<label>}` Returns the `lateximagedepth` for this label:

```

9598 \newcommand*{\LWR@lateximagedepthref}[1]{%
9599     \expandafter\LWR@setref\csname r@#1@lwarf\endcsname\LWR@thirdoffour{#1}%
9600 }

```

\LWR@lateximagenumberref {*label*} Returns the `lateximagenumber` for this label:

```

9601 \newcommand*{\LWR@lateximagenumberref}[1]{%
9602     \expandafter\LWR@setref\csname r@#1@lwarf\endcsname\LWR@fourthoffour{#1}%
9603 }

```

\LWR@write@lwarplabel {*label*} Sanitize the name and then creates the label:

```

9604 \newcommand*{\LWR@write@lwarplabel}[1]{%
9605     \LWR@traceinfo{\LWR@write@lwarplabel !#1!}%
9606     \LWR@setlatestname{\@currentlabelname}%
9607         \@bsphack%
9608         \protected@write\@auxout{}{%
9609             {%
9610                 \string\newlabel{#1@lwarf}{%
9611                     {\@currentlabelname}%
9612                     {%
9613                         \ifbool{FileSectionNames}%
9614                             {\LWR@thisfilename}%
9615                             {\arabic{\LWR@htmlfilenumber}}%
9616                         }%
9617                         {\arabic{\LWR@lateximagedepth}}%
9618                         {\arabic{\LWR@lateximagenumber}}%
9619                     }%
9620                 }%
9621             \@esphack%
9622 }

```

73.3 Labels

\LWR@label@subcreatetag Creates the tag from \LWR@sanitized.

```

9623 \newcommand*{\LWR@label@subcreatetag}{%
9624     \LWR@htmlltag{a \LWR@print@mbox{id="\LWR@sanitized"}}%
9625     \LWR@htmlltag{/a}%
9626 }

```

\LWR@label@inmathcomment

```

9627 \newcommand*{\LWR@Label@inmathcomment}{%
9628     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
9629     {%

```

The combined LATEX & HTML label is printed in a \mbox field:

```

9630     \mbox{%

```

Shift the label over to the right side of the environment to avoid over-printing the math:

```
9631 \ifdef{\totwidth}{\ifbool{LWR@amsmultiline}{}{\hspace*{\totwidth}}}{}
```

Temporarily end the HTML comment, insert the L^AT_EX & HTML label, then resume the HTML comment. \@firstofone is required to remove extra braces introduced by the amsmath package.)

```
9632 \LWR@htmclosecomment%
9633 \LWR@label@subcreatetag%
9634 \LWR@htmopencomment%
9635 }% mbox
9636 }% mathjax
9637 {%
9638 \LWR@label@subcreatetag%
9639 }%
9640 }
```

\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.

```
9641 \newcommand*{\LWR@Label@createtag}[1]{%
9642 \LWR@traceinfo{\LWR@label@createtag !#!}}
```

Create an HTML id tag unless are inside a lateximage, since it would appear in the image:

```
9643 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
9644 {}%
9645 {% not lateximage
```

If not doing a lateximage, create an HTML ID tag.

```
9646 \LWR@sanitize{#1}%
9647 \ifbool{LWR@insidemathcomment}%
9648 {% inside HTML math comment
9649 \LWR@label@inmathcomment%
9650 }% inside HTML math comment
9651 {% not inside HTML math comment
9652 \ifbool{LWR@doingstartpars}%
9653 {% pars allowed
9654 \ifbool{LWR@doingapar}%
9655 {% par started
9656 \LWR@label@subcreatetag%
9657 }% par started
9658 {% par not started
9659 \LWR@stoppars%
9660 \LWR@label@subcreatetag%
9661 \LWR@startpars%
9662 }% par not started
```

```

9663          }% pars allowed
9664          {%
9665          \LWR@label@subcreatetag%
9666          }% pars not allowed
9667          }% not inside HTML math comment
9668          }% not lateximage
9669 }

\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.

`clevereref` later encases this to add its own cross-referencing, and also patches `memoir`.

```

9670 \NewDocumentCommand{\LWR@new@label}{m}{%
9671     \LWR@traceinfo{\LWR@new@label: starting}%
9672     \LWR@traceinfo{\LWR@new@label: !#1!}%
9673 % \@bsphack%

```

Create a traditional L^AT_EX label, as modified by `cleveref`:

```
9674 \LWR@orig@label{#1}%
```

Create a special label which holds the section number, `LWR@htmlfilename`, `LWR@lateximagedepth`, and `LWR@lateximagenumber`:

```

9675 \LWR@traceinfo{%
9676     LWR@new@label: filesectionnames is %
9677     \ifbool{FileSectionNames}{true}{false}%
9678 }%
9679 \LWR@traceinfo{%
9680     LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
9681 }%
9682 \LWR@traceinfo{%
9683     LWR@new@label: LWR@htmlfilename is \arabic{LWR@htmlfilename}%
9684 }%
9685 \LWR@write@lwarplabel{#1}%
9686 \LWR@label@createtag{#1}%
9687 % \@esphack%
9688 \LWR@traceinfo{\LWR@new@label: done}%
9689 }

```

73.4 References

```
\LWR@addlinktitle
```

```

9690 \newcommand*{\LWR@addlinktitle}{%
9691     \ifdefvoid{\LWR@ThisAltText}{}{ % space
9692         title="\LWR@ThisAltText" % space
9693         \gdef\LWR@ThisAltText{}%
9694     }%
9695 }

```

\LWR@startref {*label*} (Common code for \ref and \nameref.)

Open an HTML tag reference to a filename, # character, and a label.

```

9696 \newcommand*{\LWR@startref}[1]
9697 {%
9698     \LWR@sanitize{#1}%
9699     \LWR@traceinfo{\LWR@startref A: !#1!}%

```

Create the filename part of the link:

```

9700     \LWR@htmltag{a href="%"
9701     \LWR@traceinfo{\LWR@startref B}%
9702     \LWR@print@mbox{\LWR@htmlrefsectionfilename{#1}}%
9703     \LWR@traceinfo{\LWR@startref C}%
9704     \LWR@origpound%

```

Create the destination id:

See if \LWR@lateximagedepth is unknown:

```

9705     \LWR@traceinfo{\LWR@startref D: !#1!}%
9706     \ifcsundef{r@#1@lwarp}%

```

“??” if \LWR@lateximagedepth is unknown, so create a link with an unknown destination:

```

9707     {%
9708         \LWR@traceinfo{\LWR@startref D0: ??}%
9709         ??%
9710     }%

```

If \LWR@lateximagedepth is known. Use a lateximage if the depth is greater than zero, or a regular link otherwise:

```

9711     {%
9712         \ifthenelse{\cnttest{\LWR@lateximagedepthref{#1}}{>}{0}}{%
9713             {%
9714                 lateximage-\BaseJobname-\LWR@lateximagenumberref{#1}%
9715             }%
9716             {%
9717                 \LWR@traceinfo{\LWR@startref D3}%

```

\detokenize is used to allow underscores in the labels:

```

9718           \LWR@print@mbox{\LWR@sanitized}%
9719           }%
9720       }%
9721   \LWR@traceinfo{\LWR@startref E}%

```

Closing quote:

```
9722   "%
```

Maybe add a title:

```

9723   \LWR@addlinktitle%
9724   }%
9725   \LWR@traceinfo{\LWR@startref F}%
9726 }

```

\LWR@subnewref {*<label>*} {*<label or sub@label>*}

Factored for the `subfig` package. Uses the original label for the hyper-reference, but prints its own text, such as “1(b)”.

```

9727 \NewDocumentCommand{\LWR@subnewref}{m m}{%
9728   \LWR@traceinfo{\LWR@subnewref #1 #2}%
9729   \LWR@startref{#1}%
9730   \LWR@print@ref{#2}%
9731   \LWR@htmlltag{/a}%
9732 }

```

\ref * {*<label>*} \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 * {*<label>*} Create an internal document reference link, or without a link if starred per hyperref.

```

9733 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
9734   \LWR@traceinfo{\LWR@HTML@ref !#2!}%
9735   \IfBooleanTF{#1}%
9736     {\LWR@print@ref{#2}}%
9737     {\LWR@subnewref{#2}{#2}}%
9738 }
9739
9740 \LWR@formatted{ref}

```

\LWR@ref@ignorestar * {*<label>*} For use inside \hyperref. Ignores the star, then uses the original \ref.

```

9741 \NewDocumentCommand{\LWR@ref@ignorestar}{s m}{%
9742   \LWR@print@ref{#2}%
9743 }

```

\pagerefPageFor Text for page references.

```
9744 \newcommand*{\pagerefPageFor}{see }
```

\pageref * {*label*} Create an internal document reference, or just the unlinked number if starred, per `hyperref`.

```
9745 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
9746     \IfBooleanTF{#1}{%
9747         {(\pagerefPageFor\LWR@print@ref{#2})}%
9748         {(\cpageref{#2})}%
9749 }
```

\nameref {*label*}

```
9750 \newrobustcmd*{\nameref}[1]{%
9751     \LWR@traceinfo{nameref}%
9752     \LWR@startref{#1}%
9753     \LWR@traceinfo{nameref B}%
9754     \LWR@nameref{#1}%
9755     \LWR@traceinfo{nameref C}%
9756     \LWR@htmlltag{/a}%
9757     \LWR@traceinfo{nameref: done}%
9758 }
```

\Nameref {*label*} In print, adds the page number. In `HTML`, does not.

```
9759 \LetLtxMacro{\nameref}{\nameref}
```

73.5 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.

Pkg `hyperref`

⚠ 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.

```
9760 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
9761 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates `hyperref`:

\@currentHref Added to support `backref`.

```
9762 \AtBeginDocument{%
9763     \def\@currentHref{\BaseJobname-autopage-\theLWR@currentautosec}%
9764 }
```

\LWR@linkcatcodes Sets catcodes before processing macros which have hyperlinks as arguments.

```

9765 \newcommand*{\LWR@linkcatcodes}{%
9766     \catcode`\#=12%
9767     \catcode`\%=12%
9768     \catcode`\&=12%
9769     \catcode`\~=12%
9770     \catcode`\_=12%

```

For babel-french:

```

9771     \LWR@FBcancel%
9772 }

```

\LWR@linkmediacatcodes Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```

9773 \newcommand*{\LWR@linkmediacatcodes}{%
9774     \catcode`\#=12%
9775     \catcode`\%=12%
9776 %     \catcode`\&=12% left alone for splitting flash variables
9777     \catcode`\~=12%
9778     \catcode`\_=12%

```

For babel-french:

```

9779     \LWR@FBcancel%
9780 }

```

\LWR@subhyperref {⟨URL⟩}

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.

```

9781 \NewDocumentCommand{\LWR@subhyperref}{m}{%
9782     \LWR@traceinfo{\LWR@subhyperref !#1!}%
9783     \LWR@sanitize{#1}%
9784     \LWR@htmlltag{%
9785         a href="\LWR@sanitized" % space
9786         \LWR@addlinktitle % space
9787         target="\_\_blank" % space
9788     }%
9789 }

```

\LWR@subhyperreftext {⟨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.

```

9790 \newcommand{\LWR@subhyperreftext}[1]{%
9791     #1%
9792     \LWR@htmlltag{/a}%
9793     \LWR@ensuredoingapar%
9794 }

```

```
\LWR@subhyperrefclass {\langle URL \rangle} {\langle text \rangle} {\langle htmlclass \rangle}

9795 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
9796   \LWR@htmltag{%
9797     a % space
9798     href="\begingroup\@sanitize#1\endgroup" % space
9799     class="#3" % space
9800     \LWR@addlinktitle % space
9801   }\LWR@newline%
9802   #2%
9803   \LWR@htmltag{/a}%
9804   \LWR@ensuredoingapar%
9805 }
```

\LWR@href [⟨options⟩] {\⟨URL⟩}

Create a link with accompanying text:

```
9806 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
9807   \LWR@ensuredoingapar%
9808   \LWR@subhyperref{#2}%
9809   \endgroup% restore catcodes
9810   \LWR@subhyperfetext%
9811 }
9812
9813 \newrobustcmd*\LWR@href}{%
9814   \begingroup%
9815   \LWR@linkcatcodes%
9816   \LWR@hrefb%
9817 }
```

\LWR@nolinkurl {\⟨URL⟩}

Print the name of the link without creating the link:

```
9818 \newcommand*\LWR@nolinkurlb[1]{%
9819   \LWR@ensuredoingapar%
9820   \def\LWR@templink{#1}%
9821   \onelevel@sanitize\LWR@templink%
9822   \LWR@templink%
9823   \endgroup%
9824 }
9825
9826 \newrobustcmd*\LWR@nolinkurl}{%
9827   \begingroup%
9828   \LWR@linkcatcodes%
9829   \LWR@nolinkurlb%
9830 }
```

\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.

```
9831 \DeclareDocumentCommand{\LWR@urlb}{m}{%
9832     \LWR@ensuredoingapar%
9833     \def\LWR@templink{\#1}%
9834     @onelevel@sanitize\LWR@templink%
9835     \LWR@href{\LWR@templink}{\LWR@templink}%
9836     \endgroup%
9837 }
9838
9839 \newrobustcmd*\LWR@url{%
9840     \begingroup%
9841     \LWR@linkcatcodes%
9842     \LWR@urlb%
9843 }
```

\LWR@subinlineimage {<alt> tag} {<class>} {<filename>} {<extension>} {<CSS style>}

Factored from lateximage.

```
9844 \newcommand*\LWR@subinlineimage[5]{%
9845     \ifblank{#1}%
9846     {%
9847         \LWR@htmltag{img \LWR@indentHTML
9848             src="#3.#4" \LWR@indentHTML
9849             alt="#3" \LWR@indentHTML
9850             style="#5" \LWR@indentHTML
9851             class="#2" \LWR@orignewline
9852         }%
9853     }%
9854     {%
9855         \LWR@htmltag{img \LWR@indentHTML
9856             src="#3.#4" \LWR@indentHTML
9857             alt="#1" \LWR@indentHTML
9858             style="#5" \LWR@indentHTML
9859             class="#2" \LWR@orignewline
9860         }%
9861     }%
9862 }
9863 \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^AT_EX 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.

74 Floats

Floats are supported, although partially through emulation.

Table 15 shows the data structure associated with each <type> of float.

74.1 Float environment

for HTML output: 9864 \begin{warpHTML}

\LWR@floatbegin {\<type>} [<placement>] Begins a \newfloat environment.

9865 \NewDocumentCommand{\LWR@floatbegin}{m o}{%

Warn if starting a float inside a :

9866 \LWR@spanwarninvalid{float}%

```
9867 \ifbool{FormatWP}{\newline}{}
9868 \LWR@stoppars%
```

There is a new float, so increment the unique float counter:

```
9869 \addtocounter{LWR@thisautoid}{1}
9870 \booltrue{LWR@freezethisautoid}

9871 \begingroup%
```

Settings while inside the environment:

```
9872 \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.

```
9873 \LWR@htmlltag{%
9874   figure id="\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}" % space
9875   class="#1 \nameuse{LWR@floatstyle@#1}"%
9876 }%
9877 \ifbool{FormatWP}{%
9878   \LWR@newline%
9879   \LWR@BlockClassWP{}{}{wp#1}%
9880 }{}
```

Update the caption type:

```
9881 \renewcommand*{\@capttype}{#1}%
```

Mark the float for a word processor conversion:

```
9882 \LWR@startpars%
9883 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
9884 === begin #1 ===
9886 }{}
```

After each **\LWR@floatbegin**, look for **\centering**, etc next, using **\LWR@floatalignment**.

```
9888 }
```

For **koma-script**. The following does not work for tables.

```
9889 \AtBeginDocument{
9890
9891 \@ifpackageloaded{tocbasic}{%
9892
9893 \appto\figure@atbegin{%
9894   \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
```

```

9895 }
9896
9897 }{}% tocbasic
9898
9899 }% AtBeginDocument

```

\@xfloat Support packages which create floats directly.
\@xdlbfloat Look for \centering, etc using \LWR@floatalignment.

```

9900 \AtBeginDocument{
9901     \def\@xfloat #1[#2]{%
9902         \LWR@floatbegin{#1}[#2]
9903         \LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment%
9904     }
9905     \def\@xdlbfloat #1[#2]{%
9906         \LWR@floatbegin{#1}[#2]
9907         \LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment%
9908     }
9909 }

```

\LWR@floatend Ends a \newfloat environment.

```
9910 \newcommand*\LWR@floatend}{%
```

If saw a \centering, finish the center environment:

```
9911 \LWR@endfloatalignment%
```

Mark the float end for a word processor conversion:

```

9912 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
9913     === end ===
9914
9915
9916 }{}%
9917 \LWR@stoppars%

```

Close an HTML figure tag:

```

9918 \ifbool{FormatWP}{\endLWR@BlockClassWP}{}
9919 \LWR@htmlelementend{figure}%
9920 \endgroup%
9921 \boolfalse{\LWR@freezethisautoid}%
9922 \LWR@startpars%
9923 \ifbool{FormatWP}{\newline}{}
9924 }

```

\end@float Support packages which create floats directly.
\end@dlbfloat

```

9925 \AtBeginDocument{
9926     \let\end@float\LWR@floatend
9927     \let\end@dblfloat\LWR@floatend
9928 }

```

74.2 Float tracking

Ctr 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.

```
9929 \newcounter{LWR@thisautoid}
```

Ctr 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.

```
9930 \newcounter{LWR@thisautoidWP}
```

Bool LWR@freezethisautoid Prevents multiple increments of \LWR@thisautoid inside a float.

```
9931 \newbool{LWR@freezethisautoid}
9932 \boolfalse{LWR@freezethisautoid}
```

\LWR@forcenewautoidanchor Adds a new <autoid> anchor.

```
9933 \newcommand*\LWR@forcenewautoidanchor{%
9934     \addtocounter{LWR@thisautoid}{1}%
9935     \LWR@stoppars%
9936     \LWR@htmlltag{a id="\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}"}%
9937         \LWR@htmlltag{/a}%
9938     \LWR@startpars%
9939 }
```

\LWR@newautoidanchor Sometimes adds a new <autoid> anchor.

```
9940 \newcommand*\LWR@newautoidanchor{%
9941     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
9942         {}%
9943         {\ifbool{LWR@freezethisautoid}{}{\LWR@forcenewautoidanchor}}%
9944 }
```

\@capttype Remembers which float type is in use.

```
9945 \newcommand*\@capttype{}
```

\LWR@floatalignmentname Set to center, flushleft, or flushright if saw \centering, \raggedright, or \raggedleft.

```
9946 \newcommand*\LWR@floatalignmentname{}
```

\LWR@floatalignment If sees a \centering, \raggedleft, or \raggedright, creates a center, flushright, or flushleft environment.

```
9947 \newcommand*\LWR@floatalignment{%
9948     \ifdef\mynexttoken{\LWR@mynexttoken}{\centering}%
9949         \center%
9950         \renewcommand*\LWR@floatalignmentname{center}}
```

```

9951      }{)}%
9952      \ifdefstreq{\LWR@mynexttoken}{\raggedright}{%
9953          \flushleft%
9954          \renewcommand*\LWR@floatalignmentname{flushleft}%
9955      }{)}%
9956      \ifdefstreq{\LWR@mynexttoken}{\raggedleft}{%
9957          \flushright%
9958          \renewcommand*\LWR@floatalignmentname{flushright}%
9959      }{)}%
9960 }

```

\LWR@endfloatalignment Closes an environment from \LWR@floatalignment.

```

9961 \newcommand*\LWR@endfloatalignment{%
9962     \ifdefvoid{\LWR@floatalignmentname}{%
9963         }{)}%
9964         {\@nameuse{end\LWR@floatalignmentname}}{)}%
9965     \renewcommand*\LWR@floatalignmentname{}{)}%
9966 }

```

74.3 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.

```
9967 \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.

```

9968 \AtBeginDocument{
9969     \@ifpackageloaded{caption}{}{%
9970         \let\LWR@orig@caption\@caption%
9971         \long\def\@caption#1[#2]{%

```

Warn if using a caption inside a :

```

9972             \LWR@spanwarnformat{caption}%
9973             \LWR@setlatestname{#2}%
9974             \LWR@orig@caption{#1}[{#2}]% also takes third argument
9975         }{)}%
9976     \renewcommand{\@makecaption}[2]{%
9977         \begin{minipage}{\textwidth}%

```

```

9978      \LWR@traceinfo{@makecaption}%
9979      \caption@begin{@capttype}%
9980      \LWR@isolate{#1}%
9981      \edef\LWR@tempone{#1}%
9982      \ifdefvoid{\LWR@tempone}{}{\CaptionSeparator}%
9983      \LWR@isolate{#2}%
9984      \caption@end%
9985      \LWR@traceinfo{@makecaption: done}%
9986      }%
9987  }
9988 }
```

74.4 Caption and lof linking and tracking

When a new HTML file is marked in the L^AT_EX PDF file, or at the start of a new section, the L^AT_EX page number at that point is stored in LWR@latestautopage, (and the associated filename is remembered by the special L^AT_EX 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.

Ctr LWR@nextautoid Tracks autoid for floats. Tracks autopage for floats.

Ctr LWR@nextautopage These are updated per float as the .lof, .lot file is read.

```

9989 \newcounter{LWR@nextautoid}
9990 \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. The autopage and the float's autoid are remembered for \l@figure to use when creating the HTML links.

```

9991 \newcommand*{\LWRsetnextfloat}[2]{%
9992     \setcounter{LWR@nextautopage}{#1}%
9993     \setcounter{LWR@nextautoid}{#2}%
9994 }
```

Ctr 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 autoid by the modified \addcontentsline just before each float's entry.

```

9995 \newcounter{LWR@latestautopage}
9996 \setcounter{LWR@latestautopage}{1}
```

Env LWR@figcaption An HTML <figcaption> is not allowed in places where 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.

```

9997 \newenvironment*{LWR@figcaption}
9998   {%
9999     \ifbool{FormatWP}{%
10000       \BlockClass[font-style:italic]{figurecaption}%
10001 %         \LWR@print@vspace*\{\baselineskip}%
10002     }{%
10003       \BlockClass{figurecaption}%
10004     }%
10005   }%
10006   {\endBlockClass}
```

\LWR@HTML@caption@begin {*type*}

Low-level code to create HTML tags for captions.

The print versions are from the **caption** package, if loaded.

```

10007 \newcommand*{\LWR@HTML@caption@begin}[1]
10008 {%
10009   \LWR@traceinfo{\LWR@HTML@caption@begin}%
```

Keep par and minipage changes local:

```
10010   \begingroup%
```

No need for a minipage or \parbox inside the caption:

```

10011   \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{\begin{#1}}{\end{#1}}
10012   \RenewDocumentCommand{\parbox}{O{t} O{} O{t} m +m}{\begin{#1}#2\end{#1}}
```

Enclose the original caption code inside an HTML tag:

```

10013   \LWR@figcaption%
10014   \LWR@traceinfo{\LWR@HTML@caption@begin: about to LWR@origcaption@begin}%
10015   \LWR@print@caption@begin{#1}%
10016   \LWR@traceinfo{\LWR@HTML@caption@begin: done}%
10017 }
```

\LWR@HTML@caption@end Low-level patches to create HTML tags for captions.

```

10018 \newcommand*{\LWR@HTML@caption@end}%
10019 {%
10020   \LWR@traceinfo{\LWR@HTML@caption@end}%
10021   \LWR@print@caption@end%
```

Closing tag:

```
10022   \endLWR@figcaption
```

```

10023      \endgroup%
10024      % \leavevmode% avoid bad space factor (0) error
10025      \LWR@traceinfo{\LWR@HTML@caption@end: done}%
10026 }

```

\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.

```

10027 \AtBeginDocument{%
10028     \providecommand{\caption@begin}{\bgroup{}}
10029     \LWR@formatted{\caption@begin}
10030
10031     \providecommand{\caption@end}{\egroup{}}
10032     \LWR@formatted{\caption@end}
10033 }

```

\captionlistentry Tracks the float number for this caption used outside a float. Patched to create an
 HTML anchor.

```

10034 \AtBeginDocument{%
10035 @ifpackageloading{caption}%
10036     \let\origcaptionlistentry\captionlistentry
10037
10038     \renewcommand*{\captionlistentry}{%
10039         \LWR@ensuredoingapar%
10040         \LWR@origcaptionlistentry%
10041     }
10042
10043     \def\LWR@LTcaptionlistentry{%
10044         \LWR@ensuredoingapar%
10045         \LWR@forcenewlineautoidanchor%
10046         \bgroup%
10047             \@ifstar{\egroup\LT@captionlistentry}{%
10048                 \egroup\LT@captionlistentry}%
10049             }%
10050     \def\LWR@LT@captionlistentry#1{%
10051         \caption@listentry@\firstoftwo[\LTcaptype]{#1}%
10052     }%
10053 }% caption loaded
10054 {% caption not loaded
10055     \newcommand{\captionlistentry}[2][]{%
10056         \newcommand{\LWR@LT@captionlistentry}[2][]{%
10057     }
10058 }% 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

10059 \let\LWR@origaddcontentsline\addcontentsline
10060
10061 \renewcommand*\addcontentsline}[3]{%
10062     \ifstreq{\#1}{toc}{}% not TOC

10063     \ifnumcomp{\value{\LWR@lateximagedepth}}{0}{%
10064         {}%
10065         {\LWR@newautoanchor}%
10066
10067         \addtocontents{\@nameuse{ext@\#2}}{\csdef{ext@\#2}{\#1}}%
10068         \protect\LWRsetnextfloat%
10069         {\arabic{\LWR@latestautopage}}%
10070         {\arabic{\LWR@thisautoid}}%
10071         }%
10072     }% not TOC
10073     \LWR@origaddcontentsline{\#1}{\#2}{\#3}%
10074 }
```

Pkg capt-of Either package provides `\captionof`, which is later patched at the beginning of the document.

`\captionof` Patched to handle paragraph tags.

```
10075 \RequirePackage{capt-of}
10076
10077 \AtBeginDocument{
10078     \let\LWR@origcaptionof\captionof
10079
10080     \renewcommand*\captionof}{%
10081         \LWR@stopars%
10082         \LWR@origcaptionof%
10083     }
10084 }% AtBeginDocument

10085 \end{warpHTML}
```

75 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 “`sitetoc`” is provided which prints a subset of the TOC on the side of each page other than the homepage.

The regular L^AT_EX infrastructure is used for toc, along with some patches to generate HTML output.

for HTML output: 10086 \begin{warpHTML}

75.1 Reading and printing the toc

\LWR@myshorttoc {\langle 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 L^AT_EX, the file is not reset after being read, since the sidetoc may be referred to again in each HTML page.

```
10087 \newcommand*{\LWR@myshorttoc}[1]{%
10088     \LWR@traceinfo{\LWR@myshorttoc: #1}%
10089     \LWR@ensuredoingapar%
```

Only if the file exists:

```
10090 \IfFileExists{\jobname.\#1}{%
10091     \LWR@traceinfo{\LWR@myshorttoc: loading}%
10092 }
```

 Many of the commands in the file will have @ characters in them, so @ must be made a regular letter.

```
10092     \begingroup%
10093     \makeatletter%
```

Disable CJK xpinyin while generating the sidetoc.

```
10094     \LWR@disablepinyin%
```

Read in the TOC file:

```
10095     \@input{\jobname.\#1}%
10096     \endgroup%
10097 }%
10098 {}%
10099 \LWR@traceinfo{\LWR@myshorttoc: done}%
10100 }
```

\LWR@subtableofcontents {\langle toc/lof/lot\rangle} {\langle sectionstarname\rangle}

Places a TOC/LOF/LOT at the current position.

```
10101 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
10102  \@ifundefined{chapter}%
10103    {\LWR@closeprevious{section}}%
10104    {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large TOC:

```
10105  \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
10106  \@ifundefined{chapter}{\section*{\#2}}{\chapter*{\#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
10107  \LWR@htmlelementclass{nav}{\#1}%
```

Create the actual list:

```
10108  \LWR@myshorttoc{\#1}%
```

Close the nav:

```
10109  \LWR@htmlelementclassend{nav}{\#1}%
10110 }
```

\@starttoc {*ext*}

Patch \@starttoc to encapsulate the TOC inside HTML tags:

```
10111 \let\LWR@orig@starttoc\@starttoc
10112
10113 \renewcommand{\@starttoc}[1]{%
10114   \LWR@htmlelementclass{nav}{\#1}%
10115   \LWR@orig@starttoc{\#1}%
10116   \LWR@htmlelementclassend{nav}{\#1}%
10117 }
```

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.)

```
10118 \newbool{LWR@copiedsidetoc}
10119 \boolfalse{LWR@copiedsidetoc}
```

\tableofcontents Patch \tableofcontents, etc. to print footnotes first. **newfloat** uses \listoffigures for all future float types.

```
10120 \AtBeginDocument{
10121
10122 \let\LWR@origtableofcontents\tableofcontents
10123
10124 \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:

```
10125     \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{
10126
10127     === table of contents ===
10128
10129     }
10130     {
```

Copy the .toc file to .sidetoc for printing the sidetoc. The original .toc file is renewed when \tableofcontents is finished.

```
10131         \ifbool{LWR@copiedsidetoc}{}{%
10132             \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}%
10133             \booltrue{LWR@copiedsidetoc}%
10134         }%
10135         \LWR@printpendingfootnotes
10136         \LWR@origtableofcontents
10137     }
10138 }% \tableofcontents
10139
10140 }% AtBeginDocument
```

\listoffigures

```
10141 \let\LWR@origlistoffigures\listoffigures
10142
10143 \renewcommand*{\listoffigures}{
10144     \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10145
10146     === list of figures ===
10147
10148     }
10149     {
10150         \LWR@printpendingfootnotes
10151         \LWR@origlistoffigures
10152     }
10153 }
```

\listoftables

```
10154 \let\LWR@origlistoftables\listoftables
10155
10156 \renewcommand*{\listoftables}{
10157     \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10158
10159     === list of tables ===
10160
10161     }
10162     {
10163         \LWR@printpendingfootnotes
10164         \LWR@origlistoftables
10165     }
```

10166 }

75.2 High-level toc commands

\listof {*type*} {*title*}

Emulate the \listof command from the float package (section 251). Used to create lists of custom float types. Also used to redefine the standard L^AT_EX \listoffigures and \listoftables commands.

```
10167 \NewDocumentCommand{\listof}{m +m}{%
10168     \@ifundefined{l@#1}{%
10169         \csdef{l@#1}##1##2{\hypertocfloat{1}{#1}{\@nameuse{ext@#1}}{##1}{##2}}%
10170     }{}%
10171     \LWR@subtableofcontents{\@nameuse{ext@#1}}{#2}%
10172     \expandafter\newwrite\csname tf@\csname ext@#1\endcsname\endcsname%
10173     \immediate\openout \csname tf@\csname ext@#1\endcsname\endcsname%
10174         \jobname.\@nameuse{ext@#1}\relax%
10175 }
```

75.3 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.

css may be used to format the sidetoc:

CSS related to sidetoc:

div.sidetoccontainer: The entire sidetoc.
div.sidetoctitle: The title.
div.sidetoccontents: The table of contents.

10176 \end{warpHTML}

for HTML & PRINT: 10177 \begin{warpall}

Ctr SideTOCDepth Controls how deep the side-TOC gets. Use a standard L^AT_EX section level similar to tocdepth. Warn if parts of the website may be inaccessible.

```
10178 \newcounter{SideTOCDepth}
10179 \setcounter{SideTOCDepth}{1}
10180
10181 \AtEndDocument{%
10182     \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{%
10183         \PackageWarningNoLine{lwarp}%
10184     }%
```

```

10185           SideTOCDepth is less than FileDepth, \MessageBreak
10186           so some website pages may be inaccessible%
10187       }
10188   }()
10189 }
```

\sidetocname Holds the default name for the sidetoc.

```

10190 \newcommand{\sidetocname}{Contents}
10191 \end{warpall}
```

for HTML output: 10192 \begin{warpHTML}

\LWR@sidetoc Creates the actual side-TOC.

```

10193 \newcommand*{\LWR@sidetoc}{%
10194     \LWR@forcenewpage
10195     \LWR@stoppars
10196 }
```

The entire sidetoc is placed into a nav of class sidetoc.

```

10197     \LWR@htmlelementclass{div}{sidetoccontainer}
10198     \LWR@htmlelementclass{nav}{sidetoc}
10199
10200     \setcounter{tocdepth}{\value{SideTOCDepth}}
10201 }
```

The title is placed into a <div> of class sidetoctitle, and may contain paragraphs.

```

10202     \begin{BlockClass}{sidetoctitle}
10203         \ifcsvvoid{thetitle}{}{\InlineClass{sidetocthetitle}{\thetitle}\par}
10204         \sidetocname
10205     \end{BlockClass}
```

The table of contents is placed into a <div> of class sidetoccontents.

```

10206     \begin{BlockClass}{sidetoccontents}
10207         \LinkHome
10208
10209         \LWR@myshorttoc{sidetoc}
10210     \end{BlockClass}
10211     \LWR@htmlelementclassend{nav}{sidetoc}
10212     \LWR@htmlelementclassend{div}{sidetoccontainer}
10213 }
```

75.4 Low-level TOC line formatting

\numberline {<number>}

(Called from each line in the .aux, .lof files.)

Record this section number for further use:

```
10214 \newcommand*{\LWR@numberline}[1]{%
10215     \LWR@sectionnumber{\#1}\quad%
10216 }
10217
10218 \LetLtxMacro\numberline\LWR@numberline
```

\LWR@maybetocdata Replaced by **tocdata**. Adds author name.

```
10219 \newcommand*{\LWR@maybetocdata}{}%
```

\hypertoc {<1: depth>} {<2: type>} {<3: name>} {<4: page>}

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

```
10220 \NewDocumentCommand{\hypertoc}{m m +m m}{%
10221     \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}}%
```

Respond to **tocdepth**:

```
10222     \ifnumcomp{#1}{>}{\value{tocdepth}}{%
10223         {}%
10224         {}%
10225             \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.

```
10226             \LWR@subhyperrefclass{%
10227                 \LWR@htmlrefsectionfilename{\BaseJobname-autopage-#4}%
10228                     \LWR@origpound\LWR@print@mbox{autosec-#4}%
10229                     }{#3}{toc#2}}%
10230
10231             \LWR@maybetocdata%
10232             }%
10233             \LWR@traceinfo{hypertoc done}%
10234 }
```

`\ctr \lofdepth` TOC depth for figures.

```
10235 \@ifclassloaded{memoir}{}{  
10236     \newcounter{\lofdepth}  
10237     \setcounter{\lofdepth}{1}  
10238 }
```

`\ctr \lotdepth` TOC depth for tables.

```
10239 \@ifclassloaded{memoir}{}{  
10240     \newcounter{\lotdepth}  
10241     \setcounter{\lotdepth}{1}  
10242 }
```

`\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

```
10243 \newcommand{\hypertocfloat}[5]{%
```

If some float-creation package has not yet defined the float type's `lofdepth` counter, etc, define it here:

```
10244     \@ifundefined{c@#3depth}{%  
10245         \newcounter{#3depth} %  
10246         \setcounter{#3depth}{1} %  
10247     }{ } %
```

Respond to `lofdepth`, etc.:

```
10248     \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%  
10249     \ifthenelse{\cnttest{#1}{<=}{\arabic{#3depth}}}{%  
10250         { }%  
10251         \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.

```
10252             \LWR@subhyperrefclass{ %  
10253                 \LWR@htmlrefsectionfilename{ %  
10254                     \BaseJobname-autopage-\arabic{\LWR@nextautopage} %  
10255                 } %  
10256                 \LWR@origpound\LWR@print@mbox{autoid-\arabic{\LWR@nextautoid}}}} %  
10257             {#4}{toc#2} %
```

```

10258          \LWR@maybetocdata%
10259          \LWR@stopars%
10260          }%
10261          {}%
10262 }

```

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.

```
10263 \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.

```
10264 \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.

```

10265 @ifundefined{chapter}
10266 {}
10267 {
10268 \DeclareDocumentCommand{\l@chapter}{m m}
10269   {\hypertoc{0}{chapter}{#1}{#2}}
10270 }

```

```
\l@section {\langle name\rangle} {\langle page\rangle}
```

```
10271 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

```
\l@subsection {\langle name\rangle} {\langle page\rangle}
```

```
10272 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

```
\l@subsubsection {\langle name\rangle} {\langle page\rangle}
```

```
10273 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}
```

```
\l@paragraph {\langle name\rangle} {\langle page\rangle}
```

```
10274 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}
```

```
\l@subparagraph {\langle name\rangle} {\langle page\rangle}

10275 \renewcommand{\l@subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}
```

```
\l@figure {\langle name\rangle} {\langle page\rangle}

10276 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}
```

```
\l@table {\langle name\rangle} {\langle page\rangle}

10277 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}
```

```
10278 \end{warpHTML}
```

76 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: 10279 \begin{warpHTML}

```
10280 \newcounter{LWR@autoindex}
10281 \setcounter{LWR@autoindex}{0}
10282
10283 \newcounter{LWR@autoglossary}
10284 \setcounter{LWR@autoglossary}{0}
```

Env theindex

```
10285 @ifundefined{chapter}
10286     {\newcommand*{\LWR@indexsection}[1]{\section*{#1}}}
10287     {\newcommand*{\LWR@indexsection}[1]{\chapter*{#1}}}
10288
10289
10290 \AtBeginDocument{
10291
10292 \renewenvironment*{theindex}{%
10293     \LWR@indexsection{\indexname}%
10294     \let\item\LWR@indexitem%
10295     \let\subitem\LWR@indexsubitem%
10296     \let\subsubitem\LWR@indexsubsubitem%
10297 }{}%
10298
10299 }% AtBeginDocument
```

\LWR@indexitem [*index key*] The optional argument is added to support repeatindex.

```

10300 \newcommand{\LWR@indexitem}[1][\emptyset]{
10301
10302     \InlineClass{indexitem}{\LWR@htmlcomment{}}
10303 }
```

\LWR@indexsubitem

```

10304 \newcommand{\LWR@indexsubitem}[
10305
10306     \InlineClass{indexsubitem}{\LWR@htmlcomment{}}
10307 }
```

\LWR@indexsubsubitem

```

10308 \newcommand{\LWR@indexsubsubitem}[
10309
10310     \InlineClass{indexsubsubitem}{\LWR@htmlcomment{}}
10311 }
```

\@wrindex {*term*} Redefined to write the LWR@autoindex counter instead of page.

```

10312 \def\LWR@wrindex#1{%
10313     \addtocounter{LWR@autoindex}{1}%
10314     \LWR@newlabel{LWRindex-\arabic{LWR@autoindex}}%
10315     \protected@write{\indexfile}{}{%
10316         \string\indexentry{\arabic{LWR@autoindex}}%
10317     }%
10318     \endgroup%
10319     \esphack%
10320 }
10321 \AtBeginDocument{%
10322 \let\@wrindex\LWR@wrindex
10323 }
```

\@wrglossary {*term*} Redefined to write the LWR@latestautopage counter instead of page.

```

10324 \def\@wrglossary#1{%
10325     \addtocounter{LWR@autoglossary}{1}%
10326     \LWR@newlabel{LWRglossary-\theLWR@autoglossary}}%
10327     \protected@write{\glossaryfile}{}{%
10328         \string\glossaryentry{\theLWR@autoglossary}}%
10329     \endgroup%
10330     \esphack%
10331 }
```

\LWR@indexnameref {*LWR@autoindex*}

Creates a hyperlink based on the given entry's autoindex.

```
10332 \newcommand*{\LWR@indexnameref}[1]{\nameref{LWRindex-\#1}}
```

\LWR@doindexentry {*LWR@autoindex, or macros.*}

Creates a hyperlink, or handles \see, \textbf{etc}.

```
10333 \newrobustcmd{\LWR@doindexentry}[1]{%
10334     \IfInteger{#1}{%
10335         {\LWR@indexnameref{#1}}{%
10336             {#1}}{%
10337 }}
```

\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}{...}

```
10338 \newcommand{\LWR@hyperindexrefnullified}{%
10339     \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{##1}}}{%
10340     \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{##1}}}{%
10341     \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{##1}}}{%
10342     \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{##1}}}{%
10343     \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{##1}}}{%
10344     \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{##1}}}{%
10345     \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{##1}}}{%
10346     \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{##1}}}{%
10347     \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}{%
10348     \renewrobustcmd{\textlc}[1]{\LWR@HTML@textlc{\LWR@doindexentry{##1}}}{%
10349     \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{##1}}}{%
10350     \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}{%
10351     \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}{%
10352 }}
```

\hyperindexref {*LWR@autoindex*}

\hyperindexref{LWR@autoindex} is inserted into *.ind by the `makeindex` style file `lwarf.ist` or the `xindy` style file `lwarf.xdy`.

```
10353 \newcommand{\hyperindexref}[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.

```
10354 \def\LWR@tempone{#1}%
10355 \IfBeginWith{\LWR@tempone}{}{%
10356     \StrGobbleLeft{\LWR@tempone}{1}[\LWR@tempone]%
10357 }}
```

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.

```

10358 \IfInteger{\LWR@tempone}%
10359   {\LWR@indexnameref{\LWR@tempone}}%
10360   {%
10361     \begingroup%
10362     \LWR@hyperindexrefnullified%
10363     #1%
10364     \endgroup%
10365   }%
10366 }

10367 \end{warpHTML}

```

for PRINT output: A null command for print mode, in case `hyperref` was not used:

```

10368 \begin{warpprint}
10369 \newcommand{\hyperindexref}[1]{#1}
10370 \end{warpprint}

```

for HTML & PRINT: For the `glossaries` package, try to prevent an error where `\glo@name` was not found:

```

10371 \begin{warpall}
10372 \providecommand{\glo@name}{}
10373 \end{warpall}

```

77 Bibliography presentation

for HTML output: 10374 `\begin{warpHTML}`

`\bibliography{<filenames>}`

Modified to use the base jobname instead of the `_html` jobname.

```

10375 \def\bibliography#1{%
10376   \if@filesw
10377     \immediate\write\@auxout{\string\bibdata{#1}}%
10378   \fi
10379 %   \ @input{\jobname.bbl}% original
10380   \begingroup%
10381   \ @input{\BaseJobname.bbl}% lwarp
10382   \endgroup%
10383 }

```

`\@biblabel{<text-refnumber>}`

```
10384 \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>

```

10385 \AtBeginDocument{
10386
10387 \AtBeginEnvironment{thebibliography}{
10388
10389 \providecommand*\LWR@newem}[1]{\textit{\#1}}
10390
10391 \renewrobustcmd{\em}{%
10392   \begingroup
10393     \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
10394     \afterassignment\LWR@em@after
10395     \toks@\bgroup
10396   }
10397
10398 \def\LWR@em@finish#1{%
10399   \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
10400   \endgroup
10401   \LWR@em@after\egroup
10402 }
10403
10404 }% \AtBeginEnvironment{thebibliography}
10405
10406 }% \AtBeginDocument

10407 \end{warpHTML}
```

78 Restoring original formatting

\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.

for HTML output: 10408 \begin{warpHTML}

```

10409 \newcommand*\LWR@restoreorigformatting}{%
10410   \LWR@traceinfo{LWR@restoreorigformatting}%
```

Numerous macros change their print/HTML meaning depending on \LWR@formatting:

```

10411   \renewcommand*\LWR@formatting}{print}%
10412   \linespread{1}%
10413   \let\par\LWR@origpar%
```

```

10414 \LWR@select@print@hspace%

10415 \LetLtxMacro\hfil\LWR@orighfil%
10416 \let\hss\LWR@orighss%
10417 \let\llap\LWR@origllap%
10418 \let\rlap\LWR@origrlap%
10419 \let\hfilneg\LWR@origfilneg%

10420 \let\,\LWR@origcomma% disable HTML short unbreakable space
10421 \let\thinspace\LWR@origthinspace% disable HTML short unbreakable space
10422 \let\negthinspace\LWR@orignegthinspace% disable HTML negative short unbreakable space
10423 \let\textellipsis\LWR@origtextellipsis%
10424 \let\textless\LWR@origtextless%
10425 \let\textgreater\LWR@origtextgreater%

10426 \let\&\LWR@origampersand%

10427 \LetLtxMacro\em\LWR@origem%
10428 \LetLtxMacro\normalfont\LWR@orignormalfont%
10429 \let\sp\LWR@origsp%
10430 \let\sb\LWR@origsb%
10431 \LetLtxMacro\underline\LWR@origunderline%
10432 \let~\LWR@origtilde%
10433 \let\enskip\LWR@origenskip%
10434 \let\quad\LWR@origquad%
10435 \let\qquad\LWR@origqquad%

```

\endtabular must be restored to its original, instead of relying on lwarp's \LWR@formatted mechanism:

```

10436 \LetLtxMacro\endtabular\LWR@origendtabular%
10437 \csletcs{endtabular*}{\LWR@origendtabular*}%

10438 \LetLtxMacro\noalign\LWR@orignoalign%
10439 \LetLtxMacro\hline\LWR@orighline%

10440 \let\newline\LWR@orignewline%
10441 \LetLtxMacro\includegraphics\LWR@origincludegraphics%

10442 \LetLtxMacro\@ensuredmath\LWR@origensuredmath%

10443 \let\math\LWR@orig@math%
10444 \let\endmath\LWR@orig@endmath%
10445 \let\displaymath\LWR@orig@displaymath%
10446 \let\enddisplaymath\LWR@orig@enddisplaymath%
10447 %
10448 \LWR@restoreorigaccents%
10449 \LWR@restoreoriglists%
10450 %
10451 \LWR@FBcancel%
10452 }

10453 \end{warpHTML}

```

79 Nullifying filename formatting

The following are used to nullify certain macros and environments while converting section names to file names.

for HTML output: 10454 \begin{warpHTML}

Also commonly used are \@empty, \@gobble, and \@firstofone.

10455 \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.

10456 \catcode`\\$=\active% redefining \$ below
 10457 \catcode`_=12% redefining _ below
 10458 \newcommand*{\LWR@nullfonts}{%

Various built-in symbols.

```

10459      \renewcommand*{\$}{-}%
10460      \renewcommand*{\%}{-}%
10461      \renewcommand*{\_}{-}%
10462      \renewcommand*{\}{-}%
10463      \renewcommand*{\}{-}%
10464      \renewcommand*{\&}{-}%
  used to be 'and'
10465      \renewcommand*{\#}{-}%
10466      \renewcommand*{\,}{-}%
10467      \renewcommand*{\~}{-}%
10468 %
10469 % accents:
10470      \renewcommand*{'[1]{##1}%
10471      \renewcommand*{'[1]{##1}%
10472      \renewcommand*{'^}[1]{##1}%
10473      \renewcommand*{'~}[1]{##1}%
10474      \renewcommand*{'=}[1]{##1}%
10475      \renewcommand*{'u}[1]{##1}%
10476      \renewcommand*{'.}[1]{##1}%
10477      \renewcommand*{'"}[1]{##1}%
10478      \renewcommand*{'H}[1]{##1}%
10479      \renewcommand*{'v}[1]{##1}%
10480      \renewcommand*{'d}[1]{##1}%
10481      \renewcommand*{'c}[1]{##1}%
10482      \renewcommand*{'b}[1]{##1}%
10483      \renewcommand*{'t}[1]{##1}%
10484 %
10485      \let\newline\LWR@dash%
10486      \let\textasciicircum\LWR@dash%
10487      \let\textasciitilde\LWR@dash%

```

```
10488 \let\textasteriskcentered\LWR@dash%
10489 \let\textbackslash\LWR@dash%
10490 \let\textbar\LWR@dash%
10491 \let\textbardbl\LWR@dash%
10492 \let\textbigcircle\LWR@dash%
10493 \let\textbraceleft\LWR@dash%
10494 \let\textbraceright\LWR@dash%
10495 \let\textbullet\LWR@dash%
10496 \let\textcopyright\LWR@dash%
10497 \let\textdagger\LWR@dash%
10498 \let\textdaggerdbl\LWR@dash%
10499 \let\textdollar\LWR@dash%
10500 \let\textellipsis\LWR@dash%
10501 \let\textemdash\LWR@dash%
10502 \let\textendash\LWR@dash%
10503 \let\textexcldown\LWR@dash%
10504 \let\textgreater\LWR@dash%
10505 \let\textless\LWR@dash%
10506 \let\textordfeminine\LWR@dash%
10507 \let\textordmasculine\LWR@dash%
10508 \let\textparagraph\LWR@dash%
10509 \let\textperiodcentered\LWR@dash%
10510 \let\textpertenthousand\LWR@dash%
10511 \let\textperthousand\LWR@dash%
10512 \let\textquestiondown\LWR@dash%
10513 \let\textquotedblleft\LWR@dash%
10514 \let\textquotedblright\LWR@dash%
10515 \let\textquotefirst\LWR@dash%
10516 \let\textquoteright\LWR@dash%
10517 \let\textregistered\LWR@dash%
10518 \let\textsection\LWR@dash%
10519 \let\textsterling\LWR@dash%
10520 \let\texttrademark\LWR@dash%
10521 \let\textunderscore\LWR@dash%
10522 \let\textvisiblespace\LWR@dash%
10523 \let\copyright\LWR@dash%
10524 \let\dag\LWR@dash%
10525 \let\ddag\LWR@dash%
10526 \let\dotso\LWR@dash%
10527 \let\P\LWR@dash%
10528 \let\pounds\LWR@dash%
10529 \let\S\LWR@dash%
10530 %
10531 \renewcommand*\aa{a}%
10532 \renewcommand*\AA{A}%
10533 \renewcommand*\AE{AE}%
10534 \renewcommand*\ae{ae}%
10535 \renewcommand*\dh{d}%
10536 \renewcommand*\DH{D}%
10537 \renewcommand*\DJ{D}%
10538 \renewcommand*\dj{d}%
10539 \renewcommand*\IJ{IJ}%
10540 \renewcommand*\ij{ij}%
10541 \renewcommand*\L{L}%
10542 \renewcommand*\l{l}%
```

```

10543  \renewcommand*\{NG}{NG}%
10544  \renewcommand*\{ng}{ng}%
10545  \renewcommand*\{O}{O}%
10546  \renewcommand*\{o}{o}%
10547  \renewcommand*\{oe}{oe}%
10548  \renewcommand*\{OE}{OE}%
10549  \renewcommand*\{ss}{ss}%
10550  \renewcommand*\{SS}{SS}%
10551  \renewcommand*\{th}{th}%
10552  \renewcommand*\{TH}{TH}%
10553 %
10554  \let\guillemotleft\@empty%
10555  \let\guilsinglleft\@empty%
10556  \let\quotedblbase\@empty%
10557  \let\textquotedbl\@empty%
10558  \let\guillemotright\@empty%
10559  \let\guilsinglright\@empty%
10560  \let\quotesinglbase\@empty%

10561  \renewcommand*\{HTMLunicode}[1]{ }%
10562  \renewcommand*\{HTMLentity}[1]{ }%

10563  \renewcommand*\{textsuperscript}[1]{##1}%
10564  \renewcommand*\{textsubscript}[1]{##1}%

10565  \renewcommand*\{underline}[1]{##1}%

10566  \RenewDocumentCommand{\hspace}{s m}{ }%
10567  \RenewDocumentCommand{\LWR@htmlspanclass}{o m +m}{##3}%
10568  \DeclareExpandableDocumentCommand{\InlineClass}{D{()}{}} o m +m}{##4}%

```

Nullify math macros.

```

10569  \def\##1}{ }%
10570  \def\##1]{ }%
10571  \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{ }%

```

Nullify logos:

```

10572  \renewcommand*\{TeX}{TeX}%
10573  \renewcommand*\{LaTeX}{LaTeX}%
10574  \renewcommand*\{LaTeXe}{LaTeXe}%
10575  \renewcommand*\{LuaTeX}{LuaTeX}%
10576  \renewcommand*\{LuaLaTeX}{LuaLaTeX}%
10577  \renewcommand*\{XeTeX}{XeTeX}%
10578  \renewcommand*\{XeLaTeX}{XeLaTeX}%
10579  \renewcommand*\{ConTeXt}{ConTeXt}%
10580  \renewcommand*\{BibTeX}{BibTeX}%
10581  \renewcommand*\{MakeIndex}{MakeIndex}%
10582  \renewcommand*\{AmS}{AmS}%
10583  \renewcommand*\{MiKTeX}{MiKTeX}%
10584  \renewcommand*\{LyX}{LyX}%

```

Use the simpler form with `\texorpdfstring`:

```
10585     \def\texorpdfstring{\expandafter\@secondoftwo}%
10586 }
10587 \catcode`\$=3%
10588 \catcode`\_=8%
```

`\FilenameNullify {<redefinitions>}`

Adds more nullifying definitions for filename generation.

```
10589 \newcommand*\FilenameNullify[1]{%
10590     \appto{\LWR@nullfonts}{#1}%
10591 }
10592 \end{warpHTML}
```

80 Math

80.1 Limitations

See [Math](#), section 8.7.

80.2 HTML alt tag names

Redefinable names for the HTML alt tags, for translation according to the reader's native language.

for HTML & PRINT: 10593 `\begin{warpall}`

`\AltTextOpen` The opening part of HTML alt tag for an image. The default is a left parenthesis.

Default: (

```
10594 \newcommand*\AltTextOpen{()
```

`\AltTextClose` The closing part of HTML alt tag for an image. The default is a right parenthesis.

Default: (

```
10595 \newcommand*\AltTextClose{})
```

`\ImageAltText` The HTML alt tag for an image.

Default: `image`

```
10596 \newcommand*\ImageAltText{image}
```

\MathImageAltText The **HTML alt** tag for an **SVG** math image.

Default: “**math image**”

```
10597 \newcommand*{\MathImageAltText}[math image]{}
```

\LWR@ThisAltText The **HTML alt** tag for the next image. Cleared after use, and also after each **lateximage**, **\LWR@subsingle dollar**, and each use of **MATHJAX**.

```
10598 \newcommand*{\LWR@ThisAltText}{}{}
```

\ThisAltText {*text*}

Assigns the **HTML alt** tag for the next image generated by **lwarp**, such as a **lateximage**, **picture**, or **SVG** math.

```
10599 \newcommand*{\ThisAltText}[1]{%
10600     \renewcommand{\LWR@ThisAltText}{#1}%
10601 }
```

\PackageDiagramAltText Appended to the **lateximage** **HTML alt** tag for the images generated by many packages.

Default: “**diagram**”

```
10602 \newcommand*{\PackageDiagramAltText}[diagram]{}
```

```
10603 \end{warpall}
```

80.3 Inline and display math

for HTML output: 10604 \begin{warpHTML}

Ctr \LWR@externalfilecnt Counter for the external files which are generated and then referenced from the **HTML**:

```
10605 \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.

```
10606 \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**.

```
10607 \newbool{\LWR@insidemathcomment}
10608 \boolfalse{\LWR@insidemathcomment}
```

Bool \LWR@xfakebold True if **xfakebold** \setBold is in use.

```
10609 \newbool{\LWR@xfakebold}
10610 \boolfalse{\LWR@xfakebold}
```

\LWR@orig@setBold Redefined by lwarp-xfakebold.

```
10611 \newcommand*{\LWR@orig@setBold}{}{}
```

\LWR@orig@unsetBold Redefined by lwarp-xfakebold.

```
10612 \newcommand*{\LWR@orig@unsetBold}{}{}
```

\LWR@applyxfakebold Redefined by lwarp-xfakebold.

```
10613 \newcommand*{\LWR@applyxfakebold}{}{}
```

\LWR@setcurrentfont Sets the actual L^AT_EX 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*.

```
10614 \newcommand*{\LWR@setcurrentfont}{}{%
10615   \LWR@traceinfo{Using font family \LWR@f@family}%
10616   \nameuse{\LWR@print@\LWR@f@family family}%
10617   \LWR@traceinfo{Using font series \LWR@f@series}%
10618   \nameuse{\LWR@print@\LWR@f@series series}%
10619   \LWR@traceinfo{Using font shape \LWR@f@shape}%
10620   \nameuse{\LWR@print@\LWR@f@shape shape}%
10621   \LWR@traceinfo{Using font caps shape \LWR@f@shapecaps}%
10622   \nameuse{\LWR@print@\LWR@f@shapecaps shape}%
10623 }
```

\\$ 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.

```
10624 \let\LWR@origtextdollar\$
10625
10626 \renewcommand*{\$}{}{%
10627   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{}{%
10628     {\LWR@origtextdollar}%
10629     {\HTMLunicode{00024}}%
10630 }}
```

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.

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.

```
10631 \AtBeginDocument{  
10632  
10633 \ifpdf  
10634     \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}  
10635 \else  
10636     \ifXeTeX  
10637         \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}  
10638     \else  
10639         \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.eps}  
10640     \fi  
10641 \fi  
10642  
10643 \IfFileExists{\LWR@baselinename}{%  
10644 {  
10645     \@ifpackageloaded{graphicx}{  
10646         \newcommand*{\LWR@addbaselinemarker}{%  
10647             \LWR@originincludegraphics{\LWR@baselinename}}%  
10648     }  
10649 }{  
10650     \@ifpackageloaded{graphics}{  
10651         \newcommand*{\LWR@addbaselinemarker}{%  
10652             \LWR@originincludegraphics{\LWR@baselinename}}%  
10653     }  
10654 }{  
10655     \newcommand*{\LWR@addbaselinemarker}{%  
10656         \global\booltrue{\LWR@warnbaselinemarker}}%  
10657     }  
10658     \AtEndDocument{  
10659         \ifbool{\LWR@warnbaselinemarker}{  
10660             \PackageWarningNoLine{lwarp}{%  
10661                 Load graphicx or graphics for improved\MessageBreak  
10662                 SVG math sizing and baselines}%  
10663             }  
10664         }{}  
10665     }  
10666 }  
10667 }  
10668 }{ % lwarp_baseline_marker.png or .eps is not present  
10669     \newcommand*{\LWR@addbaselinemarker}{%  
10670         \global\booltrue{\LWR@warnbaselinemarker}}%  
10671 }  
10672     \AtEndDocument{  
10673         \ifbool{\LWR@warnbaselinemarker}{  
10674             \PackageWarningNoLine{lwarp}{%  
10675                 File \LWR@baselinename\space is not installed\MessageBreak  
10676                 alongside the lwarp-*.sty files, so\MessageBreak  
10677                 SVG math sizing and baselines may not be accurate}}%  
10678     }{ }  
10679 }
```

```

10679      }
10680 }
10681
10682 }% AtBeginDocument

```

Bool `LWR@warnbaselinemarker` True if the math baseline marker was ever called for, but `graphics` or `graphicx` were not loaded.

```

10683 \newbool{LWR@warnbaselinemarker}
10684 \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.

```
10685 \newbool{LWR@unknownmathsize}
```

`\LWR@singledollarmeasure` $\{\langle\text{math expression}\rangle\}$

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`.

```

10686 \newcommand*{\LWR@singledollarmeasure}[1]{%
10687   \begingroup%

```

Temporarily disable formatting while measuring the image parameters:

```

10688   \LWR@restoreorigformatting%
10689   \RenewDocumentEnvironment{lateximage}{s o s o o}{\{}{\}}% inside group
10690   \LWR@print@normalsize%

```

Temporarily set font for the `HTML PDF` output:

```
10691   \LWR@setcurrentfont%
```

`\textrimage{depth}` 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.

```
10692 \global\advance\c@LWR@textrimage{depth} 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.

```
10693 \boolfalse{LWR@unknownmathsize}%
10694 \ifmmode%
10695   \global\sbox{\LWR@singledollarbox}{#1}%
10696 \else%
10697   \ifbool{LWR@dynamicmath}%
10698     \ifbool{mathjax}%
10699       \global\sbox{\LWR@singledollarbox}%
10700         {\LWR@origensuredmath{#1}}%
10701     }%
10702   \global\sbox{\LWR@singledollarbox}{#1}%
10703 }%
10704 }%
10705 \global\sbox{\LWR@singledollarbox}{#1}%
10706 }%
10707 \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.

```
10708 \global\sbox{\LWR@singledollarbox}%
10709   \usebox{\LWR@singledollarbox}%
10710   \raisebox{-\dp\LWR@singledollarbox}{%
10711     \LWR@addbaselinemarker}%
10712   }%
10713 }
```

More low-level code to undo the counter change.

```
10714 \global\advance\c@LWR@textrimage{depth} -1\relax% Due to AmS \text macro.
```

Measure the depth:

```
10715 \setlength{\LWR@singledollardepth}{%
10716   \LateximageFontSize\dp\LWR@singledollarbox}%
10717 }
```

Make the length a global change:

```
10718 \global\LWR@singledollardepth=\LWR@singledollardepth%
```

Likewise for width:

```
10719 \setlength{\LWR@singledollarwidth}{%
10720   \LateximageFontSize\wd\LWR@singledollarbox%
10721 }%
10722 \global\LWR@singledollarwidth=\LWR@singledollarwidth%
```

Likewise for total height:

```
10723 \setlength{\LWR@singledollarheight}{%
10724   \LateximageFontSize\ht\LWR@singledollarbox%
10725 }%
10726 \addtolength{\LWR@singledollarheight}{%
10727   \LateximageFontSize\dp\LWR@singledollarbox%
10728 }%
10729 \global\LWR@singledollarheight=\LWR@singledollarheight%
```

```
10730 \endgroup%
10731 }
```

\LWR@subsingledollarsvg * {<2: alt text>} {<3: add'l hashing>} {<4: math expression>}

For inline math. Uses SVG math. The image is measured and adjusted to the baseline of the HTML output, and placed inside a `latexitimage`.

(In some circumstances SVG math is used even if MATHJAX is preferred.)

Factored from \LWR@subsingledollarsvg.

```
10732 \newcommand*{\LWR@subsingledollarsvg}[4]{%
```

Measure the depth, width, and height of the math image:

```
10733 \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:

```
10734 \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
10735   \def\LWR@singledollarstyle{%
10736     width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
10737   }%
10738 }{%
10739   \def\LWR@singledollarstyle{%
10740     height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
10741   }%
10742 }%
```

If a very narrow width, use the height.

```
10743 \ifdimless{\LWR@singledollarwidth}{.2em}{%
```

```

10745      \def\lwr@singledollarstyle{%
10746          height:\lwr@convertto{em}{\the\lwr@singledollarheight} em%
10747      }%
10748  }%
10749  {}%

```

If very wide and short, use the width:

```

10750  \ifdimless{\lwr@singledollarheight}{.2em}{%
10751  }%
10752      \def\lwr@singledollarstyle{%
10753          width:\lwr@convertto{em}{\the\lwr@singledollarwidth} em%
10754      }%
10755  }%
10756  {}%

```

If there is significant text depth, add the depth to the style.

```

10757  \ifdimgreater{\lwr@singledollardepth}{0.05ex}{%
10758      \def\lwr@singledollardepthstyle{%
10759          \ ; % extra space
10760          \lwr@print@mbox{%
10761              vertical-align:-\lwr@convertto{em}{\the\lwr@singledollardepth} em%
10762          } % extra space
10763      }%
10764  }{%
10765      \def\lwr@singledollardepthstyle{}%
10766  }%

```

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.

```

10767  \ifbool{\lwr@unknownmathsize}{%
10768      \def\lwr@singledollarstyle{}%
10769      \def\lwr@singledollardepthstyle{}%
10770  }{}%

```

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.

```

10771  \ifbool{\lwr@dynamicmath}{%
10772      \lwr@traceinfo{subsingledollar: dynamic}%
10773      \begin{latextag}{\lwr@singledollarstyle}{\lwr@singledollardepthstyle}%
10774          [\lwr@singledollarstyle \lwr@singledollardepthstyle]%
10775          []% no add'l hashing
10776          [\lwr@singledollarstyle \lwr@singledollardepthstyle]%
10777      }{%
10778          \lwr@traceinfo{subsingledollar: static}%
10779          \IfValueTF{\#1}{%
10780              \lwr@findcurrenttextcolor% sets \lwr@tempcolor

```

Support for *xfakebold*:

```

10781      \ifbool{LWR@xfakebold}%
10782          {\def\LWR@tempone{Y}}%
10783          {\def\LWR@tempone{N}}%

10784      \begin{lateximage} *% use hashing
10785          [#2] % alt
10786          *% do not add open/closing braces
10787          [% add'l hashing
10788              #3%
10789              FM\LWR@f@family%
10790              SR\LWR@f@series%
10791              SH\LWR@f@shape%
10792              SHC\LWR@f@shapecaps%
10793              CL\LWR@tempcolor%
10794              FB\LWR@tempone% xfakebold
10795          ]%
10796          [\LWR@singledollarstyle \LWR@singledollardepthstyle] % CSS
10797      }% #1 False
10798          \begin{lateximage} % no hashing
10799              [#2] % alt
10800              [] % no add'l hashing
10801              [\LWR@singledollarstyle \LWR@singledollardepthstyle] % CSS
10802      ]%
10803  }% 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.)

```
10804  \LWR@addbaselinemarker%
```

Support for *xfakebold*:

```
10805  \LWR@applyxfakebold%
```

Typeset the contents:

```
10806  \usebox{\LWR@singledollarbox}%
```

The closing baseline marker:

```

10807  \LWR@addbaselinemarker%
10808  \end{lateximage}%
10809 %
10810 }
```

\LWR@subsingledollar * {<2: alt text>} {<3: add'l hashing>} {<4: math expression>}

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.

```

10811 \newlength{\LWR@singledollarwidth}
10812 \newlength{\LWR@singledollarheight}
10813 \newlength{\LWR@singledollardepth}
10814
10815 \newsavebox{\LWR@singledollarbox}
10816
10817 \NewDocumentCommand{\LWR@subsingledollar}{s m m m}{%
10818     \LWR@traceinfo{\LWR@subsingledollar}%
10819     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
10820         \%%
10821         \LWR@traceinfo{\LWR@subsingledollar: already in a lateximage}%
10822             #4% contents%
10823     }%
10824     \% not in a lateximage%
10825     \begingroup%

```

Support for `xfakebold`:

```
10826     \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:

```

10827      \ifboolexpr{%
10828          (
10829              bool{mathjax} or
10830                  ( bool{FormatWP} and bool{WPMarkMath} )
10831          ) and
10832          ( not test {
10833              \ifstrequal {\#2}{\ensuredmath}
10834                  {\AltTextOpen\MathImageAltText\AltTextClose}
10835              }
10836          ) and
10837          ( not bool{LWR@dynamicmath} )
10838      }%

```

For MATHJAX, print the math between \(` and \`):

```

10839      {%
10840          \LWR@traceinfo{\LWR@subsingle$ Mathjax}%
10841      }%
10842          \textbackslash(%
10843              \LWR@HTMLsanitize{\#4}%
10844          \textbackslash)%
10845      }%
10846  }% mathjax

```

For SVG, print the math inside a `lateximage`, with an `<alt>` tag of the L^AT_EX code, and a css style to control the baseline adjustment.

```

10847      {%
10848          \LWR@traceinfo{%
10849              \LWR@subsingle$ NOT mathjax, or is ensuremath, or is dynamic%
10850          }%
10851          \LWR@subsingle$svg{\#1}{\#2}{\#3}{\#4}%
10852      }% not mathjax
10853      \endgroup%
10854  }% not in a lateximage

```

Clear the single-use alt text:

```

10855      \gdef\ThisAltText{}%
10856      \LWR@traceinfo{\LWR@subsingle$ done}%
10857  }

10858 \LetLtxMacro{\LWR@orig$}{%
10859 \LetLtxMacro{\LWR@second$}{\balance{editor syntax highlighting}}}

10860 \LetLtxMacro{\LWR@origopenparen}{\left(}
10861 \LetLtxMacro{\LWR@origcloseparen}{\right)}
10862 \LetLtxMacro{\LWR@origopenbracket}{[}
10863 \LetLtxMacro{\LWR@origclosebracket}{]}

```

\$ Redefine the dollar sign to place math inside a `lateximage`, or use MATHJAX:
\$\$

```

10864 \begingroup
10865 \catcode`\$=\active%
10866 \protected\gdef${\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by `chemformula` to escape single-dollar math:

```
10867 \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`:

```
10868 \protected\gdef\LWR@doubledollar$#1$${%
```

If `MATHJAX` or formatting for a word processor, print the `LATEX` expression:

```
10869 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
```

For `MATHJAX`, print the math between `\[` and `\]`:

```

10870 {
10871
10872     \textbackslash[%
10873     \LWR@HTMLsanitize{\#1}%
10874     \textbackslash]
10875
10876 }% mathjax

```

For `SVG`, print the math inside a `lateximage`, with an `<alt>` tag of the `LATEX` code:

```

10877 {%
10878     \begin{BlockClass}{displaymath}%
10879     \LWR@newautoidanchor%
10880     \booltrue{\LWR@indisplaymathimage}%
10881     \begin{lateximage}%
10882         [%%
10883             \textbackslash{}[] % extra space
10884             \LWR@HTMLsanitize{\#1} % extra space
10885             \textbackslash{}[]]%
10886     ]%
10887     *% do not add open/closing braces

```

Support for `xfakebold`:

```

10888     \LWR@applyxfakebold%
10889     \LWR@origdollar\LWR@origdollar#1\LWR@origdollar\LWR@origdollar%
10890     \end{lateximage}%
10891     \end{BlockClass}%
10892 }% not mathjax

```

Clear the single-use alt text:

```

10893 \gdef\LWR@ThisAltText{}%
10894 }%

```

```
\LWR@singledollar {⟨alt text⟩} {⟨math expression⟩}

10895 \protected\gdef\LWR@singledollar#1{%
10896 \ifbool{mathjax}{%
10897   \LWR@subsingledollar*%
10898   {%
10899     \textbackslash( %
1090     \LWR@HTMLsanitize{#1} % extra space
1091     \textbackslash)%
1092   }%
1093   {singledollar}% add'l hashing
1094   {#1}% contents
1095 }{%
1096   \LWR@subsingledollar*%
1097   {%
1098     \textbackslash( %
1099     \LWR@HTMLsanitize{#1} % extra space
10910    \textbackslash)%
10911  }%
10912  {singledollar}% add'l hashing
10913  {\LWR@origensuredmath{#1}}% contents
10914 }{%
10914 } not mathjax
```

Clear the single-use alt text:

```
10915 \gdef\LWR@ThisAltText{}%
10916 }
```

\(Redefine to the above dollar macros.

```
\[
10917 \AtBeginDocument{
10918   \protected\gdef\(#1\){$#1$}
10919   \protected\gdef\[#1\]{$$#1$$}
10920 }
10921
10922 \endgroup

10923 \AtBeginDocument{
10924 \LetLtxMacro{\LWR@openbracketnormal}{[}
10925 \LetLtxMacro{\LWR@closebracketnormal}{]}
10926 }
```

\@ensuredmath {⟨expression⟩}

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.

```
10927 \LetLtxMacro{\LWR@origensuredmath}{\@ensuredmath}
10928
10929 \renewcommand{\@ensuredmath}[1]{%
10930   \ifbool{mathjax}{%
10931     \LWR@subsingledollar*{\AltTextOpen\MathImageAltText\AltTextClose}}%
```

```

10932      {%
10933          \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
10934      }%
10935      {%
10936          \relax%
10937          \LWR@origensuredmath{\#1}%
10938      }%
10939  }% SVG math

```

If already inside a `lateximage` in math mode, continue as-is.

```

10940      \ifmmode%
10941          \LWR@origensuredmath{\#1}%
10942      \else%

```

Create an inline math `lateximage` with a simple `alt` tag and additional hashing according to the contents.

```

10943      \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
10944          {\LWR@origensuredmath{\#1}}%
10945      {%
10946          \LWR@subsingle-dollar*%
10947          {\AltTextOpen\MathImageAltText\AltTextClose}%
10948          {\protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}}%
10949          {\LWR@origensuredmath{\#1}}%
10950      }%
10951      \fi%
10952  }%

```

Clear the single-use `alt` text:

```

10953      \gdef\LWR@ThisAltText{}%
10954 }

```

Remember then remove the old `math` and `displaymath` environments:

```

10955 \let\LWR@orig@math\math
10956 \let\LWR@orig@endmath\endmath
10957 \let\LWR@orig@displaymath\displaymath
10958 \let\LWR@orig@enddisplaymath\enddisplaymath
10959
10960 \let\math\relax
10961 \let\endmath\relax
10962 \let\displaymath\relax
10963 \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`.

```

10964 \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`.

```
10965 \NewEnviron{LWR@displaymathnormal}{\expandafter[\BODY]\@ignoretrue}
```

Set the default displaymath to the normal version:

```
10966 \LetLtxMacro[\LWR@openbracketnormal%
10967 \LetLtxMacro]\LWR@closebracketnormal%
10968 \LetLtxMacro\displaymath\LWR@displaymathnormal%
10969 \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.

```
10970 \newenvironment{LWR@displaymathother}%
10971 {%
10972     \begin{BlockClass}{displaymath}%
10973     \LWR@newautoidanchor%
10974     \booltrue{\LWR@indisplaymathimage}%
10975     \begin{lateximage}%
10976     [\MathImageAltText]%
10977     \LWR@origdollar\LWR@origdollar%
10978 }%
10979 {%
10980     \LWR@origdollar\LWR@origdollar%
10981     \end{lateximage}%
10982     \end{BlockClass}%
10983 }
```

Env `LWR@equationother` A version of `displaymath` which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```
10984 \newenvironment{LWR@equationother}%
10985 {%
10986     \begin{BlockClass}{displaymathnumbered}%
10987     \LWR@newautoidanchor%
10988     \booltrue{\LWR@indisplaymathimage}%
10989     \begin{lateximage}[\MathImageAltText]%
10990     \LWR@origequation%
10991 }%
10992 {%
10993     \LWR@origendequation%
10994     \end{lateximage}%
10995     \end{BlockClass}%
10996 }
```

80.4 MATHJAX support

Ctr `LWR@nextequation` Used to add one to compute the next equation number.

```
10997 \newcounter{LWR@nextequation}
```

Determining how to set MATHJAX section and equation numbers. Adjusts for various kinds of \theequation to determine \theMathJaxsection and \theMathJaxequation.

```

10998 \newcommand{\LWR@article@theequation}{\@arabic\c@equation}
10999
11000 \newcommand{\LWR@book@theequation}
11001   {\ifnum \c@chapter>\z@ \thechapter.\fi \@arabic\c@equation}
11002
11003
11004 \newcommand{\LWR@chapter@theequation}{\thechapter.\arabic{equation}}
11005 \newcommand{\LWR@section@theequation}{\thesection.\arabic{equation}}
11006 \newcommand{\LWR@subsection@theequation}{\thesubsection.\arabic{equation}}
11007
11008 \AtBeginDocument{
11009   % default per article class:
11010   \newcommand*{\theMathJaxsubequations}{0}
11011   \newcommand*{\theMathJaxsection}{}
11012   \newcommand*{\theMathJaxequation}{\arabic{equation}}
11013
11014   \ifdef\streq{\theequation}{\LWR@article@theequation}
11015   {}{
11016   \ifdef\streq{\theequation}{\LWR@book@theequation} {
11017     \renewcommand*{\theMathJaxsection}{\ifnum \c@chapter>\z@ \thechapter.\fi}
11018   }{
11019     \ifdef\streq{\theequation}{\LWR@subsection@theequation} {
11020       \renewcommand*{\theMathJaxsection}{\thesubsection{}}
11021     }{
11022       \ifdef\streq{\theequation}{\LWR@section@theequation} {
11023         \renewcommand*{\theMathJaxsection}{\thesection{}}
11024       }{
11025         \ifdef\streq{\theequation}{\LWR@chapter@theequation} {
11026           \renewcommand*{\theMathJaxsection}{\thechapter{}}
11027         }% unknown format
11028         \PackageWarningNoLine{lwarp}
11029         {%
11030           Unknown equation tag format for \protect\theequation.\MessageBreak
11031           Article-style equation numbering will be used%
11032         }
11033       }{}}}
11034 }
```

\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 LATEX.

```
11035 \newcommand*{\LWR@syncmathjax}{%
```

Tell MATHJAX that the next equation number is the current LATEX equation number.

Before each equation, lwarp inserts into the HTML code:

```
\seteqnumber{subequations?}{section}{number}
```

subequations? is 0 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 L^AT_EX.

```

11036      \LWR@stoppars%
11037      \InlineClass{hidden}%
11038          \textbackslash% 
11039          \textbackslash{}seteqnumber%
11040          \{\theMathJaxsubequations\}%
11041          \{\theMathJaxsection\}%
11042          \{\theMathJaxequation\}%
11043          \textbackslash%
11044      }
11045      \LWR@startpars%
11046 }
```

`\LWR@hidelatexequation {<environment>} {<contents>}`

Creates the L^AT_EX version of the equation inside an HTML comment.

```
11047 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```

11048      \LWR@stoppars
11049      \LWR@htmlopencomment
11050
```

Start the L^AT_EX math environment inside the HTML comment:

```

11051      \begingroup
11052      \nameuse{\LWR@orig#1}
```

While in the math environment, restore various commands to their L^AT_EX meanings.

```

11053      \LWR@restoreorigformatting
11054      \booltrue{\LWR@insidemathcomment}
```

See `\LWR@htmlmathlabel` in section 80.7.1.

Print the contents of the equation:

```
11055      #2
```

End the L^AT_EX math environment inside the HTML comment:

```

11056      \nameuse{\LWR@origend#1}
11057      \endgroup
11058
```

Close the HTML comment and resume HTML paragraph handling:

```
11059      \LWR@htmlclosecomment
11060      \boolfalse{\LWR@insidemathcomment}
11061      \LWR@startpars
11062 }
```

```
\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 L^AT_EX.

```
11063 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
```

Enclose the MATHJAX environment inside printed “\⟨” and “\⟩” characters.

```
11064      \LWR@origtilde\LWR@orignewline
11065      \textbackslash{}begin\{\#1\}
```

Print the contents, sanitizing for HTML special characters.

```
11066      \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\#2}}
```

Close the MATHJAX environment:

```
11067      \textbackslash{}end\{\#1\}
11068      \LWR@orignewline
11069 }
```

80.5 Equation environment

Remember existing equation environment, after redefined by amsmath, if loaded.

```
11070 \AtBeginDocument{
11071     \let\LWR@origequation\equation
11072     \let\LWR@origendequation\endequation
11073     \csletcs{\LWR@origequation*}{equation*}
11074     \csletcs{\LWR@origendequation*}{endequation*}
11075 }
```

```
\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 L^AT_EX 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.

```
11076 \newcommand*{\LWR@doequation}[2]{%
11077 }
```

If `mathjax` or `FormatWP`, print the L^AT_EX expression:

```
11078 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
```

MATHJAX output:

```
11079 {
```

Print commands to syncronize MATHJAX's equation number and format to the current L^AT_EX chapter/section and equation number:

```
11080 \LWR@syncmathjax%
```

Print the L^AT_EX math inside an HTML comment:

```
11081 \LWR@hidelatexequation{\#2}{\#1}
11082 }
```

SVG output: Create the `lateximage` along with an HTML `<alt>` tag having an equation number, the L^AT_EX equation environment commands, and the contents of the environment's `\BODY`.

```
11083 {%
  not mathjax
```

Begin the `lateximage` with an `<alt>` tag containing the math source:

```
11084 \ifstrequal{\#2}{equation*}{%
11085   \begin{BlockClass}{displaymath}%
11086 }{%
11087   \begin{BlockClass}{displaymathnumbered}%
11088 }%
11089 \LWR@newautoidanchor%
11090 \booltrue{\LWR@indisplaymathimage}%
11091 \begin{lateximage}[%%
11092   \ifstrequal{\#2}{equation*}{%
11093     \ifdefequal{\LWR@equationtag}{\theequation}{%
11094       % no tag was given
11095     }{%
11096       (\LWR@equationtag) % tag was given
11097     }%
11098   }{%
11099     (\LWR@equationtag) % automatic numbering
11100   }%
11101   \textbackslash\begin{\#2\}} % extra space
11102   \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\#1}} % extra space
11103   \textbackslash\end{\#2\}}%
11104 ]*% alt tag
```

Support for `xfakebold`:

```
11105 \LWR@applyxfakebold%
```

Create the actual L^AT_EX-formatted equation inside the `lateximage` using the contents of the environment.

```

11106      \nameuse{LWR@orig#2}%
11107      #1% contents collected by \collect@body
11108      \nameuse{LWR@origend#2}%
11109      \end{lateximage}%
11110      \end{BlockClass}%
11111 }% not mathjax

```

Clear the single-use alt text:

```

11112 \gdef\LWR@ThisAltText{}%
11113 }

```

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.

```

11114 \newcommand*\LWR@doendequation}[1]{%
11115   \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
11116     {%
11117       \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
11118         \InlineClass{hidden}{\LWR@syncnotenumbers}%
11119         \LWR@addmathjax{\#1}{\BODY}%
11120         \InlineClass{hidden}{\LWR@syncnotenames}%
11121       }{%
11122         \LWR@addmathjax{\#1}{\BODY}%
11123       }%
11124     }{%
11125   }

```

Clear the single-use alt text:

```

11126 \gdef\LWR@ThisAltText{}%
11127 }

```

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 L^AT_EX 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@synconenotenumber {<MATHJAX variable>} {<mark>}`

```

11128 \newcommand*\LWR@synconenotenumber}[2]{%
11129   \textbackslash(%
11130   \textbackslash)\def\textbackslash{\#1\{\#2\}%
11131   \textbackslash)%
11132 }

```

`\LWR@syncnotenumbers` Assignments to make.

```

11133 \newcommand*{\LWR@syncnotenumbers}{\LWR@synconenotenumber{\LWRfootnote}{\thefootnote}}
\LWR@synconenotename {⟨MATHJAX variable⟩} {⟨text⟩}

11134 \newcommand*{\LWR@synconenotename}[2]{%
11135   \textbackslash%
11136   \textbackslash{}def\textbackslash{}#1\{#2\}%
11137   \textbackslash{}%
11138 }

```

\LWR@syncnotenames Assignments to make.

```
11139 \newcommand*{\LWR@syncnotenames}{\LWR@synconenotename{\LWRfootnote}{\footnotename}}
```

Remove existing equation environment:

```

11140 \AtBeginDocument{%
11141   \let\equation\relax
11142   \let\endequation\relax
11143   \csletcs{equation*}{\relax}
11144   \csletcs{\endequation*}{\relax}
11145 }

```

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.

```

11146 \AtBeginDocument{%
11147   \NewEnviron{equation}%
11148   {\LWR@doequation{\BODY}{equation}}%
11149   [\LWR@doendequation{equation}]%
11150
11151   \LetLtxMacro{\LWR@equationnormal}{equation}
11152   \LetLtxMacro{\endLWR@equationnormal}{endequation}
11153 }% AtBeginDocument

```

Env **equation***

```

11154 \AtBeginDocument{%
11155   \NewEnviron{equation*}%
11156   {\LWR@doequation{\BODY}{equation*}}%
11157   [\LWR@doendequation{equation*}]%
11158
11159   \csletcs{\LWR@equationnormalstar}{equation*}
11160   \csletcs{\LWR@endequationnormalstar}{endequation*}
11161 }% AtBeginDocument

```

Remember the “less” version of equation, which uses MATHJAX and alt tags, but does not support complicated contents such as some Tikz expressions.

```

11162 \AtBeginDocument{%
11163   \LetLtxMacro{\LWR@equationless}{equation}

```

```

11164   \LetLtxMacro\endLWR@equationless\endequation
11165   \csletcs{\LWR@equationlessstar}{equation*}
11166   \csletcs{\LWR@endequationlessstar}{endequation*}
11167 }

```

80.6 \displaymathnormal and \displaymathother

\displaymathnormal By default, or when selecting \displaymathnormal, MATHJAX math display environments print their contents as text into HTML, 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.

\displaymathnormal
simple math objects Use when display math environments have simple math which is to sent to MATHJAX or included in HTML alt tags.

```

11168 \newcommand*{\displaymathnormal}{%
11169   \ifbool{\LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
11170   \LetLtxMacro{[\LWR@openbracketnormal}%
11171   \LetLtxMacro{]\LWR@closebracketnormal}%
11172   \LetLtxMacro{\displaymath}{\LWR@displaymathnormal}%
11173   \LetLtxMacro{\enddisplaymath}{\endLWR@displaymathnormal}%
11174   \LetLtxMacro{\equation}{\LWR@equationnormal}%
11175   \LetLtxMacro{\endequation}{\endLWR@equationnormal}%
11176   \csletcs{equation*}{\LWR@equationnormalstar}%
11177   \csletcs{\endequation*}{\LWR@endequationnormalstar}%
11178 }

```

\displaymathother
complicated math objects Use when display math environments have complicated objects which will not work with MathJax or should not be included in HTML alt tags. Complicated contents are more likely to compile correctly.

```

11179 \newcommand*{\displaymathother}{%
11180   \boolfalse{mathjax}%
11181   \LetLtxMacro{\displaymath}{\LWR@displaymathother}%
11182   \LetLtxMacro{\enddisplaymath}{\endLWR@displaymathother}%
11183   \LetLtxMacro{[\LWR@displaymathother}%
11184   \LetLtxMacro{]\endLWR@displaymathother}%
11185   \LetLtxMacro{\equation}{\LWR@equationother}%
11186   \LetLtxMacro{\endequation}{\endLWR@equationother}%
11187   \csletcs{equation*}{\displaymath}%
11188   \csletcs{\endequation*}{\enddisplaymath}%
11189 }

```

```
11190 \end{warpHTML}
```

for PRINT output: 11191 \begin{warpprint}

Print-mode versions:

```
11192 \newcommand*{\displaymathnormal}{}  
11193 \newcommand*{\displaymathother}{}
```

```
11194 \end{warpprint}
```

for HTML output: 11195 \begin{warpHTML}

80.7 AMS Math environments

80.7.1 Support macros

Bool LWR@amsmultiline True if processing a multiline environment.

To compensate for multiline-specific code, LWR@amsmultiline 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.

```
11196 \newbool{LWR@amsmultiline}  
11197 \boolfalse{LWR@amsmultiline}
```

\LWR@beginhideamsmath Starts hiding L^AT_EX math inside an HTML comment.

```
11198 \newcommand*{\LWR@beginhideamsmath} {  
11199     \LWR@stoppars  
11200     \LWR@origtilde\LWR@orignewline  
11201     \LWR@htmlopencomment  
11202  
11203     \begingroup  
11204     \LWR@restoreorigformatting  
11205     \booltrue{LWR@insidemathcomment}  
11206 }
```

\LWR@endhideamsmath Ends hiding L^AT_EX math inside an HTML comment.

```
11207 \newcommand*{\LWR@endhideamsmath} {  
11208     \endgroup  
11209  
11210     \LWR@htmclosecomment  
11211     \boolfalse{LWR@insidemathcomment}  
11212     \LWR@orignewline  
11213     \LWR@startpars  
11214 }
```

80.7.2 Environment patches

The `amsmath` environments already collect their contents in `\@envbody` for further processing. `eqnarray` is not an \mathcal{AM} S 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{AM} S environment.

For `MATHJAX`: Each environment is synched with `LATEX`'s equation numbers, typeset with `LATEX` inside an `HTML` comment, then printed to `HTML` output for `MATHJAX` to process.

`Env eqnarray` This environment is not an \mathcal{AM} S environment and thus its body is not automatically captured, so the `environ` package is used to capture the environment into `\BODY`.

```
11215 \let\LWR@origeqnarray\eqnarray
11216 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
11217 \newbool{\LWR@numbereqnarray}
11218 \booltrue{\LWR@numbereqnarray}
```

Common code used by `eqnarray` and `Beqnarray` (from `fancybox`):

```
11219 \newcommand{\LWR@eqnarrayfactor}{%
```

If `mathjax` or `FormatWP`, print the `LATEX` expression:

```
11220 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
11221 {%
```

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:

```
11222 \LWR@syncmathjax%
11223 \boolfalse{\LWR@amsmultiline}%
11224 \ifbool{\LWR@numbereqnarray}%
11225 {%
```

If numbering the equations, execute a copy inside an `HTML` comment block:

```
11226 \LWR@beginhideamsmath%
11227 \LWR@origeqnarray%
11228 \BODY%
11229 \LWR@origendeqnarray%
11230 \LWR@endhideamsmath%
```

Then print the (sanitized) contents to the output for MATHJAX to interpret:

```
11231      \LWR@addmathjax{eqnarray}{\BODY}%
11232      }%
11233      {%
11234      \LWR@addmathjax{eqnarray*}{\BODY}%
11235      }%
11236      \LWR@numbereqnarray}%
11237      \LWR@mathjax}%
11238      \LWR@notmathjax}%
11239      \LWR@ifbool{\LWR@numbereqnarray}%
11240      \LWR@notmathjax}%
11241      \LWR@newautoidanchor}%
11242      \LWR@booltrue{\LWR@indisplaymathimage}%
11243      \begin{lateximage}[(\LWR@startingequationtag--\LWR@equationtag)]%
11244      \LWR@addmathjax{eqnarray}{\BODY}]*%
```

If not numbering equations, just create the contents for MATHJAX:

```
11234      \LWR@addmathjax{eqnarray*}{\BODY}%
11235      }%
11236      \LWR@mathjax}%
11237      \LWR@notmathjax}%
11238      \LWR@ifbool{\LWR@numbereqnarray}%
11239      \LWR@notmathjax}%
11240      \LWR@newautoidanchor}%
11241      \LWR@booltrue{\LWR@indisplaymathimage}%
11242      \begin{lateximage}[(\LWR@startingequationtag--\LWR@equationtag)]%
11243      \LWR@addmathjax{eqnarray}{\BODY}]*%
```

For numbered SVG equations, first create a `lateximage` with an `alt` attribute containing sanitized copy of the source code:

```
11240      \begin{BlockClass}{displaymathnumbered}%
11241      \LWR@newautoidanchor}%
11242      \LWR@booltrue{\LWR@indisplaymathimage}%
11243      \begin{lateximage}[(\LWR@startingequationtag--\LWR@equationtag)]%
11244      \LWR@addmathjax{eqnarray}{\BODY}]*%
```

Support for `xfakebold`:

```
11245      \LWR@applyxfakebold%
```

Create the image contents using an actual `eqnarray`:

```
11246      \LWR@origeqnarray}%
11247      \LWR@BODY}%
11248      \LWR@origendeqnarray}%
11249      \end{lateximage}%
11250      \end{BlockClass}%
11251      }%
11252      {%
11253      \LWR@notmathjax}%
11254      \LWR@newautoidanchor}%
11255      \LWR@booltrue{\LWR@indisplaymathimage}%
11256      \begin{lateximage}[\LWR@addmathjax{eqnarray*}{\BODY}]*%
```

If not numbered, do the same, but an extra `\nonumber` seems to be required:

```
11253      \begin{BlockClass}{displaymath}%
11254      \LWR@newautoidanchor}%
11255      \LWR@booltrue{\LWR@indisplaymathimage}%
11256      \begin{lateximage}[\LWR@addmathjax{eqnarray*}{\BODY}]*%
```

Support for `xfakebold`:

```
11257      \LWR@applyxfakebold%
11258      \def\@eqncr{\nonumber\@seqncr}%
11259      \csuse{\LWR@origeqnarray}%
11260      \LWR@BODY}%
11261      \nonumber\csuse{\LWR@origendeqnarray}%
11262      \end{lateximage}%
```

```

11263           \end{BlockClass}%
11264           }% LWR@numbereqnarray
11265       }% not mathjax

```

Default to number equations in the future:

```
11266     \booltrue{LWR@numbereqnarray}%
```

Clear the single-use alt text:

```

11267     \gdef\LWR@ThisAltText{}%
11268 }

```

eqnarray itself is made with a blank line before and after to force it to be on its own line:

```

11269 \RenewEnviron{eqnarray}{%
11270   \LWR@eqnarrayfactor
11271   \LWR@eqnarrayfactor
11272   \LWR@eqnarrayfactor
11273 }
11274 }

```

The starred version is patched to turn off the numbering:

```

11275 \csgpreto{eqnarray*}{\boolfalse{LWR@numbereqnarray}}
11276 \end{warpHTML}

```

81 Lateximages

81.1 Description

Env `lateximage` A `lateximage` is a piece of the document which is typeset in L^AT_EX 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 78.)

A `lateximage` is typeset on its own PDF page inside an HTML comment which starts on the preceding 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 `` is created to hold both the HTML comment, which will have the `pdftotext` conversion, and also the link to the final .svg image.

A L^AT_EX 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 L^AT_EX 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 `\teximage` 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 `\teximage` 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 \LateximageFontSize, which defaults to:

```
\newcommand*{\LateximageFontSize}{.75}
```

81.2 Support counters and macros

for HTML output: 11277 `\begin{warpHTML}`

Ctr LWR@lateximagenumber Sequence the images.

```
11278 \newcounter{LWR@lateximagenumber}
11279 \setcounter{LWR@lateximagenumber}{0}
```

Ctr LWR@lateximagedepth Do not create `\teximage` inside of `\teximage`.

```
11280 \newcounter{LWR@lateximagedepth}
11281 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
11282 \edef\LWR@hashmark{\string#} % for use in \write
11283 \edef\LWR@percent{\@percentchar} % for use in \write
```

Ctr LWR@LIPage Used to reference the PDF page number of a lateximage to be written into <project>-images.txt.

```
11284 \newcounter{LWR@LIPage}

11285 \end{warpHTML}
```

81.3 Font size

for HTML & PRINT: 11286 \begin{warpall}

\LateximageFontSizeName Declares how large to write text in \latexitimages. 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.*

```
11287 \newcommand*{\LateximageFontSizeName}{normalsize}
```

\LateximageFontSize Scale 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.

```
11288 \newcommand*{\LateximageFontSize}{1}

11289 \end{warpall}
```

81.4 Equation numbers

for HTML output: 11290 \begin{warpHTML}

Ctr 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.

```
11291 \newcounter{LWR@startingequation}
11292
11293 \@ifundefined{chapter}
11294 {
11295 \renewcommand{\theLWR@startingequation}{%
11296 \arabic{LWR@startingequation}%
11297 }
11298 }
```

```

11299 {% chapter defined
11300 \renewcommand{\theLWR@startingequation}{%
11301     \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}. }{}%
11302     \arabic{LWR@startingequation}%
11303 }
11304 }
```

`Bool LWR@isstartingequation` True for the first equation tag, false for later tags in the same environment.

```
11305 \newbool{LWR@isstartingequation}
```

`\LWR@startingequationtag` Prints the starting equation number or tag.

```
11306 \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@remembertag`.

```
11307 \newcommand*\LWR@equationtag{}
```

Only if SVG math, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```

11308 \AtBeginDocument{
11309
11310 \ifbool{mathjax}{}{%
    \global\boolfalse{LWR@isstartingequation}
    \xdef\LWR@startingequationtag{\#1}
}
```

`\LWR@remembertag {<tag>}`

For use inside the math environments while using SVG math. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```

11311 \NewDocumentCommand{\LWR@remembertag}{m}{%
11312     \ifbool{LWR@isstartingequation}{%
11313         \global\boolfalse{LWR@isstartingequation}
11314         \xdef\LWR@startingequationtag{\#1}
11315     }{%
11316     }%
11317     \xdef\LWR@equationtag{\#1}
11318 }%
11319 }%
11320 }% AtBeginDocument
```

81.5 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.

```

11321 \newcommand*{\LWR@amsmathbody}[1]
11322 {%
11323     \textbackslash\begin{#1} % extra space
11324     \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\the\@envbody}}%
11325     \textbackslash\end{#1}%
11326 }

```

\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.

```

11327 \newcommand*{\LWR@amsmathbodynumbered}[1]
11328 {%
11329     \ifnumcomp{\value{\LWR@startingequation}}{=}{\value{equation}}{%
11330         {(\LWR@equationtag)}%
11331         {(\LWR@startingequationtag--\LWR@equationtag)} % extra space
11332     \LWR@amsmathbody{#1} % extra space
11333 }

```

81.6 `lateximage` environment

\LWR@lateximage@oneimageb {*1: alt text*} {*2: filename*} {*3: CSS style*} Creates the image for the `lateximage`.

```

11334 \newcommand{\LWR@lateximage@oneimageb}[3]{%
11335     \LWR@subinlineimage{#1}{lateximage}%
11336     {%
11337         \LWR@print@mbox{%
11338             \LWR@ImagesDirectory\OSPathSymbol%
11339             #2%
11340         }%
11341     }{svg}{#3}%
11342 }

```

\LWR@lateximage@oneimage {*1: alt text*} {*2: filename*} {*3: css style*} {*4: delimit?*}

Creates an image for the `lateximage`, whose alt text depends on the circumstances.

```

11343 \newcommand{\LWR@lateximage@oneimage}[4]{%
11344     \ifdefvoid{\LWR@ThisAltText}{%
11345         \IfBooleanTF{#4}{%
11346             \LWR@lateximage@oneimageb{#1}{#2}{#3}%
11347         }{%
11348             \LWR@lateximage@oneimageb{%
11349                 {\AltTextOpen#1\AltTextClose}%
11350                 {#2}{#3}%
11351             }%
11352         }{%
11353             \LWR@lateximage@oneimageb{%
11354                 {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
11355                 {#2}{#3}%
11356             }%
11357 }

```

```
Env  lateximage * [<2:<alt> tag] * [<4: add'l hashing>] [<5: css style>]
```

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{LWR@lateximage-<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>.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.

```
11358 \catcode`\$=\active%
11359
11360 \NewDocumentEnvironment{lateximage}{s 0{\ImageAltText} s 0{} 0{}}
11361 {%
11362 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
11363 \LWR@traceinfo{lateximage: entering depth is \arabic{LWR@lateximagedepth}}%
```

Nested lateximages remain one large lateximage:

```
11364 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
```

If nesting inside an already-existing lateximage, simply record one more level. AMS packages redefine \addtocounter to do nothing if inside a \text, so lower-level TEX macros are used for tracking nested lateximages.

```
11365 {%
11366 %     \addtocounter{LWR@lateximagedepth}{1}%
11367     \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
11368 }%
```

Otherwise, this is the outer-most lateximage:

```
11369 { % start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```
11370     \LWR@traceinfo{lateximage: starting outer-most lateximage}%
11371     \setcounter{LWR@startingequation}{\value{equation}}%
11372     \addtocounter{LWR@startingequation}{1}%
11373     \booltrue{LWR@isstartingequation}%
11374     \let\LWR@startingequationtag\theLWR@startingequation%
```

The default equation tag, unless overwritten by \tag:

```
11375     \let\LWR@equationtag\theequation%
```

Starting a new lateximage:

```
11376     \addtocounter{LWR@lateximagenumber}{1}%
11377     \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%
```

While inside a lateximage, locally do not use mathjax:

```
11378     \boolfalse{mathjax}%

```

Be sure that are doing a paragraph:

```
11379     \LWR@ensuredoingapar%
```

Next file:

```
11380     \addtocounter{LWR@externalfilecnt}{1}%
11381     \LWR@traceinfo{lateximage: LWR@externalfilecnt is \arabic{LWR@externalfilecnt}}%
```

Figure out what the next page number will be. \setcounterpageref assigns LWR@LIpage to the page number for the reference LWR@lateximage-BaseJobname-XXX:

```
11382     \setcounterpageref{LWR@LIpage}{%
11383         LWR@lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
11384     }%
11385     \LWR@traceinfo{lateximage: LWR@LIpage is \arabic{LWR@LIpage}}%
```

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:

```
11386     \LWR@htmlltag{span\LWR@indentHTML%
11387         id="lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}"\LWR@indentHTML%
11388         class="lateximagesource"\LWR@orignewline%
11389     }%
```

Write instructions to the <ImagesDirectory>.txt file:

```

11390      \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
11391      \IfBooleanTF{#1}{% starred
11392      {%

```

Compute and save the hashed file name for later use:

```

11393          \ifdefvoid{\LWR@ThisAltText}{%
11394              \IfBooleanTF{#3}{%
11395                  \edef\LWR@hashedname{%
11396                      \LWR@mdfive{\detokenize\expandafter{#2}-!-#4}%
11397                  }%
11398              }{%
11399                  \edef\LWR@hashedname{%
11400                      \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-#4}%
11401                  }%
11402              }%
11403          }{%
11404              \edef\LWR@hashedname{%
11405                  \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-#4}%
11406              }%
11407          }%
11408      \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%

```

Write the page, hashing, and hashed name:

```

11409          \immediate\write\LWR@lateximagesfile{%
11410              |\arabic{\LWR@LIpage}|true|\LWR@hashedname|%
11411          }%
11412      }% hash
11413      {%

```

No hash, so write the page, no hashing, and the image number:

```

11414          \LWR@traceinfo{lateximage: hash false}%
11415          \immediate\write\LWR@lateximagesfile{%
11416              |\arabic{\LWR@LIpage}|false|\LWR@ImagesName\arabic{\LWR@externalfilecnt}|%
11417          }%
11418      }% no hash

```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```

11419      \LWR@traceinfo{lateximage: about to create open comment}%
11420      \LWR@htmlopencomment%

```

One level deeper. At this outer-most lateximage, it is known that this is not being used inside an *$\mathcal{M}\mathcal{S}$* \text, since the outer-most level will never be in math mode.

```

11421      \addtocounter{\LWR@lateximagedepth}{1}%

```

Start the new PDF page:

```

11422      \LWR@traceinfo{lateximage: about to create a new page}%
11423      \LWR@orignewpage%

```

If the current page is larger, typeset the image in a “standard” width page and font size:

```
11424      \LWR@traceinfo{lateximage: about to create minipage}%
11425      \ifdimless{\linewidth}{6in}{%
11426          \LWR@print@minipage{\linewidth}%
11427      }{%
11428          \LWR@print@minipage{6in}%
11429      }%
11430      \nameuse{\LWR@print@\LateximageFontSizeName}%
```

Temporarily restore formatting to its **PDF** definitions: Do not produce **HTML** tags for **\hspace**, etc. inside a **lateximage**.

```
11431      \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
11432      \LWR@restoreorigformatting%
```

Use full-page footnotes instead of minipage footnotes. These become **HTML** footnotes.

```
11433      \def\@mpfn{footnote}%
11434      \def\thempfn{\thefootnote}%
11435      \LetLtxMacro\@footnotetext{\LWR@footnotetext}%
```

Create the **LWR₁ lateximage<number>** label:

```
11436      \LWR@traceinfo{lateximage: about to create label}%
11437      \LWR@orig@label{\LWRlatximage-\BaseJobname-\arabic{\LWR@latximagenumber}}%
11438      \LWR@traceinfo{lateximage: finished creating the label}%
```

Adjust the rule color to match **HTML**:

```
11439      \ifdefvoid{\LWR@ruleHTMLcolor}{}{%
11440          \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
11441      }%
```

Enable print-mode math functions:

```
11442      \LetLtxMacro$\LWR@origdollar%
11443      \catcode`\$=3% math shift
11444      \LetLtxMacro\(\LWR@origopenparen%
11445      \LetLtxMacro\)\LWR@origcloseparen%
```

Only enable print-mode display math if are not already inside display math:

```
11446      \ifbool{\LWR@indisplaymathimage}{}{%
11447          \LetLtxMacro\[{\LWR@origopenbracket}%
11448          \LetLtxMacro\]{\LWR@origclosebracket}%
11449          \let\equation{\LWR@origequation}%
11450          \let\endequation{\LWR@origendequation}%
11451          \csletcs{equation*}{\LWR@origequation*}%
11452          \csletcs{endequation*}{\LWR@origendequation*}%
11453      }{%
11453      }% not in display math
```

For chemformula:

```
11454     \LetLtxMacro{\LWR@newsingledollar$}{%
11455     \LetLtxMacro{\LWR@newsingledollar$}{\syntax highlighting}%
11456 }% end of outer-most lateximage%
11457 \LWR@traceinfo{lateximage: finished start of environment}%
11458 }% end of \begin{lateximage}
```

\endlateximage When the environment closes:

```
11459 {%
11460 \LWR@traceinfo{lateximage: starting end of lateximage}%
11461 }%
```

Nested more than one deep?

```
11461 \LWR@traceinfo{lateximage: internal depth was \arabic{LWR@lateximagedepth}}%
11462 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
11463 }%
```

If nesting inside an already existing lateximage, simply record one less level. Uses a lower-level TeX macro due to *AMS* \text change of \addtocounter.

```
11463 {%
11464     \LWR@traceinfo{lateximage: unnesting}%
11465     \global\advance\c@LWR@lateximagedepth -1\relax%
11466 }%
```

If this is the outer-most lateximage:

```
11467 {%
11468 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
11469 \endLWR@print@minipage%
11470 \LWR@orignewpage%
```

Finish the lateximage minipage and start a new PDF page:

```
11468 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
11469 \endLWR@print@minipage%
11470 \LWR@orignewpage%
```

Close the HTML comment which encapsulated any traces of the lateximage picked up by *pdftotext*:

```
11471 \LWR@print@vspace*{.5\baselineskip}%
11472 \LWR@htmlclosecomment%
11473 \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%
```

Create a link to the lateximage, allowing its natural height:

```
11474 \IfBooleanTF{#1}{%
11475     starred
11476     {%
11477         \LWR@lateximage@oneimage{#2}{\LWR@hashedname}{#5}{#3}%
11478     }%
11479     {%
11480         \LWR@lateximage@oneimage{#2}{\LWR@ImagesName\theLWR@externalfilecnt}{#5}{#3}%
11481     }%
11482 }%
```

Be sure that are doing a paragraph:

```
11481 \LWR@ensuredoingapar%
```

Close the HTML span which has the *pdftotext* comment and also the link to the .svg image:

```
11482 \LWR@htmlltag{/span}%
11483 \ifbool{HTMLDebugComments}{%
11484   \LWR@htmlcomment{End of lateximage}%
11485 }{}%
```

Undo one lateximage level. This is not inside an *AMS* \text, so regular \addtocounter may be used here.

```
11486 \addtocounter{LWR@lateximagedepth}{-1}%
```

Clear the single-use alt text:

```
11487 \gdef\LWR@ThisAltText{}%
11488 }% end of outer-most lateximage
11489 \LWR@traceinfo{lateximage: exiting depth is \arabic{LWR@lateximagedepth}}%
11490 \LWR@traceinfo{lateximage: done}%
11491 }%
11492 \catcode`\$=3% math shift
11493 \end{warpHTML}
```

for PRINT output: 11494 \begin{warpprint}

Env lateximage * [<alt> tag] * [<add'l hashing>] [<css style>]

varwidth is used to create a box of the natural width of its contents.

```
11495 \NewDocumentEnvironment{lateximage}{s o s o o}
11496   {\begin{varwidth}[b]{\linewidth}}
11497   {\end{varwidth}}
11498 \end{warpprint}
```

82 center, flushleft, flushright

for HTML output: 11499 \begin{warpHTML}

Env center Replace center functionality with css tags:

```
11500 \newenvironment*{\LWR@HTML@center}{}
11501 {
11502   \LWR@forcenewpage
11503   \ifbool{FormatWP}{}
```

```
11504      {\BlockClass[\LWR@print@mbox{text-align:center}]{center}}
11505      {\BlockClass{center}}
11506 }
11507 {\endBlockClass}
11508
11509 \LWR@formattedenv{center}
```

Env **flushright**

```
11510 \newenvironment*{\LWR@HTML@flushright}
11511 {
11512     \LWR@forcenewpage
11513     \ifbool{FormatWP}
11514         {\BlockClass[\LWR@print@mbox{text-align:right}]{flushright}}
11515         {\BlockClass{flushright}}
11516 }
11517 {\endBlockClass}
11518
11519 \LWR@formattedenv{flushright}
```

Env **flushleft**

```
11520 \newenvironment*{\LWR@HTML@flushleft}
11521 {
11522     \LWR@forcenewpage
11523     \ifbool{FormatWP}
11524         {\BlockClass[\LWR@print@mbox{text-align:left}]{flushleft}}
11525         {\BlockClass{flushleft}}
11526 }
11527 {\endBlockClass}
11528
11529 \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

```
11530 \newcommand*{\LWR@HTML@centering}{%
11531     \ifbool{HTMLDebugComments}{%
11532         \LWR@htmlcomment{centering}%
11533     }{}%
11534 }
11535 \LWR@formatted{centering}
```

\raggedleft

```
11536 \newcommand*{\LWR@HTML@raggedleft}{%
11537     \ifbool{HTMLDebugComments}{%
11538         \LWR@htmlcomment{raggedleft}%
11539     }{}%
```

```

11540 }
11541 \LWR@formatted{raggedleft}

\raggedright

11542 \newcommand*{\LWR@HTML@raggedright}{%
11543     \ifbool{HTMLDebugComments}{%
11544         \LWR@htmlcomment{raggedright}%
11545     }{}%
11546 }
11547 \LWR@formatted{raggedright}

\leftline {\langle text\rangle}

11548 \renewcommand{\leftline}[1]{\begin{flushleft}\#1\end{flushleft}}


\centerline {\langle text\rangle}

11549 \renewcommand{\centerline}[1]{\begin{center}\#1\end{center}}


\rightline {\langle text\rangle}

11550 \renewcommand{\rightline}[1]{\begin{flushright}\#1\end{flushright}}


11551 \end{warpHTML}

```

83 Preloaded packages

for HTML output: 11552 \begin{warpHTML}

If the given package was loaded before or by lwarp, load the lwarp version as well.

```

\LWR@PreloadedPackage {\langle packagename\rangle}

11553 \newcommand*{\LWR@PreloadedPackage}[1]{%
11554     \@ifpackageloaded{#1}{%
11555         {%
11556             \AtBeginDocument{%
11557                 \LWR@origRequirePackage{lwarp-#1}%
11558             }%
11559         }%
11560     {}%
11561 }

```

If `inputrc` was loaded before `lwarp`, as is usually done, explicitly load the `lwarp` patches now:

```
11562 \LWR@PreloadedPackage{inputrc}
```

If **textcomp** was loaded before **l warp**, perhaps as part of the font-related packages, explicitly load the **l warp** patches now:

```
11563 \LWR@PreloadedPackage{textcomp}
```

If **xunicode** was loaded before **l warp**, perhaps as part of the font-related packages, explicitly load the **l warp** patches now:

```
11564 \LWR@PreloadedPackage{xunicode}
```

If **graphics** or **graphicx** were loaded before **l warp**, perhaps by **xunicode**, explicitly load the **l warp** patches now:

```
11565 \LWR@PreloadedPackage{graphics}  
11566 \LWR@PreloadedPackage{graphicx}
```

fontaxes must be preloaded so that **l warp** may patch it for **HTML**.

```
11567 \LWR@PreloadedPackage{fontaxes}
```

nfssext-cfr may be preloaded by **cfm-lm** or related font packages.

```
11568 \LWR@PreloadedPackage{nfssext-cfr}
```

ulem may be preloaded by **ctex**, **ctexart**, and related classes.

```
11569 \LWR@PreloadedPackage{ulem}
```

xetexko-vertical may be preloaded by **xetexko**.

```
11570 \LWR@PreloadedPackage{xetexko-vertical}
```

geometry is preloaded by **l warp**, and perhaps by various classes.

```
11571 \LWR@PreloadedPackage{geometry}
```

plex is preloaded by some CJK classes.

```
11572 \LWR@PreloadedPackage{plex}
```

stfloats is preloaded by **ltj*** classes.

```
11573 \LWR@PreloadedPackage{stfloats}
```

lltjext is preloaded by **ltj*** classes.

```
11574 \LWR@PreloadedPackage{lltjext}
```

luatexko must be loaded before **l warp**.

```
11575 \LWR@PreloadedPackage{luatexko}
```

```
11576 \end{warpHTML}
```

84 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`.

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. `siunitx` macros with more than one optional value cannot absorb the second optional value, and complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

`lwarp`'s MATHJAX emulation for `siunitx` is meant to be a stop-gap measure until an extension is included in MATHJAX. As of this writing, the third-party `siunitx` extension for MATHJAX is not currently hosted at any public CDN, thus `siunitx` is not usable with this extension unless a local copy of this extension is created first. See `\MathJaxFilename` to select a custom MathJax script, but `lwarp`'s emulation would have to be disabled as well.

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: 11577 `\begin{warpHTML}`

Options for `siunitx`:

```
11578 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
11579 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
11580 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLunicode{2032}}
11581 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLunicode{2033}}
11582 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLunicode{0127}}}}
11583
```

```

11584 \appto\LWR@restoreorigformatting{%
11585 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^{\circ}}C}}%
11586 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^{\circ}}}}%
11587 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^{\prime}}}}%
11588 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^{\prime\prime}}}}%
11589 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}}%
11590 }
11591
11592 \PassOptionsToPackage{
11593   detect-mode=true,
11594   per-mode=symbol,% fraction is not seen by pdftotext
11595   text-celsius = {\LWR@siunitx@textcelsius},
11596   text-degree = {\LWR@siunitx@textdegree},
11597   text-arcminute = {\LWR@siunitx@textprime} ,
11598   text-arcsecond = {\LWR@siunitx@textdblprime} ,
11599 }{siunitx}

11600 \end{warpHTML}

```

85 Graphics print-mode modifications

85.1 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 ⇒ `pdftocairo -svg filename.pdf`

Prog lwarpmk pdftosvg For a large number of images, use `lwarpmk`:

Enter ⇒ **l warpmk pdftosvg *.pdf (or a list of filenames)**

Prog **l warpmk epstopdf** For EPS images converted to PDF using the package `epstopdf`, use

Prog **epstopdf**
epstopdf package Enter ⇒ **l warpmk 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 ⇒ **l warpmk epstopdf *.eps (or a list of filenames)**

Enter ⇒ **l warpmk 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 `l warp`—the entire image will be shown.

⚠ **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.

85.2 Print-mode modifications

for PRINT output: For print output, accept and then discard the new class key:

```
11601 \begin{warpprint}
11602 \define@key{Gin}{class}{}
11603 \define@key{Gin}{alt}{}
```

Print-mode additions for the overpic package. See section 397 for the HTML version.

```
11604 \AtBeginDocument{
11605 @ifpackageloading{overpic}{
11606 \newcommand*\overpicfontsize{12}
11607 \newcommand*\overpicfontskip{14}
11608 }{}
11609 }
11610 \end{warpprint}
```

86 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 defintions. These are defined inside warpall because they are also used for HTML while inside a \teximage. 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: 11611 \begin{warpall}

After xparse may have been loaded ...

```
11612 \AtBeginDocument{
... and only if xcolor was loaded:

11613 @ifpackageloading{xcolor}{

11614 \LWR@traceinfo{patching xcolor}
```

The print version:

\colorboxBlock \colorboxBlock is the same as \colorbox:

```
11615 \LetLtxMacro\colorboxBlock\colorbox
```

The original definition is reused by the new versions:

```
11616 \LetLtxMacro\LWR@orig@print\fcolorbox\fcolorbox
```

```
\fcolorbox [⟨framemode⟩] {⟨framecolor⟩} [⟨boxmode⟩] {⟨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`.)

```
11617 \newsavebox{\LWR@colorminipagebox}
11618
11619 \NewDocumentCommand{\LWR@print\fcolorbox}{o m o m +m}{%
11620 \LWR@traceinfo{\LWR@print\fcolorbox #2 #4}}%
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
11621 \begin{lrbox}{\LWR@colorminipagebox}%
11622 #5%
11623 \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.

```
11624 \ifstreq{\#4}{none}%
11625 {%
11626   \LWR@traceinfo{background is none}%
11627   {%
11628     \colorlet{\LWR@currentcolor}{.}%
11629     \color{\#2}%
11630     \fbox{%
11631       \color{\LWR@currentcolor}%
11632       \usebox{\LWR@colorminipagebox}%
11633     }%
11634   }%
11635 }%
11636 {%
11637 \LWR@traceinfo{background not none}%
11638 \IfValueTF{\#1}%
11639 {%
11640   \IfValueTF{\#3}%
11641   {%
11642     {\LWR@orig@print\fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
11643   }%
11644 {%
11645   \IfValueTF{\#3}%
11646   {%
11647     {\LWR@orig@print\fcolorbox[#2]{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
11648   }%
11649 }%
11650 \LWR@traceinfo{\LWR@print\fcolorbox done}%
11651 }%
11652 \renewrobustcmd*\fcolorbox{\LWR@print\fcolorbox}%
11653 }
```

```
\fcolorboxBlock  [⟨framemode⟩] {⟨framecolor⟩} [⟨boxmodel⟩] {⟨boxcolor⟩} {⟨text⟩}
```

In print mode, \fcolorboxBlock is the same as \fcolorbox.

```
11653 \newcommand*{\LWR@print@fcolorboxBlock}{\LWR@print@fcolorbox}
```

```
11654 \newrobustcmd*{\fcolorboxBlock}{\LWR@print@fcolorboxBlock}
```

```
Env  fcolorminipage  [⟨1:framemode⟩] {⟨2:framecolor⟩} [⟨3:boxmodel⟩] {⟨4:boxcolor⟩} [⟨5:align⟩] [⟨6:height⟩]
      [⟨7:inner-align⟩] {⟨8:width⟩}
```

In print mode, becomes a \fcolorbox containing a minipage:

```
11655 \NewDocumentEnvironment{\LWR@print@fcolorminipage}{o m o m O{c} O{} o m}
11656 {%
11657 \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%
```

Pre-load the contents into an LR box so that they can be used inside a \fcolorbox:

```
11658 \begin{lrbox}{\LWR@colorminipagebox}%
```

If inner alignment is not given, use the outer alignment instead:

```
11659 \IfValueTF{#7}%
11660 {\begin{minipage}[#5][#6][#7]{#8}}%
11661 {\begin{minipage}[#5][#6][#5]{#8}}%
11662 }%
11663 {%
11664 \end{minipage}%
11665 \end{lrbox}%
11666 \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.

```
11667 \ifstrequal{#4}{none}%
11668 {%
11669   \colorlet{\LWR@currentcolor}{.}%
11670   \color{#2}%
11671   \fbox{%
11672     \color{\LWR@currentcolor}%
11673     \usebox{\LWR@colorminipagebox}%
11674   }%
11675 }%
11676 }%
11677 }%
11678 {%
11679   \IfValueTF{#1}%
11680   {%
11681     \IfValueTF{#3}%
11682     {%
11683       \color{\LWR@currentcolor}%
11684       \usebox{\LWR@colorminipagebox}%
11685     }%
11686   }%
11687 }%
11688 {%
11689   \IfValueTF{#2}%
11690   {%
11691     \color{\LWR@currentcolor}%
11692     \usebox{\LWR@colorminipagebox}%
11693   }%
11694 }%
11695 }%
```

```

11682   {\LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}}%
11683   {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}}}}%
11684 }%
11685 {%
```

no value #1

```

11686 \IfValueTF{#3}{%
11687 {\LWR@orig@print@fcolorbox{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}}%
11688 {\LWR@orig@print@fcolorbox{#2}{#4}{\usebox{\LWR@colorminipagebox}}}}}%
11689 }% no value #1
11690 }% #4 not none
11691 \LWR@traceinfo{*** finished end fcolorminipage}%
11692 }

11693 \NewDocumentEnvironment{fcolorminipage}{}%
11694   {\LWR@print@fcolorminipage}%
11695   {\endLWR@print@fcolorminipage}%

11696 \LWR@traceinfo{xcolor patches done}%
11697 }% xcolor loaded
11698 }% AtBeginDocument

11699 \end{warpall}

```

87 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: 11700 `\begin{warpprint}`

```

11701 \AtBeginDocument{%
11702 \@ifpackageloaded{chemmacros}{%

```

Env `polymerdelims`

```

11703 \DeclareDocumentEnvironment{polymerdelims}{}%
11704   {}{%

```

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 [180.4](#).

```

11705 \DeclareDocumentEnvironment{redoxreaction}{m m}%
11706   {\rule{0pt}{#1}\rule[-#2]{0pt}{#2}}%
11707 }% chemmacros
11708 }% AtBeginDocument

```

```
11709 \end{warpprint}
```

88 cleveref

Pkg cleveref cleveref package is used as-is with minor patches.

⚠ 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 570 to redefine the message which is printed for page number references.

loading order cleveref and the following 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 l warp 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 l warp’s additional loading of cleveref will have no effect.

Table 14 on page 486 shows the data structure of the label/reference system as revised by l warp and cleveref.

A few patches allow cleveref to work as-is:

for HTML output: 11710 \begin{warppHTML}

\AtEndPreamble forces cleveref to be loaded last:

```
11711 \AtEndPreamble{  
11712     \RequirePackage{cleveref}  
11713 }
```

The following patches are applied after cleveref has loaded, and after \AtBeginDocument. Print-mode versions are not required since they all come down to \ref eventually, and \ref has a print-mode version.

```
11714 \AfterEndPreamble{  
11715 \LWR@traceinfo{Patching cleveref.}}
```

```
\@@@setcref {\langle kindofref\rangle} {\langle label\rangle}
```

\@templatel becomes the section number.

```

11716 \def\LWR@orig@@@setcref#1#2{\cref@getlabel{#2}{\@templabel}#1{\@templabel}{}{}}
11717
11718 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% before v0.21
11719     \renewcommand*{\@@@setcref}[2]{#1{\ref{#2}}{}{}}
11720 }{
11721     \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% as of v0.21
11722         \renewcommand*{\@@@setcref}[2]{%
11723             #1{\ref{#2}}{}{}}
11724     }{
11725         \PackageWarning{lwarp-cleveref}{%
11726             Unknown version of cleveref.
11727             \protect\cref\space will fail.
11728         }%
11729     }
11730 }

```

\@@@setcrefrange {<text>} {<label>} {<label>}

```

11731 \def\LWR@orig@@@setcrefrange#1#2#3{%
11732     \cref@getlabel{#2}{\@labela}%
11733     \cref@getlabel{#3}{\@labelb}%
11734     #1{\@labela}{\@labelb}{}{}{}%
11735
11736 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{%
11737     \renewcommand{\@@@setcrefrange}[3]{%
11738         #1{\ref{#2}}{\ref{#3}}{}{}{}%
11739     }%
11740 }{
11741     \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{%
11742         \renewcommand{\@@@setcrefrange}[3]{%
11743             #1{\ref{#2}}{\ref{#3}}{}{}{}%
11744         }%
11745     }{
11746         \PackageWarning{lwarp-cleveref}{%
11747             Unknown version of cleveref.
11748             \protect\crefrange\space will fail.
11749         }%
11750     }
11751 }

```

\cpagerefFor Redefinable word between “page(s)” and the page numbers.

```
11752 \newcommand*{\cpagerefFor}{for}
```

\@@@setcpageref {<typeofref>} {<label>}, where typeofref is “page” or “pages”

```

11753 \def\LWR@orig@@@setcpageref#1#2{%
11754     \cref@getpageref{#2}{\@tempPage}#1{\@tempPage}{}{}%
11755
11756 \def\LWR@orig@@@setcpageref#1#2{%
11757     \cpageref@getlabel{#2}{\@tempPage}#1{\@tempPage}{}{}%
11758

```

```

11759 \ifdefequal{\@@setcpageref}{\LWR@orig@@setcpageref}{
1160     \renewcommand*{\@@setcpageref}[2]{%
1161         #1{\cpagerefFor\ \cref{#2}}{}{}%
1162     }
1163 }{
1164     \ifdefequal{\@@setcpageref}{\LWR@orig@@setcpageref}{
1165         \renewcommand*{\@@setcpageref}[2]{%
1166             #1{\cpagerefFor\ \cref{#2}}{}{}%
1167         }
1168     }
1169     {
1170         \PackageWarning{lwarp-cleveref}{%
1171             Unknown version of cleveref.
1172             \protect\cpageref\space will fail.
1173         }
1174     }
1175 }

1176 \def\LWR@orig@@setcpagerefrange#1#2#3{%
1177     \cref@getpageref{#2}{\@pagea}%
1178     \cref@getpageref{#3}{\@pageb}%
1179     #1{\@pagea}{\@pageb}{}{}{}%
1180
1181 \def\LWR@orig@@@setcpagerefrange#1#2#3{%
1182     \cpageref@getlabel{#2}{\@pagea}%
1183     \cpageref@getlabel{#3}{\@pageb}%
1184     #1{\@pagea}{\@pageb}{}{}{}%
1185
1186 \ifdefequal{\@@setcpagerefrange}{\LWR@orig@@setcpagerefrange}{
1187     \renewcommand*{\@@setcpagerefrange}[3]{%
1188         #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{}{}{}%
1189     }
1190 }{
1191     \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{
1192         \renewcommand*{\@@@setcpagerefrange}[3]{%
1193             #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{}{}{}%
1194         }
1195     }
1196     {
1197         \PackageWarning{lwarp-cleveref}{%
1198             Unknown version of cleveref.
1199             \protect\cpagerefrange\space will fail.
1200         }
1201     }
1202 }
1203
1204 }% AfterEndPreamble

```

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.

```
11805 \LetLtxMacro{\LWR@orig@label}{\label} % includes memoir, before cleveref
```

```

11806 \LetLtxMacro\label\LWR@new@label
11807
11808 \LetLtxMacro\LWR@orig@pageref\pageref
11809 \LetLtxMacro\pageref\LWR@new@pageref
11810 \end{warpHTML}

```

89 picture environment

Env `picture` The picture environment is enclosed inside a `\lateximage`.
for HTML output: 11811 `\begin{warpHTML}`

```

Env  picture

11812 \BeforeBeginEnvironment{picture}{\begin{lateximage}[picture]}
11813
11814 \AfterEndEnvironment{picture}{\end{lateximage}}

11815 \end{warpHTML}

```

90 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`, `\quad`, `\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 `. An `HTML <div>` cannot appear inside a ``. While in a ``, `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 L^AT_EX PDF output they do not. Use a `flushleft` or similar environment in the child `minipage` to force a text alignment.

for HTML output: 11816 `\begin{warpHTML}`

90.1 Computed lengths

Len `\LWR@minipagewidth` Used to convert the width into printable units.

11817 `\newlength{\LWR@minipagewidth}`

Len `\LWR@minipageheight` Used to convert the height into printable units.

11818 `\newlength{\LWR@minipageheight}`

90.2 Virtual page size

Ctr `\LWR@virtualpagedepth` Used to only reset the line width at the outermost `minipage`.

11819 `\newcounter{LWR@virtualpagedepth}`
11820 `\setcounter{LWR@virtualpagedepth}{0}`

Env `\LWR@setvirtualpage * [<columns>]`

If not nesting a `minipage`, adjust `\linewidth`, `\textwidth`, and `\textheight` for a virtual 6 × 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.

11821 `\NewDocumentEnvironment{\LWR@setvirtualpage}{s 0{1}}{%`
11822 `\ifnumequal{\value{\LWR@virtualpagedepth}}{0}{%`
11823 `\IfBooleanT{#1}{\LWR@orignewpage}%`

```

11824      \setlength{\linewidth}{6in/#2}%
11825      \setlength{\textwidth}{6in}%
11826      \setlength{\textheight}{9in}%
11827  }{}%
11828  \addtocounter{LWR@virtualpagedepth}{1}%
11829 }
11830 {\addtocounter{LWR@virtualpagedepth}{-1}}

```

90.3 Footnote handling

Also see section 59 for other forms of footnotes. Minipage footnotes are gathered in section 59.5, and then placed into the document in section 90.4.

90.4 Minipage handling

Bool LWR@minipagefullwidth Should the next minipage have no HTML width?

```

11831 \newbool{LWR@minipagefullwidth}
11832 \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.

```

11833 \newbool{LWR@forceminipagefullwidth}
11834 \boolfalse{LWR@forceminipagefullwidth}

```

\minipagefullwidth Requests that the next minipage have no width tag in HTML:

for HTML output: 11835 \newcommand*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}

\UseMinipageWidths Locally requests that minipage widths be honored.

```

11836 \newcommand*{\UseMinipageWidths}{\boolfalse{LWR@forceminipagefullwidth}}

```

\IgnoreMinipageWidths Locally requests that minipage widths be ignored.

```

11837 \newcommand*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}
11838 \end{warpHTML}

```

for PRINT output: 11839 \begin{warpprint}
11840 \newcommand*{\minipagefullwidth}{}%
11841 \newcommand*{\UseMinipageWidths}{}%
11842 \newcommand*{\IgnoreMinipageWidths}{}%
11843 \end{warpprint}

for HTML output: 11844 \begin{warpHTML}

Bool LWR@minipagethispar Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

```
11845 \newbool{LWR@minipagethispar}
11846 \boolefalse{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 6x9 inch text area.

```
11847 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}
11848 {%
11849 \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.

```
11850 \begin{LWR@setvirtualpage}*
```

Save the requested width now that `\linewidth`, etc. are adjusted to virtual size.

```
11851 \setlength{\LWR@minipagewidth}{#4}%
11852 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
11853     \addtolength{\LWR@minipagewidth}{3em}%
11854 }{%
11855 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%
```

Compute height:

```
11856 \setlength{\LWR@minipageheight}{\textheight}%
11857 \ifblank{#2}{\setlength{\LWR@minipageheight}{#2}}
```

LATEX 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.

```
11858 \ifbool{FormatWP}{\newline}{%
11859 \LWR@stoppars}
```

If FormatWP, add a text frame:

```
11860 \ifbool{FormatWP}{%
11861
11862 \addtocounter{LWR@thisautoidWP}{1}%
11863 \LWR@htmltag{%
11864     div id="\LWR@print@mbox{autoidWP-\arabic{LWR@thisautoidWP}}" %
11865     class="wpminipage"%
11866 }%
11867
11868 }%
```

Create the <div> tag with optional alignment style:

```

11869 \LWR@traceinfo{minipage: creating div class}%
11870 \LWR@htmntag{div class="minipage" style="%"
11871 \ifthenelse{\equal{\#1}{t}}{\LWR@print@mbox{vertical-align:bottom} ; }{}%
11872 \ifthenelse{\equal{\#1}{c}}{\LWR@print@mbox{vertical-align:middle} ; }{}%
11873 \ifthenelse{\equal{\#1}{b}}{\LWR@print@mbox{vertical-align:top} ; }{}%
11874 \ifthenelse{\equal{\#3}{t}}{\LWR@print@mbox{justify-content:flex-start} ; }{}%
11875 \ifthenelse{\equal{\#3}{c}}{\LWR@print@mbox{justify-content:center} ; }{}%
11876 \ifthenelse{\equal{\#3}{b}}{\LWR@print@mbox{justify-content:flex-end} ; }{}%
11877 \ifthenelse{\equal{\#3}{s}}{\LWR@print@mbox{justify-content:space-between} ; }{}%

```

Print the width and optional height styles:

```

11878 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth} }%
11879 \ifbool{\LWR@minipagefullwidth}%
11880 {\global\boolfalse{\LWR@minipagefullwidth}}%
11881 {%
11882     \ifbool{\LWR@forceminipagefullwidth}%
11883         {}%
11884         {}%
11885             \ifdimequal{\#4}{\linewidth}%
11886                 {}%
11887                     \width:\LWR@printlength{\LWR@minipagewidth} ; }%
11888                 {}%
11889 }%
11890 \LWR@traceinfo{minipage: about to print the height}%
11891 \ifblank{\#2}{}{height:\LWR@printlength{\LWR@minipageheight} ; }%
11892 "}%

```

Finish with an empty line to start the contents on a new line.

```

11893
11894 % 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.

```

11895 \ifnumequal{\value{\LWR@virtualpagedepth}}{1}{%
11896     \addtolength{\LWR@minipagewidth}{-3em}%
11897 }{%
11898 \setlength{\linewidth}{\LWR@minipagewidth}%

```

\raggedright cancels hyphenation, which will be done by HTML instead.

```

11899 \LWR@print@raggedright%

```

Set minipage footnotes:

```

11900 \def\@mpfn{\mpfootnote}%
11901 \def\thempfn{\thefootnote}\c@mpfootnote\z@%

```

```
11902 \let\@footnotetext\@mpfootnotetext%
```

Resume paragraph tag handling for the contents of the minipage:

```
11903 \LWR@startpars%
11904 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
11905 === begin minipage ===
11907 }{%
11909 \LWR@traceinfo{minipage: finished starting the minipage}%
11910 }% finished \minipage
11911 { \% \endminipage
```

Print pending minipage footnotes:

```
11912 \LWR@printpendingmpfootnotes%
```

End the environment with closing tag:

```
11913 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
11914 === end minipage ===
11916 }{%
11917 \LWR@stopars%
11918 \LWR@htmlelementend{div}%
11919
11920 \ifbool{FormatWP}{%
11921
11922 \LWR@htmlelementend{div}%
11923
11924 }{%
11925 \LWR@htmldivclassend{minipage}%
11926
11927 \end{\LWR@setvirtualpage}%
11928 \LWR@startpars%
11929 \ifbool{FormatWP}{\newline}{}}
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
11930 \global\booltrue{\LWR@minipagethispar}%
11931 \LWR@traceinfo{\LWR@minipage: done}%
11932 }
11933
11934 \NewDocumentEnvironment{\LWR@HTML@minipage}{O{t} O{} O{t} m}
11935     {\LWR@HTML@sub@minipage{\#1}{\#2}{\#3}{\#4}}
11936     {\end{\LWR@HTML@sub@minipage}}
11937
11938 \LWR@formattedeenv{minipage}
```

90.5 \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox

for HTML output:

```
\parbox [⟨pos⟩] [⟨height⟩] [⟨inner-pos⟩] {⟨width⟩} {⟨text⟩}
```

A parbox uses the minipage code:

```
11939 \NewDocumentCommand{\LWR@HTML@parbox}{O{t} O{} O{t} m +m}
11940 {
11941 \LWR@traceinfo{parbox of width #4}%
11942 \begin{minipage}[#1][#2][#3]{#4}%
11943 #5
11944 \end{minipage}%
11945 }
11946
11947 \LWR@formatted{parbox}
```

\mbox {⟨text⟩} Nullified for HTML.

```
11948 \newcommand*{\LWR@HTML@mbox}[1]{#1}
11949
11950 \LWR@formatted{mbox}
```

\LWR@@makebox@paren {⟨width⟩} , {⟨height⟩}

Adds to the style in \LWR@temptwo.

```
11951 \NewDocumentCommand{\LWR@@makebox@paren}{m m}{%
11952 \IfValueTF{#2}{%
11953   \setlength{\LWR@tempwidth}{#1\unitlength}%
11954   \setlength{\LWR@tempheight}{#2\unitlength}%
11955   \appto{\LWR@temptwo}{%
11956     \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
11957     \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
11958   }%
11959 }{%
11960   \PackageError{lwarp}{%
11961     {(width,height) is missing a comma ',' character}%
11962     {\protect\makebox\space and \protect\framebox\space accept
11963       a size in the format (width,height).}%
11964 }%
11965 }
```

\LWR@@makebox@align {⟨alignment character⟩}

Adds to the style in \LWR@temptwo.

```
11966 \newcommand*{\LWR@@makebox@align}[1]{%
11967   \def\LWR@align{center}%
11968   \ifstreq{\#1}{l}{\def\LWR@align{left}}{}%
11969   \ifstreq{\#1}{r}{\def\LWR@align{right}}{}%
11970   \ifstreq{\#1}{s}{\def\LWR@align{justify}}{}}
```

```

11971     \appto{\LWR@temptwo}{%
11972         \LWR@print@mbox{text-align:\LWR@align} ; %
11973     }%
11974 }

\makebox  (<width,height>) [<width>] [<pos>] {<text>}

11975 \NewDocumentCommand{\LWR@HTML@makebox}{>{\SplitArgument{1}{,}}d() o o +m}{%

```

Build the style depending on arguments:

```

11976     \begin{\LWR@setvirtualpage}%
11977         \def\LWR@temptwo{}%
11978         \IfValueTF{#1}%
11979             {%
11980                 (\width,\height) ..
11981                 \LWR@@makebox@paren #1%
11982                 \IfValueT{#2}%
11983                     {%
11984                         (\width,\height) [posn]
11985                         \LWR@@makebox@align{#2}%
11986                     }%
11987             }%
11988             {%
11989                 [width]
11990                 \IfValueT{#2}{ [width]}
11991                 {%
11992                     \setlength{\LWR@tempwidth}{#2}%
11993                     \ifdimgreater{\LWR@tempwidth}{0pt}{%
11994                         \appto{\LWR@temptwo}{%
11995                             width:\LWR@printlength{\LWR@tempwidth} ; % space
11996                         }%
11997                     }%
11998                     {%
11999                         [width] [posn]
12000                         \LWR@@makebox@align{#3}%
12001                     }%
12002                     \InlineClass[%
12003                         \LWR@print@mbox{display:inline-block} ; %
12004                         \LWR@temptwo%
12005                     ]%
12006                     {makebox}%
12007                     {#4}%
12008                 }%
12009             }%
12010         }%
12011     }%
12012 }
```

\framebox (<width,height>) [<width>] [<pos>] {<text>}

```

12010 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
12011     \fbox{\makebox[#1][#2][#3]{#4}}%
12012 }%
12013 
```

```
12014 \LWR@formatted{framebox}
```

\LWR@forceminwidth {*length*}

Sets \LWR@atleastonept to be at least 1pt.

```

12015 \newlength{\LWR@atleastonept}
12016
12017 \newcommand*{\LWR@forceminwidth}[1]{%
12018 \setlength{\LWR@atleastonept}{#1}%
12019 \ifthenelse{%
12020   \lengthtest{\LWR@atleastonept>0pt}\AND%
12021   \lengthtest{\LWR@atleastonept<1pt}%
12022 }{%
12023   {\setlength{\LWR@atleastonept}{1pt}}%
12024 }%
12025 }
```

\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.

```

12026 \newcommand*{\LWR@fboxstyle}{%
12027 \LWR@findcurrenttextcolor%
12028 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
12029 padding:\LWR@printlength{\fboxsep} ; %
12030 color:\LWR@origpound\LWR@tempcolor%
12031 }
```

\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:

```

12032 \newcommand{\LWR@HTML@fbox}[1]{%
12033 \LWR@traceinfo{HTML_fbox}%
12034 \LWR@forceminwidth{\fboxrule}%
12035 \InlineClass[%
12036   \LWR@print@mbox{display:inline-block} ; %
12037   \LWR@fboxstyle%
12038 ]{\fbox}{#1}%
12039 }
```

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:

```
12040 \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: 12041 \end{warpHTML}

```

12042 \begin{warpall}
12043 \let\fboxBlock\fbox
12044 \end{warpall}
12045
12046 \begin{warpHTML}
```

for HTML output: Next, an HTML version:

```

12047 \newcommand{\LWR@HTML\fboxBlock}[1]{%
12048 \LWR@forceminwidth(\fboxrule)%
12049 \LWR@stoppars%
12050 \begin{BlockClass}[%%
12051 \LWR@fboxstyle%%
12052 ]\fboxBlock%
12053 #1%
12054 \end{BlockClass}%
12055 \LWR@startpars%
12056 }%
12057
12058 \LWR@formatted\fboxBlock}%
12059
12060 \end{warpHTML}
```

Env `fminipage` [*align*] [*height*] [*align*] {*width*}

Creates a framed HTML `<div>` around its contents.

for HTML & PRINT: Print version:

```

12061 \begin{warpall}
12062
12063 \newsavebox{\LWR@fminipagebox}%
12064
12065 \NewDocumentEnvironment{\LWR@print\fminipage}{O{t} o O{t} m}%
12066 {%
```

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:

```

12067 \IfValueTF{#3}%
12068 {\def\LWR@thisalign{#3}}%
12069 {\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.

```

12070 \IfValueTF{#2}%
12071 {\minipage[#1][#2+2\fboxsep+2\fboxrule][\LWR@thisalign]{#4+2\fboxsep+2\fboxrule}}%
12072 {\minipage[#1]{#4+2\fboxsep+2\fboxrule}}%
```

Capture the contents of the environment:

```
12073 \begin{lrbox}{\LWR@fminipagebox}%
```

Nest the contents inside an inner minipage of the desired size:

```
12074 \IfValueT{#2}{%
12075 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
12076 {\minipage[#1]{#4}}%
12077 }%
12078 {%
```

Close the inner minipage and the LR box with the contents:

```
12079 \endminipage%
12080 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
12081 \fbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```
12082 \endminipage%
12083 }%
12084 %
12085 \LetLtxMacro\fminipage\LWR@print@fminipage%
12086 \LetLtxMacro\endfminipage\endLWR@print@fminipage%
12087 % \newenvironment{fminipage}{\LWR@print@fminipage}{\endLWR@print@fminipage}%
12088 %
12089 \end{warpall}
```

HTML version:

for HTML output:

```
12090 \begin{warpHTML}%
12091 %
12092 \NewDocumentEnvironment{\LWR@HTML@fminipage}{O{t} o O{t} m}%
12093 {%
12094 \LWR@traceinfo{fminipage #1 #2 #3 #4}}%
```

Locally change to the virtual page size before processing the requested sizes:

```
12095 \begin{LWR@setvirtualpage}*%
12096 \setlength{\LWR@tempwidth}{#4}%
12097 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%
```

Use a rule of at least one pixel in width:

```
12098 \LWR@forceminwidth{\fboxrule}%
```

```
12099 \LWR@stopars%
```

```
12100 \begin{BlockClass}[%%
12101 \LWR@fboxstyle ; %
12102 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%
12103 \ifbool{\LWR@minipagefullwidth}%
12104 {\global\boolfalse{\LWR@minipagefullwidth}}%
```

```

12105 {%
12106   \ifbool{LWR@forceminipagefullwidth}{%
12107     {}%
12108     {}%
12109       \ifdimequal{\LWR@tempwidth}{\linewidth}{%
12110         {}%
12111         \width:\LWR@printlength{\LWR@tempwidth} ; }%
12112       {}%
12113     {}%
12114   }{fminipage}%
12115 }
12116 {%
12117 \end{BlockClass}%
12118 \end{LWR@setvirtualpage}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12119 \global\booltrue{LWR@minipagethispar}%
12120 \LWR@traceinfo{fminipage done}%
12121 }
12122
12123 \LWR@formattedenv{fminipage}

\raisebox {<raiselen>} [<height>] [<depth>] {<text>}

12124 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
12125 #4%
12126 }
12127
12128 \LWR@formatted{raisebox}

12129 \end{warpHTML}

```

91 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 [51.9](#).

for HTML output: 12130 `\begin{warpHTML}`

```
\emph  {\langle text\rangle}

12131 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
12132   {%
12133     \LWR@HTML@itshape%
12134     \LWR@html\span{em}{#1}%
12135   }%
12136 }
12137
12138 \LWR@formatted{emph}
```

```
\textmd  {\langle text\rangle}

12139 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
12140   {%
12141     \LWR@HTML@mdseries%
12142     \InlineClass{font-weight: normal}{textmd}{#1}%
12143   }%
12144 }
12145
12146 \LWR@formatted{textmd}
```

```
\textbf  {\langle text\rangle}

12147 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
12148   {%
12149     \LWR@HTML@bfseries%
12150     \LWR@html\span{b}{#1}%
12151   }%
12152 }
12153
12154 \LWR@formatted{textbf}
```

\texteb {\langle text\rangle} From **nfssext-cfr**.

```
12155 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
12156   {%
12157     \LWR@HTML@ebweight%
12158     \InlineClass{texteb}{#1}%
12159   }%
12160 }
12161
12162 \LWR@formatted{texteb}
```

\textlg {\langle text\rangle} From **nfssext-cfr**.

```
12163 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
12164   {%
12165     \LWR@HTML@lgweight%
12166     \InlineClass{textlg}{#1}%
12167   }%
12168 }
```

```
12169
12170 \LWR@formatted{textlg}

\textrm {<text>}

12171 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
12172   {%
12173     \LWR@HTML@rmfamily%
12174     \InlineClass(font-family:serif){textrm}{#1}%
12175   }%
12176 }
12177
12178 \LWR@formatted{textrm}

\textsf {<text>}

12179 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
12180   {%
12181     \LWR@HTML@sffamily%
12182     \InlineClass(font-family:sans){textsf}{#1}%
12183   }%
12184 }
12185
12186 \LWR@formatted{textsf}

\texttt {<text>}

12187 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
12188   {%
12189     \LWR@HTML@ttfamily%
12190     \LWR@htmlspan{kbd}{#1}%
12191   }%
12192 }
12193
12194 \LWR@formatted{texttt}

\textup {<text>}

12195 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
12196   {%
12197     \LWR@HTML@upshape%
12198     \InlineClass(font-style:normal){textup}{#1}%
12199   }%
12200 }
12201
12202 \LWR@formatted{textup}

\textit {<text>}

12203 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
12204   {%
12205     \LWR@HTML@itshape%
```

```
12206      \LWR@html{i}{#1}%
12207      }%
12208 }
12209
12210 \LWR@formatted{textit}

\textsc {⟨text⟩}

12211 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
12212   {%
12213     \LWR@HTML@scshape%
12214     \InlineClass{textsc}{#1}%
12215   }%
12216 }
12217
12218 \LWR@formatted{textsc}

\textulc {⟨text⟩} From fontaxes.

12219 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
12220   {%
12221     \LWR@HTML@ulcshape%
12222     \InlineClass{textulc}{#1}%
12223   }%
12224 }
12225
12226 \LWR@formatted{textulc}

\textsi {⟨text⟩}

12227 \@ifundefined{textsi}{%
12228   \LetLtxMacro{\LWR@print@textsi}{\LWR@print@textsc}
12229 }{%
12230
12231 \DeclareRobustCommand{\LWR@HTML@textsi}[1]{%
12232   {%
12233     \LWR@HTML@sishape%
12234     \textsc{\textit{#1}}%
12235 %     \InlineClass{%
12236 %       font-style: italic;
12237 %       font-variant: small-caps ;
12238 %       font-variant-numeric: oldstyle-nums ;
12239 %     }{textsi}{#1}%
12240   }%
12241 }
12242
12243 \LWR@formatted{textsi}

\textsl {⟨text⟩}

12244 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
12245   {%
```

```

12246      \slshape%
12247      \InLineClass(font-style:oblique){textsl}{#1}%
12248  }%
12249 }
12250
12251 \LWR@formatted{textsl}

\textssc {<text>}

12252 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
12253 \LWR@formatted{textssc}

\textnormal {<text>}

12254 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{\textmd{\textrm{\textup{#1}}}}
12255
12256 \LWR@formatted{textnormal}

12257 \FilenameNullify{%
12258   \LetLtxMacro{\emph}{\firstofone}%
12259   \LetLtxMacro{\textmd}{\firstofone}%
12260   \LetLtxMacro{\textbf}{\firstofone}%
12261   \LetLtxMacro{\texteb}{\firstofone}%
12262   \LetLtxMacro{\textlg}{\firstofone}%
12263   \LetLtxMacro{\textrm}{\firstofone}%
12264   \LetLtxMacro{\textsf}{\firstofone}%
12265   \LetLtxMacro{\texttt}{\firstofone}%
12266   \LetLtxMacro{\textup}{\firstofone}%
12267   \LetLtxMacro{\textit}{\firstofone}%
12268   \LetLtxMacro{\textsc}{\firstofone}%
12269   \LetLtxMacro{\textulc}{\firstofone}%
12270   \LetLtxMacro{\textsi}{\firstofone}%
12271   \LetLtxMacro{\textsl}{\firstofone}%
12272   \LetLtxMacro{\textssc}{\firstofone}%
12273   \LetLtxMacro{\textnormal}{\firstofone}%
12274 }

```

Remembers the current font family, series, and shape. `fontaxes` support is integrated here.

```

12275 \newcommand*{\LWR@f@family}{rm}
12276 \newcommand*{\LWR@f@series}{md}
12277 \newcommand*{\LWR@f@shape}{up}
12278 \newcommand*{\LWR@f@shapecaps}{ulc}

```

`\LWR@textcurrentfont {<text>}`

Prints the text with the current font choices. Avoids nesting repeated font selections.

```

12279 \newcounter{LWR@textcurrentfontdepth}
12280 \setcounter{LWR@textcurrentfontdepth}{0}
12281

```

```

12282 \newcommand*{\LWR@textcurrentfont}[1]{%
12283     \ifnumcomp{\value{\LWR@textcurrentfontdepth}}{>}{0}%
12284         {%
12285             \addtocounter{\LWR@textcurrentfontdepth}{1}%
12286             #1%
12287             \addtocounter{\LWR@textcurrentfontdepth}{-1}%
12288         }%
12289     {%
12290         \addtocounter{\LWR@textcurrentfontdepth}{1}%
12291         \InlineClass{%
12292             text\LWR@f@family\LWR@origtilde{}%
12293             text\LWR@f@series\LWR@origtilde{}%
12294             text\LWR@f@shape\LWR@origtilde{}%
12295             text\LWR@f@shapecaps%
12296         }%
12297         {#1}%
12298         \addtocounter{\LWR@textcurrentfontdepth}{-1}%
12299     }%
12300 }

```

Env `\LWR@blocktextcurrentfont` Prints the contents with the current font choices.

```

12301 \newenvironment*{\LWR@blocktextcurrentfont}{%
12302 \LWR@stoppars%
12303 \BlockClass{%
12304     text\LWR@f@family\LWR@origtilde{}%
12305     text\LWR@f@series\LWR@origtilde{}%
12306     text\LWR@f@shape\LWR@origtilde{}%
12307     text\LWR@f@shapecaps%
12308 }%
12309 }{\endBlockClass\LWR@startpars}

```

`\mdseries`

```

12310 \newrobustcmd*{\LWR@HTML@mdseries}{%
12311     \LWR@print@mdseries%
12312     \renewcommand*{\LWR@f@series}{md}%
12313 }
12314 \LWR@formatted{mdseries}

```

`\bfseries`

```

12315 \newrobustcmd*{\LWR@HTML@bfseries}{%
12316     \LWR@print@bfseries%
12317     \renewcommand*{\LWR@f@series}{bf}%
12318 }
12319 \LWR@formatted{bfseries}

```

`\ebweight` From `nfssext-cfr`.

```

12320 \newrobustcmd*{\LWR@HTML@ebweight}{%
12321     \LWR@print@ebweight%

```

```
12322     \renewcommand*{\LWR@f@series}{eb}%
12323 }
12324 \LWR@formatted{ebweight}
```

\lgweight From nfssext-cfr.

```
12325 \newrobustcmd*{\LWR@HTML@lgweight}{%
12326     \LWR@print@lgweight%
12327     \renewcommand*{\LWR@f@series}{lg}%
12328 }
12329 \LWR@formatted{lgweight}
```

\rmfamily

```
12330 \newrobustcmd*{\LWR@HTML@rmfamily}{%
12331     \LWR@print@rmfamily%
12332     \renewcommand*{\LWR@f@family}{rm}%
12333 }
12334 \LWR@formatted{rmfamily}
```

\sffamily

```
12335 \newrobustcmd*{\LWR@HTML@sffamily}{%
12336     \LWR@print@sffamily%
12337     \renewcommand*{\LWR@f@family}{sf}%
12338 }
12339 \LWR@formatted{sffamily}
```

\ttfamily

```
12340 \newrobustcmd*{\LWR@HTML@ttfamily}{%
12341     \LWR@print@ttfamily%
12342     \renewcommand*{\LWR@f@family}{tt}%
12343 }
12344 \LWR@formatted{ttfamily}
```

The following use \AtBeginDocument due to the L^AT_EX core \reinstall@nfss@defs, which redefines these \AtBeginDocument. See **texdoc source2e**.

\upshape

```
12345 \newrobustcmd*{\LWR@HTML@upshape}{%
12346     \LWR@print@upshape%
12347     \renewcommand*{\LWR@f@shape}{up}%
12348 }
12349 \AtBeginDocument{\LWR@formatted{upshape}}
```

\itshape

```
12350 \newrobustcmd*{\LWR@HTML@itshape}{%
```

```
12351 \LWR@print@itshape%
12352 \renewcommand*\{\LWR@f@shape\}{it}%
12353 }
12354 \AtBeginDocument{\LWR@formatted{itshape}}
```

\scshape

```
12355 \newrobustcmd*\{\LWR@HTML@scshape\}{%
12356 \LWR@print@scshape%
12357 \renewcommand*\{\LWR@f@shapecaps\}{sc}%
12358 }
12359 \AtBeginDocument{\LWR@formatted{scshape}}
```

\ulcshape From fontaxes.

```
12360 \@ifundefined{ulcshape}%
12361 \LetLtxMacro\ulcshape\upshape
12362 {}
12363 \newrobustcmd*\{\LWR@HTML@ulcshape\}{%
12364 \LWR@print@ulcshape%
12365 \renewcommand*\{\LWR@f@shapecaps\}{ulc}%
12366 }
12367 \AtBeginDocument{\LWR@formatted{ulcshape}}
```

\sishape

```
12368 \@ifundefined{sishape}%
12369 \LetLtxMacro\sishape\scshape
12370 {}
12371 \newrobustcmd*\{\LWR@HTML@sishape\}{%
12372 \LWR@print@sishape%
12373 \renewcommand*\{\LWR@f@shape\}{it}
12374 \renewcommand*\{\LWR@f@shapecaps\}{sc}%
12375 }
12376 \AtBeginDocument{\LWR@formatted{sishape}}
```

\slshape

```
12377 \newrobustcmd*\{\LWR@HTML@slshape\}{%
12378 \LWR@print@slshape%
12379 \renewcommand*\{\LWR@f@shape\}{sl}%
12380 }
12381 \AtBeginDocument{\LWR@formatted{slshape}}
```

\sscshape

```
12382 \newrobustcmd{\LWR@HTML@sscshape}{\LWR@HTML@scshape}
12383 \AtBeginDocument{\LWR@formatted{sscshape}}
```

\normalfont

```
12384 \newrobustcmd*\{\LWR@HTML@normalfont\}{\rmfamily\mdseries\upshape\ulcshape}
12385 \LWR@formatted{normalfont}

12386 \FilenameNullify{%
12387     \LetLtxMacro\rmfamily\@empty%
12388     \LetLtxMacro\sffamily\@empty%
12389     \LetLtxMacro\ttfamily\@empty%
12390     \LetLtxMacro\bfseries\@empty%
12391     \LetLtxMacro\ebweight\@empty%
12392     \LetLtxMacro\lgweight\@empty%
12393     \LetLtxMacro\mdseries\@empty%
12394     \LetLtxMacro\upshape\@empty%
12395     \LetLtxMacro\slshape\@empty%
12396     \LetLtxMacro\sisshape\@empty%
12397     \LetLtxMacro\scshape\@empty%
12398     \LetLtxMacro\itshape\@empty%
12399     \LetLtxMacro\ulcshape\@empty%
12400     \LetLtxMacro\sscshape\@empty%
12401     \LetLtxMacro\normalfont\@empty%
12402 }
```

\sp {<text>}

For `siunitx`. Must work in math mode.

```
12403 \renewcommand{\sp}[1]{\text{#1}}
```

\sb {<text>}

For `siunitx`. Must work in math mode.

```
12404 \renewcommand{\sb}[1]{\text{<sub>}#1</sub>}{}}
```

<text>

```
12405 \newrobustcmd{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}  
12406 \LWR@formatted{textsuperscript}
```

\@textsuperscript {<text>}

```
12407 \newcommand{\LWR@HTML@@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}  
12408 \LWR@formatted{@textsuperscript}
```

\textsubscript {<text>}

12409 \newrobustcmd{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
12410 \LWR@formatted{textsubscript}

\@textsubscript {*text*}

```
12411 \newcommand{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}  
12412 \LWR@formatted{@textsubscript}
```

\up {*text*} Prints superscript.

This is \let at the beginning of the document in case some other package has changed the definition.

```
12413 \AtBeginDocument{\let\up\textsuperscript}
```

\fup {*text*} Prints superscript.

Supports `fmtcount` package.

This is \let at the beginning of the document in case some other package has changed the definition.

```
12414 \AtBeginDocument{\let\fup\textsuperscript}
```

\underline {*text*}

```
12415 \renewcommand{\underline}[1]{%
12416   \InLineClass{%
12417     (text-decoration:underline; text-decoration-skip: auto)%
12418     {underline}{#1}%
12419 }
```

\LWR@overline {*text*}

```
12420 \newcommand{\LWR@overline}[1]{%
12421   \InLineClass{%
12422     (text-decoration:overline; text-decoration-skip: auto)%
12423     {overline}{#1}%
12424 }
```

\LWR@currenttextcolor The color to use for text and \rule, defaulting to black:

```
12425 \newcommand*{\LWR@currenttextcolor}{black}
```

\LWR@tempcolor The color converted to HTML colorspace.

```
12426 \newcommand*{\LWR@tempcolor}{}%
12427 \newcommand*{\LWR@tempcolortwo}{}%
```

\LWR@findcurrenttextcolor Sets \LWR@tempcolor to the current color.

```
12428 \newcommand*{\LWR@findcurrenttextcolor}{}%
12429 \renewcommand{\LWR@tempcolor}{\color{000000}}%
12430 }
```

\LWR@textcurrentcolor {*text*} Like \textcolor but uses the current \color instead.

```
12431 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
```

```

12432 \renewcommand*\LWR@currenttextcolor{black}%
12433 #1%
12434 }

12435 \end{warpHTML}

```

for PRINT output: 12436 \begin{warpprint}

```
\LWR@textcurrentfont {\langle text\rangle}
```

Prints the text with the current font choices.

```
12437 \newcommand*\LWR@textcurrentfont[1]{#1}
```

Env \LWR@blocktextcurrentfont Prints the contents with the current font choices.

```
12438 \newenvironment*\LWR@blocktextcurrentfont{}{}
```

```
\FilenameNullify {\langle macros to nullify\rangle}
```

```
12439 \newcommand*\FilenameNullify[1]{}{}
```

```
12440 \end{warpprint}
```

92 Skips, spaces, font sizes

for HTML output: 12441 \begin{warpHTML}

\, and \thinspace may be redefined by other packages, so are redefined \AtBeginDocument here.

Direct-formatting space commands become HTML entities:

```

12442 \AtBeginDocument{
12443 \renewrobustcmd*{\,}{\HTMLunicode{202f}} % HTML thin non-breakable space
12444 \renewrobustcmd*{\thinspace}{\HTMLunicode{202f}} % HTML thin non-breakable space
12445 \renewrobustcmd*{\negthinspace}{\HTMLunicode{202f}} % HTML thin non-breakable space
12446 \renewrobustcmd*{\~}{\HTMLentity{nbsp}}
12447 \renewrobustcmd*{\textellipsis}{\HTMLunicode{2026}}
12448 }

```

Direct-formatting font sizes are remembered for future use:

```

12449 \newcommand*\LWR@font@size}{normalsize}
12450
12451 \newrobustcmd*\LWR@HTML@normalsize}{\renewcommand*\LWR@font@size}{normalsize}
12452 \LWR@formatted{normalsize}
12453

```

```
12454 \newrobustcmd*{\LWR@HTML@small}{\renewcommand*{\LWR@font@size}{small}}
12455 \LWR@formatted{small}
12456
12457 \newrobustcmd*{\LWR@HTML@footnotesize}{\renewcommand*{\LWR@font@size}{footnotesize}}
12458 \LWR@formatted{footnotesize}
12459
12460 \newrobustcmd*{\LWR@HTML@scriptsize}{\renewcommand*{\LWR@font@size}{scriptsize}}
12461 \LWR@formatted{scriptsize}
12462
12463 \newrobustcmd*{\LWR@HTML@tiny}{\renewcommand*{\LWR@font@size}{tiny}}
12464 \LWR@formatted{tiny}
12465
12466 \newrobustcmd*{\LWR@HTML@large}{\renewcommand*{\LWR@font@size}{large}}
12467 \LWR@formatted{large}
12468
12469 \newrobustcmd*{\LWR@HTML@Large}{\renewcommand*{\LWR@font@size}{Large}}
12470 \LWR@formatted{Large}
12471
12472 \newrobustcmd*{\LWR@HTML@LARGE}{\renewcommand*{\LWR@font@size}{LARGE}}
12473 \LWR@formatted{LARGE}
12474
12475 \newrobustcmd*{\LWR@HTML@huge}{\renewcommand*{\LWR@font@size}{huge}}
12476 \LWR@formatted{huge}
12477
12478 \newrobustcmd*{\LWR@HTML@Huge}{\renewcommand*{\LWR@font@size}{Huge}}
12479 \LWR@formatted{Huge}

12480 \DeclareDocumentCommand{\onecolumn}{}{}
12481
12482 \DeclareDocumentCommand{\twocolumn}{O{}}{
12483
12484 #1
12485
12486 }

\nhfill

12487 \newcommand*{\LWR@HTML@hfill}{\qquad}
12488 \LWR@formatted{hfill}

\nrulefill

12489 \newcommand*{\LWR@HTML@hrulefill}{\rule{1in}{1pt}}
12490 \LWR@formatted{hrulefill}

\dotfill

12491 \newcommand*{\LWR@HTML@dotfill}{\dots}
12492 \LWR@formatted{dotfill}

\newpage
```

```
12493 \renewcommand*\newpage{%
12494
12495 }
```

\newline Uses the HTML
 element.

```
12496 \newrobustcmd*\LWR@newlinebr{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
12497 \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.

```
12498 \LetLtxMacro\LWR@origendofline\\
12499 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}%
12500 {%
12501 \newline%
```

```
12502 \setlength{\LWR@templengthone}{#2}%
12503 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{}%
12504 }
```

\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, and \qquad 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 \qquad's HTML output.

```
12505 \newcommand*\LWR@minipagestartpars{%
12506     \ifbool{LWR@minipagethispar}{\LWR@startpars}{}%
12507 }
```

\LWR@minipagestopars Placed just after \hspace, \quad, or \qquad's HTML output.

```
12508 \newcommand{\LWR@minipagestoppars}{%
12509     \ifbool{\LWR@minipagethispar}{\LWR@stoppars}{ }%
12510 }
```

\quad Handles special minipage & horizontal space interactions. Uses 2003 EM SPACE to pass validation.

```
12511 \renewrobustcmd{\quad}{%
12512     \LWR@minipagestoppars%
12513     \HTMLunicode{2003}%
12514     \LWR@minipagestartpars%
12515 }
```

\quad Handles special minipage & horizontal space interactions.

```
12516 \renewrobustcmd{\quad}{\quad\quad}
```

\enskip Handles special minipage & horizontal space interactions.

```
12517 \renewrobustcmd{\enskip}{%
12518     \LWR@minipagestoppars%
12519     \HTMLunicode{2002}%
12520     \LWR@minipagestartpars%
12521 }
```

\Len \LWR@tempwidth Used to compute span width, height, raise for \hspace and \rule:

```
Len \LWR@tempheight 12522 \newlength{\LWR@tempwidth}
Len \LWR@tempraise 12523 \newlength{\LWR@tempheight}
                    12524 \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.

```
12525 \newcommand{\LWR@select@html@\hspace}{%
12526 \RenewDocumentCommand{\hspace}{s m}{%
12527 \setlength{\LWR@tempwidth}{##2}}%
```

If \fill, change to \quad:

```
12528 \ifnum\gluestretchorder\LWR@tempwidth>0%
12529 \setlength{\LWR@tempwidth}{2em}%
12530 \fi%
```

Only if the width is greater than zero:

```
12531 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
12532     \LWR@minipagestoppars%
```

Support the HTML thin wrappable space:

```
12533     \ifdimcomp{\LWR@tempwidth}{=}{.16667em}%
12534     {%
12535         \HTMLunicode{2009}% thin breakable space
12536     }%
```

Print the span with the converted width. Not rounded.

```
12537     {%
12538         \LWR@htmltagc{%
12539             span style="width:\LWR@printlength{\LWR@tempwidth}; % extra space
12540                 display:inline-block"%
12541     }%
```

If formatting for a word processor, approximate with a number of \quads, in case a span of a given width is not supported:

```
12542     \ifbool{FormatWP}{%
12543         \setlength{\LWR@templengthone}{\LWR@tempwidth}%
12544         \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
12545             \quad%
12546             \addtolength{\LWR@templengthone}{-1em}%
12547         }%
12548     }%
```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```
12549     {\LWR@htmlcomment{}%}
```

Close the span:

```
12550     \LWR@htmltagc{/span}%
12551 }
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
12552     \LWR@minipagestartpars%
12553 }{}% width greater than 0
12554 }%
12555 }
```

```
\LWR@select@html@nohspace * {\langle length \rangle}
\hspace
Used to disable \hspace while creating description \items.
```

```
12556 \newcommand{\LWR@select@html@nohspace}{%
12557     \RenewDocumentCommand{\hspace}{s m}{ }%
12558 }

\LWR@select@print@hspace
```

```
12559 \newcommand*{\LWR@select@print@hspace}{%
12560     \renewrobustcmd\hspace{@ifstar@hspace@hspace}%
12561 }
```

\hspace * {*<length>*}

Handles special minipage & horizontal space interactions.

```
12562 \LWR@select@html@hspace
```

\LWR@vspace * {*<length>*} Nullified vspace.

```
12563 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}
12564
12565 \LWR@formatted{vspace}
```

\linebreak [*num*] Inserts an HTML br tag.

```
12566 \renewcommand*{\linebreak}[1][]{\newline}
```

\nolinebreak [*num*]

```
12567 \renewcommand*{\nolinebreak}[1][]{}
```

\pagebreak [*num*] Starts a new paragraph.

```
12568 \renewcommand*{\pagebreak}[1][]{
12569
12570 }
```

\nopagebreak [*num*]

```
12571 \renewcommand*{\nopagebreak}[1][]{}
```

\enlargethispage * {*len*}

```
12572 \RenewDocumentCommand{\enlargethispage}{s m}{}
```

\clearpage

\cleardoublepage

```
12573 \renewcommand*{\clearpage}{}%
12574 \renewcommand*{\cleardoublepage}{}%
```

```
\rule [⟨raise⟩] {⟨width⟩} {⟨height⟩}
```

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.

```
12575 \newcommand*{\LWR@HTML@rule}[3][]{%
```

The width is copied into a temporary L^AT_EX length, from which comparisons and conversions may be made:

```
12576 \setlength{\LWR@tempwidth}{#2}%
```

If it's zero-width then skip the entire rule:

```
12577 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
12578 {}% zero- width
12579 {}% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```
12580 \ifthenelse{%
12581   \lengthtest{\LWR@tempwidth>0pt}\AND%
12582   \lengthtest{\LWR@tempwidth<1pt}%
12583 }%
12584   {\setlength{\LWR@tempwidth}{1pt}}%
12585 }%
```

Likewise with height:

```
12586 \setlength{\LWR@tempheight}{#3}%
12587 \ifthenelse{%
12588   \lengthtest{\LWR@tempheight>0pt}\AND%
12589   \lengthtest{\LWR@tempheight<1pt}%
12590 }%
12591   {\setlength{\LWR@tempheight}{1pt}}%
12592 }%
```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
12593 \LWR@minipagestopars%
```

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 L^AT_EX code.

```
12594 \LWR@findcurrenttextcolor%
12595 \LWR@htmlltagc{%
12596   span\LWR@indentHTML%
12597   style="%"}
```

The HTML background color is used to draw the filled rule according to the L^AT_EX foreground color set by \textcolor.

```
12598      \ifbool{FormatWP}{}{\background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
12599      width:\LWR@printlength{\LWR@tempwidth} ; %
12600      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 L^AT_EX length allows a typical L^AT_EX expression to be used as an argument for the raise, whereas printing the raise argument directly to HTML output without conversion to a L^AT_EX length limits the allowable syntax. To do: A superior method would compute a ratio of L^AT_EX ex height, then print that to HTML with an ex unit.

```
12601      \ifblank{#1}%
12602      {}%
12603      {%
12604          \setlength{\LWR@tempraise}{0pt-#1}%
12605          \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
12606          \LWR@indentHTML%
12607          -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
12608          \LWR@indentHTML%
12609          -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
12610          \LWR@indentHTML%
12611          transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
12612          \LWR@indentHTML%
12613      }%
```

Display inline-block to place the span inline with the text:

```
12614      display:inline-block;"\LWR@orignewline%
12615      }%
```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```
12616      \ifbool{FormatWP}{%
12617          \setlength{\LWR@templengthone}{\LWR@tempwidth}%
12618          \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
12619              \_{}%
12620              \addtolength{\LWR@templengthone}{-1em}%
12621          }%
12622      }%
```

If NOT formatting for a word processor, add a comment to avoid an empty :

```
12623      {\LWR@htmlcomment{}}%
```

Close the span:

```
12624      \LWR@htmlltagc{/span}%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
12625      \LWR@minipagestartpars%
12626 }% non-zero width
12627 }
12628
12629 \LWR@formatted{rule}

12630 \end{warpHTML}
```

93 \phantomsection

for HTML output: 12631 \begin{warpHTML}

\LWR@phantomsection Emulate the `hyperref \phantomsection` command, often used to insert the bibliography into the table of contents. Ignores `\ForceHTMLTOC`.

```
12632 \newrobustcmd*\{\LWR@phantomsection}{%
12633   \begingroup%
12634   \boolfalse{\LWR@forcinghtmltoc}%
12635   \section*{}%
12636   \endgroup%
12637 }

12638 \end{warpHTML}
```

94 \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: 12639 \begin{warpall}
12640 \newbool{\LWR@warnXe}
12641 \boolfalse{\LWR@warnXe}
12642
12643 \newrobustcmd*\{\Xe}
12644 {%
12645 \hspace{-.1667em}\raisebox{-.5ex}{E}%
12646 \global\booltrue{\LWR@warnXe}%

```

12647      }
12648
12649 \AtBeginDocument{
12650     \@ifpackageloaded{graphics}{
12651         \@ifpackageloaded{metalogo}{}{
12652             \renewrobustcmd*\{\Xe}
12653                 {X\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}}}
12654         }
12655     }()
12656 }
12657
12658 \AtEndDocument{
12659     \ifbool{LWR@warnXe}{
12660         \PackageWarningNoLine{lwarp}{Load graphicx or graphics
12661             for improved XeTeX logo}
12662     }()
12663 }
12664
12665 \providerobustcmd*\{\XeTeX\}{\mbox{\Xe\hspace{-.125em}\TeX}}
12666 \providerobustcmd*\{\XeLaTeX\}{\mbox{\Xe\hspace{-.125em}\LaTeX}}
12667 \providerobustcmd*\{\AmS\}%
12668     \leavevmode\hbox{$\mathcal A$\kern-.2em\lower.376ex%
12669     \hbox{$\mathcal M$}\kern-.2em$\mathcal S$}%
12670 }
12671 \newrobustcmd*\{\LyX\}{\textsf{LyX}}
12672 \providerobustcmd*\{\LuaTeX\}{\mbox{\Lua\TeX}}
12673 \providerobustcmd*\{\LuaLaTeX\}{\mbox{\Lua\LaTeX}}
12674 \providerobustcmd*\{\BibTeX\}{\mbox{B\textsc{ib}\TeX}}
12675 \providerobustcmd*\{\MakeIndex\}{\mbox{\textit{\MakeIndex}}}
12676 \providerobustcmd*\{\ConTeXt\}{\mbox{Con\TeX{}t}}
12677 \providerobustcmd*\{\MiKTeX\}{\mbox{MiK\TeX}}
12678 \end{warpall}

```

for HTML output: 12679 \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`, `\LuaTeX`, `\ConTeXt`, etc.

```

12680 \newrobustcmd*\{\LWR@HTML@TeX}
12681 {%
12682     \InlineClass{latexlogofont}%
12683     {%
12684         \InlineClass{latexlogo}%
12685         {%
12686             T%
12687             \InlineClass{latexlogosub}{e}%
12688             X%
12689         }%

```

```

12690      }%
12691 }
12692 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalogo

\LaTeX \LATEX, \LATEX2\varepsilon
\LaTeXe
12693 \newrobustcmd*\LWR@HTML@LaTeX}
12694 {%
12695     \InlineClass{latexlogofont}%
12696     {%
12697         \InlineClass{latexlogo}%
12698         {%
12699             L%
12700             \InlineClass{latexlogosup}{a}%
12701             T%
12702             \InlineClass{latexlogosub}{e}%
12703             X%
12704         }%
12705     }%
12706 }
12707
12708 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalogo
12709
12710
12711 \newrobustcmd*\LWR@HTML@LaTeXe}
12712 {%
12713     \LaTeX%
12714     \InlineClass{latexlogofont}{%
12715         \InlineClass{latexlogotwoe}{%
12716             2%
12717             \InlineClass{latexlogotwoesub}{\HTMLUnicode{03B5}}%
12718         }%
12719     }%
12720 }
12721 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

```

\LuaTeX \LuaTeX, \LuaLATEX

\LuaLaTeX

```

12722 \newrobustcmd*\LWR@HTML@LuaTeX}{\InlineClass{latexlogofont}{Lua}\TeX}
12723 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
12724
12725 \newrobustcmd*\LWR@HTML@LuaLaTeX}{\InlineClass{latexlogofont}{Lua}\LaTeX}
12726 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo

```

\XeTeX \XeTeX, \XeLATEX

\XeLaTeX

xetexlogo is a css class which aligns the backwards E in \XeTeX and spaces \TeX appropriately.

xelatexlogo is a css class which aligns the backwards E in \XeLATEX and spaces \LaTeX appropriately.

```
12727 \newrobustcmd*\LWR@HTML@Xe}
```

```

12728      {%
12729          X%
12730          \InlineClass{xelatexlogosub}{\HTMLUnicode{18e}}%
12731      }
12732 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
12733
12734 \newrobustcmd*\LWR@HTML@XeTeX{\InlineClass{xelatexlogo}{\Xe}\TeX}
12735 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
12736
12737 \newrobustcmd*\LWR@HTML@XeLaTeX{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
12738 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo

```

\ConTeXt ConTeXt

```

12739 \newrobustcmd*\LWR@HTML@ConTeXt{%
12740     \InlineClass{latexlogofont}{Con}\TeX{}%
12741     \InlineClass{latexlogofont}{t}%
12742 }
12743 \LWR@formatted{ConTeXt}

```

\BibTeX BibTeX, *MakeIndex*

```

12744 \newrobustcmd*\LWR@HTML@BibTeX{%
12745     {\InlineClass{latexlogofont}{B\textsc{ib}}}\TeX}
12746 \LWR@formatted{BibTeX}
12747
12748 \newrobustcmd*\LWR@HTML@MakeIndex{%
12749     {\InlineClass{latexlogofont}{\textit{MakeIndex}}}}
12750 \LWR@formatted{MakeIndex}

```

\AmS \mathcal{A}\mathcal{M}\mathcal{S}

amslogo is a css class used for the $\mathcal{A}\mathcal{M}\mathcal{S}$ logo.

```

12751 \AtBeginDocument{%
12752 \newrobustcmd*\LWR@HTML@AmS{%
12753 {%
12754     \InlineClass{amslogo}{%
12755         \textit{%
12756             A%
12757             \InlineClass{latexlogosub}{M}%
12758             S%
12759         }%
12760     }%
12761 }%
12762 \LWR@formatted{AmS}
12763 }

```

\MiKTeX MiKTeX

```

12764 \newrobustcmd*\LWR@HTML@MiKTeX{\InlineClass{latexlogofont}{MiK}\TeX}
12765 \LWR@formatted{MiKTeX}

```

\LyX \LyX

lyxlogo is a css class used for the LyX logo.

```
12766 \newrobustcmd*{\LWR@HTML@LyX}{\InlineClass{lyxlogo}{LyX}}
12767 \LWR@formatted{LyX}

12768 \end{warpHTML}
```

95 \AtBeginDocument, \AtEndDocument

for HTML output: 12769 \begin{warpHTML}

\LWR@LwarpStart Automatically sets up the HTML-related actions for the start and end of the document.
\LWR@LwarpEnd
12770 \AfterEndPreamble{\LWR@LwarpStart}
12771 \AtEndDocument{\LWR@LwarpEnd}

12772 \end{warpHTML}

96 Loading textcomp patches

textcomp has now been integrated into the L^AT_EX core, so its patches are loaded now.

for HTML output: 12773 \begin{warpHTML}
12774 \RequirePackage{lwarp-textcomp}
12775 \end{warpHTML}

97 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

for HTML output: 12776 \begin{warpHTML}

12777 \@ifclassloaded{scrbook}{\RequirePackage{lwarp-patch-komascript}}{}
12778 \@ifclassloaded{scrartcl}{\RequirePackage{lwarp-patch-komascript}}{}
12779 \@ifclassloaded{scrreprt}{\RequirePackage{lwarp-patch-komascript}}{}

12780 \end{warpHTML}

98 Loading MEMOIR class patches

Load patches to memoir.

for HTML & PRINT: 12781 \begin{warpprint}
 12782 \@ifclassloaded{memoir}{\LWR@origRequirePackage{xcolor}}{}
 12783 \end{warpprint}

for HTML output: 12784 \begin{warpHTML}
 12785 \@ifclassloaded{memoir}{\RequirePackage{lwarp-patch-memoir}}{}
 12786 \end{warpHTML}

99 ut* class patches

Load patches to `uj*` and `ut*` classes, as well as `ltj*` classes.

for HTML output: 12787 \begin{warpHTML}

 12788 \newcommand*\LWR@patchujtclasses{

 uj/t does not use \partname

 12789 \def\@partnameformat{}

 12790 \def\@partcntformat##1{%
 12791 \prepartname%
 12792 \csname the##1\endcsname%
 12793 \postpartname%
 12794 \quad%
 12795 }
 12796 \@ifundefined{chapter}{}{
 12797 \def\@chapcntformat##1{%
 12798 \prechaptername%
 12799 \csname the##1\endcsname%
 12800 \postchaptername%
 12801 \quad%
 12802 }
 12803 }

Use decimal points instead of centered dots:

```
12804 \renewcommand{\thepart}{\@Roman\c@part}
12805 \@ifundefined{chapter}{}{
12806   \renewcommand{\thesection}{\@arabic\c@section}
12807 }{
12808   \renewcommand{\thechapter}{\@arabic\c@chapter}
12809   \renewcommand{\thesection}{\thechapter.\@arabic\c@section}
12810 }
12811 \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}
12812 \renewcommand{\thesubsubsection}{%
```

```

12813   \thesubsection.\@arabic\c@subsubsection}
12814   \renewcommand{\theparagraph}{%
12815   \thesubsubsection.\@arabic\c@paragraph}
12816   \renewcommand{\thesubparagraph}{%
12817   \theparagraph.\@arabic\c@subparagraph}
12818   \@ifundefined{chapter}{%
12819       \renewcommand{\thefigure}{\@arabic\c@figure}
12820       \renewcommand{\thetable}{\@arabic\c@table}
12821   }{%
12822       \renewcommand{\thefigure}{%
12823           \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}
12824       \renewcommand{\thetable}{%
12825           \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}
12826   }
12827 }
12828
12829 \@ifclassloaded{ujarticle}{\LWR@patchujtclasses}{}%
12830 \@ifclassloaded{ujbook}{\LWR@patchujtclasses}{}%
12831 \@ifclassloaded{ujreport}{\LWR@patchujtclasses}{}%
12832 \@ifclassloaded{utarticle}{\LWR@patchujtclasses}{}%
12833 \@ifclassloaded{utbook}{\LWR@patchujtclasses}{}%
12834 \@ifclassloaded{utreport}{\LWR@patchujtclasses}{}%
12835 \@ifclassloaded{ltjarticle}{\LWR@patchujtclasses}{}%
12836 \@ifclassloaded{ltjbook}{\LWR@patchujtclasses}{}%
12837 \@ifclassloaded{ltjreport}{\LWR@patchujtclasses}{}%
12838 \@ifclassloaded{ltjsarticle}{\LWR@patchujtclasses}{}%
12839 \@ifclassloaded{ltjsbook}{\LWR@patchujtclasses}{}%
12840 \@ifclassloaded{ltjsreport}{\LWR@patchujtclasses}{}%
12841 \@ifclassloaded{ltjskiyou}{\LWR@patchujtclasses}{}%
12842 \@ifclassloaded{ltjspf}{\LWR@patchujtclasses}{}%
12843 \@ifclassloaded{ltjarticle}{\LWR@patchujtclasses}{}%
12844 \@ifclassloaded{ltjtbook}{\LWR@patchujtclasses}{}%
12845 \@ifclassloaded{ltjtreport}{\LWR@patchujtclasses}{}%
12846 \end{warpHTML}

```

100 CTEX patches

Patches for `ctex` and related classes, which are loaded before `lwarp`.

All CTEX classes and the `ctex` package seem to load `ctexpatch`, so its presence is used to decide whether to have `lwarp` patch CTEX.

for HTML output: 12847 \begin{warpHTML}

\AtBeginDocument in case the user set `FileSectionNames` in the preamble.

```

12848 \AtBeginDocument{
12849   \@ifpackageloaded{ctexpatch}{%
12850       \def\@partcntformat{\%}
12851           \LWR@isolate{\CTEX@partname}\%
12852           \CTEX@part@aftername\%

```

```

12853      }%
12854
12855      \def\@partnameformat{%
12856
12857      \def\@chapcntformat#1{%
12858          \LWR@isolate{\CTEX@chaptername}%
12859          \CTEX@chapter@aftername%
12860      }%
12861  }{}%
12862 }

12863 \end{warpHTML}

```

101 kotexutf patches

Patch for `kotexutf`, which is loaded before `lwarp`.

`kotexutf`'s `\@setref` was conflicting with `lwarp`'s cross references.

for HTML output: 12864 `\begin{warpHTML}`

If `kotexutf`'s version of `\@setref` is detected, it is reverted to the original.

```

12865 \AtBeginDocument{%
12866 \@ifpackageloaded{kotexutf}{%
12867     \def\LWR@kotexutf@setref#1#2#3{%
12868         \@setref@dhucs@orig{#1}{#2}{#3}%
12869         \ifx#1\relax\else
12870             \bgroup
12871             \dhucs@make@cjkchar@null
12872             \edef@\temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
12873             \egroup
12874         \fi%
12875     }%
12876
12877     \ifdefequal{\@setref}{\LWR@kotexutf@setref}{%
12878         \let\@setref\@setref@dhucs@orig
12879     }{}%
12880 }{}%
12881 }

12882 \end{warpHTML}

```

102 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. . . . \begindocumenthook
```

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: 12883 \begin{warpHTML}
12884 \AtBeginDocument{
12885
12886 \@ifpackageloaded{polyglossia}{
12887     \PackageWarningNoLine{lwarp}
12888     {%
12889         Polyglossia has been loaded. Lwarp also uses cleveref.\MessageBreak
12890         See the cleveref documentation regarding\MessageBreak
12891         polyglossia support. Some languages are not supported%
12892     }
12893     \typeout{---}
12894     \typeout{Package lwarp:}
12895     \typeout{If the error}
12896     \typeout{\space\space‘‘! Undefined control sequence.
12897             \space ... \space \protect\@begindocumenthook’’}
12898     \typeout{occurs here, use the polyglossia macro:}
12899     \typeout{\space\space\space\protect\setmainlanguage\protect... \protect}}
12900     \typeout{---}
12901 }{
12902     \@ifpackageloaded{babel}{

12903         \PackageWarningNoLine{lwarp}
12904         {%
12905             Babel has been loaded. Lwarp also uses cleveref.\MessageBreak
12906             See the cleveref documentation regarding\MessageBreak
12907             babel support. Some languages are not supported%
12908         }
12909     }{}}
12910 }
12911
12912 }
12913 \end{warpHTML}
```

103 MATHJAX warnings

```
\LWR@mathjaxwarn {⟨packagename⟩} {⟨More text.⟩}
```

To be done \AtBeginDocument.

```
12914 \newcommand*{\LWR@mathjaxwarn}[2]{%
12915     \@ifpackageloaded{l warp-#1}{%
12916         \ifblank{#2}{%
12917             \PackageWarningNoLine{l warp}%
12918             {%
12919                 L warp provides emulation for MathJax when used\MessageBreak
12920                 with the #1 package%%
12921             }%
12922         }{%
12923             \PackageWarningNoLine{l warp}%
12924             {%
12925                 L warp provides emulation for MathJax when used\MessageBreak
12926                 with the #1 package.\MessageBreak
12927                 #2%
12928             }%
12929         }%
12930     }{%
12931 }
12932
12933 \AtBeginDocument{%
12934     \ifbool{mathjax}{%
12935         \LWR@mathjaxwarn{arydshln}%
12936             {In a math array, do not use the optional argument\MessageBreak
12937             for \protect\cdashline.\space\space%
12938             Furthermore, \protect\cline\space is not\MessageBreak
12939             supported by MathJax}%
12940         \LWR@mathjaxwarn{autonum}%
12941             {MathJax does not support equation+.\MessageBreak
12942             You may use the warpprint and warpHTML\MessageBreak
12943             environments to isolate the package load\MessageBreak
12944             and the equation+ environments}%
12945         \LWR@mathjaxwarn{backnaur}%
12946             {You may enclose its uses inside\MessageBreak
12947             lateximage environments to force SVG output,\MessageBreak
12948             but this also changes the print output}%
12949         \LWR@mathjaxwarn{bigdelim}%
12950             {Delimiters appear only of the first line}%
12951         \LWR@mathjaxwarn{booktabs}%
12952             {In a math array, do not use (trim) for \protect\cmidrule}%
12953         \LWR@mathjaxwarn{breqn}%
12954             {Each environment becomes an SVG image}%
12955         \LWR@mathjaxwarn{delarray}%
12956             {Enclose its uses inside lateximage\MessageBreak
12957             environments to force SVG output}%
12958         \LWR@mathjaxwarn{jkmath}{}%
12959         \LWR@mathjaxwarn{mathspec}{}%
12960         \LWR@mathjaxwarn{multirow}%
12961             {Multirow works as expected in text mode, but\MessageBreak}
```

```
12962      limited emulation is provided for MathJax math.\MessageBreak
12963      \protect\multirow\space ignores all arguments except\MessageBreak
12964      the text}
12965      \LWR@mathjaxwarn{pb-diagram}
12966      {Enclose its uses inside \textrimage environments\MessageBreak
12967      to force SVG output}
12968      \LWR@mathjaxwarn{physics}
12969      {The third-party extension is not used.\MessageBreak
12970      Avoid automatic delimiters.\MessageBreak
12971      Use all mandatory arguments, adding empty as needed.\MessageBreak
12972      See the L warp manual for details}
12973      \LWR@mathjaxwarn{unicode-math}
12974      {Not all characters are encoded correctly.\MessageBreak
12975      Some symbol fonts are not supported by MathJax,\MessageBreak
12976      and are only approximated}
12977      \LWR@mathjaxwarn{witharrows}
12978      {Arrows can only point to the next line.\MessageBreak
12979      Text is only placed on a single line}
12980      \LWR@mathjaxwarn{xy}
12981      {xy works in text, but in math you must\MessageBreak
12982      enclose its uses inside \textrimage\MessageBreak
12983      environments to force SVG output}
12984  }{}
12985 }
```

File 2 l warp-2in1.sty**§ 104 Package 2in1**

Pkg 2in1 2in1 is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{2in1}

File 3 l warp-2up.sty**§ 105 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 l warp-a4.sty**§ 106 Package a4**

Pkg a4 a4 is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{a4}[2004/04/15]

```
2 \newcommand*\WideMargins{}
```

File 5 l warp-a4wide.sty**§ 107 Package a4wide**

Pkg a4wide a4wide is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]

File 6 l warp-a5comb.sty**§ 108 Package a5comb**

Pkg a5comb a5comb is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{a5comb}

File 7 l warp-abstract.sty**§ 109 Package abstract**

(Emulates or patches code by PETER WILSON.)

Pkg abstract abstract is supported and patched by l warp.

 **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, l warp 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 l warp-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{\@bsruntitl}{%
12 \hspace*{\abstitleskip}%
13 {\abstractnamefont}%
14 \InlineClass{abstractrunintitle}{\abstractname}%
15 \@bslabeldelim}%
16 }

17 \@ifclassloaded{memoir}
18 {
19   \renewenvironment{abstract}{%
20 %     \titlepage
21 %     \null\vfil
22 %     \begin{par penalty}\lowpenalty
23   \setup@bstrct
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 %         \end{par penalty}\@M
35   \end{\absnamepos}%
36   \vspace{\abstitleskip}%
37   \fi
38 %   \fi
39 %   \vspace{\abstitleskip}%
40   \fi
41   \put@bsintoc%
42   \begin{@bstrctlist}\if@bsrunin\@bsruntitl\fi\abstracttextfont}%
43   {\par\end{@bstrctlist}\% \vf il\null\% \endtitlepage
44 }

45 }{\% not memoir
46 \if@titlepage
47   \renewenvironment{abstract}{%
48 %     \titlepage
49   \null\vfil
50   \begin{par penalty}\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   \end{par penalty}\@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 l warp-academicons.sty

§ 110 Package **academicons**

(Emulates or patches code by Diogo A. B. FERNANDES.)

Pkg academicons academicons is patched for use by l warp.

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\csname aiicon@#1\endcsname%
23   \end{lateximage}%
24 }
```

File 9 **l warp-afterpage.sty**

§ 111 Package **afterpage**

(Emulates or patches code by DAVID CARLISLE.)

Pkg **afterpage** **afterpage** is emulated.

for HTML output: Discard all options for **l warp-afterpage**:

```

1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]

2 \newcommand{\afterpage}[1]{#1}
```

File 10 **l warp-accessibility.sty**

§ 112 Package **accessibility**

Pkg **accessibility** **accessibility** is emulated.

for HTML output: Discard all options for **l warp-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 **l warp-accsupp.sty**

§ 113 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]{}

```

For MATHJAX:

```

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\BeginAccSupp}[1]{}}
6 \CustomizeMathJax{\newcommand{\EndAccSupp}[1]{}}
7 \end{warpMathJax}

```

File 12 **l warp-acro.sty**

§ 114 Package **acro**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg acro acro is patched for use by l warp.

 **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 l warp has not yet made the dollar active, so temporarily enable l warp math catcode just for this definition:

```

2 \ExplSyntaxOn
3 \NewDocumentCommand \LWR@DeclareAcronym {m}
4 {
5     \acro_declare_acronym:n {#1} {#2}
6     \catcode`\$=3% l warp
7 }
8 \ExplSyntaxOff
9
10 \RenewDocumentCommand{\DeclareAcronym}{}{
11     \catcode`\$=\active% l warp
12     \LWR@DeclareAcronym
13 }

```

Modified to activate the current font:

```
14 \ExplSyntaxOn
15 \@ifpackagelater{acro}{2020/04/29}%
16 {}% v3 or later
17 {}% before v3
18 \@ifpackagelater{acro}{2019/09/23}%
19 {}% v2.10 or later
20 \cs_gset_protected:Npn \__acro_typeset:nn #1#2
21 {
22     \mode_if_horizontal:F { \leavevmode }
23     \group_begin:
24         \use:x
25         {
26             \bool_if:cTF {\l__acro_custom_#1_format_bool}
27             { \exp_not:v {\l__acro_custom_#1_format_tl} }
28             { \exp_not:v {\l__acro_#1_format_tl} }
29             {\exp_not:N\LWR@textcurrentfont{#2}}% lwarp
30         }
31     \group_end:
32 }
33
34 \cs_gset_protected:Npn \__acro-ending_format:nn #1#2
35 {
36     \bool_if:NTF \l__acro_include_endings_format_bool
37     {
38         \str_case:nn {#1}
39         {
40             {long}
41             {
42                 \bool_if:NTF \l__acro_custom_long_format_bool
43                 { \l__acro_custom_long_format_tl }
44                 {
45                     \bool_if:NTF \l__acro_first_instance_bool
46                     { \l__acro_first_long_format_tl }
47                     { \l__acro_long_format_tl }
48                 }
49             }
50             {short}
51             {
52                 \bool_if:NTF \l__acro_custom_short_format_bool
53                 { \l__acro_custom_short_format_tl }
54                 { \l__acro_short_format_tl }
55             }
56             {alt}
57             {
58                 \bool_if:NTF \l__acro_custom_alt_format_bool
59                 { \l__acro_custom_alt_format_tl }
60                 { \l__acro_alt_format_tl }
61             }
62         }
63     }
64     { \use:n }
65     {\exp_not:N\LWR@textcurrentfont{#2}}% lwarp
66 }
```

```
67 }% v2.10 or later
68 {%
69 \cs_gset_protected:Npn \acro_write_short:nn #1#2
70 {
71     \mode_if_horizontal:F { \leavevmode }
72     \group_begin:
73         \bool_if:NTF \l__acro_custom_format_bool
74             { \l__acro_custom_format_tl }
75             { \l__acro_short_format_tl }
76             {\LWR@textcurrentfont{#2}}% lwarp
77     \group_end:
78 }
79
80 \cs_gset_protected:Npn \acro_write_alt:nn #1#2
81 {
82     \mode_if_horizontal:F { \leavevmode }
83     \group_begin:
84         \bool_if:NTF \l__acro_custom_format_bool
85             { \l__acro_custom_format_tl }
86             { \l__acro_alt_format_tl }
87             {\LWR@textcurrentfont{#2}}% lwarp
88     \group_end:
89 }
90
91 \cs_gset_protected:Npn \acro_write_long:nn #1#2
92 {
93     \mode_if_horizontal:F { \leavevmode }
94     \group_begin:
95         \bool_if:NTF \l__acro_custom_long_format_bool
96             { \l__acro_custom_long_format_tl }
97             { \use:n }
98     {
99         \use:x
100     {
101         \exp_not:n {#1}
102     {
103         \bool_if:NTF \l__acro_first_upper_bool
104             { \exp_not:N \__acro_first_upper_case:n { \exp_not:n {
105                 \LWR@textcurrentfont{#2}}% lwarp
106             } } }
107             { \exp_not:n {\LWR@textcurrentfont{#2}} }% lwarp
108     }
109 }
110 }
111 \group_end:
112 }
113 }% before v2.10
114 }% before v3
115 \ExplSyntaxOff
```

File 13 `lwarp-acronym.sty`
§ 115 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@htmlelementclass{nav}{#1}
10 \LetLtxMacro{\verridelabel}{\gobble}
11 \LWR@orig@starttoc{#1}
12 \LWR@htmlelementclassend{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 l warp-adjmulticol.sty**§ 116 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, l warp allows a variable number of columns up to three.

for HTML output: 1 \LWR@ProvidesPackageDrop{adjmulticol}[2012/01/20]

2 \RequirePackage{multicol}

adjmultcols * {\langle numcols \rangle} {\langle left margin \rangle} {\langle right margin \rangle}

3 \NewDocumentEnvironment{adjmultcols}{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@mcoltype}{multicols}%
10 \ifnumcomp{#2}{=}{1}{\renewcommand*{\LWR@mcoltype}{singlecolumn}}{}%

Help avoid page overflow:

11 \LWR@forcenewpage%

Create the <div> with the given margin and class:

12 \BlockClass[%
13 \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
14 \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}%
15]{\LWR@mcoltype}%
16 }
17 {\endBlockClass}

File 15 l warp-addlines.sty**§ 117 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 l warp-afterpage.sty**§ 118 Package afterpage**

(Emulates or patches code by DAVID CARLISLE.)

Pkg afterpage afterpage is emulated.

for HTML output: Discard all options for l warp-afterpage:

```
1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]
2 \newcommand{\afterpage}[1]{#1}
```

File 17 l warp-algorithm2e.sty**§ 119 Package algorithm2e**

(Emulates or patches code by CHRISTOPHE FIORIO.)

Pkg algorithm2e algorithm2e is patched for use by l warp.

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 }
```

```

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{%
53 \boolfalse{LWR@algocf@dopars}%
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}%
66 }

```

Line numbers are printed in a of class alg2elinenumber:

```

67 \renewcommand{\algocf@printlnl}[1]{%
68   \InlineClass{alg2elinenumber}{\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}%
78 }
79
80 \renewcommand{@algocf@finish}{%
81   \boolfalse{LWR@algocf@dopars}%
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@htmlltagc{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@seteveryparnl{\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 \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 **lwarf-algorithmicx.sty**

§ 120 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 of the required length, and comments are placed inside a which is floated right.

⚠ **package conflicts** If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 544.1.

for HTML output: 2 \begin{warpHTML}

```

3 \AtBeginEnvironment{algorithmic}{%
4 %
5 \let\origALG@doentity\ALG@doentity%
6 %
7 \renewcommand*\ALG@doentity{%
8 \origALG@doentity%
9 \LWR@htmltagc{%
10 span style="width:\LWR@printlength{\ALG@thistlm}; display:inline-block;"%
11 }%
12 \ifbool{FormatWP}{%
13 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
14 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
15 \quad%
16 \addtolength{\LWR@templengthone}{-1em}%
17 }%

```

```

18 }{ }%
19 \LWR@htmltagc{/span}%
20 }%
21
22 \let\LWR@origComment\Comment%
23
24 \renewcommand{\Comment}[1]{%
25     \InlineClass{floatright}{\LWR@origComment{#1}}%
26 }%
27 }
28
29 \renewcommand\algorithmiccomment[1]{%
30 \hfill\HTMLunicode{25B7} #1% white right triangle
31 }%

32 \end{warpHTML}

```

File 19 **lwarp-alltt.sty**

§ 121 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 \AtBeginEnvironment{alltt}{%
5     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
6         {}%
7         {%
8             \LWR@forcenewpage
9             \LWR@atbeginverbatim{3}{alltt}%
10        }%
11    }%
12 \AfterEndEnvironment{alltt}{%
13     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
14         {}%
15         {%
16             \LWR@afterendverbatim{2}%
17         }%
18    }%
19 }

```

File 20 **lwarp-amsmath.sty**

§ 122 Package **amsmath**

(Emulates or patches code by AMERICAN MATHEMATICAL SOCIETY, LATEX3 PROJECT.)

Pkg amsmath amsmath is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{amsmath}[2017/09/02]

Patches to allow \eqref inside a caption:

```
2 \def\maketag@@#1{\text{\#1}}
3 \def\tagform@#1{\maketag@@{\ignorespaces#1\unskip})}
```

Patches for \mathcal{AM} S math \tag macro to remember the first tag:

```
4 \ifbool{mathjax}{}{\% not mathjax
5
6 \LetLtxMacro{\LWR@origmake@df@tag@@}{\make@df@tag@@}
7 \LetLtxMacro{\LWR@origmake@df@tag@@@}{\make@df@tag@@@}
8
9 \renewcommand*{\make@df@tag@@}[1]{%
10 \LWR@remembertag{\#1}%
11 \LWR@origmake@df@tag@@{\#1}%
12 }
13
14 \renewcommand*{\make@df@tag@@@}[1]{%
15 \LWR@remembertag{\#1}%
16 \LWR@origmake@df@tag@@@{\#1}%
17 }
18
19 }% not mathjax
```

For nesting \mathcal{AM} S environments:

```
20 \newcounter{LWR@amsmathdepth}
21 \setcounter{LWR@amsmathdepth}{0}
```

The following \mathcal{AM} S environments are patched in-place:

\LWR@amsmathenv@@before * {\langle environment name \rangle}
 * if the environment was starred.
 Embeds the environment inside a \textrimage.

```
22 \NewDocumentCommand{\LWR@amsmathenv@@before}{s m}{%
23   \IfBooleanTF{\#1}{%
24     \begin{BlockClass}{displaymath}
25   }{%
26     \begin{BlockClass}{displaymathnumbered}
27   }
28   \LWR@newautoidanchor%
29   \booltrue{\LWR@indisplaymathimage}%
30   \begin{textrimage}[\LWR@amsmathbodynumbered{\#1}]*
31   \LWR@applyxfakebold%
32 }
```

\LWR@amsmathenv@@before * {\langle environment name \rangle}

* if the environment was starred.

Embeds the environment with MATHJAX or a `lateximage`.

```

33 \NewDocumentCommand{\LWR@amsmathenv@before}{s m}{%
34     \ifnumequal{\value{\LWR@amsmathdepth}}{0}{%
35         \LWR@stoppars%
36         \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
37             {
38                 \LWR@syncmathjax
39                 \boolfalse{\LWR@amsmultiline}
40                 \ifstrequal{#2}{multline}{\booltrue{\LWR@amsmultiline}}{}%
41                 \ifstrequal{#2}{multline*}{\booltrue{\LWR@amsmultiline}}{}%

```

 autonum's "+" environments are not supported by MATHJAX.

```

42         \LWR@beginhideamsmath
43     }
44     {
45         \IfBooleanTF{#1}{%
46             \LWR@amsmathenv@@before*{#2}
47         }{%
48             \LWR@amsmathenv@@before{#2}
49         }
50     }
51 }
52 \addtocounter{\LWR@amsmathdepth}{1}
53 }
```

`\LWR@amsmathenv@@after`

Embeds the environment inside a `lateximage`.

```

54 \newcommand*{\LWR@amsmathenv@@after}{%
55     \end{lateximage}\end{BlockClass}\LWR@startpars%
56 }
```

`\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`.

```

57 \NewDocumentCommand{\LWR@amsmathenv@after}{s m}{%
58     \ifnumequal{\value{\LWR@amsmathdepth}}{1}{%
59         \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
60             {
61                 \LWR@endhideamsmath
62                 \boolfalse{\LWR@amsmultiline}
63                 \LWR@addmathjax{#2}{\the\@envbody}
64             }
65             {\LWR@amsmathenv@@after}

```

Clear the single-use alt text:

```

66     \gdef\LWR@ThisAltText{}%
67 }
68 \addtocounter{\LWR@amsmathdepth}{-1}
69 }
```

```
Env  multiline
      70 \BeforeBeginEnvironment{multiline}{\LWR@amsmathenv@before{multiline}}
      71
      72 \AfterEndEnvironment{multiline}{\LWR@amsmathenv@after{multiline}}
Env  multiline*
      73 \BeforeBeginEnvironment{multiline*}{\LWR@amsmathenv@before*{multiline*}}
      74
      75 \AfterEndEnvironment{multiline*}{\LWR@amsmathenv@after*{multiline*}}
      76
Env  gather
      77 \BeforeBeginEnvironment{gather}{\LWR@amsmathenv@before{gather}}
      78
      79 \AfterEndEnvironment{gather}{\LWR@amsmathenv@after{gather}}
Env  gather*
      80 \BeforeBeginEnvironment{gather*}{\LWR@amsmathenv@before*{gather*}}
      81
      82 \AfterEndEnvironment{gather*}{\LWR@amsmathenv@after*{gather*}}
Env  align
      83 \BeforeBeginEnvironment{align}{\LWR@amsmathenv@before{align}}
      84
      85 \AfterEndEnvironment{align}{\LWR@amsmathenv@after{align}}
Env  align*
      86 \BeforeBeginEnvironment{align*}{\LWR@amsmathenv@before*{align*}}
      87
      88 \AfterEndEnvironment{align*}{\LWR@amsmathenv@after*{align*}}
Env  flalign
      89 \BeforeBeginEnvironment{flalign}{\LWR@amsmathenv@before{flalign}}
      90
      91 \AfterEndEnvironment{flalign}{\LWR@amsmathenv@after{flalign}}
Env  flalign*
      92 \BeforeBeginEnvironment{flalign*}{\LWR@amsmathenv@before*{flalign*}}
      93
      94 \AfterEndEnvironment{flalign*}{\LWR@amsmathenv@after*{flalign*}}
```

```

Env  alignat
      95 \BeforeBeginEnvironment{alignat}{\LWR@amsmathenv@before{alignat}}
      96
      97 \AfterEndEnvironment{alignat}{\LWR@amsmathenv@after{alignat}}


Env  alignat*
      98 \BeforeBeginEnvironment{alignat*}{\LWR@amsmathenv@before*{alignat*}}
      99
     100 \AfterEndEnvironment{alignat*}{\LWR@amsmathenv@after*{alignat*}}


     101 \AtBeginEnvironment{subequations}{

     102   \renewcommand*{\theMathJaxsubequations}{1}
     103   \renewcommand*{\theMathJaxsection}{\theparentequation}
     104   \renewcommand*{\theMathJaxequation}{\arabic{equation}}
     105 }

```

For MATHJAX:

```

106 \begin{warpMathJax}
107 \CustomizeMathJax{\newcommand{\intertext}[1]{\text{\#1}\notag \\}}
108 \end{warpMathJax}

```

File 21 **lwarp-amsthm.sty**

§ 123 Package **amsthm**

(Emulates or patches code by PUBLICATIONS TECHNICAL GROUP—AMERICAN MATHEMATICAL SOCIETY.)

The original source code is located in `amsclass.dtx`, and printed in `amsclass.pdf`.

Pkg `amsthm` `amsthm` is patched for use by `lwarp`.

Table 16: `amsthm` package—css styling of theorems and proofs

Theorem: <div> of class `amsthmbody`<theoremstyle>

Theorem Name: of class `amsthmname`<theoremstyle>

Theorem Number: of class `amsthmnumber`<theoremstyle>

Theorem Note: of class `amsthmnote`<theoremstyle>

Proof: <div> of class `amsthmproof`

Proof Name: of class `amsthmproofname`

where <theoremstyle> is plain, definition, etc.

for HTML output: amsthm must be loaded before mdframed:

```

1 \@ifpackageloaded{mdframed}{
2     \PackageError{l warp}
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 {}

15 \LWR@ProvidesPackagePass{amsthm}[2017/10/31]
```

Storage for the style being used for new theorems:

```
16 \newcommand{\LWR@newtheoremstyle}{plain}
```

Patched to remember the style being used for new theorems:

```

17 \renewcommand{\theoremstyle}[1]{%
18     \@ifundefined{th@#1}{%
19         \PackageWarning{amsthm}{Unknown theoremstyle '#1'}%
20         \thm@style{plain}%
21         \renewcommand{\LWR@newtheoremstyle}{plain}\% l warp
22     }{%
23         \thm@style{#1}%
24         \renewcommand{\LWR@newtheoremstyle}{#1}\% l warp
25     }%
26 }
```

Patched to remember the style for this theorem type:

```

27 \def\@xnthm#1#2{%
28     \csedef{\LWR@thmstyle#2}{\LWR@newtheoremstyle}\% l warp
29     \let@tempa\relax
30     \@xp\@ifdefinable\csname #2\endcsname{%
31         \global\@xp\let\csname end#2\endcsname\@endtheorem
32         \ifx *#1% unnumbered, need to get one more mandatory arg
33             \edef@tempa##1{%
34                 \gdef\@xp\@nx\csname#2\endcsname{%
35                     \@nx\@thm{\@xp\@nx\csname th@\the\thm@style\endcsname}%
36                     {}{##1}}%
37             \else % numbered theorem, need to check for optional arg
38                 \def@tempa{\@oparg{\@ynthm{#2}}[]}\%
39             \fi
40             \AtBeginEnvironment{#2}{%
41                 \edef\LWR@thisthmstyle{\@nameuse{\LWR@thmstyle#2}}\%
42             }%
43         l warp
44     }%
```

```
44 \@tempa
45 }
```

Patched to enclose with css:

```
46 \newcommand{\LWR@haveamsthmname}%
47   \renewcommand{\thmname}[1]{%
48     \InlineClass{amsthmname\LWR@thisthmstyle}{##1}%
49   }
50 }
51
52 \newcommand{\LWR@haveamsthmnumber}%
53   \renewcommand{\thmnumber}[1]{%
54     \InlineClass{amsthmnumber\LWR@thisthmstyle}{##1}%
55   }
56 }
57
58 \newcommand{\LWR@haveamsthmnote}%
59   \renewcommand{\thmnote}[1]{%
60     \InlineClass{amsthmnote\LWR@thisthmstyle}{##1}%
61   }
62 }
63
64 \LWR@haveamsthmname
65 \LWR@haveamsthmnumber
66 \LWR@haveamsthmnote
```

Patched for css:

```
67 \def\@begintheorem#1#2[#3]{%
68   \GetTitleString{#3}%
69   \let\@currentlabelname\GetTitleStringResult% lwarp
70   \item[%
71 %   \deferred@thm@head{%
72 %     \the\thm@headfont \thm@indent
73 %     \@ifempty{#1}{\let\thmname\@gobble}{\LWR@haveamsthmname}%
74 %     \@ifempty{#2}{\let\thmnumber\@gobble}{\LWR@haveamsthmnumber}%
75 %     \@ifempty{#3}{\let\thmnote\@gobble}{\LWR@haveamsthmnote}%
76 %     \thm@swap\swappedhead\thmhead{#1}{#2}{#3}%
77 %     \the\thm@headpunct%
78 %     \thmheadnl % possibly a newline.
79 %     \hskip\thm@headsep
80 %   }%
81   ]
82   \ignorespaces}
```

Patched for css:

```
83 \def\@thm#1#2#3{%
84   \ifhmode\unskip\unskip\par\fi
85   \normalfont
86   \LWR@forcenewpage%
```

```

87  \BlockClass{amsthmbody\LWR@thisthmstyle}%
88  \trivlist
89  \let\thmheadnl\relax
90  \let\thm@swap\@gobble
91  \thm@notefont{\fontseries\mddefault\upshape}%
92  \thm@headpunct{.}% add period after heading
93  \thm@headsep 5\p@ plus\p@ minus\p@\relax
94  \thm@space@setup
95  #1% style overrides
96  \@topsep \thm@preskip          % used by thm head
97  \@topsepadd \thm@postskip      % used by \@endparenv
98  \def\@tempa{\#2}\ifx\empty\@tempa
99    \def\@tempa{\oparg{\begintheorem{#3}{}[]}}%
100 \else
101   \refstepcounter{#2}%
102   \def\@tempa{\oparg{\begintheorem{#3}{\csname the#2\endcsname}[]}}%
103 \fi
104 \@tempa
105 }

```

`cleveref` patches `\@thm` to do `\cref@thmoptarg` if an optional argument is given. `l warp` then patches `\cref@thmoptarg` `\AtBeginDocument`.

```

106 \AtBeginDocument{%
107 \def\cref@thmoptarg[#1]#2#3#4{%
108   \ifhmode\unskip\unskip\par\fi%
109   \normalfont%
110   \LWR@forcenewpage% l warp
111   \BlockClass{amsthmbody\LWR@thisthmstyle}%
112   \trivlist
113   \let\thmheadnl\relax%
114   \let\thm@swap\@gobble%
115   \thm@notefont{\fontseries\mddefault\upshape}%
116   \thm@headpunct{.}% add period after heading
117   \thm@headsep 5\p@ plus\p@ minus\p@\relax%
118   \thm@space@setup%
119   #2% style overrides
120   \@topsep \thm@preskip          % used by thm head
121   \@topsepadd \thm@postskip      % used by \@endparenv
122   \def\@tempa{\oparg{\begintheorem{#4}{}[]}}%
123     \def\@tempa{\oparg{\begintheorem{#4}{\csname the#3\endcsname}[]}}%
124   \else%
125     \refstepcounter{#1}{#3}%%<< cleveref modification
126     \def\@tempa{\oparg{\begintheorem{#4}{\csname the#3\endcsname}[]}}%
127   \fi%
128   \@tempa
129 }%
130 }% AtBeginDocument
131
132 \def\endtheorem{\endtrivlist\endBlockClass\endpefalse}

```

Proof QED symbol:

```

133 \AtBeginDocument{%
134 \ifundefined{LWR@orig@openbox}{%

```

```

135 \LetLtxMacro{\LWR@orig}{\openbox{\openbox}
136 \LetLtxMacro{\LWR@orig}{\blacksquare{\blacksquare}
137 \LetLtxMacro{\LWR@orig}{\Box{\Box}}
138
139 \def{\openbox{\text{\HTMLunicode{25A1}}}}% UTF-8 white box
140 \def{\blacksquare{\text{\HTMLunicode{220E}}}}% UTF-8 end-of-proof
141 \def{\Box{\text{\HTMLunicode{25A1}}}}% UTF-8 white box
142
143 \appto{\LWR@restoreorigformatting}{%
144   \LetLtxMacro{\openbox}{\LWR@orig{\openbox}}
145   \LetLtxMacro{\blacksquare}{\LWR@orig{\blacksquare}}
146   \LetLtxMacro{\Box}{\LWR@orig{\Box}}
147 }% appto
148 }{}% @ifundefined
149 }% AtBeginDocument

```

Patched for css:

```

150 \renewenvironment{proof}[1][\proofname]{\par
151 \LWR@forcenewpage% lwarp
152   \BlockClass{amsthmproof}% lwarp
153   \pushQED{\qed}%
154   \normalfont \topsep6\p@\relax\plus6\p@\relax
155   \trivlist
156   \item[%
157     \InlineClass{amsthmproofname}{\#1\@addpunct{.}}]\ignorespaces% changes
158 }{%
159   \InlineClass{theoremendmark}{\popQED}\endtrivlist%
160   \endBlockClass% lwarp
161   \endeffalse
162 }

```

File 22 **lwarp-anonchap.sty**

§ 124 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^AT_EX commands to create the titles, allowing other packages to work with it.

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 }

```

⚠ tocloft & other packages

```
7  
8 \newcommand{\restorechapter}{%  
9 \let\@chapcntformat\@seccntformat%  
10 }
```

File 23 l warp-any size.sty**§ 125 Package any size**

(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)

Pkg any size any size is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{any size}[1994/08/13]

```
2 \def\papersize#1#2{}  
3 \def\marginsize#1#2#3#4{}
```

File 24 l warp-appendix.sty**§ 126 Package appendix**

(Emulates or patches code by PETER WILSON.)

Pkg appendix appendix is patched for use by l warp.

⚠ **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 25 l warp-ar.sty

§ 127 Package **ar**

(Emulates or patches code by AGOSTINO DE MARCO.)

Pkg ar ar is patched for use by l warp.

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 `\teximage`, additionally hashed by the font series, with a width depending on the given glyph:

```
10 \begin{teximage}*[\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}{\fi}
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```
13 \end{teximage}%
14 }
```

Combine the print and HTML versions:

```
15 \LWR@formatted{AR}
```

```
16 \newrobustcmd*{\LWR@HTML@ARb}{%
17   \begin{teximage}*[\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 26 **lwarf-arabicfront.sty**

§ 128 Package **arabicfront**

Pkg arabicfront arabicfront is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

File 27 **lwarf-array.sty**

§ 129 Package **array**

Pkg array array is used as-is for print output, and emulated for HTML.

plarray and plexarray do not affect \firsthline or \lasthline, and so are not affected by the following.

for HTML output: Remove the default nullified 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 28 l warp-arydshln.sty

§ 130 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\hdashlinewidth\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*{\ADLnoshorthanded}{}
17 \newcommand*{\dashgapcolor}[2][]{}
18 \newcommand*{\nodashgapcolor}{}{}
```

In a `lateximage`, revert to solid vertical rules:

```

19 \appto\LWR@restoreorigformatting{%
20 \newcolumntype{:}{|}%
21 \newcolumntype{;}{|}{|}%
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@hcline\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@\tempcpta
55 %           \xdef\adl@rowsL{\adl@rowsL
56 %               (#1/\number\@tempcpta);}%
57 %           \xdef\adl@rowsR{\adl@rowsR
58 %               (#1/\number\@tempcpta);}
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{\firstdashline}[1][]{\hbox{--}}}
72 \CustomizeMathJax{\let\lastdashline\firstdashline}
73 \CustomizeMathJax{\let\cdashline\cline}
74 \end{warpMathJax}

```

File 29 **lwarf-asymptote.sty**

§ 131 Package **asymptote**

(Emulates or patches code by ANDY HAMMERLINDL, JOHN BOWMAN, TOM PRINCE.)

Pkg **asymptote** **asymptote** is patched for use by **lwarf**.

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 30 l warp-atbegshi.sty

§ 132 Package **atbegshi**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg atbegshi atbegshi is ignored.

for HTML output: Discard all options for l warp-atbegshi:

```

1 \LWR@ProvidesPackageDrop { atbegshi } [ 2011/10/05 ]

2 \newcommand* { \AtBeginShipout } [ 1 ] { }
3 \newbox \AtBeginShipoutBox
4 \newcommand* { \AtBeginShipoutNext } [ 1 ] { }
5 \newcommand* { \AtBeginShipoutFirst } [ 1 ] { }
6 \newcommand* { \AtBeginShipoutDiscard } { }
7 \newcommand* { \AtBeginShipoutInit } { }
8 \newcommand* { \AtBeginShipoutAddToBox } [ 1 ] { }
9 \newcommand* { \AtBeginShipoutAddToBoxForeground } [ 1 ] { }
10 \newcommand* { \AtBeginShipoutUpperLeft } [ 1 ] { }
11 \newcommand* { \AtBeginShipoutUpperLeftForeground } [ 1 ] { }
12 \newcommand* { \AtBeginShipoutOriginalShipout } [ 1 ] { }
13 \def \AtBeginShipoutBoxWidth { 0pt }
14 \def \AtBeginShipoutBoxHeight { 0pt }
15 \def \AtBeginShipoutBoxDepth { 0pt }
16

```

File 31 l warp-attachfile.sty

§ 133 Package **attachfile**

(Emulates or patches code by SCOTT PAKIN.)

Pkg attachfile attachfile is patched for use by l warp.

 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 32 l warp-attachfile2.sty

§ 134 Package **attachfile2**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg attachfile2 attachfile2 is patched for use by l warp.

 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}%
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 33 l warp-authblk.sty**§ 135 Package authblk**

(Emulates or patches code by PATRICK W. DALY.)

Pkg authblk authblk is patched for HTML.

package support l warp supports the native L^AT_EX 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 66.8.

(Emulates or patches code by PATRICK W. DALY.)

for HTML output: Require that authblk be loaded before titling:

```
1 \@ifpackageloaded{titling}{  
2     \PackageError{l warp-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 }
```

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 34 l warp-autobreak.sty**§ 136 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 35 **l warp-autonum.sty**

§ 137 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{aline+}}
32
33 \AfterEndEnvironment{align+}{\LWR@amsmathenv@@after}
34
35
36 \newenvironment{alignat+}{\alignat}{\endalignat}
37
38 \BeforeBeginEnvironment{alignat+}{\LWR@amsmathenv@@before{alineat+}}
39
40 \AfterEndEnvironment{alignat+}{\LWR@amsmathenv@@after}
41
42
43 \newenvironment{split+}{\split}{\endsplit}

```

File 36 **l warp-awesomebox.sty**

§ 138 Package **awesomebox**

(Emulates or patches code by ÉTIENNE DEPARIS.)

Pkg awesomebox **awesomebox** is patched for use by **l warp**.

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 { O{abvrulecolor} O{} 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}{ O{abvrulecolor} O{} 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   \ifdef\abShortLine{\#2}{%
27     \renewcommand*\{\LWR@awesomebox@contentsborders}{\LWR@awesomebox@ruleborders}%
28   }{%
29   \ifdef\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 37 lwarp-axessibility.sty

§ 139 Package **axessibility**

Pkg axessibility axessibility is ignored.

for HTML output:

```

1 \PackageInfo{lwarp}{Using the lwarp version of package ‘axessibility’.}%
2 \ProvidesPackage{lwarp-axessibility}%
3 no date is declared by the original
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 38 **l warp-axodraw2.sty**

§ 140 Package **axodraw2**

(Emulates or patches code by JOHN C. COLLINS, J.A.M. VERMASEREN.)

Pkg axodraw2 axodraw2 is patched for use by l warp.

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 39 **l warp-backnaur.sty**

§ 141 Package **backnaur**

(Emulates or patches code by ADRIAN P. ROBSON.)

Pkg backnaur backnaur is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{backnaur}[2019/06/18]

```

2 \renewenvironment{bnf}{\eqnarray}{\endeqnarray}
3 \renewenvironment{bnf*}{\csuse{eqnarray*}}{\csuse{endeqnarray*}}
```

File 40 l warp-backref.sty

§ 142 Package **backref**

(Emulates or patches code by DAVID CARLISLE AND SEBASTIAN RAHTZ.)

Pkg backref backref is patched for use by l warp.

⚠ 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 41 l warp-balance.sty

§ 143 Package **balance**

(Emulates or patches code by PATRICK W. DALY.)

Pkg balance balance is ignored.

for HTML output: Discard all options for l warp-balance:

```
1 \LWR@ProvidesPackageDrop{balance}[1999/02/23]  
  
2 \newcommand*\{\balance}{}  
3 \newcommand*\{\nobalance}{}  


---


```

File 42 l warp-bbding.sty

§ 144 Package **bbding**

(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)

Pkg bbding bbding is patched for use by l warp.

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{TwelweStar}
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 43 l warp-bib latex.sty

§ 145 Package **bib latex**

(Emulates or patches code by PHILIPP LEHMAN.)

Pkg **bib latex** When **bib latex** is used, modifications from **newfloat** may have to be undone.

for HTML output:

1. **l warp** uses **newfloat**.
2. For classes with chapters which **newfloat** does not know about, such as CTEX-related classes, **newfloat** may modify **\addtocontents**.
3. **bib latex**, though, wants to patch **\addtocontents**, which causes an error if **\addtocontents** has been changed.
4. Therefore, **\addtocontents** is restored to its original here, since **bib latex** 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 \protected\def\blx@imc@bibhyperref{  
16     \qifnextchar[%]  
17         {\blx@bibhyperref}  
18         {\blx@bibhyperref[\abx@field@entrykey]}  
19     }%  
20 \long\def\blx@bibhyperref[#1]{%  
21 %     \blx@sfsave  
22     \hyperlink{cite.\the\c@refsection}{%  
23 %         \blx@sfrst  
24         #2%  
25 %         \blx@sfsave  
26         }%  
27 %     \blx@sfrst%  
28 }% \def\blx@nohyperref[#1]{#2}%  
29  
30 \protected\long\def\blx@imc@bibhyperlink#1#2{  
31 %     \blx@sfsave  
32     \hyperlink{cite.\the\c@refsection:#1}{%  
33 %         \blx@sfrst  
34         #2%  
35 %         \blx@sfsave  
36         }%  
37 %     \blx@sfrst%  
38 }%  
39  
40 \protected\long\def\blx@imc@bibhypertarget#1#2{  
41 %     \blx@sfsave%  
42     \hypertarget{cite.\the\c@refsection:#1}{%  
43 %         \blx@sfrst  
44         #2%  
45 %         \blx@sfsave%  
46         }%  
47 %     \blx@sfrst%
```

```

49
50 \let\blx@ifhyperref\@firstoftwo
51 }

```

File 44 **l warp-bibunits.sty**

§ 146 Package **bibunits**

(Emulates or patches code by THORSTEN HANSEN.)

Pkg bibunits bibunits is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{bibunits}[2004/05/12]

2 \def\bu@bibdata{\BaseJobname}

File 45 **l warp-bigdelim.sty**

§ 147 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 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{\{}{\}}{.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}\sim\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}\sim}}
23 \CustomizeMathJax{\def\rdelim#1#2#3{\def\LWRbigdelim{\#1}\LWRrdelim}}
24 \end{warpMathJax}
```

File 46 lwarp-bigfoot.sty

§ 148 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\vtypefraction{0.7}
12 \def\FootnoteMinimum{1sp}
13 \def\FootnoteMainMinimum{0pt}
14 \newcount\bigfoottolerance
15 \bigfoottolerance=100
16 \providecommand\footnotecarryratio{2}

```

File 47 **lwarp-bigstrut.sty**

§ 149 Package **bigstrut**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

Pkg **bigstrut** **bigstrut** is used as-is for print or `\textrimage`, 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][]{}}
12 \end{warpMathJax}

```

File 48 **lwarp-bitpattern.sty**

§ 150 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 49 **l warp-blowup.sty**

§ 151 Package **blowup**

Pkg **blowup** **blowup** is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]

2 \newcommand*\blowUp[1]{}

```

File 50 **l warp-bm.sty**

§ 152 Package **bm**

(Emulates or patches code by DAVID CARLISLE, FRANK MITTELBACH.)

Pkg **bm** **bm** is patched for use by **l warp**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{bm}[2019/07/24]

```

\DeclareBoldMathCommand must only be used in the preamble, since it adds to the MATHJAX 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{\bm}[1]{\boldsymbol{#1}}}%
8 }
9
10 \onlypreamble{\DeclareBoldMathCommand}
11
12 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}
13 \end{warpMathJax}

```

File 51 **lwarf-booklet.sty**

§ 153 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 \else \sidebysidetrue
6 \newif\ifusandscape \else \uselandscapefalse
7 \newif\ifprintoption \else \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 52 **lwarp-bookmark.sty**

§ 154 Package **bookmark**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg bookmark bookmark is ignored.

for HTML output: Discard all options for `\warp-bookmark`:

1 \LWR@ProvidesPackageDrop{bookmark}[2016/05/17]

```
2 \newcommand*{\bookmarksetup}[1]{}
3 \newcommand*{\bookmarksetupnext}[1]{}
4 \newcommand*{\bookmark}[2][]{}
5 \newcommand*{\bookmarkdefinestyle}[2]{}
6 \newcommand*{\bookmarkget}[1]{}
7 \newcommand{\BookmarkAtEnd}[1]{}
```

File 53 **l warp-booktabs.sty**

§ 155 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 `l warp`, such as by `memoir`, use it as-is. If not, the `l warp` 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     \LWR@expandableformatted{addlinespace}%
63 }
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{\newcommand{\cmidrule}[2][]{}}% avoid (trim)
78 \CustomizeMathJax{\newcommand{\morecmidrules}{}}
79 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}
```

```
80 \CustomizeMathJax{\newcommand{\addlinespace}[1][]{}}
```

File 54 l warp-bophook.sty**§ 156 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 55 l warp-bounddvi.sty**§ 157 Package bounddvi**

Pkg bounddvi bounddvi is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]

File 56 l warp-boxedminipage.sty**§ 158 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 57 l warp-boxedminipage2e.sty**§ 159 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 58 l warp-braket.sty**§ 160 Package braket**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **braket** **braket** works as-is for HTML with SVG math. For MATHJAX, emulation is provided by MATHJAX macros.

for HTML output: 1 \LWR@ProvidesPackagePass{braket}% No date is provided by the file.

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\bra}[1]{\langle#1|}}
4 \CustomizeMathJax{\newcommand{\Bra}[1]{\left\langle\#1\right|}}
5 \CustomizeMathJax{\newcommand{\ket}[1]{|#1\rangle}}
6 \CustomizeMathJax{\newcommand{\Ket}[1]{\left|\#1\right\rangle}}
7 \CustomizeMathJax{\newcommand{\braket}[1]{\langle#1\rangle}}
8 \CustomizeMathJax{\newcommand{\Braket}[1]{\left\langle\#1\right\rangle}}
9 \CustomizeMathJax{\newcommand{\set}[1]{\{\#1\}}}
10 \CustomizeMathJax{\newcommand{\Set}[1]{\left\{\#1\right\}}}
11 \end{warpMathJax}
```

File 59 l warp-breakurl.sty**§ 161 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\burl\LWR@url
3
```

```

4 \NewDocumentCommand{\LWR@burlalb}{O{} +m m}{%
5   \LWR@ensuredoingapar%
6   \LWR@subhyperref{#2}%
7   \LWR@subhyperreftext{#3}%
8   \endgroup% restore catcodes
9 }
10
11 \newrobustcmd*\burlalt{%
12   \begingroup%
13   \LWR@linkcatcodes%
14   \LWR@burlalb%
15 }
16
17 \LetLtxMacro\urlalt\burlalt

```

File 60 **l warp-breqn.sty**

§ 162 Package **breqn**

(Emulates or patches code by MICHAEL J. DOWNES, MORTEN HØGHOLM.)

Pkg breqn breqn is patched for use by l warp.

⚠ 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 61 lwarp-bsheaders.sty

§ 163 Package **bsheaders**

Pkg bsheaders bsheaders is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]

File 62 **l warp-bxpapersize.sty**

§ 164 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 63 **l warp-bytefield.sty**

§ 165 Package **bytefield**

(Emulates or patches code by SCOTT PAKIN.)

Pkg **bytefield** **bytefield** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{bytefield}[2017/09/15]
2 \BeforeBeginEnvironment{bytefield}{%
3 \begin{latentimage}[-bytefield-\PackageDiagramAltText] %
4 }
5
6 \AfterEndEnvironment{bytefield}{\end{latentimage}}

File 64 **l warp-cancel.sty**

§ 166 Package **cancel**

Pkg **cancel** **cancel** is used as-is for SVG math, and emulated for HTML text output.

for HTML output: 1 \LWR@origRequirePackage{l warp-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 \ifcsempty{#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{%

```

File 65 l warp-canoniclayout.sty

§ 167 Package canoniclayout

Pkg canoniclayout canoniclayout is ignored.

for HTML output: s1 \LWR@ProvidesPackageDrop{canoniclayout}[2011/11/05]

```

2 \newcommand*\currentfontletters{}{%
3 \newcommand*\charactersperpage{}{%

```

File 66 l warp-caption.sty

§ 168 Package caption

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg caption caption is patched for use by l warp.

for HTML output:

```

1 \typeout{---}
2 \typeout{Packages l warp 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{caption\protect}.}
7 \typeout{---}
8
9 \LWR@ProvidesPackagePass{caption}[2020/01/03]

10 \long\def\caption@iibox@#1#2#3#4{%
11 %   \setbox@\tempboxa\hbox{#4}%
12 %   \caption@iibox{#1}{#2}{#3}%
13 %     [\wd@\tempboxa]%
14 %   []%                                \warp
15 %   [\captionbox@hj@default]%
16 %     {\unhbox@\tempboxa}%
17 %   {{#4}}%                                \warp
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     \minipagewidth%
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     \minipagewidth%
38     \parbox[b]{\linewidth}{%
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@@@make {<caption label>} {<caption text>}\n49 \renewcommand\caption@@@make[2]{%\n50 \LWR@traceinfo{caption@@@make}%\n51   \LWR@stoppars%\n52 %   \sbox{\tempboxa{#1}}%
```

```

53 %   \ifdim\wd@tempboxa=\z@
54 %     \let\caption@lsep\relax
55 %   \fi
56 % \caption@ifempty{#2}{%
57 %   \let\caption@lsep@\empty
58 %   \let\caption@tfmt@\firstofone
59 % }%
60 % \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

61 %   \caption@fmt
62 % {\ifcaption@star\else
63 %   \begingroup
64 %     \captionlabelfont
65 %       \LWR@isolate{#1}%
66 %   \endgroup
67 %   \fi}%
68 % {\ifcaption@star\else
69 %   \begingroup
70 %     \caption@iflf\captionlabelfont
71 %     \relax
72 %     \caption@lsep
73 %   \endgroup
74 %   \fi}%
75 % {{%
76 %   \captiontextfont
77 %   \let\\newline%
78 %   \caption@ifstrut
79 %     {\vrule\@height\ht\strutbox\@width\z@}%
80 %     {}%
81 %   \nobreak\hskip\z@skip % enable hyphenation
82 %   \LWR@isolate{\caption@tfmt{#2}}% lwarp
83 %   \caption@ifstrut
84 %     {\ifhmode\@finalstrut\strutbox\fi}%
85 %     {}%
86 %   }%
87 % \LWR@startpars% lwarp
88 \LWR@traceinfo{caption@@@make done}%
89 }

\caption@@make@ {()}{()}

90 \renewcommand{\caption@@make@}[2]{%
91   \caption@stepthecounter%
92   \caption@beginhook%
93     \caption@@@make{#1}{#2}%
94   \caption@endhook%
95 }

\caption@makecaption

96 \long\def\caption@makecaption#1#2{%
97 %   \caption@iftop
98 %     {\vskip\belowcaptionskip}%
99 %     {\caption@rule\vskip\abovecaptionskip}%

```

```

100  \caption@@make{\#1}{\#2}%
101 %    \caption@iftop
102 %      {\vskip\abovecaptionskip\caption@rule}%
103 %      {\vskip\belowcaptionskip}%
104 }
105
106 \AtBeginDocument{
107     \let\@makecaption\caption@makecaption
108 }

```

Redefined to look ahead for \centering, etc:

```

109 \AtBeginDocument{
110     \def\xfloat#1[#2]{%
111         \caption@ORI\xfloat{\#1}{\#2}%
112         \caption@settype{\#1}%
113         \LWR@futurenonspacelet\LWR@mynexttoken\LWR@floatalignment%
114     }%
115     \def\xdblfloat#1[#2]{%
116         \caption@ORI\xfloat{\#1}{\#2}%
117         \caption@settype{\#1}%
118         \LWR@futurenonspacelet\LWR@mynexttoken\LWR@floatalignment%
119     }%
120 }

```

Add non-breakable spaces:

```

121 \long\def\caption@lsep@default{.~}
122 \long\def\caption@lsep@colon{:~}
123 \long\def\caption@lsep@period{.~}
124 \long\def\caption@lsep@space{~}
125 \long\def\caption@lsep@endash{~\textendash~}
126 \long\def\caption@lsep@arabi{~:~}

127 \DeclareCaptionBox{none}{\#2}
128 \DeclareCaptionBox{parbox}{%
129     \#2%
130 }
131
132 \DeclareCaptionBox{colorbox}{%
133     \#2%
134 }

```

File 67 **lwarf-cases.sty**

§ 169 Package **cases**

(*Emulates or patches code by DONALD ARSENEAU.*)

Pkg cases cases is patched for use by lwarf.

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 68 **l warp-centernot.sty**

§ 170 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]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\centernot}{\not{!#1,}}}
4 \end{warpMathJax}
```

File 69 **l warp-changebar.sty**

§ 171 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*{\cbccolor}[1]{}  
8 \newlength{\changebarwidth}  
9 \newlength{\deletebarwidth}  
10 \newlength{\changebarsep}  
11 \newcounter{changebargrey}
```

File 70 l warp-changelayout.sty**§ 172 Package changelayout**

(Emulates or patches code by AHMED MUSA.)

Pkg changelayout changelayout is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{changelayout}[2009/10/07]  
  
2 \renewrobustcmd\cpl@backtodefaults{}  
3  
4 \renewrobustcmd\cpl@checkifoddpage{  
5   \cpl@oddpagefalse%  
6 }  
7  
8 \renewrobustcmd\changepagelayout[1]{%  
9   \setkeys[KV]{changelay}{#1}%  
10 }  
11  
12 \renewrobustcmd{\changetextlayout}[1]{\changepagelayout{#1}}  
13  
14 \renewrobustcmd\adjustpagelayout[1]{%  
15   \setkeys[KV@X]{changelay}{#1}%  
16 }  
17  
18 \renewrobustcmd{\adjusttextlayout}[1]{\adjustpagelayout{#1}}  
19  
20 \renewrobustcmd\adjusttextwidth[1]{%  
21   \setkeys[KV]{changelay}{#1}%  
22   \begin{BlockClass}[color:\LWR@colorstyle{named}{\cpl@textcolor}]{changelayout}  
23     \color{\cpl@textcolor}%  
24     \cpl@content  
25   \end{BlockClass}  
26 }
```

File 71 l warp-changepage.sty**§ 173 Package changepage**

(Emulates or patches code by PETER WILSON.)

Pkg **changepage** **changepage** is ignored.

for HTML output: Discard all options for **l warp-changepage**:

```

1 \LWR@ProvidesPackageDrop{changepage}[2009/10/20]

2 \newif\ifoddpage
3 \DeclareRobustCommand{\checkoddpage}{\oddpagetrue}
4 \DeclareRobustCommand{\changetext}[5]{}
5 \DeclareRobustCommand{\changepage}[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 72 **l warp-changes.sty**

§ 174 Package **changes**

(Emulates or patches code by EKKART KLEINOD.)

Pkg **changes** **changes** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{changes}[2019/01/26]

\BaseJobname is added to the label in case xr or xr-hyper are used.

```

2 \renewcommand{\ChangesListline}[4]{%
3   \IfSubStr{\Changes@loc@show}{#1}{%
4     \LWR@startpars%
5     #2: #3 \qquad%
6     \nameref{\BaseJobname-autopage-\#4}%
7     \LWR@stoppars%
8   }{}%
9 }
10
11 \renewcommand{\Changes@summaryline}[4]{%
12   \IfSubStr{\Changes@loc@show}{#1}{%
13     \ifthenelse{\not\equal{\Changes@loc@style}{compactsummary} \or #2 > 0}{%
14       %
15       #3:~#2#4%
16     }{}%
17   }{}%
18 }
19

```

```
20 \xpatchcmd{\listofchanges}
21   {{\changesauthorname: \changesanonymous}}
22   {{\LWR@textcurrentcolor{\changesauthorname: \changesanonymous}}}
23   {}
24   {\LWR@patcherror{changes}{listofchanges A}}
25
26 \xpatchcmd{\listofchanges}
27   {\changesauthorname: \Changes@InID}
28   {{\LWR@textcurrentcolor{\changesauthorname: \Changes@InID}}}
29   {}
30   {\LWR@patcherror{changes}{listofchanges B}}
31
32 \xpatchcmd{\listofchanges}
33   {(\Changes@InName)}
34   {{\LWR@textcurrentcolor{(\Changes@InName)}}}
35   {}
36   {\LWR@patcherror{changes}{listofchanges C}}
37
38 \xpatchcmd{\listofchanges}
39   {\parbox{\Changes@summary@width}}
40   {}
41   {}
42   {\LWR@patcherror{changes}{listofchanges D}}
43
44 \xpatchcmd{\Changes@Markup@comment}
45   {%
46     \ifthenelse{\isAnonymous{#2}}%
47       {\textbf{[\arabic{Changes@commentCount#2}]: } }%
48       {\textbf{[#3~\arabic{Changes@commentCount#2}]: } }%
49     #1%
50   }
51   {%
52     \LWR@textcurrentcolor{%
53       \ifthenelse{\isAnonymous{#2}}%
54         {\textbf{[\arabic{Changes@commentCount#2}]: } }%
55         {\textbf{[#3~\arabic{Changes@commentCount#2}]: } }%
56       #1%
57     }%
58   }
59   {}
60   {\LWR@patcherror{changes}{\Changes@Markup@comment A}}
61
62 \xpatchcmd{\Changes@Markup@comment}
63   {%
64     \uwave{%
65       \ifthenelse{\isAnonymous{#2}}%
66         {\textbf{[\arabic{Changes@commentCount#2}]: } }%
67         {\textbf{[#3~\arabic{Changes@commentCount#2}]: } }%
68       #1%
69     }%
70   }
71   {%
72     \LWR@textcurrentcolor{%
73       \uwave{%
74         \ifthenelse{\isAnonymous{#2}}%
```

```

75          {\textbf{\{[\arabic{Changes@commentCount\#2}]\}}}%
76          {\textbf{\{[\#3\~\arabic{Changes@commentCount\#2}]\}}}%
77          #1%
78      }%
79  }%
80 }%
81 {}%
82 {\LWR@patcherror{changes}{\Changes@Markup@comment B}}
83
84 \xpatchcmd{\Changes@output}
85   {\Changes@Markup@author{\Changes@output@author{\#2}{left}}}
86   {\LWR@textcurrentcolor{\Changes@Markup@author{\Changes@output@author{\#2}{left}}}}
87   {}
88   {\LWR@patcherror{changes}{Changes@output A}}
89
90 \xpatchcmd{\Changes@output}
91   {%
92     \ifthenelse{\equal{\#1}{added}}{\Changes@Markup@added{\#3}}{%
93     \ifthenelse{\equal{\#1}{deleted}}{\Changes@Markup@deleted{\#4}}{%
94     \ifthenelse{\equal{\#1}{replaced}}{%
95       {\Changes@Markup@added{\#3}}\allowbreak\Changes@Markup@deleted{\#4}}%
96     }{%
97       \ifthenelse{\equal{\#1}{highlight}}{\Changes@Markup@highlight{\#3}}{%
98     }%
99   }%
100   \LWR@textcurrentcolor{%
101     \ifthenelse{\equal{\#1}{added}}{\Changes@Markup@added{\#3}}{%
102     \ifthenelse{\equal{\#1}{deleted}}{\Changes@Markup@deleted{\#4}}{%
103     \ifthenelse{\equal{\#1}{replaced}}{%
104       {\Changes@Markup@added{\#3}}\allowbreak\Changes@Markup@deleted{\#4}}%
105     }{%
106       \ifthenelse{\equal{\#1}{highlight}}{\Changes@Markup@highlight{\#3}}{%
107     }%
108   }%
109   {}%
110   {\LWR@patcherror{changes}{Changes@output B}}
111
112 \xpatchcmd{\Changes@output}
113   {\Changes@Markup@author{\Changes@output@author{\#2}{right}}}
114   {\LWR@textcurrentcolor{\Changes@Markup@author{\Changes@output@author{\#2}{right}}}}
115   {}
116   {\LWR@patcherror{changes}{Changes@output C}}

```

File 73 **lwarf-chappg.sty**

§ 175 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 74 **l warp–chapterbib.sty**

§ 176 Package **chapterbib**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg chapterbib chapterbib is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{chapterbib}[2010/09/18]

```
2 \xdef\@savedjobname{\BaseJobname}
3 \let\@currentipfile\@savedjobname
```

File 75 **l warp–chemfig.sty**

§ 177 Package **chemfig**

(Emulates or patches code by CHRISTIAN TELLECHEA.)

Pkg chemfig chemfig is patched for use by l warp.

If using \polymerdelim to add delimiters to a \chemfig, wrap both inside a single \lateximage:

```
\begin{latextimage}[-chemfig-~\PackageDiagramAltText]
\chemfig{...}
\polymerdelim[...]{...}
\end{latextimage}
```

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{latextimage}[-chemfig-~\PackageDiagramAltText]}
8     {}{\LWR@patcherror{chemfig}{charge}}
9   \xpretocmd\Charge{\begin{latextimage}[-chemfig-~\PackageDiagramAltText]}
10    {}{\LWR@patcherror{chemfig}{Charge}}
11   \xapptocmd\charge_c{\end{latextimage}}
12     {}{\LWR@patcherror{chemfig}{charge_c}}
13 }{}
14
```

```
15 \@ifpackagelater{chemfig}{2019/04/18}%
16 {%
17   \LetLtxMacro{\LWR@chemfig}{\origchemfig\chemfig}
18
19   \renewcommand*{\chemfig}[2][]{%
20     \begin{ lateximage }[-chemfig-\~\PackageDiagramAltText]%
21       \LWR@chemfig{\origchemfig[#1]{#2}}%
22     \end{ lateximage }%
23   }
24
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 {%
41   \LetLtxMacro{\LWR@chemfig}{\origchemfig\chemfig}
42
43   \DeclareDocumentCommand{\chemfig}{s O{} O{} m}{%
44     \begin{ lateximage }[-chemfig-\~\PackageDiagramAltText]%
45       \IfBooleanTF{#1}{%
46         \LWR@chemfig{\origchemfig*[#2][#3]{#4}}%
47       }{%
48         \LWR@chemfig{\origchemfig[#2][#3]{#4}}%
49       }
50     \end{ lateximage }%
51   }
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 }
```

File 76 **l warp-chemformula.sty**

§ 178 Package **chemformula**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemformula chemformula is patched for use by l warp.

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}%
6   {
7     \chemformula_ch:nn {#1} {#2}%
8   } original

```

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@subsingle dollar*{%
13     \textbackslash{}ch\{\LWR@HTMLsanitize{#2}\}%
14   } alt text
15   \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
16   add'l hashing
17   }%
18   \chemformula_ch:nn {#1} {#2}%
19   original
20   }%
21   \endgroup%
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@subsingle dollar*{%
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 {%
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   }{%
64     \original
65     \group_begin:
66       \tl_if_blank:nF {\#2}
67       {
68         \keys_set:nn {chemformula} {\#1}
69         \__chemformula_save_catcodes:
70         \__chemformula_sanitize:Nn
71         \l__chemformula_chemformula_tmpa_tl
72         {\#2}
73         \__chemformula_input_compound_no_check:NV
74           \l__chemformula_compound_tl
75           \l__chemformula_chemformula_tmpa_tl
76           \__chemformula_prepare_output:N \l__chemformula_compound_tl
77           \chemformula_write:V \l__chemformula_compound_tl
78       }
79     \group_end:
80   }
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         \ifdstrequal{##1}{#3}%
151             \l warp
152             \bool_set_true:N #1
153         }%
154         {}
155     }

```

At the end, compare more control sequences:

```

156     \int_compare:nT { \l__chemformula_tmpb_int = \l__chemformula_tmpa_int }
157     {
158         \ifdstrequal{##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%    l warp
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 l warp:

```

182          \bool_if:NF \l__chemformula_first_last_mathbraces_bool%    l warp
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          }% l warp
189      }
190  }

191 \ExplSyntaxOff

```

File 77 l warp-chemgreek.sty

§ 179 Package chemgreek

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemgreek chemgreek is patched for use by l warp.

Greek symbols
⚠ package selection 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_ELa_TE_X, Lua_La_TE_X If using X_ELa_TE_X or Lua_La_TE_X, 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 78 **l warp-chemmacros.sty**

§ 180 Package **chemmacros**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemmacros chemmacros is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{chemmacros}[2017/08/28]

SVG file hashing assumes that the relevant options are constant for the entire document.

§ 180.1 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}
```

§ 180.2 **Code**

§ 180.3 **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__chemmacrosmodule_extension_tl}{\c__chemmacrosmodule_prefix_tl.\#1}%
6 }
7
8 \ExplSyntaxOff

```

§ 180.4 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}[-chemmacrospolymer]}
11 {\end{lateximage}}

```

Env `redoxreaction` $\{\langle space\ above\rangle\} \{\langle space\ below\rangle\}$

For HTML output, the above and below space is ignored, and a `lateximage` is used instead. For the print output version, see section 87.

```

12 \DeclareDocumentEnvironment{redoxreaction}{m m}%
13 {\begin{lateximage}[-chemmacrospredoxreaction]}
14 {\end{lateximage}}

```

```
15 \ExplSyntaxOn
```

§ 180.5 Acid-base

```

16 \AtBeginDocument{%
17 \@ifchemmacrosmoduleloaded{acid-base}{%
18 \PackageInfo{lwarp}{Patching~chemmacrosmodule~acid-base}%
19
20 \cs_gset_protected:Npn \chemmacrosp: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     \chemmacrosp_style:n {p}%
32     \ensuremath{\{#1\}}%
33     }%
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{[]}\}{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{[]}\}{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     \boolearn{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     \boolearn{mathjax}
110    \LWR@subsingledollar*{\textbackslash{}Kw}{chemmacros}{%
111        \LWR@chemmacros@origKw%
112    }%
113    \endgroup
114 }
115
116 }{}% \ifchemmacrosmoduleloaded
117 }% AtBeginDocument

```

§ 180.6 Charges

```

118 \AtBeginDocument{
119 \@ifchemmacrosmoduleloaded{charges}%
120 \PackageInfo{lwarp}{Patching~chemmacros~module~charges}%
121
122 \cs_gset_protected:Npn \fplus {
123     \begingroup
124     \boolearn{mathjax}
125     \LWR@subsingledollar*{\textbackslash{}fplus}{chemmacros}%
126     { \LWR@origensuredmath{\chemformula_fplus:} }%
127     \endgroup
128 }
129 \cs_gset_protected:Npn \fminus {
130     \begingroup
131     \boolearn{mathjax}
132     \LWR@subsingledollar*{\textbackslash{}fminus}{chemmacros}%
133     { \LWR@origensuredmath{\chemformula_fminus:} }%
134     \endgroup
135 }
136
137 }{}% \ifchemmacrosmoduleloaded
138 }% AtBeginDocument

```

§ 180.7 Nomenclature

```

139 \AtBeginDocument{
140 \@ifchemmacrosmoduleloaded{nomenclature}%
141 \PackageInfo{lwarp}{Patching~chemmacros~module~nomenclature}%

```

```
142 \cs_gset_protected:Npn \chemmacros_charge:n #1
143 {
144     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}
145     {\chemmacros_chemformula:n { {}^{#1} } }
146     {
147         \ifmmode
148             {\chemmacros_chemformula:n { {}^{#1} } }
149         \else
150             { \textsuperscript{\ensuremath{#1}} }
151         \fi
152     }
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 \ChemCompatibilityFrom{5.8}
165 \cs_gset_protected:Npn \__chemmacros_cip:n #1
166 {
167     \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 { O{S} } {
183 \begin{latextimage}[\textbackslash{}Sconf{[]}\#1{[]}]*
184     \chemmacros_sconf:n {#1}
185 \end{latextimage}
186 }
187
188 \RenewDocumentCommand \Rconf { O{R} } {
189 \begin{latextimage}[\textbackslash{}Rconf{[]}\#1{[]}]*
190     \chemmacros_rconf:n {#1}
191 \end{latextimage}
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

```

§ 180.8 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:cpx {__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 }{}% \AtBeginDocument
277 }% AtBeginDocument

```

§ 180.9 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   \mode_leave_vertical:
286   \bool_if:NTF \l__chemmacros_phases_sub_bool
287   {
288     \ifnumequal{\value{LWR@lateximagedepth}}{0}
289     {
290       \textsubscript{ (#1) }
291     }
292     {
293       \chemformula_subscript:n { (#1) }
294     }
295   }
296   {
297     \skip_horizontal:N \l__chemmacros_phases_space_dim

```

```
298      \chemmacros_text:n { (#1) }
299      }
300  }
301
302 }{}% \@ifchemmacrosmoduleloaded
303 % AtBeginDocument
```

§ 180.10 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   },
319   type / 1 .code:n =
320   {
321     \__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 }{ }% \@ifchemmacrosmoduleloaded
417 }% AtBeginDocument

```

§ 180.11 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       \IfNoValueF{#2}{%
431         { \chemmacros_newman:nn { } {#3} }
432         { \chemmacros_newman:nn {#2} {#3} }
433       \group_end:%
434       \end{ lateximage }
435     }%
436   }%
437 }{}% \@ifchemmacrosmoduleloaded
438 }% AtBeginDocument

```

§ 180.12 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{latextimage}
463  }
464
465 }{}% \@ifchemmacrosmoduleloaded
466 }% AtBeginDocument
```

§ 180.13 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{l warp}{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}%                                l warp
476         \ifdefvoid{\LWR@ThisAltText}{%                  l warp
477             \ThisAltText{-chemmacros-~reaction}%
478         }{}%                                         l warp
479         \chemmacros_add_reaction_description:n {##1}
480         \__chemmacros_begin_reaction:
481         \chemmacros_reaction_read:nw {#2} {#4}
482     }
483     {
484         \__chemmacros_end_reaction:
485         \gdef\LWR@ThisAltText{}%                      l warp
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
```

§ 180.14 Redox

```

497 \AtBeginDocument{
498 \@ifchemmacrosmoduleloaded{redox}){
499 \PackageInfo{l warp}{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:nnn { } {#2} #3 }
506     }
507
508 \RenewDocumentCommand \ox { s O{} m }
509 {
510     \begingroup
511     \boolfalse{mathjax}
512     \IfBooleanTF {#1}
513     {
514         \LWR@subsingle$*{%
515             \textbackslash\textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\}%
516         }%
517         star \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}%
518     }%
519         \LWR@chemmacros@ox* {#2} {#3}%
520     }%
521     }%
522     {
523         \LWR@subsingle$*{%
524             \textbackslash\textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\}%
525         }%
526         \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}%
527     }%
528         \LWR@chemmacros@ox {#2} {#3}%
529     }%
530     }
531     \endgroup
532 }
533 }{} \@ifchemmacrosmoduleloaded
534 }{} AtBeginDocument

```

§ 180.15 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

536 \AtBeginDocument{
537 \@ifchemmacrosmoduleloaded{scheme}{
538 \PackageInfo{l warp}{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
```

§ 180.16 Spectroscopy

```
548 \AtBeginDocument{
549 \@ifchemmacrosmoduleloaded{spectroscopy}{%
550 \PackageInfo{lwarp}{Patching~chemmacrosmodule~spectroscopy}}
551
552 \ChemCompatibilityTo{5.8}
553 \cs_gset_protected:Npn \__chemmacrosmacro_nmr_base:n #1#2
554 {
555     \tl_if_blank:VF \g__chemmacrosmacro_nmr_element_coupled_tl
556     {
557         \tl_put_left:Nn \g__chemmacrosmacro_nmr_element_coupled_tl { \{ }
558         \tl_put_right:Nn \g__chemmacrosmacro_nmr_element_coupled_tl { \} }
559     }
560     \tl_put_left:Nn \g__chemmacrosmacro_nmr_element_coupled_tl {#2}
561 %     \chemmacrosmacro_chemformula:n { ^{#1} }
562     \textsuperscript{#1}
563     \bool_if:NTF \l__chemmacrosmacro_nmr_parse_bool
564         { \chemformula_ch:nV {} \g__chemmacrosmacro_nmr_element_coupled_tl }
565         { \chemmacrosmacro_chemformula:V \g__chemmacrosmacro_nmr_element_coupled_tl }
566     \tl_use:N \l__chemmacrosmacro_nmr_element_method_connector_tl
567     \tl_use:N \l__chemmacrosmacro_nmr_method_tl
568 }
569 \EndChemCompatibility
570 \ChemCompatibilityFrom{5.8}
571 \cs_gset_protected:Npn \__chemmacrosmacro_nmr_base:n #1#2
572 {
573     \group_begin:
574     \tl_use:N \l__chemmacrosmacro_nmr_base_format_tl
575     \tl_if_blank:VF \g__chemmacrosmacro_nmr_element_coupled_tl
576     {
577         \tl_put_left:Nn \g__chemmacrosmacro_nmr_element_coupled_tl { \{ }
578         \tl_put_right:Nn \g__chemmacrosmacro_nmr_element_coupled_tl { \} }
579     }
580     \tl_put_left:Nn \g__chemmacrosmacro_nmr_element_coupled_tl {#2}
581 %     \chemmacrosmacro_chemformula:n { ^{#1} }
582     \textsuperscript{#1}
583     \tl_if_blank:VF \g__chemmacrosmacro_nmr_element_coupled_tl
584     {
585         \bool_if:NTF \l__chemmacrosmacro_nmr_parse_bool
586             { \chemformula_ch:nV {} \g__chemmacrosmacro_nmr_element_coupled_tl }
587             { \chemmacrosmacro_chemformula:V \g__chemmacrosmacro_nmr_element_coupled_tl }
588     }
589     \tl_use:N \l__chemmacrosmacro_nmr_element_method_connector_tl
590     \tl_use:N \l__chemmacrosmacro_nmr_method_tl
591     \group_end:
592 }
593 \EndChemCompatibility
594
595
596 \cs_gset_protected:Npn \chemmacrosmacro_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{%
649 % \NMR{<num>,<elem>}(<num>,<unit>)[<solvent>] ALL arguments are optional
650 % \NMR* same but without ": $delta$" 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
656          \mode_leave_vertical:
657
658          \bool_set_false:N \l__chemmacros_nmr_frequency_bool
659          \bool_set_false:N \l__chemmacros_nmr_solvent_bool
660          \tl_if_empty:nF {#3}
661          { \bool_set_true:N \l__chemmacros_nmr_frequency_bool }
662          \tl_if_empty:nF {#4}
663          { \bool_set_true:N \l__chemmacros_nmr_solvent_bool }
664          \bool_if:nT
665          {
666              \l__chemmacros_nmr_frequency_bool
667              ||
668              \l__chemmacros_nmr_solvent_bool
669          }
670          { \bool_set_true:N \l__chemmacros_nmr_delimiters_bool }
671          \bool_if:nT
672          {
673              \l__chemmacros_nmr_frequency_bool
674              &&
675              \l__chemmacros_nmr_solvent_bool
676          }
677          { \bool_set_true:N \l__chemmacros_nmr_comma_bool }
678          \tl_if_empty:nTF {#2}
679          {
680              \__chemmacros_nmr_nucleus:VV
681              \l__chemmacros_nmr_isotope_default_tl
682              \l__chemmacros_nmr_element_default_tl
683          }
684          { \__chemmacros_nmr_nucleus:w #2 \q_stop }
685          \mode_if_math:TF
686          {
687              \text
688              {
689                  \group_begin:
690                  \tl_use:N \l__chemmacros_nmr_format_tl
691                  \LWR@textcurrentcolor{\LWR@textcurrentfont{%
692                      \l warp
693                      \__chemmacros_nmr_base:VV
694                      \g__chemmacros_nmr_isotope_tl
695                      \g__chemmacros_nmr_element_tl
696                      \bool_if:NT \l__chemmacros_nmr_delimiters_bool
697                      { ~ ( }
698                      \bool_if:NT \l__chemmacros_nmr_frequency_bool
699                      { \__chemmacros_nmr_frequency:n {#3} }
700                      \bool_if:NT \l__chemmacros_nmr_comma_bool
701                      { , ~ }
702                      \bool_if:NT \l__chemmacros_nmr_solvent_bool
703                      { \chemmacros_chemformula:n {#4} }
704                      \bool_if:NT \l__chemmacros_nmr_delimiters_bool
705                      { ) }
706                  \tl_if_blank:nT {#1} {::~}
707              }% \l warp
```

```
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{%
718   \l_warp
719   \l_chemmacros_nmr_base:VV
720   \g_chemmacros_nmr_isotope_tl
721   \g_chemmacros_nmr_element_tl
722   \bool_if:NT \l_chemmacros_nmr_delimiters_bool
723   {~()}
724   \bool_if:NT \l_chemmacros_nmr_frequency_bool
725   { \l_chemmacros_nmr_frequency:n {#3} }
726   \bool_if:NT \l_chemmacros_nmr_comma_bool
727   {,~}
728   \bool_if:NT \l_chemmacros_nmr_solvent_bool
729   {
730     \bool_if:NTF \l_chemmacros_nmr_parse_bool
731     { \chemformula_ch:nn { } {#4} }% original
732     {\ch{#4}}% \l_warp
733     {#4}
734   }
735   \bool_if:NT \l_chemmacros_nmr_delimiters_bool
736   {}
737 }% \l_warp
738   \tl_if_blank:nT {#1} {:}
739   \group_end:
740   \tl_if_blank:nT {#1}
741   {
742     \tl_use:N \c_space_tl
743     \c_math_toggle_token
744     \delta
745     \c_math_toggle_token
746     \l_chemmacros_nmr_delta_tl
747     \bool_if:NT \l_chemmacros_nmr_use_equal_bool {~=}
748   }
749   \group_end:
750 }
751 }% AfterEndPreamble
752
753
754 \RenewDocumentCommand \chemmacros_data:w { smo }
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_chemm macros_nmr_format_tl
760      \LWR@textcurrentcolor{\LWR@textcurrentfont\% l warp
761          #2
762          \IfNoValueF {#3} { ~ ( #3 ) }
763          \IfBooleanT {#1} { \bool_if:NT \l_chemm macros_nmr_use_equal_bool { : } }
764      }%\ l warp
765  }
766  \IfBooleanF {#1} { \bool_if:NT \l_chemm macros_nmr_use_equal_bool { ~ = } }
767 }
768 }
769 }{}\% \@ifchemm macrosmoduleloaded
770 }%\ AtBeginDocument

```

§ 180.17 Thermodynamics

```

771 \AtBeginDocument{
772 \@ifchemm macrosmoduleloaded{thermodynamics} {
773 \PackageInfo{l warp}{Patching~chemm macros~module~thermodynamics}
774
775 \cs_gset_protected:Npn \chemm macros_state:nn #1#2
776 {
777     \group_begin:
778     \boolfalse{mathjax}
779     \chemm macros_set_keys:nn {thermodynamics} {#1}
780     \LWR@subsingle dollar*{\% yes hashing
781         \textbackslash state{\LWR@HTMLsanitize{#2}\% alt
782     }%\%
783         chemm macros_state% add'l hashing
784         #1% options
785         LSP \tl_use:N \l_chemm macros_state_sp_left_tl% super/subscripts
786         LSB \tl_use:N \l_chemm macros_state_sb_left_tl
787         RSP \tl_use:N \l_chemm macros_state_sp_right_tl
788         RSB \tl_use:N \l_chemm macros_state_sb_right_tl
789     }
790     {
791         \LWR@origensuredmath{
792             \chemm macros_text:V \l_chemm macros_state_pre_tl
793             \c_math_superscript_token
794             { \chemm macros_text:V \l_chemm macros_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 TeX but cropped out by *pdfcrop*.

```

795     \tl_if_empty:NTF \l_chemm macros_state_sb_left_tl
796     {}
797     {
798         \c_math_subscript_token
799         { \chemm macros_text:V \l_chemm macros_state_sb_left_tl }
800     }
801     #2
802     \c_math_superscript_token
803     { \chemm macros_text:V \l_chemm macros_state_sp_right_tl }
804     \tl_if_empty:NTF \l_chemm macros_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 79 **l warp-chemnum.sty**

§ 181 Package **chemnum**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemnum chemnum is patched for use by l warp.

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 80 **l warp-chkfloat.sty**

§ 182 Package **chkfloat**

Pkg **chkfloat** **chkfloat** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

File 81 **l warp-chngpage.sty**

§ 183 Package **chngpage**

(Emulates or patches code by PETER WILSON.)

Pkg **chngpage** **chngpage** is ignored.

for HTML output: Discard all options for **l warp-chngpage**:

1 \LWR@ProvidesPackageDrop{chngpage}[2009/10/20]
2 \LWR@origRequirePackage{l warp-changepage}

File 82 **l warp-cite.sty**

§ 184 Package **cite**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **cite** **cite** is patched for use by **l warp**.

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 \ifdef\strequal{\@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{\textsuperscript{#1}}
9
10 \DeclareDocumentCommand\citempunct{}{\relax}
```

File 83 l warp-CJK.sty**§ 185 Package CJK**

Pkg CJK CJK does not work with l warp 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 84 l warp-CJKutf8.sty**§ 186 Package CJKutf8**

Pkg CJKutf8 CJKutf8 does not work with l warp 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 85 l warp-clrdblpq.sty**§ 187 Package clrdblpq**

Pkg clrdblpq clrdblpq is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{clrdblpq}[2018/04/21]
```

File 86 l warp-cmdtrack.sty**§ 188 Package cmdtrack**

Pkg cmdtrack cmdtrack is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]
```

```
2 \newcommand{\untrack}{\relax}
```

File 87 l warp-colonequals.sty**§ 189 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}{\unicode{x2236}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\unicode{x2237}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\coloncolon=}}
8 \CustomizeMathJax{\newcommand{\coloncolonequals}{\coloncolon=}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{=\!\ratio}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{=\!\coloncolon}}
11 \CustomizeMathJax{\newcommand{\colonminus}{\ratio-}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\coloncolon-}}
13 \CustomizeMathJax{\newcommand{\minuscolon}{-\ratio}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{-\coloncolon}}
15 \CustomizeMathJax{\newcommand{\colonapprox}{\ratio\approx}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\coloncolon\approx}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\approx\!\ratio}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\approx\!\coloncolon}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\ratio\sim}}
20 \CustomizeMathJax{\newcommand{\coloncolonsim}{\coloncolon\sim}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\sim\!\ratio}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\sim\!\coloncolon}}
23 \end{warpMathJax}
```

File 88 l warp-color.sty**§ 190 Package color**

Pkg color Allowed but ignored. xcolor is then required as well.

color is superceded by xcolor, and l warp 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 89 l warp-colortbl.sty**§ 191 Package colortbl**

Pkg colortbl colortbl is used as-is for print output, and emulated for HTML.

⚠ **row/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}{O{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⟩}

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⟩}

The version for use inside a tabular.

```
36 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
37
38 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}
```

File 90 lwarp-continue.sty

§ 192 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 91 l warp-copyrightbox.sty**§ 193 Package copyrightbox**

(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)

Pkg copyrightbox copyrightbox is emulated for use by l warp.

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 92 l warp-crop.sty**§ 194 Package crop**

(Emulates or patches code by MELCHIOR FRANZ.)

Pkg crop crop is ignored.

for HTML output: Discard all options for l warp-crop:

```
1 \LWR@ProvidesPackageDrop{crop}[2003/05/20]
2 \newcommand*\crop[1][]{}
3 \newcommand*\cropdef[6][]{}
```

File 93 **lwarf-ctable.sty**

§ 195 Package **ctable**

(Emulates or patches code by WYBO DEKKER.)

Pkg ctable ctable is patched for use by lwarf.

⚠ Misplaced alignment tab character & Use \StartDefiningTabulars before one or more \ctables, and \StopDefiningTabulars 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\ @dfldCTtaborfig
4   \let@\CTalign\ @dfldCTalign
5   \let@\CTsideways\ @dfldCTsideways
6   \let@\CTcontinued\ \empty
7   \let@\CTpos\ @dfldCTpos
8   \let@\CTcaption\ \empty
9   \let@\CTcap\ \undefined
10  \let@\CTLabel\ \empty
11  \let@\CTbotcap\ @dfldCTbotcap
12  \let@\CTstarred\ @dfldCTstarred
13  \let@\CTsuper\ @dfldCTsuper
14  \let@\CTnotespar\ @dfldCTnotespar
15  \let@\CTdoinside\ @dfldCTdoinside
16  \let@\CTbgopacity\ @dfldCTbgopacity
17  \let@\CTframerule\ @dfldCTframerule
18  \let@\CTcaptionskip\ @dfldCTcaptionskip
19  \let@\CTframesep\ @dfldCTframesep
20  \let@\CTwidth\ @dfldCTwidth
21  \let@\CTmaxwidth\ @dfldCTmaxwidth
22  \let@\CTmincapwidth\ @dfldCTmincapwidth
23  \let@\CTfooterwidth\ @dfldCTfooterwidth
24  \def@\CTfactual{@dfldCTframefg}%
25  \def@\CTbactual{@dfldCTframebg}%
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{lwarf-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{lwarf-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{lwarf-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{lwarf-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{lwarf-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  \begin{CT}
71    \ifx\@CTcontinued\empty\else\addtocounter{\@CTtaborfig}{-1}\fi
72  \end{CT}

```

lwarf's patches begin here:

```

73  \begin{center}
74    \setlength{\fboxrule}{\@CTframerule}
75    \setlength{\fboxsep}{\@CTframesep}
76    \LWR@forceminwidth{\fboxrule}%
77    \convertcolorspec[named]{\@CTbgactual}{HTML}\LWR@tempcolor%
78    \begin{BlockClass}[% lwarf
79      border:
80        \LWR@printlength{\LWR@atleastonept}
81        solid
82        \LWR@colorstyle[named]{\@CTfgactual} ; %
83      padding:\LWR@printlength{\fboxsep} ; %
84      \ifdefstring{\LWR@tempcolor}{FFFFFFFFFF}{%
85        background: \LWR@colorstyle[named]{\@CTbgactual} ; %
86      }%

```

```

87      ]{fminipage}{%          l warp
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}%      l warp
94          #4%
95      \end{tabularx}%                  l warp
96      \def\@CTfootnotes{#3}%
97      \ifx\#3\empty\else% append footnotes, if any
98          \begin{BlockClass}{tnotes}%    l warp
99          #3
100         \end{BlockClass}%        l warp
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 94 **l warp-cuted.sty**

§ 196 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 95 l warp-cutwin.sty

§ 197 Package **cutwin**

(Emulates or patches code by PETER WILSON AND ALAN HOENIG.)

Pkg cutwin cutwin is emulated.

for HTML output: Discard all options for l warp-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 96 l warp-dblfloatfix.sty

§ 198 Package **dblfloatfix**

Pkg dblfloatfix dblfloatfix is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]

File 97 l warp-dblfnote.sty**§ 199 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 98 l warp-dcolumn.sty**§ 200 Package dcolumn**

Pkg dcolumn dcolumn is emulated by the l warp core.

1 \LWR@ProvidesPackageDrop{dcolumn}[2014/10/28]

File 99 l warp-decimal.sty**§ 201 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 100 **l warp-diagbox.sty**

§ 202 Package **diagbox**

(Emulates or patches code by LEO LIU.)

Pkg diagbox diagbox is patched for use by l warp.

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 {⟨title⟩} {⟨A⟩} {⟨B⟩}

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 {⟨keys⟩} {⟨A⟩} {⟨T⟩} {⟨B⟩}

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 101 **lwarf-dingbat.sty**

§ 203 Package **dingbat**

(Emulates or patches code by SCOTT PAKIN.)

Pkg dingbat dingbat is patched for use by lwarf.

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 102 **l warp-DotArrow.sty**

§ 204 Package **DotArrow**

(Emulates or patches code by SVEN SCHNEIDER.)

Pkg DotArrow DotArrow is patched for use by l warp, 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}{\text{\scriptsize{\texttt{\{\\unicode{x21E2}\\}}}}}}}
6 \end{warpMathJax}

```

File 103 **l warp-dotlessi.sty**

§ 205 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 104 **l warp-dprogress.sty**

§ 206 Package **dprogress**

Pkg dprogress dprogress is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

File 105 **l warp-draftcopy.sty**

§ 207 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 106 l warp-draftfigure.sty**§ 208 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 107 l warp-draftwatermark.sty**§ 209 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 108 **l warp-easy-todo.sty**

§ 210 Package **easy-todo**

(Emulates or patches code by JUAN RADA-VILELA.)

Pkg easy-todo **easy-todo** is patched for use by **l warp**.

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 109 l warp-ebook.sty**§ 211 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 110 l warp-econometrics.sty**§ 212 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 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{econometrics}
4
5 \CustomizeMathJax{\newcommand{\SC}{\mathbb{C}}}
6 \CustomizeMathJax{\newcommand{\SN}{\mathbb{N}}}
7 \CustomizeMathJax{\newcommand{\SQ}{\mathbb{Q}}}
8 \CustomizeMathJax{\newcommand{\SR}{\mathbb{R}}}
9 \CustomizeMathJax{\newcommand{\SZ}{\mathbb{Z}}}
10
11 \CustomizeMathJax{\newcommand{\calA}{\mathcal{A}}}
12 \CustomizeMathJax{\newcommand{\calB}{\mathcal{B}}}
13 \CustomizeMathJax{\newcommand{\calC}{\mathcal{C}}}
14 \CustomizeMathJax{\newcommand{\calD}{\mathcal{D}}}
15 \CustomizeMathJax{\newcommand{\calE}{\mathcal{E}}}
16 \CustomizeMathJax{\newcommand{\calF}{\mathcal{F}}}
17 \CustomizeMathJax{\newcommand{\calG}{\mathcal{G}}}
18 \CustomizeMathJax{\newcommand{\calH}{\mathcal{H}}}
19 \CustomizeMathJax{\newcommand{\calI}{\mathcal{I}}}
```

```
20 \CustomizeMathJax{\newcommand{\calJ}{\mathcal{J}}}
21 \CustomizeMathJax{\newcommand{\calK}{\mathcal{K}}}
22 \CustomizeMathJax{\newcommand{\call}{\mathcal{L}}}
23 \CustomizeMathJax{\newcommand{\calM}{\mathcal{M}}}
24 \CustomizeMathJax{\newcommand{\calN}{\mathcal{N}}}
25 \CustomizeMathJax{\newcommand{\calO}{\mathcal{O}}}
26 \CustomizeMathJax{\newcommand{\calP}{\mathcal{P}}}
27 \CustomizeMathJax{\newcommand{\calQ}{\mathcal{Q}}}
28 \CustomizeMathJax{\newcommand{\calR}{\mathcal{R}}}
29 \CustomizeMathJax{\newcommand{\calS}{\mathcal{S}}}
30 \CustomizeMathJax{\newcommand{\calT}{\mathcal{T}}}
31 \CustomizeMathJax{\newcommand{\calU}{\mathcal{U}}}
32 \CustomizeMathJax{\newcommand{\calV}{\mathcal{V}}}
33 \CustomizeMathJax{\newcommand{\calW}{\mathcal{W}}}
34 \CustomizeMathJax{\newcommand{\calX}{\mathcal{X}}}
35 \CustomizeMathJax{\newcommand{\calY}{\mathcal{Y}}}
36 \CustomizeMathJax{\newcommand{\calZ}{\mathcal{Z}}}
37
38 \CustomizeMathJax{\newcommand{\mA}{\bm{A}}}
39 \CustomizeMathJax{\newcommand{\va}{\bm{a}}}
40 \CustomizeMathJax{\newcommand{\mB}{\bm{B}}}
41 \CustomizeMathJax{\newcommand{\vb}{\bm{b}}}
42 \CustomizeMathJax{\newcommand{\mC}{\bm{C}}}
43 \CustomizeMathJax{\newcommand{\vc}{\bm{c}}}
44 \CustomizeMathJax{\newcommand{\mD}{\bm{D}}}
45 \CustomizeMathJax{\newcommand{\vd}{\bm{d}}}
46 \CustomizeMathJax{\newcommand{\mE}{\bm{E}}}
47 \CustomizeMathJax{\newcommand{\ve}{\bm{e}}}
48 \CustomizeMathJax{\newcommand{\mF}{\bm{F}}}
49 \CustomizeMathJax{\newcommand{\vf}{\bm{f}}}
50 \CustomizeMathJax{\newcommand{\mG}{\bm{G}}}
51 \CustomizeMathJax{\newcommand{\vg}{\bm{g}}}
52 \CustomizeMathJax{\newcommand{\mH}{\bm{H}}}
53 \CustomizeMathJax{\newcommand{\vh}{\bm{h}}}
54 \CustomizeMathJax{\newcommand{\mI}{\bm{I}}}
55 \CustomizeMathJax{\newcommand{\vi}{\bm{i}}}
56 \CustomizeMathJax{\newcommand{\mJ}{\bm{J}}}
57 \CustomizeMathJax{\newcommand{\vj}{\bm{j}}}
58 \CustomizeMathJax{\newcommand{\mK}{\bm{K}}}
59 \CustomizeMathJax{\newcommand{\vk}{\bm{k}}}
60 \CustomizeMathJax{\newcommand{\mL}{\bm{L}}}
61 \CustomizeMathJax{\newcommand{\vl}{\bm{l}}}
62 \CustomizeMathJax{\newcommand{\mM}{\bm{M}}}
63 \CustomizeMathJax{\newcommand{\vm}{\bm{m}}}
64 \CustomizeMathJax{\newcommand{\mN}{\bm{N}}}
65 \CustomizeMathJax{\newcommand{\vn}{\bm{n}}}
66 \CustomizeMathJax{\newcommand{\mO}{\bm{O}}}
67 \CustomizeMathJax{\newcommand{\vo}{\bm{o}}}
68 \CustomizeMathJax{\newcommand{\mP}{\bm{P}}}
69 \CustomizeMathJax{\newcommand{\vp}{\bm{p}}}
70 \CustomizeMathJax{\newcommand{\mQ}{\bm{Q}}}
71 \CustomizeMathJax{\newcommand{\vq}{\bm{q}}}
72 \CustomizeMathJax{\newcommand{\mR}{\bm{R}}}
73 \CustomizeMathJax{\newcommand{\vr}{\bm{r}}}
74 \CustomizeMathJax{\newcommand{\mS}{\bm{S}}}
```

```
75 \CustomizeMathJax{\newcommand{\vs}{\bm s}}
76 \CustomizeMathJax{\newcommand{\mT}{\bm T}}
77 \CustomizeMathJax{\newcommand{\vt}{\bm t}}
78 \CustomizeMathJax{\newcommand{\mU}{\bm U}}
79 \CustomizeMathJax{\newcommand{\vu}{\bm u}}
80 \CustomizeMathJax{\newcommand{\mV}{\bm V}}
81 \CustomizeMathJax{\newcommand{\vv}{\bm v}}
82 \CustomizeMathJax{\newcommand{\mW}{\bm W}}
83 \CustomizeMathJax{\newcommand{\vw}{\bm w}}
84 \CustomizeMathJax{\newcommand{\mX}{\bm X}}
85 \CustomizeMathJax{\newcommand{\vx}{\bm x}}
86 \CustomizeMathJax{\newcommand{\mY}{\bm Y}}
87 \CustomizeMathJax{\newcommand{\vy}{\bm y}}
88 \CustomizeMathJax{\newcommand{\mZ}{\bm Z}}
89 \CustomizeMathJax{\newcommand{\vz}{\bm z}}
90
91 \CustomizeMathJax{\newcommand{\valpha}{\bm \alpha}}
92 \CustomizeMathJax{\newcommand{\vbeta}{\bm \beta}}
93 \CustomizeMathJax{\newcommand{\vgamma}{\bm \gamma}}
94 \CustomizeMathJax{\newcommand{\vdelta}{\bm \delta}}
95 \CustomizeMathJax{\newcommand{\vepsi}{\bm \epsilon}}
96 \CustomizeMathJax{\newcommand{\vvarepsilon}{\bm \varepsilon}}
97 \CustomizeMathJax{\newcommand{\vzeta}{\bm \zeta}}
98 \CustomizeMathJax{\newcommand{\veta}{\bm \eta}}
99 \CustomizeMathJax{\newcommand{\vtheta}{\bm \theta}}
100 \CustomizeMathJax{\newcommand{\viota}{\bm \iota}}
101 \CustomizeMathJax{\newcommand{\vkappa}{\bm \kappa}}
102 \CustomizeMathJax{\newcommand{\vlambda}{\bm \lambda}}
103 \CustomizeMathJax{\newcommand{\vmu}{\bm \mu}}
104 \CustomizeMathJax{\newcommand{\vnu}{\bm \nu}}
105 \CustomizeMathJax{\newcommand{\vxi}{\bm \xi}}
106 \CustomizeMathJax{\newcommand{\vpi}{\bm \pi}}
107 \CustomizeMathJax{\newcommand{\vrho}{\bm \rho}}
108 \CustomizeMathJax{\newcommand{\vsigma}{\bm \sigma}}
109 \CustomizeMathJax{\newcommand{\vtau}{\bm \tau}}
110 \CustomizeMathJax{\newcommand{\vupsilon}{\bm \upsilon}}
111 \CustomizeMathJax{\newcommand{\vphi}{\bm \phi}}
112 \CustomizeMathJax{\newcommand{\vchi}{\bm \chi}}
113 \CustomizeMathJax{\newcommand{\vpsi}{\bm \psi}}
114 \CustomizeMathJax{\newcommand{\vomega}{\bm \omega}}
115
116 \CustomizeMathJax{\newcommand{\mGamma}{\bm \varGamma}}
117 \CustomizeMathJax{\newcommand{\mDelta}{\bm \varDelta}}
118 \CustomizeMathJax{\newcommand{\mTheta}{\bm \varTheta}}
119 \CustomizeMathJax{\newcommand{\mLambda}{\bm \varLambda}}
120 \CustomizeMathJax{\newcommand{\mXi}{\bm \varXi}}
121 \CustomizeMathJax{\newcommand{\mPi}{\bm \varPi}}
122 \CustomizeMathJax{\newcommand{\mSigma}{\bm \varSigma}}
123 \CustomizeMathJax{\newcommand{\mUpsilon}{\bm \varUpsilon}}
124 \CustomizeMathJax{\newcommand{\mPhi}{\bm \varPhi}}
125 \CustomizeMathJax{\newcommand{\mPsi}{\bm \varPsi}}
126 \CustomizeMathJax{\newcommand{\mOmega}{\bm \varOmega}}
127
128 \CustomizeMathJax{\newcommand{\rb}{\mathbf{b}}}
129 \CustomizeMathJax{\newcommand{\rB}{\mathbf{B}}}
```

```
130 \CustomizeMathJax{\newcommand{\rC}{\mathrm{C}}}
131 \CustomizeMathJax{\newcommand{\rD}{\mathrm{D}}}
132 \CustomizeMathJax{\newcommand{\rf}{\mathrm{f}}}
133 \CustomizeMathJax{\newcommand{\rF}{\mathrm{F}}}
134 \CustomizeMathJax{\newcommand{\rH}{\mathrm{H}}}
135 \CustomizeMathJax{\newcommand{\rL}{\mathrm{L}}}
136 \CustomizeMathJax{\newcommand{\rN}{\mathrm{N}}}
137 \CustomizeMathJax{\newcommand{\rt}{\mathrm{t}}}
138 \CustomizeMathJax{\newcommand{\rU}{\mathrm{U}}}
139 \CustomizeMathJax{\newcommand{\rGam}{\mathrm{Gam}}}
140 \CustomizeMathJax{\newcommand{\rBeta}{\mathrm{Beta}}}
141
142 \CustomizeMathJax{\newcommand{\Bin}{\mathrm{Bin}}}
143 \CustomizeMathJax{\newcommand{\eu}{\mathrm{e}}}
144 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
145 \CustomizeMathJax{\newcommand{\LN}{\mathrm{LN}}}
146 \CustomizeMathJax{\newcommand{\IN}{\mathrm{IN}}}
147
148 \CustomizeMathJax{\newcommand{\Poi}{\mathrm{Poi}}}
149
150 \CustomizeMathJax{\newcommand{\ped}[1]{\mathrm{\#1}}}
151 \CustomizeMathJax{\newcommand{\ap}[1]{^{\mathrm{\#1}}}}
152 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\nolimits}}
153 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\nolimits}}
154
155 \CustomizeMathJax{\newcommand{\deriv}[3]{\frac{\mathrm{d}^{\mathrm{\#1}}\mathrm{\#2}}{\mathrm{d}\mathrm{\#1}^{\mathrm{\#2}}}}}
156
157 }
158 \CustomizeMathJax{\newcommand{\pderiv}[3]{\frac{\partial^{\mathrm{\#1}}\mathrm{\#2}}{\partial\mathrm{\#1}^{\mathrm{\#2}}}}}
159
160 }
161
162 \CustomizeMathJax{\newcommand{\bias}{\operatorname{bias}}}
163 \CustomizeMathJax{\newcommand{\col}{\operatorname{col}}}
164 \CustomizeMathJax{\newcommand{\corr}{\operatorname{corr}}}
165 \CustomizeMathJax{\newcommand{\cov}{\operatorname{cov}}}
166 \CustomizeMathJax{\newcommand{\dg}{\operatorname{dg}}}
167 \CustomizeMathJax{\newcommand{\diag}{\operatorname{diag}}}
168 \CustomizeMathJax{\newcommand{\E}{\operatorname{E}}}
169 \CustomizeMathJax{\newcommand{\etr}{\operatorname{etr}}}
170 \CustomizeMathJax{\newcommand{\ip}{\mathrm{int}}{\nolimits}}
171 \CustomizeMathJax{\newcommand{\kur}{\operatorname{kur}}}
172 \CustomizeMathJax{\newcommand{\MSE}{\operatorname{MSE}}}
173 \CustomizeMathJax{\newcommand{\MSFE}{\operatorname{MSFE}}}
174 \CustomizeMathJax{\newcommand{\OLS}{\operatorname{OLS}}}
175 \CustomizeMathJax{\newcommand{\plim}{\operatorname{plim}}}
176 \CustomizeMathJax{\newcommand{\resid}{\operatorname{resid}}}
177 \CustomizeMathJax{\newcommand{\rk}{\operatorname{rk}}}
178 \CustomizeMathJax{\newcommand{\SE}{\operatorname{SE}}}
179 \CustomizeMathJax{\newcommand{\sgn}{\operatorname{sgn}}}
180 \CustomizeMathJax{\newcommand{\tr}{\operatorname{tr}}}
181 \CustomizeMathJax{\newcommand{\var}{\operatorname{var}}}
182 \CustomizeMathJax{\renewcommand{\vec}{\operatorname{vec}}}
183 \CustomizeMathJax{\newcommand{\vech}{\operatorname{vech}}}
184
```

```

185 \CustomizeMathJax{\newcommand{\distr}{\sim}}
186 \CustomizeMathJax{\newcommand{\adistr}{\stackrel{a}{\distr}}}
187 \CustomizeMathJax{\newcommand{\diff}{\Delta}}
188 \CustomizeMathJax{\newcommand{\fdiff}{\diff_{rf}}}
189 \CustomizeMathJax{\newcommand{\bdiff}{\diff_{rb}}}
190
191 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
192 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
193
194 \CustomizeMathJax{\newcommand{\longto}{\longrightarrow}}
195 \CustomizeMathJax{\newcommand{\pto}{\stackrel{p}{\longrightarrow}}}
196 \CustomizeMathJax{\newcommand{\dto}{\stackrel{d}{\longrightarrow}}}
197 \CustomizeMathJax{\newcommand{\wto}{\stackrel{w}{\longrightarrow}}}
198
199 \CustomizeMathJax{\newcommand{\Infmat}{\bm{\cal I}}}
200 \CustomizeMathJax{\newcommand{\Hesmat}{\bm{\cal H}}}
201 \CustomizeMathJax{\newcommand{\bcdot}{\bullet}}
202
203 \CustomizeMathJax{\newcommand{\vones}{\bm{\imath}}}
204 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
205 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
206
207 \CustomizeMathJax{\newcommand{\e}{\mathfrak{eu}}}
208 \CustomizeMathJax{\newcommand{\mply}{\cdot}}
209 \CustomizeMathJax{\newcommand{\rW}{\mathrm{W}}}
210 \end{warpMathJax}

```

File 111 **lwarf-ed.sty**

§ 213 Package **ed**

(Emulates or patches code by MICHAEL KOHLHASE.)

Pkg **ed** **ed** is patched for use by **lwarf**.

for HTML output: 1 \LWR@ProvidesPackagePass{ed}[2012/01/29]

Bugs:

1. todolist 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 112 **lwarf-ellipsis.sty**

§ 214 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 113 **lwarf-embrac.sty**

§ 215 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 \LetLtxMacro{\LWR@orig@HTML@emph}{\LWR@HTML@emph}
3 \RenewDocumentCommand{\LWR@HTML@emph}{s m}{\LWR@orig@HTML@emph{\#2}}
4
5 \LetLtxMacro{\LWR@orig@HTML@textit}{\LWR@HTML@textit}
6 \RenewDocumentCommand{\LWR@HTML@textit}{s m}{\LWR@orig@HTML@textit{\#2}}
7
8 \LetLtxMacro{\LWR@orig@HTML@textsl}{\LWR@HTML@textsl}
9 \RenewDocumentCommand{\LWR@HTML@textsl}{s m}{\LWR@orig@HTML@textsl{\#2}}
10
11 \ifxetexorluatex
12     \LetLtxMacro{\LWR@orig@HTML@textsi}{\LWR@HTML@textsi}
13     \RenewDocumentCommand{\LWR@HTML@textsi}{s m}{%
14         \LWR@orig@HTML@textsi{\#2}}
15 \fi
16
17 \AtBeginDocument{
18     \LWR@formatted{emph}

```

```
19 \LWR@formatted{textit}
20 \LWR@formatted{textsl}
21 \ifxetexorluatex
22     \LWR@formatted{textsi}
23 \fi
24 }
25
26 \newcommand{\LWR@HTML@EmbracOff}{}
27 \LWR@formatted{EmbracOff}
28
29 \newcommand{\LWR@HTML@EmbracOn}{}
30 \LWR@formatted{EmbracOn}
```

File 114 l warp-emptypage.sty**§ 216 Package emptypage**

Pkg emptypage emptypage is ignored.

for HTML output: Discard all options for l warp-emptypage:

```
1 \LWR@ProvidesPackageDrop{emptypage}[2010/05/30]
```

File 115 l warp-endfloat.sty**§ 217 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\efloatattype{}
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 116 **l warp-endheads.sty**

§ 218 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{\changetitlesname}[1]{}
5 \newcommand{\changetitlesheader}[1]{}
6 \newcommand{\changetitlescontentsname}[1]{}
7 \newcommand{\changechaptertitlesline}[1]{}
8 \newcommand{\checknoteheaders}{{}}
9 \newif\ifnotesincontents \notesincontentsfalse
10 \newcommand{\notesincontents}{\notesincontentstrue}
11 \newif\ifendnoteheaderson \endnoteheadersonfalse
12 \newcommand{\setupendnoteheaders}{{%
13   \endnoteheadersontrue%
14 }%
15 \newif\iftitleinnotes \titleinnotestrue
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 117 **l warp-endnotes.sty**

§ 219 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@synconenotenumber{\LWRendnote}{\theendnote}}
16 \appto{\LWR@syncnotenames}{\LWR@synconenotename{\LWRendnote}{\endnotename}}
17 \CustomizeMathJax{\def{\LWRendnote{1}}}
18 \CustomizeMathJax{\newcommand{\endnote}[2]{[\LWRendnote]{\{}^{\mathrm{#1}}\}}}
19 \CustomizeMathJax{\newcommand{\endnotemark}[1]{[\LWRendnote]{\{}^{\mathrm{#1}}\}}}
20 \end{warpMathJax}
```

File 118 **lwarf-engtlc.sty**

§ 220 Package **engtlc**

(Emulates or patches code by CLAUDIO FIANDRINO.)

Pkg **engtlc** `engtlc` is patched for use by `lwarf`. `MATHJAX` is emulated.

⚠ For `MATHJAX`, `\signt`, `\signf`, `\signn`, and `\signz` do not force letter case as they do in SVG math.

for HTML output:

```
1 \LWR@ProvidesPackagePass{engtlc}[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{engtlc}
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{\chipsubit}{\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\lceil#2\right\rceil\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]{\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|\#1\right|^{#2}}}
127 \CustomizeMathJax{\newcommand{\modulo}[1]{\left|\#1\right|}}
128 \CustomizeMathJax{\newcommand{\indB}[1]{%
129   \mathopen{}\left.\#1\right|\mathclose{}}
130 \CustomizeMathJax{\newcommand{\for}[2]{\left.\#1\right|\left.\#2\right|}}
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}{\Gamma}\mathop{}\mathopen{\mathrm{Gamma}}}
143 \CustomizeMathJax{\newcommand{\gammacorr}{\Gamma}\mathop{}\mathopen{\mathrm{Gamma}}}
144 \CustomizeMathJax{\newcommand{\gammatensin}{\Gamma}\mathop{}\mathopen{\mathrm{Gamma}}_{\mathop{}\mathopen{\mathrm{Gamma}}}}
145 \CustomizeMathJax{\newcommand{\gammacorrin}{\Gamma}\mathop{}\mathopen{\mathrm{Gamma}}_{\mathop{}\mathopen{\mathrm{Gamma}}}}
146 \CustomizeMathJax{\newcommand{\gammain}{\Gamma}\mathop{}\mathopen{\mathrm{Gamma}}_{\mathop{}\mathopen{\mathrm{Gamma}}}}
147 \CustomizeMathJax{\newcommand{\gammak}{\Gamma}\mathop{}\mathopen{\mathrm{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}{P}\mathop{}\mathopen{\mathrm{potin}}}
154 \CustomizeMathJax{\newcommand{\potdisp}{P}\mathop{}\mathopen{\mathrm{potdisp}}}
155 \CustomizeMathJax{\newcommand{\potDC}{P}\mathop{}\mathopen{\mathrm{potDC}}}
156 \CustomizeMathJax{\newcommand{\potCC}{P}\mathop{}\mathopen{\mathrm{potCC}}}
157 \CustomizeMathJax{\newcommand{\potirr}{P}\mathop{}\mathopen{\mathrm{potirr}}}
158 \CustomizeMathJax{\newcommand{\potdiss}{P}\mathop{}\mathopen{\mathrm{potdiss}}}
159 \CustomizeMathJax{\newcommand{\potinc}{P}\mathop{}\mathopen{\mathrm{potinc}}}
160 %
161 \CustomizeMathJax{\newcommand{\z}{Z}\mathop{}\mathopen{\mathrm{z}}}
162 \CustomizeMathJax{\newcommand{\znorm}{Z}\mathop{}\mathopen{\mathrm{norm}}}
163 \CustomizeMathJax{\newcommand{\y}{Y}\mathop{}\mathopen{\mathrm{y}}}
164 \CustomizeMathJax{\newcommand{\ynorm}{Y}\mathop{}\mathopen{\mathrm{norm}}}
165 \CustomizeMathJax{\newcommand{\zinf}{Z}\mathop{}\mathopen{\mathrm{infty}}}
166 \CustomizeMathJax{\newcommand{\zinfn}{Z}\mathop{}\mathopen{\mathrm{infn}}}
167 \CustomizeMathJax{\newcommand{\yinf}{Y}\mathop{}\mathopen{\mathrm{infty}}}
168 \CustomizeMathJax{\newcommand{\yinfn}{Y}\mathop{}\mathopen{\mathrm{infn}}}
169 \CustomizeMathJax{\newcommand{\zvt}{Z}\mathop{}\mathopen{\mathrm{vt}}}
170 \CustomizeMathJax{\newcommand{\yvt}{Y}\mathop{}\mathopen{\mathrm{vt}}}
171 %
```

```
172 \CustomizeMathJax{\newcommand{\campoe}{\underline{\mathcal{E}}(\underline{r},t)}}
173 \CustomizeMathJax{\newcommand{\campoefas}{\underline{E}(\underline{r})}}
174 \CustomizeMathJax{\newcommand{\campoh}{\underline{\mathcal{H}}(\underline{r},t)}}
175 \CustomizeMathJax{\newcommand{\campohfas}{\underline{H}(\underline{r})}}
176 %
177 \CustomizeMathJax{\newcommand{\signt}[1]{\#1}(t)}}
178 \CustomizeMathJax{\newcommand{\signf}[1]{\#1}(f)}}
179 \CustomizeMathJax{\newcommand{\signn}[1]{\#1}(n)}}
180 \CustomizeMathJax{\newcommand{\signz}[1]{\#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}{\text{, } , \text{, }}}
186 \CustomizeMathJax{\newcommand{\dato}{\text{\textbackslash}, |\text{\textbackslash}, \text{}}}
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\deltaimp}
208 \CustomizeMathJax{\let\Vgamma\gammatens}
209 \CustomizeMathJax{\let\CGamma\gammacorr}
210 \CustomizeMathJax{\let\Vgammmain\gammatensin}
211 \CustomizeMathJax{\let\CGammmain\gammacorrin}
212 \CustomizeMathJax{\let\Kgamma\gammak}
213 \CustomizeMathJax{\let\powerin\potin}
214 \CustomizeMathJax{\let\availpow\potdisp}
215 \CustomizeMathJax{\let\irrpow\potirr}
216 \CustomizeMathJax{\let\disspow\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\campoefas}
223 \CustomizeMathJax{\let\phasorHfiled\campohfas}
224 \CustomizeMathJax{\let\given\dato}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\ex}
```

```
227 \end{warpMathJax}
```

File 119 l warp-enumerate.sty**§ 221 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 **l warp** and thus must no longer be dropped.

for HTML output: 1 \LWR@ProvidesPackagePass{enumerate}[2015/07/23]

File 120 l warp-enumitem.sty**§ 222 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]

for HTML output: 2 \begin{warpHTML}

```
\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.

```
3 \let\LWR@enumitem@orig newList\newList
4
5 \renewcommand*\newList[3]{%
6 \LWR@enumitem@orig newList[#1]{#2}{#3}%
7 \AtBeginEnvironment{#1}{\@nameuse{\LWR@#2start}}%
8 \AtEndEnvironment{#1}{\@nameuse{\LWR@#2end}}%
9 }
10
11 \def\DrawEnumitemLabel{}  

12 \end{warpHTML}
```

File 121 **l warp-epigraph.sty**

§ 223 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@mbox{text-align:right}}{}{epigraph}%
18     \qitem{#1}{#2}%
19     \end{LWR@BlockClassWP}%
20 }
21 \LWR@formatted{epigraph}
22
23 \DeclareDocumentEnvironment{\LWR@HTML@epigraphs}{}
24     {\begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}{epigraph}%
25     \end{LWR@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 122 l warp-epsfig.sty**§ 224 Package **epsfig****

Pkg epsfig **epsfig** is emulated for use by **l warp**.

⚠ Only the L^AT_EX2e syntax is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{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{\epsfig}[1]{\includegraphics[\@LWR@epsfig@filename]{#1}}
16
17 \newcommand{\psfig}[1]{\includegraphics[\@LWR@epsfig@filename]{#1}}
```

File 123 l warp-epstopdf.sty**§ 225 Package **epstopdf****

Pkg epstopdf Previous versions of **l warp** had a nullified version, but now **epstopdf-base** is supported. **l warp-epstopdf** becomes a placeholder to overwrite previous versions.

See package **epstopdf-base** for details.

for HTML output: 1 \LWR@ProvidesPackagePass{epstopdf}[2016/05/15]

File 124 **l warp-epstopdf-base.sty**

§ 226 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 ⇒ **l warpmk pdftosvg <listofPDFfiles>**

to generate .svg versions.

for HTML output: 1 \LWR@ProvidesPackagePass{epstopdf-base}[2016/05/15]

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 125 l warp-eqlist.sty**§ 227 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 126 l warp-eqparbox.sty**§ 228 Package eqparbox**

(Emulates or patches code by SCOTT PAKIN.)

Pkg eqparbox eqparbox is patched for use by l warp.

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 127 **lwarf-errata.sty**

§ 229 Package **errata**

(Emulates or patches code by MICHAEL KOHLHASE.)

Pkg errata errata is patched for use by lwarf.

This is for v0.3 of errata. A newer version of errata with more features is under development, at which time the lwarf 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}\textsuperscript{@thefnmark}}
35   {}
36  {\LWR@patcherror{erratum}{eDelete}}
37
38 \xpatchcmd{\erratum}
39   {$_r^{\{@thefnmark\}}$}
40 %   {\inlinemathother$_r^{\{@thefnmark\}}$\inlinemathnormal}
41   {\textsubscript{r}\textsuperscript{@thefnmark}}
42   {}
43  {\LWR@patcherror{erratum}{eReplace}}

```

Finish the current page's errata before closing and reloading the list:

```
44 \preto\PrintErrata{\LWR@orignewpage}
```

No longer defining math macros with the **HTML \$**:

```
45 \StopDefiningMath
```

File 128 **lwarp-eso-pic.sty**

§ 230 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]{}{}}
```

File 129 **lwarp-etoc.sty**

§ 231 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 \warppHTMLonly macro or warpHTML 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\etoctheplace \empty
7 \let\etocthelinkname \empty
8 \let\etocthelinknumber \empty
9 \let\etocthelinkpage \empty
10 \let\etocthelink \empty % prior to 1.08j its was \let to \empty
11 \DeclareRobustCommand*\etocname {}
12 \DeclareRobustCommand*\etocnumber {}
13 \DeclareRobustCommand*\etocpage {}
14 \DeclareRobustCommand*\etoclink {\empty}
15 \DeclareRobustCommand*\etocifnumbered{\empty}
16 \DeclareRobustCommand*\etociffirst{\empty}
17 \DeclareRobustCommand*\etocifwasempty{\empty}
```

```
18 \let\etocaftertitlehook    \@empty
19 \let\etocaftercontentshook \@empty
20 \def\etoctableofcontents{}
21 \newcommand*\localtableofcontents{}
22 \newcommand*\localtableofcontentswithrelativedepth[1]{}
23 \newcommand\etocsettocstyle[2]({})
24 \long\def\etocsettocstyle#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\etoctoclineleaders
48     {\hbox{\normalfont\normalsize\hb@xt@2ex {\hss.\hss}}}
49 \def\etocabrevpagegename {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\etocbelowtocskip{3.5ex \@plus 1ex \@minus .2ex}
55 \def\etoccolumnsep{2em}
56 \def\etocmulticolsep{0ex}
57 \def\etocmulticolpretolerance{-1}
58 \def\etocmulticoltolerance{200}
59 \def\etocdefaultnbcoll{2}
60 \def\etocinnertopsep{2ex}
61 \newcommand\etocmulticolstyle[2][]{}
62 \def\etocinnerbottomsep{3.5ex}
63 \def\etocinnerleftsep{2em}
64 \def\etocinnersrightsep{2em}
65 \def\etocoprule{\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\etocmemoirtoctotocfmt #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*\etocmarkbothonuc[1]{}
97 \newcommand\etoc toc style[3][section]{}
98 \newcommand\etoc toc style with marks[4][section]{}
99 \newcommand\etoc toc style with marks nouc[4][section]{}
100 \def\etocignoretocdepth{}
101 \def\etocsettocdepth[1]{}
102 \def\etocdepthtag #1{\Etoc@depthtag }
103 \def\Etoc@depthtag #1{}
104 \def\etocignoredepthtags {}
105 \def\etoc obey depth tags {}
106 \def\etocsettagdepth #1#2{}
107 \def\invisible table of contents {}
108 \def\invisible local table of contents {}
109 \def\etocsetnexttocdepth #1{}
110 \def\etocsetlocaltop #1{\Etoc@set@localtop}
111 \def\Etoc@set@localtop #1{}
112 \def\etocstandardlines {}
113 \def\etoc tlines {}
114 \let\etoc after tochook \empty
115 \let\etoc before titlehook \empty
116 \appto\tableofcontents{\def\tableofcontents{}}
```

File 130 **l warp-eurosym.sty**

§ 232 Package **eurosym**

(Emulates or patches code by HENRIK THEILING.)

Pkg eurosym eurosym is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{eurosym}[1998/08/06]

```
2 \renewrobustcmd\official euro{\HTMLentity{euro}}
3 \let\geneuro\official euro
4 \let\geneuronarrow\official euro
5 \let\geneurowide\official euro
6 \let\eurowide\official euro
7 \renewrobustcmd\europbars{}
8 \renewrobustcmd\europbarsnarrow{}
9 \renewrobustcmd\europbarswide{}
```

File 131 **l warp-everypage.sty**

§ 233 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 132 **l warp-everyshi.sty**

§ 234 Package **everyshi**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg everyshi ignored.

for HTML output: Discard all options for l warp-everyshi:

```
1 \LWR@ProvidesPackageDrop{everyshi}[2001/05/15]
2 \newcommand*\EveryShipout[1]{}
3 \newcommand*\AtNextShipout[1]{}
```

File 133 **l warp-extarrows.sty**

§ 235 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\xLongleftrightarrow[10,10]{0x21D4}}
6 \CustomizeMathJax{\Newextarrow\xLeftrightarrow[10,10]{0x21D4}}
7 \CustomizeMathJax{\Newextarrow\xlongleftrightarrow[10,10]{0x2194}}
8 \CustomizeMathJax{\Newextarrow\xleftrightarrow[10,10]{0x2194}}
9 \CustomizeMathJax{\let\xlongleftarrow\xleftarrow}
10 \CustomizeMathJax{\let\xlongrightarrow\xrightarrow}
11 \end{warpMathJax}

```

File 134 **l warp-extramarks.sty**

§ 236 Package **extramarks**

(Emulates or patches code by PIET VAN OOSTRUM.)

Pkg **extramarks** **extramarks** is ignored.

for HTML output: Discard all options for **l warp-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 135 **l warp-fancybox.sty**

§ 237 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 `\teximage`, which is done by adding `\latimage`

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.

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

framing alternatives `\fbox` works with `fancybox`. Also see `l warp`'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 `l warp`, 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 `l warp` 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}
\begin{Verbatim}
}{%
\end{Verbatim}
\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+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.

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\V@footnotetext%
6 \let\lWR@footnotetext\V@footnotetext% l warp
7 }

\V@footnotetext Patches in a subset of l warp'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@newline}%

Append the footnote to the list:

22 \@makefnlist{}

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 {<l/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 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
99 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
100 \LWR@origitem%
101 }
```

The various boxed lists become regular lists:

```
102 \renewenvironment{Bitemize}[1][]{\begin{itemize}}{\end{itemize}}
```

```
103 \renewenvironment{B enumerate}[1][]{\begin{enumerate}}{\end{enumerate}}
104 \renewenvironment{B description}[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{3}{Verbatim}%
121 \LWRFB@UseVerbatim{#1}%
122 \LWR@afterendverbatim{.5}%
123 }
124
125 \let\LWRFB@LUseVerbatim\LUseVerbatim
126
127 \renewcommand*{\LUseVerbatim}[1]{%
128 \LWR@atbeginverbatim{3}{LVerbatim}%
129 \noindent%
130 \LWRFB@LUseVerbatim{#1}%
131 \LWR@afterendverbatim{.5}%
132 }
133
134 \def\@BUseVerbatim[#1]#2{%
135 \LWR@atbeginverbatim{3}{BVerbatim}%
136 \LWRFB@UseVerbatim{#2}%
137 \LWR@afterendverbatim{.5}%
138 }
```

File 136 **lwarf-fancyhdr.sty**

§ 238 Package **fancyhdr**

(Emulates or patches code by PIET VAN OOSTRUM.)

Pkg fancyhdr fancyhdr is ignored.
for HTML output: Discard all options for l warp-fancyhdr:

```

1 \LWR@ProvidesPackageDrop{fancyhdr}[2019/01/31]

2 \newcommand*\fancyhead[2][]{}
3 \newcommand*\fancyfoot[2][]{}
4 \newcommand*\fancyhf[2][]{}
5 \newcommand*\fancypagestyle[2](){}
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(){}
13 \newcommand*\footrulewidth(){}
14 \newcommand*\headrule(){}
15 \newcommand*\footrule){}
16 \newlength\headwidth
17 \newcommand*\fancyheadoffset[2][]{}
18 \newcommand*\fancyfootoffset[2][]{}
19 \newcommand*\fancyhffoffset[2][]{}
20 \newcommand*\iffloatpage[2]{#2}
21 \newcommand*\ifftopfloat[2]{#2}
22 \newcommand*\iffbotfloat[2]{#2}
23 \newcommand*\iffootnote[2]{#2}
```

File 137 l warp-fancyref.sty

§ 239 Package **fancyref**

Pkg fancyref fancyref is emulated.
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 l warp has revised the meaning of \mbox so the comparison failed.)

```

2 \newcommand*\LWRfref@parenfancyrefhook[1]{#1}
3
4 \ifdefstreq{\fancyrefhook}{\LWRfref@parenfancyrefhook}
5 {}{
6     \renewcommand*\fancyrefhook[1]{#1}%
7 }
```

Modified to ignore the page number and variorref.

```

8 \renewcommand*\@f@ref[4]{%
9   \@ifundefined{#1r@#2@#3}{%
```

```
10 \PackageError{l warp-fancyref}{%
11   \backslashchar#1ref\space format ‘‘#2’’
12   undefined\MessageBreak
13   for label type ‘‘#3’’%
14 }{%
15   The format ‘‘#2’’ was not defined for the label type
16   ‘‘#3’’\MessageBreak
17   and the \backslashchar#1ref\space command. Perhaps
18   you have only misspelled its name.\MessageBreak
19   Otherwise you will have to define it with
20   \protect\new#1reformat\MessageBreak
21   prior to using it.%
22 }{%
23 }{%
24 \fancyrefhook{%
25   \nameuse{#1r@#2@#3}%
26   {\ref{#3\fancyrefargdelim#4}}% original
27 %   {\pageref{#3\fancyrefargdelim#4}}% original
28 %   {\@fancyref@page@ref{#3\fancyrefargdelim#4}}% original
29   {}% l warp
30   {}% l warp
31 }%
32 }%
33 }%
```

File 138 **l warp-fancytabs.sty**

§ 240 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 139 **l warp-fancyvrb.sty**

§ 241 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+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.

```
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% l warp
11 }
```

\V@footnotetext Patches in a subset of l warp'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 \teximage:

```
19 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a \teximage:

```
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 \@makefntext{}
```

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\FLVerbatim{\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     \LWR@atbeginverbatim{#1}{verbatim}%
53     \FV@BVerbatimBegin#1\FV@BVerbatimEnd%
54     \LWR@afterendverbatim{#1}%
55 }
```

\LWR@FVstyle Holds the style of the verbatim.

```
56 \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.

```

57 \newcommand*{\LWR@fvstartnone}{%
58 \LWR@traceinfo{fvstartnone}%
59 % \hbox to\z@{%
60 \BlockClass[\LWR@FVstyle]{fancyvrb}%
61 \LWR@stoppars%
62 \ifx\FV@LabelPositionTopLine\relax\else%
63     \ifx\FV@LabelBegin\relax\else%
64         \FancyVerbRuleColor{\LWR@FVfindbordercolor}%
65         \LWR@htmltagc{%
66             div class="fancyvrblabel" % extra space
67             style="color: \LWR@origpound\LWR@tempcolor"%
68         }%
69         \LWR@print@textrm{\FV@LabelBegin}%
70         \LWR@htmltagc{/div}\LWR@orignewline%
71     \fi%
72 \fi%
73 \LWR@atbeginverbatim{#1}{verbatim}%
74 }%
75 }%
76 %
77 \newcommand*{\LWR@fvendnone}{%
78 \LWR@traceinfo{fvendnone}%
79 % \hbox to\z@{%
80 \LWR@afterendverbatim{#1}%
81 \LWR@stoppars%
82 \ifx\FV@LabelPositionBottomLine\relax\else%
83     \ifx\FV@LabelEnd\relax\else%
84         \FancyVerbRuleColor{\LWR@FVfindbordercolor}%
85         \LWR@htmltagc{%
86             div class="fancyvrblabel" % extra space
87             style="color: \LWR@origpound\LWR@tempcolor"%
88         }%
89         \LWR@print@textrm{\FV@LabelEnd}%
90         \LWR@htmltagc{/div}\LWR@orignewline%
91     \fi%
92 \fi%
93 \endBlockClass
94 }
```

```

95
96 \newcommand*{\LWR@fvstartsingle}{%
97 \LWR@traceinfo{fvstartsingle}%
98 \LWR@fvstartnone%
99 \FV@BeginListFrame@Single%
100 }
101
102 \newcommand*{\LWR@fvendsingle}{%
103 \LWR@traceinfo{fvendsingle}%
104 \FV@EndListFrame@Single%
105 \LWR@fvendnone%
106 }
107
108 \newcommand*{\LWR@fvstartline}{%
109 \LWR@traceinfo{fvstartline}%
110 \LWR@fvstartnone%
111 % \setlength{\LWR@templengthone}{\baselineskip}%
112 \FV@BeginListFrame@Lines%
113 % \setlength{\baselineskip}{\LWR@templengthone}%
114 % \setlength{\baselineskip}{5pt}%
115 }
116
117 \newcommand*{\LWR@fvendline}{%
118 \LWR@traceinfo{fvendline}%
119 \FV@EndListFrame@Lines%
120 \LWR@fvendnone%
121 }

```

The following patches select the start/left/right/end behaviors depending on `frame`.
Original code is from the `fancyvrb` package.

```

122 \newcommand*{\LWR@FVfindbordercolor}{%
123 \FancyVerbRuleColor%
124 \LWR@findcurrenttextcolor%
125 \color{black}%
126 }
127
128 % border width of \FV@FrameRule
129 \newcommand*{\LWR@FVborderstyle}[1]{%
130 padding#1: \strip@pt\dimexpr \FV@FrameSep\relax\relax pt ; % space
131 \LWR@FVfindbordercolor\LWR@indentHTMLtwo%
132 border#1: \strip@pt\dimexpr \FV@FrameRule\relax\relax pt % space
133 solid {\FancyVerbRuleColor{\LWR@origpound\LWR@tempcolor}} ; % space
134 }
135
136 \def\FV@Frame@none{%
137 \renewcommand*{\LWR@FVstyle}{\LWR@currenttextcolorstyle}%
138 \let\FV@BeginListFrame\LWR@fvstartnone%
139 \let\FV@LeftListFrame\relax%
140 \let\FV@RightListFrame\relax%
141 \let\FV@EndListFrame\LWR@fvendnone}
142
143 \FV@Frame@none% default values
144
145 \def\FV@Frame@single{%

```

```
146 \renewcommand*{\LWR@FVstyle}{%
147     \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
148     \LWR@FVborderstyle{}%
149 }%
150 \let\FV@BeginListFrame\LWR@fvstartsingle%
151 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
152 \let\FV@RightListFrame\FV@RightListFrame@Single%
153 \let\FV@EndListFrame\LWR@fvendsingle}
154
155 \def\FV@Frame@lines{%
156 \renewcommand*{\LWR@FVstyle}{%
157     \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
158     \LWR@FVborderstyle{-top}%
159     \LWR@indentHTMLtwo%
160     \LWR@FVborderstyle{-bottom}%
161 }%
162 \let\FV@BeginListFrame\LWR@fvstartline%
163 \let\FV@LeftListFrame\relax%
164 \let\FV@RightListFrame\relax%
165 \let\FV@EndListFrame\LWR@fvendline}
166
167 \def\FV@Frame@topline{%
168 \renewcommand*{\LWR@FVstyle}{%
169     \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
170     \LWR@FVborderstyle{-top}%
171 }%
172 \let\FV@BeginListFrame\LWR@fvstartline%
173 \let\FV@LeftListFrame\relax%
174 \let\FV@RightListFrame\relax%
175 \let\FV@EndListFrame\LWR@fvendnone}
176
177 \def\FV@Frame@bottomline{%
178 \renewcommand*{\LWR@FVstyle}{%
179     \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
180     \LWR@FVborderstyle{-bottom}%
181 }%
182 \let\FV@BeginListFrame\LWR@fvstartnone%
183 \let\FV@LeftListFrame\relax%
184 \let\FV@RightListFrame\relax%
185 \let\FV@EndListFrame\LWR@fvendline}
186
187 \def\FV@Frame@leftline{%
188 \renewcommand*{\LWR@FVstyle}{%
189     \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
190     \LWR@FVborderstyle{-left}%
191 }%
192 % To define the \FV@FrameFillLine macro (from \FV@BeginListFrame)
193 \ifx\FancyVerbFillColor\relax%
194 \let\FV@FrameFillLine\relax%
195 \else%
196 @tempdima\FV@FrameRule\relax%
197 \multiply@tempdima-\tw@%
198 \edef\FV@FrameFillLine{%
199 {\noexpand\FancyVerbFillColor{\vrule@width\number@tempdima sp}}%
200 \kern-\number@tempdima sp}}%
```

```

201 \fi%
202 \let\fv@BeginListFrame\lwr@fvstartnone%
203 \let\fv@LeftListFrame\fv@LeftListFrame@Single%
204 \let\fv@RightListFrame\relax%
205 \let\fv@EndListFrame\lwr@fvendnone}

```

Adds the optional label to the top and bottom edges. Original code is from the `fancyvrb` package.

```

206 \def\fv@SingleFrameLine#1{%
207 %   \hbox to\z@{%
208 %     \kern\leftmargin
209 %     \ifnum#1=\z@\relax
210 %       \let\fv@Label\fv@LabelBegin
211 %     \else
212 %       \let\fv@Label\fv@LabelEnd
213 %     \fi
214 %     \ifx\fv@Label\relax
215 %       \FancyVerbRuleColor{\vrule \width\linewidth \height\fv@FrameRule}%
216 %     \else
217 %       \ifnum#1=\z@
218 %         \setbox\z@\hbox{\strut\enspace\fv@LabelBegin\enspace\strut}%
219 %         \ifx\fv@LabelPositionTopLine\relax
220 %           \else
221 %             \fi
222 %           \else
223 %             \setbox\z@\hbox{\strut\enspace\fv@LabelEnd\enspace\strut}%
224 %             \ifx\fv@LabelPositionBottomLine\relax
225 %               \else
226 %                 \fi
227 %                 \fi
228 %               \fi
229 %             \hss
230 %           }
231 }

```

Processes each line, adding optional line numbers. Original code is from the `fancyvrb` package.

```

232 \def\fv@ListProcessLine#1{%
233   \hbox to \hsize{%
234 %     \kern\leftmargin
235     \hbox to \VerbatimHTMLWidth {%
236       \ifcscvoid{\fv@LeftListNumber}{}{\kern 2.5em}%
237       \fv@LeftListNumber%
238 %     \fv@LeftListFrame
239     \FancyVerbFormatLine{#1}%
240     \hss%
241 %     \fv@RightListFrame
242     \fv@RightListNumber%
243   }%
244   \hss% required to avoid underfull hboxes
245 }
246 }

```

Env **BVerbatim**

```

247 \AtBeginEnvironment{BVerbatim}
248 {%
249 \LWR@forcenewpage% instead of \preto
250 \LWR@atbeginverbatim{0}{bverbatim}%
251 }
252
253 \AfterEndEnvironment{BVerbatim}
254 {%
255 \LWR@afterendverbatim{0}%
256 }

```

End of the modifications to make at the end of the preamble:

```
257 } % \AfterEndPreamble
```

File 140 **l warp-fewerfloatpages.sty**

§ 242 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 141 **l warp-figcaps.sty**

§ 243 Package **figcaps**

(Emulates or patches code by PATRICK W. DALY.)

Pkg **figcaps** **figcaps** is ignored.

for HTML output: Discard all options for **l warp-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 142 l warp-figsize.sty

§ 244 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 143 l warp-fitbox.sty

§ 245 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 144 **l warp-fix2col.sty**

§ 246 Package **fix2col**

Pkg fix2col fix2col is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]

File 145 **l warp-fixme.sty**

§ 247 Package **fixme**

(Emulates or patches code by DIDIER Verna.)

Pkg fixme fixme is patched for use by l warp.

⚠ 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 l warp’s version of \wrindex, ignoring the fixme package’s target option:

2 \let\@wrindex\LWR@wrindex

Float-related macros required by l warp:

```
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   {\@fxtextrstd{\#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 146 **lwarf-fixmetodonotes.sty**

§ 248 Package **fixmetodonotes**

(Emulates or patches code by GIOELE BARABUCCI.)

Pkg fixmetodonotes fixmetodonotes is patched for use by lwarf.

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 147 l warp-flafter.sty**§ 249 Package flafter**

Pkg flafter flafter is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]
2 \providecommand\fl@trace[1]{}

File 148 l warp-flippdf.sty**§ 250 Package flippdf**

Pkg flippdf flippdf is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]
2 \newcommand\FlipPDF{}
3 \newcommand\UnFlipPDF{}

File 149 l warp-float.sty**§ 251 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]

\listof See section 75.2 for the \listof command.

\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 \csedef{\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%
```

Likesize, **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}{}{%
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 * {\langle type \rangle}

Remember the style for this float:

25 \NewDocumentCommand{\restylefloat}{s m}{%
26     \csedef{LWR@floatstyle@#2}{\LWR@floatstyle}%
27 }
```

File 150 l warp-floatflt.sty

§ 252 Package **floatflt**

(Emulates or patches code by MATS DAHLGREN.)

Pkg **floatflt** **floatflt** is emulated.

for HTML output: Discard all options for **l warp-floatflt**:

```
1 \LWR@ProvidesPackageDrop{floatflt}[1997/07/16]
```

```
Env [⟨⟩] offset {\⟨type⟩} {\⟨width⟩} Borrowed from the l warp version of keyfloat:
2 \NewDocumentEnvironment{KFLTfloatflt@marginfloat}{O{-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 151 lwarp-floatpag.sty**§ 253 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 152 lwarp-floatrow.sty**§ 254 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 cotype⟩} [⟨3 width⟩] [⟨4 height⟩] [⟨5 vert pos⟩] {⟨6 caption⟩}
{⟨7 object⟩}

```

Only parameters for `cotype`, `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 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 {%
31   \subfloat{#6}{#7}}%
32 }%
33 \subfloat{#6}{#7}%
34 }
```

\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 }%
36 {%
37 \subfloat package, but not a subfig
```

figure and **table** are environments:

```
37 \nameuse{#2}
38 #6
39
40 #7
41 \nameuse{end#2}
42 }%
43 }%
44 {%
45 \nameuse{#2}
46 #6
47
48 #7
49 \nameuse{#2}
50 }%
51 \nameuse{#2}
52 \nameuse{#2}
53 \nameuse{#2}
```

Not used:

```
45 \newcommand*\nocapbeside(){}
46 \newcommand*\capbeside(){}
47 \newcommand*\caption(){}
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 {⟨1 command⟩} {⟨2 captype⟩} [⟨3 preamble⟩] [⟨4 default width⟩]

Preamble and default width are ignored.

```
57 \NewDocumentCommand{\newfloatcommand}{m m o o}{%
58 \namedef{#1}{%
59 \floatbox{#2}{%
60 }%
61 }}
```

\renewfloatcommand {⟨1 command⟩} {⟨2 captype⟩} [⟨3 preamble⟩] [⟨4 default width⟩]

Preamble and default width are ignored.

```

62 \NewDocumentCommand{\renewfloatcommand}{m m o o}{%
63   \namedef{#1}{%
64     \floatbox{#2}%
65   }%
66 }

\ffigbox  [⟨width⟩] [⟨height⟩] [⟨vposn⟩] {⟨caption commands⟩} {⟨contents⟩}
67 \newfloatcommand{ffigbox}{figure}[\nocapbeside][]

\ttabbox  [⟨width⟩] [⟨height⟩] [⟨vposn⟩] {⟨caption commands⟩} {⟨contents⟩}
68 \newfloatcommand{ttabbox}{table}[\capttop][\FBwidth]

\fcapside [⟨width⟩] [⟨height⟩] [⟨vposn⟩] {⟨caption commands⟩} {⟨contents⟩}
69 \newfloatcommand{fcapside}{figure}[\capbeside][]

Env  floatrow [⟨numfloats⟩]

```

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]{%
  \renewcommand*{\LWR@frowkeyplacement}{}%
  \renewcommand*{\LWR@frowkeyname}{}%
}
```

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{\buildFBBOX}[2]{}%
121 \newcommand*\{CenterFloatBoxes}{}%
122 \newcommand*\{TopFloatBoxes}{}%
123 \newcommand*\{BottomFloatBoxes}{}%
124 \newcommand*\{PlainFloatBoxes}{}%
125 %
126 \newcommand{\capsubrowsettings}{}%
127 %
128 \NewDocumentCommand{\RawFloats}{o o}{}%

```

\RawCaption {<text>}

To be used inside a minipage or parbox.

```

129 \newcommand{\RawCaption}[1]{\#1}

```

\floatfoot {<text>}

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` `[(num_floats)]`

```

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 }
```

File 153 **lwarf-fltrace.sty**

§ 255 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 154 **lwarf-flushend.sty**

§ 256 Package **flushend**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg flushend flushend is ignored.

for HTML output: Discard all options for l warp-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*\showcolsendlrule{}{}{}
```

File 155 l warp-fnbreak.sty

§ 257 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 156 l warp-fncychap.sty

§ 258 Package **fncychap**

(Emulates or patches code by ULF A. LINDGREN.)

Pkg fncychap fncychap is ignored.

for HTML output: Discard all options for l warp-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 157 l warp-fnlineno.sty**§ 259 Package fnlineno**

Pkg fnlineno fnlineno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

File 158 l warp-fnpara.sty**§ 260 Package fnpara**

Pkg fnpara fnpara is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnpara}

File 159 l warp-fnpos.sty**§ 261 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 160 **l warp-fontawesome.sty**

§ 262 Package **fontawesome**

(Emulates or patches code by XAVIER DANAUX.)

Pkg fontawesome **fontawesome** is patched for use by l warp.

Hashed inline images are used, as there may not be Unicode support for all icons.

⚠ **poppler** syntax warning

If using pdfLATEX, *poppler* may issue a syntax warning regarding parsing a ligature component. XELATEX or LuaLATEX 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 pdfLATEX, the alt tag includes the icon (symbol) number. For XELATEX and LuaLATEX, 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 161 **l warp–fontawesome5.sty**

§ 263 Package **fontawesome5**

(Emulates or patches code by MARCEL KRÜGER.)

Pkg fontawesome5 **fontawesome5** is patched for use by **l warp**.

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:n{%
4     \LWR@findcurrenttextcolor
5     \cs_if_exist:cTF{c__fontawesome_slot_#2_tl}{%
6         \begin{lateximage}*[#2][fontawesome5#1SZ\LWR@font@size{}CL\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 162 **l warp-fontaxes.sty**

§ 264 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 **l warp** 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 nfssext-cfr
3   \newcommand{\LWR@HTML@swshape}{}
4   \LWR@formatted{swshape}
5
6   \newcommand{\LWR@HTML@textsw}[1]{#1}
7   \LWR@formatted{textsw}
8
9   \FilenameNullify{%
10     \LetLtxMacro\swshape\empty%
11     \LetLtxMacro\textsw\firstofone%
12   }
13 }
```

File 163 **l warp-fontenc.sty**

§ 265 Package **fontenc**

Pkg fontenc If using pdflATEX, **l warp** used to require **fontenc** be loaded before **l warp**, but now **l warp** itself loads \fontenc with T1 encoding, which **l warp** requires. **fontenc** is now allowed to be loaded with another encoding after **l warp**.

l warp-fontenc**** is no longer necessary, but is still provided to overwrite older versions.

for HTML output: 1 \LWR@ProvidesPackagePass{fontenc}[2017/04/05]

File 164 **l warp-footmisc.sty**

§ 266 Package **footmisc**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

Pkg **footmisc** **footmisc** is emulated.

lwarf 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@\hspace{0pt}\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@edef\@thefnmark{\thempfn}%
25     \footnotemark%
26   }%
27 }
28 \def\xmpfootnotemark[#1]{%
29   \begingroup%
30   \csname c@\mpfn\endcsname #1\relax%
31   \unrestored@protected@edef\@thefnmark{\thempfn}%
32   \endgroup%
33   \footnotemark%
34 }
```

File 165 **lwarf-footnote.sty**

§ 267 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 l warp
6 }
7
8 \%let\fn@endnote\color@endgroup% *** conflicts with l warp
9 \def\fn@endnote{%
10 \LWR@htmltagc{/ \LWR@tagregularparagraph}%
11 \LWR@newline%
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@newline%
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 166 l warp-footnotebackref.sty

§ 268 Package **footnotebackref**

Pkg footnotebackref footnotebackref is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

File 167 **l warp-footnotehyper.sty**

§ 269 Package **footnotehyper**

Pkg footnotehyper footnotehyper is a hyperref-safe version of footnote. For l warp, footnotehyper is emulated.

for HTML output: Discard all options for l warp-footnotehyper:

```
1 \RequirePackage{footnote}
2 \LWR@ProvidesPackageDrop{footnotehyper}[2018/01/23]
```

File 168 **l warp-footnoterange.sty**

§ 270 Package **footnoterange**

(Emulates or patches code by H.-MARTIN MÜNCH.)

Pkg footnoterange footnoterange is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{footnoterange}[2012/02/17]

```
2 \csletcs{footnoterange}{footnoterange*}
3 \csletcs{endfootnoterange}{endfootnoterange*}
```

File 169 **l warp-footnpag.sty**

§ 271 Package **footnpag**

Pkg footnpag footnpag is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{footnpag}

File 170 **l warp-foreign.sty**

§ 272 Package **foreign**

(Emulates or patches code by PHILIP G. RATCLIFFE.)

Pkg foreign foreign is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{foreign}[2012/09/25]

```
2 \renewcommand\foreignabbrfont{\emph}
```

File 171 **l warp-forest.sty**

§ 273 Package **forest**

(Emulates or patches code by SAŠO ŽIVANOVIĆ.)

Pkg **forest** **forest** is patched for use by **l warp**.

⚠ **\Forest*** The starred version of the macro **\Forest*** is not supported. **l warp** 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{l warp-forest}%
12    {\protect\Forest* is not supported}%
13    {L warp 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]%
18    \forest@next{#3}%
19    \end{lateximage}%
20 }%
```

File 172 **l warp-fouridx.sty**

§ 274 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}^{#1}_{#2}{}_{#3}{}^{#4}_{#5}}%
```

```
6      }%
7 }
8 \end{warpMathJax}
```

File 173 l warp-framed.sty

§ 275 Package **framed**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **framed** **framed** is supported and patched by **l warp**.

for HTML output: Accept all options for **l warp-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 {\langle toptitle\rangle} {\langle bottitle\rangle} {\langle thickness top\rangle} {\langle bottom\rangle} {\langle left\rangle} {\langle right\rangle} {\langle text contents\rangle}

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}}{}{%
67   \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
68     \textcolor{TFTTitleColor}{\textbf{#1}}%
69   \end{BlockClass}%
70 }% not empty
71
72 #7
73
74 \ifthenelse{\isempty{#2}}{}{%
75   \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
76   \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
77     \textcolor{TFTTitleColor}{\textbf{#2}}%
78   \end{BlockClass}%
79 }% not empty
80 \end{BlockClass}
81 }

\TitleBarFrame [\langle marker\rangle] {\langle title\rangle} {\langle contents\rangle}

82 \renewcommand{\TitleBarFrame}[3][]{%
83 \CustomFBox
84   {#2}{}%
85   \fboxrule\fboxrule\fboxrule\fboxrule
86   {#3}%
}
```

```
87 }

88 \renewcommand{\TF@Title}[1]{#1}

MakeFramed {\langle settings\rangle}

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 {\langle frame cmd no split\rangle} {\langle frame cmd split\rangle}

95 \renewcommand*{\fb@put@frame}[2]{%
96 \relax%
97 \@tempboxa%
98 }
```

File 174 **l warp-ftcap.sty**

§ 276 Package **ftcap**

Pkg **ftcap** **ftcap** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ftcap}

File 175 **l warp-ftnright.sty**

§ 277 Package **ftnright**

Pkg **ftnright** **ftnright** is ignored.

for HTML output: Discard all options for **l warp-ftnright**:

1 \LWR@ProvidesPackageDrop{ftnright}[2014/10/28]

File 176 **l warp-fullminipage.sty**

§ 278 Package **fullminipage**

Pkg **fullminipage** **fullminipage** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]

```
2 \newenvironment{fullminipage}[1][]{\{}{\}}
```

File 177 **l warp-fullpage.sty**

§ 279 Package **fullpage**

Pkg **fullpage** **fullpage** is ignored.

for HTML output: Discard all options for **l warp-fullpage**:

```
1 \LWR@ProvidesPackageDrop{fullpage}[1994/06/01]
```

File 178 **l warp-fullwidth.sty**

§ 280 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 \minipage{fullwidth}%
4 \minipage{\linewidth}%
5 }%
6 {%
7 \endminipage%
8 }
```

File 179 **l warp-fwlw.sty**

§ 281 Package **f wlw**

Pkg **f wlw** **f wlw** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{f wlw}

```
2 \newbox\FirstWordBox \global\setbox\FirstWordBox\hbox{}%
3 \newbox\NextWordBox \global\setbox\NextWordBox\hbox{}%
4 \newbox\LastWordBox \global\setbox\LastWordBox\hbox{}%
5 \def\ps@f wlwhead{}%
6 \def\ps@NextWordFoot{}
```

File 180 **l warp-gensymb.sty**

§ 282 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}{\text{\textnormal{\'{e}c}}}}
5 \CustomizeMathJax{\newcommand{\perthousand}{\text{\textnormal{\'{e}c}}}}
6 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
7 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\mu}}}
```

File 181 **l warp-gentombow.sty**

§ 283 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 182 **l warp-geometry.sty**

§ 284 Package **geometry**

(Emulates or patches code by HIDEO UMEKI.)

Pkg geometry **geometry** is preloaded by l warp, but must be nullified as seen by the user's source code.

for HTML output: Discard all options for l warp-geometry:

```
1 \LWR@ProvidesPackageDropA{geometry}[2018/04/16]
```

If `geometry` is never loaded by the user, it will be loaded by `\AtBeginDocument`. If this is the case, the page layout should not be changed but the user macros should still be nullified.

```
2 \ifbool{LWR@allowanothergeometr}{%
```

Assign and set the selected geometry with `reset` prepended. `\AtEndPreamble` `\l warp` will save this, then set its own geometry.

```
3     \edef\tempone{\reset,\@optionlist{\currname.\currext}}%
4     \expandafter\origgeometry\expandafter{\tempone}%
5 }{}% LWR@allowanothergeometr
```

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 183 `l warp-ghsystem.sty`

§ 285 Package `ghsystem`

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg `ghsystem` `ghsystem` is patched for use by `\l warp`.

⚠ `\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 ⇒ `\l warpmk pdftosvg images/*.pdf`

for HTML output: `\ProvidesPackage{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 184 **lwarf-gloss.sty**

§ 286 Package **gloss**

(Emulates or patches code by JOSE LUIS DÍAZ, JAVIER BEZOS.)

Pkg gloss **gloss** is patched for use by lwarf.

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 185 **lwarf-glossaries.sty**

§ 287 Package **glossaries**

(Emulates or patches code by NICOLA L.C. TALBOT.)

Pkg glossaries
processing glossaries
 Opt GlossaryCmd
 Default: **makeglossaries**
 Opt [lwarfmk] printglossary
 Opt [lwarfmk] htmlglossary

lwarfmk has the commands **lwarfmk printglossary** and **lwarfmk htmlglossary**, which process the glossaries created by the **glossaries** package using that package's **makeglossaries** program.

The shell command to execute is set by the **lwarf** option **GlossaryCmd**, which defaults to **makeglossaries**. The print or HTML glossary filename is appended to this command.

⚠ makeglossaries not found 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},
] {lwarf}
```

xindy language To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
    GlossaryCmd={makeglossaries -L english},
] {lwarf}
```

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 `lwarf`, so the style is forced to `index` instead.

 **number list** The page number list in the printed form would become `\nameref`s 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  \ifdef\empty\@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 }
```

lwarf'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 \ifdefstreq{\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 \ifdefstreq{\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 \ifdefstreq{\glssymbolsgroupname}{\LWR@comp@glssymbolsgroupname}{
37     \translatelet\LWR@translatetemp{Symbols (glossaries)}
38     \edef\glssymbolsgroupname{\LWR@translatetemp}
39 }{}%
40
41 \newcommand*\LWR@comp@glsnumbersgroupname{\translate{Numbers (glossaries)}}
42
43 \ifdefstreq{\glsnumbersgroupname}{\LWR@comp@glsnumbersgroupname}{
44     \translatelet\LWR@translatetemp{Numbers (glossaries)}
45     \edef\glsnumbersgroupname{\LWR@translatetemp}
46 }{}%
```

File 186 lwarf-gmeometric.sty

§ 288 Package **gmeometric**

Pkg gmeometric gmeometric is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop[gmeometric][2008/11/22]
2 \RequirePackageWithOptions{geometry}

File 187 **l warp-graphics.sty**

§ 289 Package **graphics**

(Emulates or patches code by D. P. CARLISLE.)

Pkg **graphics** **graphics** is emulated.

for HTML output: 1 \LWR@ProvidesPackagePass{graphics}[2017/06/25]

§ 289.1 **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
```

§ 289.2 Length conversions and graphics options

⚠ whitespace A scaled image in L^AT_EX 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}%
60 }% not ex
61 \IfEndWith{#1}{em}{%
62 \renewcommand*{\LWR@igheightstyle}{height:#1}%
63 }% not em
64 \IfEndWith{#1}{\%}{%
65 \renewcommand*{\LWR@igheightstyle}{height:#1}%
66 }% not percent
67 \IfEndWith{#1}{px}{%
68 \renewcommand*{\LWR@igheightstyle}{height:#1}%
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}{bbllx}{}%
90 \define@key{igraph}{bbly}{}%
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}{}%
```

§ 289.3 Printing HTML styles

\LWR@rotstyle {*prefix*} {*degrees*}

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 {*prefix*} {*xscale*} {*yscale*}

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 }
```

§ 289.4 \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 {⟨w⟩} {⟨h⟩} {⟨filename⟩} 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         \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         }%
```

```

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=%
220     \detokenize\expandafter{\LWR@parsedfilename}%
221     "\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="\LWR@indentHTML
232      \ifthenelse{\NOT\equal{\LWR@igwidthstyle}{} }{%
233          {\LWR@igwidthstyle;\LWR@indentHTML}%
234      }{%
235          \ifthenelse{\NOT\equal{\LWR@igheightstyle}{} }{%
236              {\LWR@igheightstyle;\LWR@indentHTML}%
237          }{%
238              \ifthenelse{\NOT\equal{\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       "\LWR@indentHTML%
264   }{%
265   }{%
266   }{%
267 }% end of image tags

```

Set the class and alt tag:

```

265     class="\LWR@igclass"\LWR@indentHTML%
266     alt="\AltTextOpen\LWR@igalt\AltTextClose" \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  \Ginclusion@graphics{\detokenize\expandafter{\LWR@tempone}}%
300  \endgroup%
301  \filename@parse{\LWR@parsedfilename}%
302  \LWR@traceinfo{\LWR@parsedfilename is \LWR@parsedfilename}%
303 % \LWR@sanitize{\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  {%
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 \LetLtxMacro\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
```

§ 289.5 Boxes

\LWR@rotboxorigin Holds the origin key letters.

```
327 \newcommand*{\LWR@rotboxorigin}{}%
```

\LWR@originname {⟨letter⟩}

Given one L^AT_EX 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 {⟨letters⟩}

Given one- or two-letter L^AT_EX 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` [*keyval list*] {*angle*} {*text*}

```
347 \AtBeginDocument{
```

The `HTML` version:

```
348 \NewDocumentCommand{\LWR@HTML@rotatebox}{O{} 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="\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@originname{\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}"\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 {<h-scale>} [<v-scale>] {<text>}
```

```
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="\LWR@indentHTML
375   display: inline-block;\LWR@indentHTML
```

Print the scaling information:

```
376   \LWR@scalestyle{-ms-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
377   \LWR@scalestyle{-webkit-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
378   \LWR@scalestyle{}{#1}{\IfNoValueTF{#2}{#1}{#2}}
379   "\LWR@newline
380 }\LWR@newline%
```

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}{%
401     #4%
402 }
403
404 \LWR@formatted{resizebox}
405
406 }% AtBeginDocument
```

File 188 **lwarp-graphicx.sty**

§ 290 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}[2017/06/01]

File 189 **lwarp-grffile.sty**

§ 291 Package **grffile**

Pkg **grffile** **grffile** is supported as-is. File types known to the browser are displayed, and unknown

⚠ matching PDF and SVG

file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

l warp-grffile now exists as a placeholder since grffile used to be emulated by l warp, and thus older versions of l warp-grffile may exist and should be overwritten by this newer version.

for HTML output: 1 \LWR@ProvidesPackagePass{grffile}[2017/06/30]

File 190 l warp-grid.sty**§ 292 Package grid**

Pkg grid grid is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]
2 \newenvironment*{gridenv}{}{}

File 191 l warp-grid-system.sty**§ 293 Package grid-system**

(Emulates or patches code by MARCUS BITZL.)

Pkg grid-system grid-system is patched for use by l warp.

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 192 l warp-gridset.sty**§ 294 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*{\theinfo}[1]{\theinfo}
12 \newcommand*{\theypos}[1]{\theypos}

```

File 193 **l warp-hang.sty**

§ 295 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=%
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          "%
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 194 **lwarf-hanging.sty**

§ 296 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 195 **l warp-hhline.sty**

§ 297 Package **hhline**

(Emulates or patches code by DAVID CARLISLE.)

Pkg **hhline** **hhline** is patched for use by **l warp**.

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 196 **l warp-hypbmsec.sty**

§ 298 Package **hypbmsec**

Pkg hypbmsec **hypbmsec** is emulated by the **l warp** core.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

File 197 **l warp-hypcap.sty**

§ 299 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*{\hypcaprefdef}[1]{}%
5 \newcommand*{\capstartfalse}{}%
6 \newcommand*{\capstartrue}{}%
```

File 198 **l warp-hypdestopt.sty**

§ 300 Package **hypdestopt**

Pkg hypdestopt **hypdestopt** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

File 199 **l warp-hypernat.sty**

§ 301 Package **hypernat**

Pkg hypernat **hypernat** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

File 200 *l warp-hyperref.sty*

§ 302 Package **hyperref**

(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK, THE LATEX3 PROJECT.)

Pkg **hyperref** **hyperref** is emulated.

for HTML output:

```
1 % \LWR@ProvidesPackageDrop{hyperref}%
2 % \ProvidesPackage{l warp-#1-#2}%
3 \PackageInfo{l warp}{%
4 Using the l warp HTML version of package ‘hyperref’, \MessageBreak
5 and discarding options.\MessageBreak
6 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
7 do not attempt to patch l warp’s version of ‘hyperref’.)\MessageBreak}
8
9 \DeclareOption*{}
```

```
10 % \ProcessOptions\relax
11 \let\ds@\empty%           from the original \ProcessOptions
12 \edef\@curroptions{}%    l warp modification to \ProcessOptions
13 \@process@ptions\relax% from the original \ProcessOptions

14 \LetLtxMacro\href{\LWR@href}
15 \LetLtxMacro\nolinkurl{\LWR@nolinkurl}
16 \LetLtxMacro\url{\LWR@url}
17 \LetLtxMacro\phantomsection{\LWR@phantomsection}

18 \newcommand*\hypersetup[1]{}
19 \newcommand*\hyperbaseurl[1]{}
```

\hyperimage {⟨URL⟩} {⟨alt text⟩}

Insert an image with alt text:

```
20 \NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
21   \LWR@ensuredoingapar%
22   \def\LWR@templink{\#1}%
23   @onelvel@sanitize\LWR@templink%
24   \LWR@htmlltag{img src="\LWR@templink" alt="#2" class="hyperimage"}%
25   \LWR@ensuredoingapar%
26   \endgroup%
27 }
28
29 \newrobustcmd*\hyperimage{%
30   \begingroup%
31   \LWR@linkcatcodes%
32   \LWR@hyperimageb%
33 }
34
```

```
\hyperdef {⟨1: category⟩} {⟨2: name⟩} {⟨3: text⟩}
```

Creates an HTML anchor to category.name with the given text.

```
35 \NewDocumentCommand{\LWR@hyperdefb}{m m +m}{%
36     \LWR@ensuredoingapar%
37     \LWR@label@createtag{#1.#2}%
38     #3%
39     \endgroup%
40 }
41
42 \newcommand*\hyperdef{%
43     \begingroup%
44     \LWR@linkcatcodes%
45     \LWR@hyperdefb%
46 }
47
```

```
\LWR@hyperrefb {⟨1: URL⟩} {⟨2: category⟩} {⟨3: name⟩} {⟨4: text⟩}
```

Creates an HTML link to URL#category.name with the given text.

```
48 \newcommand{\LWR@hyperreffinish}[1]{%
49     \begingroup%
50     \RenewDocumentCommand{\ref}{}{\LWR@ref@ignorestar}%
51     #1%
52     \endgroup%
53     \LWR@htmltag{/a}%
54 }
55
56 \newcommand*\LWR@hyperrefbb[3]{%
57     \LWR@htmltag{%
58         a href="%"
59             \detokenize\expandafter{#1}\LWR@hashmark%
60             \detokenize\expandafter{#2}. \detokenize\expandafter{#3}%
61             "%"
62             \LWR@addlinktitle%
63     }%
64     \endgroup%
65     \LWR@hyperreffinish%
66 }
67
68 \newrobustcmd*\LWR@hyperrefb{%
69     \begingroup%
70     \LWR@linkcatcodes%
71     \LWR@hyperrefbb%
72 }
```

```
\LWR@hyperrefc [⟨label⟩] {⟨text⟩}
```

Creates text as an HTML link to the L^AT_EX label.

```
73
74 \NewDocumentCommand{\LWR@hyperrefcb}{O{label}}{%
75     \LWR@startref{#1}%
76     \endgroup%
```

```

77      \LWR@hyperreffinish%
78 }
79
80 \newcommand*{\LWR@hyperrefc}{%
81     \begingroup%
82     \LWR@linkcatcodes%
83     \LWR@hyperrefcb%
84 }

\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}

85 \DeclareRobustCommand*{\hyperref}{%
86     \LWR@ensuredoingapar%
87     \@ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%
88 }

```

\hypertarget {\langle name\rangle} {\langle text\rangle}

Creates an anchor to name with the given text.

```

89 \NewDocumentCommand{\hypertargetb}{m +m}{%
90     \label{LWR-ht-\#1}%
91     #2%
92     \endgroup%
93 }
94
95 \newcommand*{\hypertarget}{%
96     \begingroup%
97     \LWR@linkcatcodes%
98     \LWR@hypertargetb%
99 }

```

\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.

```

100 \DeclareDocumentCommand{\hyperlinkb}{m}{%
101     \LWR@hyperrefcb[LWR-ht-\#1]%
102 }
103
104 \DeclareDocumentCommand{\hyperlink}{}
105     \LWR@ensuredoingapar%
106     \begingroup%
107     \LWR@linkcatcodes%
108     \LWR@hyperlinkb%
109 }

```

\autoref * {\langle label\rangle}

For HTML, \cleveref is used instead.

```

110 \NewDocumentCommand{\autoref}{s m}{%
111     \IfBooleanTF{\#1}{\ref{\#2}}{\cref{\#2}}%

```

112 }

\autopageref {⟨label⟩}

For HTML, \cleverref is used instead.

113 \NewDocumentCommand{\autopageref}{s m}{%
114 \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
115 }

\pdfstringdef {⟨macroname⟩} {⟨TEXstring⟩}

116 \newcommand{\pdfstringdef}[2]{}

\pdfbookmark [⟨level⟩] {⟨text⟩} {⟨name⟩}

117 \newcommand{\pdfbookmark}[3][]{}

\currentpdfbookmark {⟨text⟩} {⟨name⟩}

118 \newcommand{\currentpdfbookmark}[2]{}

\subpdfbookmark {⟨text⟩} {⟨name⟩}

119 \newcommand{\subpdfbookmark}[2]{}

\belowpdfbookmark {⟨text⟩} {⟨name⟩}

120 \newcommand{\belowpdfbookmark}[2]{}

\texorpdfstring {⟨TEXstring⟩} {⟨PDFstring⟩}

121 \newcommand{\texorpdfstring}[2]{\#1}

{⟨commands⟩}

122 \newcommand{\pdfstringdefDisableCommands}[1]{}

\hypercalcbp {⟨dimen⟩} From hyperref.

123 \def\hypercalcbp#1{
124 \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
125 }%

\Acrobatmenu {⟨menuoption⟩} {⟨text⟩}

126 \newcommand{\Acrobatmenu}[2]{}

\TextField [⟨parameters⟩] {⟨label⟩}

127 \DeclareRobustCommand{\TextField}[2][]{}

```
\CheckBox  [\langle parameters\rangle] {\langle label\rangle}
128 \DeclareRobustCommand{\CheckBox}[2][]{}

\ChoiceMenu [\langle parameters\rangle] {\langle label\rangle} {\langle choices\rangle}
129 \DeclareRobustCommand{\ChoiceMenu}[3][]{}

\PushButton [\langle parameters\rangle] {\langle label\rangle}
130 \DeclareRobustCommand{\PushButton}[2][]{}

\Submit   [\langle parameters\rangle] {\langle label\rangle}
131 \DeclareRobustCommand{\Submit}[2][]{}

\Reset    [\langle parameters\rangle] {\langle label\rangle}
132 \DeclareRobustCommand{\Reset}[2][]{}

\Gauge    [\langle parameters\rangle] {\langle label\rangle}
133 \DeclareRobustCommand{\Gauge}[2][]{}

\LayoutTextField {\langle label\rangle} {\langle field\rangle}
134 \newcommand*{\LayoutTextField}[2]{}{}

\LayoutChoiceField {\langle label\rangle} {\langle field\rangle}
135 \newcommand*{\LayoutChoiceField}[2]{}{}

\LayoutCheckField {\langle label\rangle} {\langle field\rangle}
136 \newcommand*{\LayoutCheckField}[2]{}{}

\MakeRadioField {\langle width\rangle} {\langle height\rangle}
137 \newcommand*{\MakeRadioField}[2]{}{}

\MakeCheckField {\langle width\rangle} {\langle height\rangle}
138 \newcommand*{\MakeCheckField}[2]{}{}

\MakeTextField {\langle width\rangle} {\langle height\rangle}
139 \newcommand*{\MakeTextField}[2]{}{}

\MakeChoiceField {\langle width\rangle} {\langle height\rangle}
```

```
140 \newcommand*{\MakeChoiceField}[2]{}  
141 \newcommand{\MakeFieldButton}[1]{}
```

```
\MakeFieldButton {⟨text⟩}  
141 \newcommand{\MakeFieldButton}[1]{}
```

File 201 **l warp-hyperxmp.sty**

§ 303 Package **hyperxmp**

Pkg **hyperxmp** **hyperxmp** is ignored.

for HTML output: Discard all options for **l warp-hyperxmp**:

```
1 \LWR@ProvidesPackageDrop{hyperxmp}[2018/11/27]
```

File 202 **l warp-hyphenat.sty**

§ 304 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}{\textttt}  
12 \LetLtxMacro{\nhttfamily}{\ttfamily}  
13  
14 \renewcommand{\nohyphens}[1]{#1}  
15 \renewrobustcmd{\bshyp}{%  
16     \ifmmode\backslashelse\textbackslashfi%  
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 203 **l warp-idxlayout.sty**

§ 305 Package **idxlayout**

(Emulates or patches code by THOMAS TITZ.)

Pkg **idxlayout** **idxlayout** is emulated.

for HTML output: Discard all options for **l warp-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@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 204 **l warp-ifoddpage.sty**

§ 306 Package **ifoddpage**

(Emulates or patches code by MARTIN SCHARRER.)

Pkg **ifoddpage** **ifoddpage** is emulated.

for HTML output: Discard all options for `l warp-ifoddpage`:

```

1 \LWR@ProvidesPackageDrop{ifoddpage}[2016/04/23]

2 \newif\ifoddpage
3
4 \newif\ifoddpageoroneside
5
6 \DeclareRobustCommand{\checkoddpage}{\oddpage=true\oddpageoroneside=false}
7
8 \def\oddpage@page{1}
9
10 \def@ifoddpage{%
11     \expandafter\@firstoftwo
12 }
13
14 \def@ifoddpageoroneside{%
15     \expandafter\@firstoftwo
16 }
```

File 205 **l warp-imakeidx.sty**

§ 307 Package **imakeidx**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg `imakeidx` `imakeidx` is patched for use by `l warp`.

letter headings When using `makeindex`, to match the print and HTML output's display of index letter headings, specify the `l warp.ist` style:

```
\makeindex[options={-s l warp.ist}]
```

(For HTML the `l warp.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 `l warpmk` 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@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 {⟨file⟩} {⟨entry⟩} {⟨page⟩}
\imki@wrindexentryunique {⟨file⟩} {⟨entry⟩} {⟨page⟩}

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 \LWR@new@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 \LWR@new@label{\LWRindex-\arabic{\LWR@autoindex}}%
74 \protected@write{\indexfile}{%
75 {\string\indexentry{\#1}{\#2}{\arabic{\LWR@autoindex}}}}%
76 }
77
78 \def{\imki@wrindexsplit}{%
79 \imki@wrindexentrysplit{\#1}{\#2}{\thepage}%
80 \endgroup\imki@showidxentry{\#1}{\#2}%
81 \esp@hack%
82 }
83
84 \def{\imki@wrindexunique}{%
85 \imki@wrindexentryunique{\#1}{\#2}{\thepage}%
86 \endgroup\imki@showidxentry{\#1}{\#2}%
87 \esp@hack%
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 {*<user options>*}

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 l warp version is used. (Only one style at a time is possible.)

For `xindy`, multiple modules may be specified, and the l warp 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}{truedxindy}{\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 l warp 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 l warp 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 206 **l warp-index.sty**

§ 308 Package **index**

(Emulates or patches code by DAVID M. JONES.)

Pkg index index is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{index}[2004/01/20]

Use \theLWR@autoindex instead of \thepage. \@tempswattrue 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     \@tempswattrue%
6     \x@newindex[\theLWR@autoindex]%
7   }
8   {}
9   {\LWR@patcherror{index}{newindex}}
10
11 \xpatchcmd{\renewindex}
12   {\x@renewindex[\thepage]}
13   {%
14     \@tempswattrue%
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}%           l warp
23     \LWR@new@label{\LWRindex-\arabic{\LWR@autoindex}}% l warp
24     \begingroup%
25   }
26   {}
27   {\LWR@patcherror{index}{@wrindex}}

```

\AtBeginDocument l warp 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 207 l warp-inputtrc.sty**§ 309 Package *inputtrc***

(Emulates or patches code by UWE LÜCK.)

Pkg *inputtrc* *inputtrc* is patched for use by *l warp*.

for HTML output: 1 \LWR@ProvidesPackagePass{inputtrc}[2012/10/10]

Patched to remove extraneous spaces, which sometimes showed up in logos inside a *latexitimage*.

```
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}%
9     \IT@input#1%
10    \expandafter\IT@pop@indent\IT@indent \IT@filestack\@nil% l warp
11    \expandafter\IT@pop@file \IT@filestack\@nil% l warp
12    \IT@maybe@returnmessage% v0.2
13 }
```

File 208 l warp-intopdf.sty**§ 310 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 209 l warp-karnaugh-map.sty**§ 311 Package *karnaugh-map***

(Emulates or patches code by MATTIAS JACOBSSON.)

Pkg karnaugh-map karnaugh-map is patched for use by lwarf.

for HTML output: 1 \LWR@ProvidesPackagePass{karnaugh-map}[2017/02/20]

This patch is needed only because `lwarf` 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 `lwarf` modifications identified in comments.

```

2 \RenewDocumentEnvironment{karnaugh-map}{s 0{4} 0{4} 0{1} 0{$X_1X_0$} 0{$X_3X_2$} 0{$X_5X_4$}} {%
3   \begingroup
4     % store map size {[START]
5     \renewcommand{\@karnaughmap@var@mapsizex@}{#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}' is considered as missing matrix template
20    \newcommand{\@karnaughmap@local@maprealignmentx@}{0}%
21    \newcommand{\@karnaughmap@local@maprealignmenty@}{0}%
22    \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizez@=221
23      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
24        \&          0 \&          1 \& \phantom{0} \\
25        0 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \&           \\
26        1 \& |(00010)| \phantom{0} \& |(00011)| \phantom{0} \&           \\
27        \phantom{0} \&           \&           \&           \\
28      }%
29    \fi
30    \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizez@=241
31      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
32        \&          0 \&          1 \& \phantom{00} \\
33        00 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \&           \\
34        01 \& |(00010)| \phantom{0} \& |(00011)| \phantom{0} \&           \\
35        11 \& |(00010)| \phantom{0} \& |(00011)| \phantom{0} \&           \\
36        10 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \&           \\
37        \phantom{00} \&           \&           \&           \\
38      }%
39    \fi
40    \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizez@=421
41      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
42        \&          00 \&          01 \&          11 \&          10 \& \phantom{000} \\
43        0 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000011)|
44        1 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000111)|
45        \phantom{000} \&           \&           \&           \&           \\
46      }%
47    \fi
48    \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizez@=441

```

```

49      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
50          \&          00 \&          01 \&          11 \&          10 \& \phantom{0}
51          00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)|
52          01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)|
53          11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(001110)|
54          10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)|
55          \phantom{00} \&          \&          \&          \&          \&
56      }%
57  \fi
58 \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizex@=442
59      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
60          \&          00 \&          01 \&          11 \&          10 \& \phantom{0}
61          00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)|
62          01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)|
63          11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(001110)|
64          10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)|
65          \phantom{00} \&          \&          \&          \&          \&
66      }%
67      \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
68  \fi
69 \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizex@=444
70      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
71          \&          00 \&          01 \&          11 \&          10 \& \phantom{0}
72          00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)|
73          01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)|
74          11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(001110)|
75          10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)|
76          \phantom{00} \&          \&          \&          \&          \&
77          00 \& |(100000)| \phantom{0} \& |(100001)| \phantom{0} \& |(100011)| \phantom{0} \& |(100010)|
78          01 \& |(100100)| \phantom{0} \& |(100101)| \phantom{0} \& |(100111)| \phantom{0} \& |(100110)|
79          11 \& |(101100)| \phantom{0} \& |(101101)| \phantom{0} \& |(101111)| \phantom{0} \& |(101110)|
80          10 \& |(101000)| \phantom{0} \& |(101001)| \phantom{0} \& |(101011)| \phantom{0} \& |(101010)|
81          \phantom{00} \&          \&          \&          \&          \&
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 (\@karnaughmap@var@mapsizex@\space x \@karnaughma
93 }{%
94 Existing templates have the following dimensions: 2x2x1, 2x4x1, 4x2x1, 4x4x1, 4x4x2, and 4x4x4.
95 }%
96 % \fi original
97 }{}% lwarp
98 \begin{tikzpicture}
99   % grid
100  % for all dimensions
101 \draw[color=black, ultra thin] (0,0) grid (\@karnaughmap@var@mapsizex@,\@karnaughmap@var@mapsizex@);
102  % when there are 2 sub maps
103 \ifnum\@karnaughmap@var@mapsizex@=2

```

```

104      \draw[color=black, ultra thin] (5,0) grid (9,4);
105      \fi
106      % when there are 4 sub maps
107      \ifnum\@karnaughmap@var@mapsizex@=4
108          \draw[color=black, ultra thin] (5,0) grid (9,4);
109          \draw[color=black, ultra thin] (0,-5) grid (4,-1);
110          \draw[color=black, ultra thin] (5,-5) grid (9,-1);
111      \fi
112      % labels
113      % for all dimensions
114      \node[above] at (@karnaughmap@var@mapsizex@*0.5, @karnaughmap@var@mapsizey@+0.9) {\small{\#5}};
115          \node[left] at (-0.9, @karnaughmap@var@mapsizey@*0.5) {\small{\#6}};
116          % when there are 2 sub maps
117          \ifnum\@karnaughmap@var@mapsizex@=2
118              \node[above] at (7,4.9) {\small{\#5}};
119              % extra sub maps labels
120              \node[below] at (2,-0.1) {\small{\#7$=0$}};
121              \node[below] at (7,-0.1) {\small{\#7$=1$}};
122          \fi
123          % when there are 4 sub maps
124          \ifnum\@karnaughmap@var@mapsizex@=4
125              \node[above] at (7,4.9) {\small{\#5}};
126              \node[left] at (-0.9,-3) {\small{\#6}};
127              % extra sub maps labels
128              \node[below] at (2,-0.1) {\small{\#7$=00$}};
129              \node[below] at (7,-0.1) {\small{\#7$=01$}};
130              \node[below] at (2,-5.1) {\small{\#7$=10$}};
131              \node[below] at (7,-5.1) {\small{\#7$=11$}};
132          \fi
133          % data
134          \matrix[
135              matrix of nodes,
136              ampersand replacement=\&,
137              column sep={1cm,between origins},
138              row sep={1cm,between origins},
139          ] at (@karnaughmap@var@mapsizex@*0.5+\@karnaughmap@local@maprealignmentx@, @karnaughmap@var@mapsizex@*0.5+\@karnaughmap@local@matrixtemplate@%
140          );
141      };
142 }{
143     \end{tikzpicture}
144     \endgroup
145 }

```

File 210 **l warp-keyfloat.sty**

§ 312 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 **l warp**, **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]{}
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
15 \providecommand*\KFLT@LWR@hook@boxouter{}%
16 \renewcommand*\KFLT@LWR@hook@boxouter{%
17     \ifbool{KFLT@keywrap}{%
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@keyfloatsmminipage\relax
29 \let\endKFLT@LWR@hook@keyfloatsmminipage\relax
30 \newenvironment*{KFLT@LWR@hook@keyfloatsmminipage}[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@inkeys floats}%
46 }%
47 {%
48     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 }%
55 {%
56 } nested
57 {%
58 } not nested
59 \RenewDocumentCommand{\KFLT@onefigureimage}{m}
60 {%
61 \LWR@traceinfo{\KFLT@onefigureimage}%
62 \begin{lrbox}{\KFLT@envbox}%
63 \ifthenelse{\NOT\equal{\KFLT@lw}{}}
64 {%
65     \KFLT@frame{\includegraphics%
66     [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
67 }%
68 {%
69     \ifthenelse{\dimtest{\KFLT@w}>}{0pt}%
70     {%
71         \ifthenelse{\dimtest{\KFLT@h}>}{0pt}%
72         {%
73             \KFLT@frame{\includegraphics%
74             [scale=\KFLT@s,
75             width=\KFLT@imagewidth,height=\KFLT@h]{#1}}%
76         }%
77         {%
78             \KFLT@frame{\includegraphics%
79             [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
80         }%
81     }%
82     {%
83         \KFLT@frame{\includegraphics%
84         [scale=\KFLT@s,height=\KFLT@h]{#1}}%
85     }%
86     {%
87         \KFLT@frame{\includegraphics%
88         [scale=\KFLT@s]{#1}}%
89     }%
90 }%
91 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     \minipagewidth%
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     \ifcseempty{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 }% tocdata 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 211 l warp-layaureo.sty**§ 313 Package **layaureo****

Pkg layaureo layaureo is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

File 212 l warp-layout.sty**§ 314 Package **layout****

Pkg layout layout is ignored.

for HTML output: Discard all options for l warp-layout:

```
1 \LWR@ProvidesPackageDrop{layout}[2014/10/28]

2 \NewDocumentCommand{\layout}{s}{}{}
```

File 213 l warp-layouts.sty**§ 315 Package **layouts****

Pkg layouts layouts is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{layouts}[2009/09/02]

```
2 \newif\ifoddpage layout
3 \oddpage layout true
4 \newif\iftwocolumn layout
5 \twocolumn layout false
```

```
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{\drawaspread}[8][0]{(a spread)}
138 \newcommand{\drawfontframe}[1]{(font frame)}
139 \newcommand{\drawfontframelabel}[1]{}

```

File 214 **lwarf-leading.sty**

§ 316 Package **leading**

Pkg **leading** **leading** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]

2 \newcommand\leading[1]{}

File 215 **lwarf-leftidx.sty**

§ 317 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{\mathbf{t}}{#1}{#1}}}
5 \end{warpMathJax}

File 216 l warp-letterspace.sty**§ 318 Package letterspace**

(Emulates or patches code by R SCHLICHT.)

Pkg letterspace letterspace is a subset of microtype, which is pre-loaded by l warp. All user options and macros are ignored and disabled.

for HTML output: Discard all options for l warp-letterspace:

```
1 \LWR@ProvidesPackageDrop{letterspace}[2018/01/14]  
2 \newcommand*\lsstyle{}  
3 \newcommand\textls[2][]{  
4 \def\textls#1#{  
5 \newcommand*\lslig[1]{#1}
```

File 217 l warp-lettrine.sty**§ 319 Package lettrine**

(Emulates or patches code by DANIEL FLIPO.)

Pkg lettrine lettrine is emulated.

for HTML output: Discard all options for l warp-lettrine:

```
1 \LWR@ProvidesPackageDrop{lettrine}[2018-08-28]
```

The initial letter is in a of class lettrine, and the following text is in a 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 218 l warp-lineno.sty

§ 320 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\linelabel\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\quotelinumbersep
76
77 \quotelinumbersep=\linenumbersep
78 \let\quotelinumberfont\linenumberfont
79
80 \def\linenumberfont{\normalfont\tiny\sffamily}
81
82
83 \linenumberwidth=10pt
84 \linenumbersep=10pt
85
86 \def\thelinenumbers{}
```

```

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=\fboxrule
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 219 **lwarf-lips.sty**

§ 321 Package **lips**

(Emulates or patches code by MATT SWIFT.)

Pkg lips **lips** is emulated.

```

1 \% \LWR@ProvidesPackageDrop{lips}
2 \PackageInfo{lwarf}{Using the lwarf version of package ‘lips’.}%
3 \ProvidesPackage{lwarf-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 220 **lwarp-listings.sty**

§ 322 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.

for HTML output: 1 \begin{warpHTML}

2 \LWR@ProvidesPackagePass{listings}[2018/09/02]

Force flexible columns. Fixed columns inserts spaces in the PDF output.

3 \lst@column@flexible

Patches to embed listings inside pre tags:

```

4 \let\LWR@origlst@Init\lst@Init
5 \let\LWR@origlst@DeInit\lst@DeInit
6
7 \let\LWR@origlst@EveryPar\lst@EveryPar
8
9 \renewcommand{\l@lstlisting}[2]{\hypertocfloat{1}{lstlisting}{lol}{#1}{#2}}

```

\lstset {<options>}

Use the **listings** literate option to replace HTML entities:

```

10 \def\lstset@#1{\endgroup%
11 % \ifx\@empty#1%
12 % \empty%
13 % \else%
14 % \setkeys{lst}{%
15 % #1%
16 % ,literate=%
17 % {<}{\HTMLentity{lt}}{4}%
18 % {>}{\HTMLentity{gt}}{4}%
19 % {&}{\HTMLentity{amp}}{5}%
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}%
25 \renewcommand*{\@capttype}{lstlisting}%
26 \let\lst@aboveskip\z@\let\lst@belowskip\z@%
27 \gdef\lst@boxpos{t}%
28 \let\lst@frame@\empty
29   \let\lst@frametshape@\empty
30   \let\lst@framershape@\empty
31   \let\lst@framebshape@\empty
32   \let\lst@framelshape@\empty
33 \lstframe@\lst@frameround ffff\relax%
34 \lst@multicols@\empty%
35 \LWR@origlst@Init{#1}\relax%

```

Avoids extra horizontal space:

```

36 \def\lst@framelr{}%
37 \LWR@traceinfo{finished origlst@Init}%
38 \lst@ifdisplaystyle%

```

Creating a display.

Disable line numbers, produce the `<pre>`, then reenable line numbers.

```

39   \LWR@traceinfo{About to create verbatim.}%
40   \let\lsthk@EveryPar\relax%
41   \LWR@forcenewpage%
42   \LWR@atbeginverbatim{2}{programlisting}%
43
44   \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
45 \else%

```

Inline, so open a ``:

```

46   \ifbool{\LWR@verbtags}{\LWR@htmltag{span class="inlineprogramlisting"}{}%}
47 \fi%
48 }
49

```

`\lst@DeInit` Done at the end of a listing.

```

50 \renewcommand*{\lst@DeInit}{%
51 \lst@ifdisplaystyle%

```

Creating a display.

Disable line numbers, produce the `</pre>`, then reenable line numbers:

```

52 \let\lsthk@EveryPar\relax%
53 \LWR@afterendverbatim{0}%
54 \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
55 \else%

```

Inline, so create the closing ``:

```

56 \ifbool{\LWR@verbtags}{\noindent\LWR@htmltag{/span}}{}%
57 \fi%

```

Final `listings` deinit:

```
58 \LWR@origlst@DeInit%
59 }
```

\lst@MakeCaption {*t/b*}

This is called BOTH at the top and at the bottom of each listing.

Patched for lwarp.

```
60
61 \def\lst@MakeCaption#1{%
62 \LWR@traceinfo{MAKING CAPTION at #1}%
63   \lst@ifdisplaystyle
64 \LWR@traceinfo{making a listings display caption}%
65   \ifx #1t%
66     \ifx\lst@@caption\@empty\expandafter\lst@HRefStepCounter \else
67       \expandafter\refstepcounter
68     \fi {\lstlisting}%
69 \LWR@traceinfo{About to assign label: !\lst@label!}%
70 %   \ifx\lst@label\@empty\else
71 % \label{\lst@label}\fi
72 \LWR@traceinfo{Finished assigning the label.}%
73   \let\lst@arg\lst@intname \lst@ReplaceIn\lst@arg\lst@filenamerpl
74   \global\let\lst@name\lst@arg \global\let\lstname\lst@name
75   \lst@ifnolol\else
76     \ifx\lst@caption\@empty
77       \ifx\lst@caption\@empty
78         \ifx\lst@intname\@empty \else \def\lst@temp{ }%
79           \ifx\lst@intname\lst@temp \else
```

This code places a contents entry for a non-float. This would have to be modified for lwarp:

```
80 \LWR@traceinfo{addcontents lst@name: -\lst@name-}%
81 %           \addcontentsline{lol}{\lstlisting}{\lst@name}
82   \fi\fi
83   \fi
84 \else
```

This would have to be modified for lwarp:

```
85 \LWR@traceinfo{addcontents lst@@caption: -\lst@@caption-}%
86           \addcontentsline{lol}{\lstlisting}%
87 {\protect\numberline{\thelstlisting}%
88 {\protect\ignorespaces \LWR@isolate{\lst@@caption} \protect\relax}%
89   \fi
90   \fi
91   \fi
92   \ifx\lst@caption\@empty\else
93 \LWR@traceinfo{lst@caption not empty-}%
94   \lst@IfSubstring #1\lst@captionpos
95   {\begingroup
96 \LWR@traceinfo{at the selected position}%

```

These space and box commands are not needed for HTML output:

```
97 %           \let@\vskip\vskip
98 %           \def\vskip{\afterassignment\lst@vskip \tempskipa}%
99 %           \def\lst@vskip{\nobreak\@vskip\tempskipa\nobreak}%
```

```

100 %          \par\@parboxrestore\normalsize\normalfont % \noindent (AS)
101 %          \ifx #1\allowbreak \fi
102          \ifx\lst@title\empty

```

New lwarf code to create a caption:

```

103          \LWR@stoppars%
104          \lst@makecaption\fnum@lstlisting{\ignorespaces \lst@caption}
105          \else

```

New lwarf code to create a title:

```

106 %          \lst@maketitle\lst@title % (AS)
107 \LWR@traceinfo{Making title: \lst@title}%
108 \begin{BlockClass}{lstlistingtitle}%
109 \lst@maketitle\lst@title%          lwarf
110 \end{BlockClass}%
111          \fi
112 \LWR@traceinfo{About to assign label: !\lst@label!}%
113          \ifx\lst@label\empty\else
114 \leavevmode% gets rid of bad space factor error
115 \GetTitleStringExpand{\lst@caption}%
116 \edef\LWR@lntemp{\GetTitleStringResult}%
117 \edef@\currentlabelname{\detokenize\expandafter{\LWR@lntemp}}%
118 \label{\lst@label}\fi
119 \LWR@traceinfo{Finished assigning the label.}%

```

Not needed for lwarf:

```

120 %          \ifx #1b\allowbreak \fi
121          \endgroup}{}%
122          \fi
123 \LWR@traceinfo{end of making a listings display caption}%
124          \else
125 \LWR@traceinfo{INLINE}%
126          \fi
127 \LWR@traceinfo{DONE WITH CAPTION at #1}%
128 }
129
130 \renewcommand{\lst@maketitle}[1]{%
131          \LWR@isolate{#1}%
132 }%
133

```

line numbers Patched to keep left line numbers outside of the left margin, and place right line numbers in a field \VerbatimHTMLWidth wide.

```

134 \lst@Key{numbers}{none}{%
135          \let\lst@PlaceNumber\empty
136          \lstKV@SwitchCases{#1}%
137          {none:\\%
138          left:\def\lst@PlaceNumber{%

```

For now, lwarf places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```

139 %          \LWR@origllap{%

```

```

140           \LWR@orignormalfont%
141           \lst@numberstyle{\thelstnumber}\kern\lst@numbersep%
142 %         }
143 }\\%
144     right:\def\lst@PlaceNumber{\LWR@origrlap{\LWR@orignormalfont
145             \kern 6in \kern\lst@numbersep%
146             \lst@numberstyle{\thelstnumber}}}
147 }{\PackageError{lwarp-listings}{Numbers #1 unknown}@\ehc}

148 \end{warpHTML}

```

File 221 **lwarp-listliketab.sty**

§ 323 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 222 **lwarp-lltjext.sty**

§ 324 Package **lltjext**

(Emulates or patches code by THE LUATEX-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{\rensushi}{s o m}{#3}
14
15 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
16
17 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}

```

```

18
19 \LetLtxMacro\pcaption\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 223 **lwarp-longtable.sty**

§ 325 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 . .
\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`.

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` * [*horizontalignment*] {*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{\LTcaptype}%
8     \caption@setoptions{longtable}%
9     \caption@setoptions{@longtable}%
10    \caption@LT@setup%
11  }{% w/o caption package:
12    \renewcommand*{\@captype}{\LTcaptype}%
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{\LTcaptype}%
25     \caption@setoptions{longtable}%
26     \caption@setoptions{@longtable}%
27     \caption@LT@setup%
28  }{% w/o caption package:
29    \renewcommand*{\@captype}{\LTcaptype}%
30  }%
31  \refstepcounter{\LTcaptype}%
32 }
```

```

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\warpHTMLonly\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 threeparttable, 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 threeparttable}
60   {See the Lwarp documentation regading 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@tabularendofline% 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@tabularendofline}
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 224 **l warp-lscape.sty**

§ 326 Package **lscape**

(Emulates or patches code by D. P. CARLISLE.)

Pkg **lscape** **lscape** is ignored.

for HTML output: Discard all options for **l warp-lscape**.

```

1 \LWR@ProvidesPackageDrop{lscape}[2000/10/22]
2 \newenvironment*{landscape}{}{}

```

File 225 **l warp-ltablex.sty**

§ 327 Package **ltablex**

(Emulates or patches code by ANIL K. GOEL.)

Pkg **ltablex** **ltablex** is emulated by **l warp**.

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 226 l warp-l t caption .sty**§ 328 Package l t caption**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg l t caption l t caption is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{l t caption}[2018/08/26]

\LTcaptype is already defined by l warp.

longtable* is already defined by l warp-longtable.

```
2 \newlength{\LTcapskip}
3 \newlength{\LTcapleft}
4 \newlength{\LTcapright}
5 \newcommand*{\LTcapmarginsfalse}{}{}
```

File 227 l warp-l txgrid .sty**§ 329 Package l txgrid**

Pkg l txgrid l txgrid is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{l txgrid}[2010/07/25]

```
2 \newcommand*{\onecolumngrid}{}{}
3 \newcommand*{\twocolumngrid}{}{}
4 \newcommand*{\removestuff}{}{}
5 \newcommand*{\addstuff}[2]{}{}
6 \newcommand*{\replacestuff}[2]{}{}
```

File 228 **l warp-ltxtable.sty**

§ 330 Package **ltxtable**

Pkg ltxtable ltxtable is emulated.

⚠ **table numbering** The print version does not seem to honor `longtable*` from the `caption` package, while `l warp` 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 229 **l warp-lua-check-hyphen.sty**

§ 331 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 230 **l warp-lua-visual-debug.sty**

§ 332 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 231 **l warp-luacolor.sty**

§ 333 Package **luacolor**

Pkg luacolor luacolor is ignored.

for HTML output: 1 `\LWR@ProvidesPackageDrop{luacolor}[2016/05/16]`

```
2 \newcommand{\luacolorProcessBox}[1]{}
```

File 232 **l warp-luamplib.sty**

§ 334 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 l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{luamplib}[2020/02/24]

```
2 \BeforeBeginEnvironment{mplibcode}{%
3   \begin{latentimage}[-mplibcode-\PackageDiagramAltText]%
4 }%
5 \AfterEndEnvironment{mplibcode}{\end{latentimage}}
```

File 233 **l warp-luatexko.sty**

§ 335 Package **luatexko**

(Emulates or patches code by DOHYUN KIM, SOOJIN NAM.)

Pkg luatexko luatexko is patched for use by l warp.

Modern HTML is used for \dotemph, \ruby, and offset and thickness control for \underline, etc.

for HTML output: 1 \LWR@ProvidesPackagePass{luatexko}[2020/03/20]

```
2 \newcommand{\LWR@HTML@dotemph}[1]{%
3   \underline{#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 l warp-ulem:

```
17 \NewDocumentCommand{\LWR@HTML@underline}{+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 234 **l warp-luatodonotes.sty**

§ 336 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}{tdo}
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 }{%
23 \marginpar{@todonotes@drawMarginNote}%
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 235 **l warp-lyluatex.sty**

§ 337 Package **lyluatex**

(Emulates or patches code by FR. JACQUES PERON, URS Liska, BR. SAMUEL SPRINGUEL.)

Pkg lyluatex lyluatex is patched for use by l warp.

For the first compile, to set *l warpmk*'s configuration, use:

```
lualatex --shell-escape <filename>
```

⚠ **images** After compiling the document with **l warpmk html**, use **l warpmk l images** to convert the Lilypond images for HTML.

css The option `insert=systems` results in an image per system. Each music image “system” is placed inside a `` 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.
css 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 ⇒ **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 \LetLtxMacro{\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@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 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@origincludegraphics{##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@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 236 **lwarp-magaz.sty**

§ 338 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@textcolor{%
6             \LWR@textfont{%
7                 #1%
8             }%
9         }%
10    }%
11    \endgroup%
12 }
13
14 \providecommand\FirstLineFont{\scshape}
```

File 237 l warp-makeidx.sty**§ 339 Package makeidx**

(Emulates or patches code by LATEX PROJECT TEAM.)

Pkg makeidx makeidx is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{makeidx}[2014/09/29]

\@wrindex is redefined \AtBeginDocument by the l warp core.

\printindex

```
2 \preto\printindex{%
3   \LWR@orignewpage%
4   \LWR@startpars%
5 }
```

File 238 l warp-manyfoot.sty**§ 340 Package manyfoot**

Pkg manyfoot manyfoot is emulated.

bigfoot, manyfoot Verbatim footnotes are not yet supported.



If using the bigfoot package, and possibly also manyfoot, problems may occur with counter allocation because l warp uses many counters, and there is a difference in how counters numbered 256 and up are handled in pdfLATEX. 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 XELATEX or LuaLATEX instead of pdfLATEX.

l warp's emulation of bigfoot uses manyfoot, so some of the bigfoot enhancements are included here.

The bigfoot “default” footnote is ignored, using the l warp version instead.

for HTML output: 1 \LWR@ProvidesPackageDrop{manyfoot}[2005/09/11]

```
2 \RequirePackage{nccfoots}
```

```

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     \ifstreq{\#2}{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 \ifstreq{\#2}{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 239 **l warp-marginal.sty**

§ 341 Package **marginal**

Pkg marginal marginal is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand*{\showlostmarginals}{}%
3 \newcommand*{\enlargefreelist}{}%
4 \newcommand*{\onesidemarginals}{}%

```

File 240 **l warp-marginfit.sty**

§ 342 Package **marginfit**

Pkg marginfit marginfit is ignored.

for HTML output: Discard all options for l warp-marginfit:

```

1 \LWR@ProvidesPackageDrop{marginfit}[2018/06/08]

```

File 241 l warp-marginfix.sty**§ 343 Package marginfix**

(Emulates or patches code by STEPHEN HICKS.)

Pkg marginfix marginfix is ignored.

for HTML output: Discard all options for l warp-marginfix:

```
1 \LWR@ProvidesPackageDrop{marginfix}[2013/09/08]

2 \newcommand*{\marginskip}[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 242 l warp-marginnote.sty**§ 344 Package marginnote**

(Emulates or patches code by MARKUS KOHM.)

Pkg marginnote marginnote is emulated.

for HTML output: Discard all options for l warp-marginnote:

```
1 \LWR@ProvidesPackageDrop{marginnote}[2018/08/09]

2 \NewDocumentCommand{\marginnote}{+o +m o}{\marginpar{#2}}

3 \newcommand*{\marginnotefleftadjust}{}
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][]{\qquad\small\textrm{#1}}}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][]{\qquad\small\textrm{#2}}\LWRmarginnote}
17 \end{warpMathJax}
```

File 243 **lwarf-marvosym.sty**

§ 345 Package **marvosym**

(Emulates or patches code by THOMAS HENLICH, MOJCA MIKLAVEC.)

Pkg **marvosym** **marvosym** is patched for use by **lwarf**.

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 244 **lwarf-mathcomp.sty**

§ 346 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{\tcelsius}{\mathrm{^\circ C}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{\mu}}}
6 \CustomizeMathJax{\newcommand{\tcpthousand}{\mathrm{x10^3}}}
```

```

7 \CustomizeMathJax{\newcommand{\tcpercentthousand}{\unicode{x2031}}}
8 \CustomizeMathJax{\newcommand{\tcdegree}{\mathrm{^\circ}}}
9 \CustomizeMathJax{\newcommand{\tcdigitoldstyle}[1]{\oldstyle{#1}}}
10 \end{warpMathJax}
```

File 245 **l warp-mathdots.sty**

§ 347 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}{\unicode{x22F0}}}
4 \end{warpMathJax}
```

File 246 **l warp-mathfixs.sty**

§ 348 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]{\{}^{\#1}\!/\!\{}_{\#2}\}}
5 \CustomizeMathJax{\newcommand{\ProvideMathFix}[1]\{}}
6 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{\#1}}}
7 \CustomizeMathJax{\newcommand{\.}{\cdot}}
8 \end{warpMathJax}
```

File 247 **l warp-mathtools.sty**

§ 349 Package **mathtools**

(Emulates or patches code by MORTEN HØGHOLM, LARS MADSEN.)

Pkg **mathtools** **mathtools** is patched for use by **l warp**. 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 disallowspaces` does not work for MATHJAX. Protect brackets which are not optional arguments, such as:

```
\begin{gathered}{}\\[p]=1 \\dots\\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 LATEXit doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclareParedDelimiter` 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}}
37 \CustomizeMathJax{\newcommand{\SwapAboveDisplaySkip}{}}
38
39 \CustomizeMathJax{\require{extpfeil}}
40 \CustomizeMathJax{\Newextarrow\xleftrightarrow{10,10}{0x2194}}
41 \CustomizeMathJax{\Newextarrow\xLeftarrow{10,10}{0x21d0}}
42 \CustomizeMathJax{\Newextarrow\xhookleftarrow{10,10}{0x21a9}}
43 \CustomizeMathJax{\Newextarrow\xmapsto{10,10}{0x21a6}}
44 \CustomizeMathJax{\Newextarrow\xRightarrow{10,10}{0x21d2}}
45 \CustomizeMathJax{\Newextarrow\xLeftrightarrow{10,10}{0x21d4}}
46 \CustomizeMathJax{\Newextarrow\xhookrightarrow{10,10}{0x21aa}}
47 \CustomizeMathJax{\Newextarrow\xrightharpoonup{10,10}{0x21c1}}
48 \CustomizeMathJax{\Newextarrow\xleftharpoonup{10,10}{0x21bd}}
49 \CustomizeMathJax{\Newextarrow\xrightleftharpoons{10,10}{0x21cc}}
50 \CustomizeMathJax{\Newextarrow\xrightharpoonup{10,10}{0x21c0}}
51 \CustomizeMathJax{\Newextarrow\xleftharpoonup{10,10}{0x21bc}}
52 \CustomizeMathJax{\Newextarrow\xleftrightharpoons{10,10}{0x21cb}}
53
54 \CustomizeMathJax{\newcommand{\LWRdounderbrace}[1]{\underline{\#1}}}
55 \CustomizeMathJax{\newcommand{\LWRunderbrace}[2][]{\LWRdounderbrace{\#2}}}
56 \CustomizeMathJax{\newcommand{\underbrace}[1][]{\LWRunderbrace}}
57 \CustomizeMathJax{\newcommand{\LWRdooverbrace}[1]{\overline{\#1}}}
58 \CustomizeMathJax{\newcommand{\LWRoverbrace}[2][]{\LWRdooverbrace{\#2}}}
59 \CustomizeMathJax{\newcommand{\overbrace}[1][]{\LWRoverbrace}}
60
61 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{\#1}}}
62 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{\#1}}}
63
64 \CustomizeMathJax{\newenvironment{matrix*}[1][]{\begin{matrix}}{\end{matrix}}}
65 \CustomizeMathJax{\newenvironment{pmatrix*}[1][]{\begin{pmatrix}}{\end{pmatrix}}}

```

```

66 \CustomizeMathJax{\newenvironment{bmatrix*}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
67 \CustomizeMathJax{\newenvironment{Bmatrix*}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
68 \CustomizeMathJax{\newenvironment{vmatrix*}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
69 \CustomizeMathJax{\newenvironment{Vmatrix*}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}
70 \CustomizeMathJax{\newenvironment{smallmatrix*}[1][]{\begin{matrix}}{\end{matrix}}}
71 \CustomizeMathJax{\newenvironment{psmallmatrix*}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
72 \CustomizeMathJax{\newenvironment{bsmallmatrix*}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
73 \CustomizeMathJax{\newenvironment{Bsmallmatrix*}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
74 \CustomizeMathJax{\newenvironment{vsmallmatrix*}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
75 \CustomizeMathJax{\newenvironment{Vsmallmatrix*}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}
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
82
83 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][]{\begin{multline}}}
84 \CustomizeMathJax{\newenvironment{multlined}[1][]{\LWRmultlined}{\end{multline}}}
85
86 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
87 \CustomizeMathJax{\renewcommand{\shoveleft}[1][]{\LWRorigshoveleft}}
88 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
89 \CustomizeMathJax{\renewcommand{\shoveright}[1][]{\LWRorigshoveright}}
90
91 \CustomizeMathJax{\newenvironment{dcases}{\begin{cases}}{\end{cases}}}
92 \CustomizeMathJax{\newenvironment{dcases*}{\begin{cases}}{\end{cases}}}
93 \CustomizeMathJax{\newenvironment{rcases}{\begin{cases}}{\end{cases}}}
94 \CustomizeMathJax{\newenvironment{rcases*}{\begin{cases}}{\end{cases}}}
95 \CustomizeMathJax{\newenvironment{drcases}{\begin{cases}}{\end{cases}}}
96 \CustomizeMathJax{\newenvironment{drcases*}{\begin{cases}}{\end{cases}}}
97 \CustomizeMathJax{\newenvironment{cases*}{\begin{cases}}{\end{cases}}}
98
99 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1][]{}}
100
101 \CustomizeMathJax{\% special parsing to handle '&' in argument
102     \def\LWRboxed#1&#2{\fbox{(#1)}\fbox{(#2)}}
103     \newcommand{\Aboxed}[1]{\LWRboxed#1&&!}
104 }

105 \CustomizeMathJax{
106     \newcommand{\LWRABLines}[1][\Updownarrow]{#1 \notag \\} % star/nostar the same
107     \DeclareIfstar{\ArrowBetweenLines}{\LWRABLines}{\LWRABLines}
108 }

109 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{\#1}\notag \\}}
110
111 \CustomizeMathJax{\newcommand{\vdotswithin}[1]{\hspace{.5em}\vdots}}
```

112 \CustomizeMathJax{\newcommand{\LWRshortvdotswithinstar}[1]{\vdots \hspace{.5em} & \\}}
113 \CustomizeMathJax{\newcommand{\LWRshortvdotswithinstar}[1]{\& \hspace{.5em}\vdots \\}}
114 \CustomizeMathJax{%
115 \DeclareIfstar{\shortvdotswithin}{%
116 {\LWRshortvdotswithinstar}}%

```
117      {\LWRshortvdotswithinstar}%
118 }
119
120 \CustomizeMathJax{\newcommand{\MTFlushSpaceAbove}{}}%
121 \CustomizeMathJax{\newcommand{\MTFlushSpaceBelow}{\\}}%
122
123 \LetLtxMacro{\LWR@mathtools@orig}{\DeclarePairedDelimiter\DeclarePairedDelimiter}
124 \renewcommand{\DeclarePairedDelimiter}[3]{%
125   \LWR@mathtools@orig{\DeclarePairedDelimiter{#1}{#2}{#3}}
126 % starred:
127   \appto{\LWR@customizedMathJax{\LWRbackslash}}%
128   \appto{\LWR@customizedMathJax{%
129     \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\LWRsubstar}\}%
130   }%
131   \appto{\LWR@customizedMathJax{[2][]}\%}
132   \appto{\LWR@customizedMathJax{\{\{}\%}
133   \LWR@subcustomizedmathjax{\#1\left#2##\#1\right#3}\%
134   \appto{\LWR@customizedMathJax{\}\}\}%
135   \appto{\LWR@customizedMathJax{\LWRbackslash}\par}\%
136 % not starred:
137   \appto{\LWR@customizedMathJax{\LWRbackslash}}%
138   \appto{\LWR@customizedMathJax{%
139     \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\LWRsubnostar}\}%
140   }%
141   \appto{\LWR@customizedMathJax{[2][]}\%}
142   \appto{\LWR@customizedMathJax{\{\{}\%}
143   \LWR@subcustomizedmathjax{\#1\#2##\#1\#3}\%
144   \appto{\LWR@customizedMathJax{\}\}\}%
145   \appto{\LWR@customizedMathJax{\LWRbackslash}\par}\%
146 % user macro:
147   \appto{\LWR@customizedMathJax{\LWRbackslash}}%
148   \appto{\LWR@customizedMathJax{%
149     \LWRbackslash{}DeclareIfstar{\LWRbackslash\macrotocname{#1}\}%
150     \{\LWRbackslash\macrotocname{#1}\LWRsubstar\}%
151     \{\LWRbackslash\macrotocname{#1}\LWRsubnostar\}\}%
152   }%
153   \appto{\LWR@customizedMathJax{\LWRbackslash}\par}\%
154 }
155 @onlypreamble\DeclareParedDelimiter
156
157 % (DeclareParedDelimiterX is already defined to use \DeclareParedDelimiterXPP.)
158
159 \LetLtxMacro{\LWR@mathtools@orig}{\DeclareParedDelimiterXPP\DeclareParedDelimiterXPP}
160 \DeclareDocumentCommand{\DeclareParedDelimiterXPP}{m O{1} m m m m}{%
161   \LWR@mathtools@orig{\DeclareParedDelimiterXPP{#1}[#2]{#3}{#4}{#5}{#6}{#7}}
162 % subsubstar, second opt arg
163   \appto{\LWR@customizedMathJax{\LWRbackslash}}%
164   \appto{\LWR@customizedMathJax{%
165     \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\LWRsubsubstar}\}%
166   }%
167   \appto{\LWR@customizedMathJax{[#2]}\%}
168   \appto{\LWR@customizedMathJax{\{\{}\{\LWRbackslash\left}\}%
169   \LWR@subcustomizedmathjax{\#3\#4\#7}\%
170   \appto{\LWR@customizedMathJax{\LWRbackslash\right}\%}
171   \LWR@subcustomizedmathjax{\#5\#6}\%
```

```
172      \appto{\LWR@customizedMathJax{\}}{%
173      \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}%
174 % substar, first opt arg
175      \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
176      \appto{\LWR@customizedMathJax{%
177          \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\LWRsubstar}}{1}[]}{%
178      }%
179      \appto{\LWR@customizedMathJax{%
180          \{%
181              \LWRbackslash{}def{\LWRbackslash{}delimsize{\#1}}{%
182                  \LWRbackslash\macrotocname{#1}\LWRsubsubstar
183              }%
184          }%
185          \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}%
186 % subsubnostar, second opt arg
187          \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
188          \appto{\LWR@customizedMathJax{%
189              \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\LWRsubsubnostar}}{}}{%
190          }%
191          \appto{\LWR@customizedMathJax{[2]}}{%
192          \appto{\LWR@customizedMathJax{\{}}{%
193              \LWR@subcustomizedmathjax{\#3\#4\#7}%
194              \appto{\LWR@customizedMathJax{\LWRbackslash{}delimsize}}{%
195                  \LWR@subcustomizedmathjax{\#5\#6}%
196                  \appto{\LWR@customizedMathJax{\}}{%
197                      \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}%
198 % subnostar, first opt arg
199                      \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
200                      \appto{\LWR@customizedMathJax{%
201                          \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\LWRsubnostar}}{1}[]}{%
202                      }%
203                      \appto{\LWR@customizedMathJax{%
204                          \{%
205                              \LWRbackslash{}def{\LWRbackslash{}delimsize{\#1}}{%
206                                  \LWRbackslash\macrotocname{#1}\LWRsubsubnostar
207                              }%
208                          }%
209                          \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}%
210 % user macro:
211                          \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
212                          \appto{\LWR@customizedMathJax{%
213                              \LWRbackslash{}DeclareIfstar{\LWRbackslash\macrotocname{#1}}{%
214                                  \LWRbackslash\macrotocname{#1}\LWRsubstar}%
215                                  \LWRbackslash\macrotocname{#1}\LWRsubnostar}%
216                          }%
217                          \appto{\LWR@customizedMathJax{\LWRbackslash}}{par}%
218 }%
219 \@onlypreamble\DeclareParedDelimiterXPP
220 \@onlypreamble\DeclareParedDelimiterX
221
222 \CustomizeMathJax{\newcommand{\lparen}{()}}
223 \CustomizeMathJax{\newcommand{\rparen}{)}}}
224 \CustomizeMathJax{\newcommand{\vcentcolon}{::}}
225 \CustomizeMathJax{\newcommand{\ordinarycolon}{::}}
```

```

227 \CustomizeMathJax{\newcommand\dblcolon{\vcentcolon\vcentcolon}}
228 \CustomizeMathJax{\newcommand\coloneqq{\vcentcolon=}}
229 \CustomizeMathJax{\newcommand\Coloneqq{\dblcolon=}}
230 \CustomizeMathJax{\newcommand\coloneq{\vcentcolon{-}}}
231 \CustomizeMathJax{\newcommand\Coloneq{\dblcolon{-}}}
232
233 \CustomizeMathJax{\newcommand\eqqcolon{=\vcentcolon}}
234 \CustomizeMathJax{\newcommand\Eqqcolon{=\dblcolon}}
235 \CustomizeMathJax{\newcommand\eqcolon{\mathrel{-}\vcentcolon}}
236 \CustomizeMathJax{\newcommand\Eqcolon{\mathrel{-}\dblcolon}}
237
238 \CustomizeMathJax{\newcommand\colonapprox{\vcentcolon\approx}}
239 \CustomizeMathJax{\newcommand\Colonapprox{\dblcolon\approx}}
240 \CustomizeMathJax{\newcommand\colonsim{\vcentcolon\sim}}
241 \CustomizeMathJax{\newcommand\Colonsim{\dblcolon\sim}}
242
243 \CustomizeMathJax{\newcommand\nuparrow{\cancel{\uparrow}}}
244 \CustomizeMathJax{\newcommand\ndownarrow{\cancel{\downarrow}}}
245 \CustomizeMathJax{\newcommand\bigtimes{\Large\times}}
246
247 \CustomizeMathJax{\newcommand\prescript[3]{\{}{\}^{\#1}-{\}^{\#2}\#3\}}
248
249
250 \CustomizeMathJax{\newenvironment{lgathered}{\begin{gathered}}{\end{gathered}}}
251 \CustomizeMathJax{\newenvironment{rgathered}{\begin{gathered}}{\end{gathered}}}
252
253 \LetLtxMacro{\LWR@mathtools@orig}{\newgathered\newgathered}
254 \renewcommand{\newgathered}[4]{%
255   \LWR@mathtools@orig{\newgathered{\#1}{\#2}{\#3}{\#4}}%
256   \appto{\LWR@customizedMathJax}{\LWRbackslash()}%
257   \LWR@subcustomizedmathjax{%
258     \newenvironment{\#1}{\begin{gathered}}{\end{gathered}}%
259   }%
260   \appto{\LWR@customizedMathJax}{\LWRbackslash()}%
261 }
262 \onlypreamble\newgathered
263
264 \CustomizeMathJax{\newcommand\splitfrac[2]{\{}{\}^{\#1}-{\}^{\#2}\}}
265 \CustomizeMathJax{\let\splitfrac\splitfrac}
266 \end{warpMathJax}

```

File 248 **l warp-mcaption.sty**

§ 350 Package **mcaption**

(Emulates or patches code by STEPHAN HENNIG.)

Pkg **mcaption** **mcaption** is ignored.

for HTML output: Discard all options for **l warp-mcaption**:

1 \LWR@ProvidesPackageDrop{mcaption}[2009/03/13]

```
2 \newenvironment{margincap}{}{}
3 \newcommand*\margincapalign(){}
4 \newlength{\margincapsep}
```

File 249 l warp-mdframed.sty**§ 351 Package mdframed**

(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)

Pkg **mdframed** **mdframed** is loaded with options forced to `framemethod=none`.

§ 351.1 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, **l warp** 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 **l warp** 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.

§ 351.2 Package loading

```
for HTML output: 1 \RequirePackage{xcolor}%
2
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require Tikz or pstricks:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

§ 351.3 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  \@nmbrlistfalse%
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
```

§ 351.4 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 }
```

§ 351.5 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 }
```

§ 351.6 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 :

```
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@htmlltagc{div class=%
51 mdframed%
52 \ifdefstring{\LWR@mdthisenv}{mdframed}{}{\LWR@mdthisenv}%
53 " \LWR@orignewline
54 style=" \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 "}
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*\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 }

```

§ 351.7 Mdframed environment

```

83 \renewenvironment{mdframed}[1][]{%
84   \color@begingroup%
85   \mdfsetup{userdefinedwidth=\linewidth,#1}%
86   \mdf@startcode%
87   \mdf@preenvsetting%
88   \ifdefempty{\mdf@frametitle}{%
89     {\let\mdf@frametitlesave\mdf@frametitle%
90      \let\mdf@frametitle\mdf@frametitle%
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@reserved{%
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@reserved{%
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@reserved{%
126 \aftergroup\endmdf@trivlist%
127 \color@endgroup%
128 \mdf@endcode%
129 }

\mdf@footnoteoutput
130 \renewrobustcmd*\mdf@footnoteoutput{%
131     \LWR@printpendingmpfootnotes%
132 }

```

§ 351.8 Titles and subtitles

\mdfframedtitleenv {*<title>*}

Place the title inside a <div> of class mdframedtitle:

```

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 ]{mdframedtitle}%
```

Print the title inside the <div>:

```
149 \mdf@frametitlefont{\LWR@textcurrentfont{#1}}%
```

Close the <div>:

```
150 \end{BlockClass}%
151 \LWR@traceinfo{\LWR@mdframedtitleenv end}%
152 }
```

\LWR@mdfsubtitlecommon {*sub — or — subsub*} [*options*] {*title*}

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 [⟨options⟩] {⟨title⟩}

```

182 \newcommand*{\LWR@mdfsubtitle}{%
183 \LWR@mdfsubtitlecommon{sub}%
184 }
185 \let\mdfsubtitle\LWR@mdfsubtitle

```

\LWR@mdfsubsubtitle [⟨options⟩] {⟨title⟩}

```

186 \newcommand*{\LWR@mdfsubsubtitle}{%
187 \LWR@mdfsubtitlecommon{subsub}%
188 }
189 \let\mdfsubsubtitle\LWR@mdfsubsubtitle

```

§ 351.9 New environments

\LWR@mdthisenv Stores the environment of the frame about to be created:

```
190 \newcommand*{\LWR@mdthisenv}{mdframed}
```

\newmdenv [⟨options⟩] {⟨env-name⟩}

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 [⟨options⟩] {⟨environment⟩}

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 [⟨mdframed-options⟩] {⟨envname⟩} [⟨numberedlike⟩] {⟨caption⟩} [⟨within⟩]
 Modified from the original to remember the environment.

```

206 \DeclareDocumentCommand{\mdtheorem}{ O{} m o m o }{%
207   \Ifcsdef{#2}{%
208     {\LWR@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         \edef\thmcnter{#2}%
215         \expandafter\xdef\csname the#2\endcsname{@thmcnter{#2}}%
216         \newenvironment{#2}[1]{%
217           \refstepcounter{#2}%
218           \ifstrempty{##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}{##4}{\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             \ifstrempty{##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           \edef\thmcnter{#2}\newctr{#2}[##5]%
237           \expandafter\xdef\csname the#2\endcsname{@thmcnter{#2}}%
238           \expandafter\xdef\csname the#2\endcsname{%
239             \expandafter\noexpand\csname the#5\endcsname \@thmcntersep%
240             \thmcnter{#2}}%
241           \newenvironment{#2}[1]{%
242             \refstepcounter{#2}%
243             \ifstrempty{##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}{##4}{\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             \ifstrempty{\#1}%
257               {\let\@temptitle\relax}%
258               {%
259                 \def\@temptitle{\mdf@theoremseparator%
260                               \mdf@theoremspace%
261                               \mdf@theoremtitlefont%
262                               \LWR@textcurrentfont{\#1}}% l warp
263                 \mdf@thm@caption{\#2}{\#4}{\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               \ifstrempty{\#1}%
274                 {\let\@temptitle\relax}%
275                 {%
276                   \def\@temptitle{\mdf@theoremseparator%
277                                 \mdf@theoremspace%
278                                 \mdf@theoremtitlefont%
279                                 \LWR@textcurrentfont{\#1}}% l warp
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                   \ifstrempty{\#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}}% l warp
291                 \BeforeBeginEnvironment{\#2*}{\renewcommand*{\LWR@mdthisenv}{md\#2}}% l warp
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 250 **l warp-media9.sty**

§ 352 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 \addmediopath` 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.

`\hyperlink{movie}`, `\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 **addr**esource can generate a multimedia object.

```
10 \define@key{\LWR@medianine}{addr}{%
11   \expandafter\expandafter\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\expandafter\expandafter[\LWR@medianine@options]%
19     {\LWR@medianine@postertext}%
20     {\LWR@tempone}%
21   }{%
22   \IfBeginWith{#1}{src=}{%
23     \StrGobbleLeft{#1}{4}[\LWR@tempone]%
24     \expandafter\expandafter\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 251 **l warp-memhfixc.sty**

§ 353 Package **memhfixc**

Pkg **memhfixc** **memhfixc** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

File 252 **l warp-metalogo.sty**

§ 354 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 253 **l warp-metalogox.sty**

§ 355 Package **metalogox**

(Emulates or patches code by BRIAN DUNN.)

Pkg **metalogox** **metalogox** is patched for use by **l warp**.

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 254 **l warp-mhchem.sty**

§ 356 Package **mhchem**

(Emulates or patches code by MARTIN HENSEL.)

Pkg **mhchem** **mhchem** is patched for use by **l warp**.

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:

$\text{\ce{C6H5-CHO}}$

not inside math

If *not* used inside a math expression, **l warp** converts standalone **mhchem** expressions into SVG math images.

MATHJAX without mhchem extension

If the MATHJAX mhchem extension is not used, expressions inside math must be placed between `\displaymathother` and `\displaymathnormal`:

```
\displaymathother
\[\ce{ . . . }\] . . . \ce{ . . . }
\displaymathnormal
```

When producing HTML output without the MATHJAX mhchem extension, l warp does not support the use of nested dollar signs in mhchem expressions.

For some examples from the mhchem manual, change as follows:

<code>\$\ce{NaOH(aq,\$\infty)}\$</code>	% old
<code>\$\ce{NaOH(aq,\infty)}\$</code>	% new
<code>\$\ce{Fe(CN)_{\frac{6}{2}}}\$</code>	% old
<code>\$\ce{Fe(CN)_{\frac{6}{2}}}\$</code>	% new
<code>\$\ce{NO_{x}}\$</code>	% old
<code>\$\ce{NO_x}\$</code>	% new
<code>\$\ce{NO_{x}}\$</code>	% old
<code>\$\ce{NO_x}\$</code>	% new
<code>\$\ce{\$cis\${-}[PtCl2(NH3)2]}\$</code>	% old
<code>\$\ce{\mathit{cis}{-}[PtCl2(NH3)2]}\$</code>	% 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@fakebold}{%
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 \ifboolex{\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 }
```

File 255 **l warp-microtype.sty**

§ 357 Package **microtype**

(Emulates or patches code by R SCHLICHT.)

Pkg **microtype** **microtype** is pre-loaded by **l warp**. All user options and macros are ignored and disabled.

for HTML output: Discard all options for **l warp-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 256 lwarp-midfloat.sty**§ 358 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 257 lwarp-midpage.sty**§ 359 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@mbox{margin-top:6ex} ; \LWR@print@mbox{margin-bottom:6ex}%
5 ]{midpage}}
6 {\end{BlockClass}}
```

File 258 lwarp-minibox.sty**§ 360 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\fboxrule{\l_minibox_rule_dim}
10        \setlength\fboxsep{\l_minibox_pad_dim}
11        \fboxBlock{%
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 259 **lwarp-minitoc.sty**

§ 361 Package **minitoc**

Pkg **minitoc** **minitoc** is ignored.

for HTML output: 1 \lWR@ProvidesPackageDrop{minitoc}[2018/07/12]

mtcoff disables **minitoc**.

2 \usepackage{mtcoff}

File 260 **lwarp-mismath.sty**

§ 362 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 `latexitimage` restores the original definition of the `math` environment.

```

9 {%
10    \renewenvironment{mathcols}{%
11        \begin{latexitimage}
12        \begin{math}
13        \begin{aligned}\displaystyle
14    }{%
15        \end{aligned}%
16        \end{math}
17        \end{latexitimage}
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}{}}
```



```

88 \CustomizeMathJax{\newcommand{\lito}{\mathrm{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{\hbar}[1]{\overline{\vphantom{h}\#1}}}
106 \CustomizeMathJax{\newcommand{\eqdef}{\stackrel{\mathrm{def}}{=}}}
107 \CustomizeMathJax{\newcommand{\unbr}{\underbrace}}
108 \CustomizeMathJax{\newcommand{\iif}{\text{if and only if }}}
109
110 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
111 \CustomizeMathJax{\newcommand{\then}{\rightarrow \Longrightarrow \mbox{} }}
112 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{#1}\quad}}
113 \CustomizeMathJax{\newcommand{\paren}[1]{\left(\right)}}
114 \CustomizeMathJax{\newcommand{\pow}[2]{\left( #1 \right)^{!#2}}}
115 \CustomizeMathJax{\newcommand{\abs}[1]{\left| #1 \right|}}
116 \CustomizeMathJax{\newcommand{\lfrac}[2]{\frac{:#1:}{:#2:}}}
117
118 \CustomizeMathJax{\newenvironment{system}[1][l]%
119   {\left\{\begin{array}{@{.15em}#1@{}}\right.}
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{\changecol}{\end{aligned}\qquad\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]{\boldsymbol{\vect{#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 261 **lwarp-morefloats.sty**

§ 363 Package **morefloats**

Pkg morefloats morefloats is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

File 262 **lwarp-moreverb.sty**

§ 364 Package **moreverb**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

Pkg moreverb moreverb is supported with some patches.

for HTML output: 1 \begin{warpHTML}

2 \LWR@ProvidesPackagePass{moreverb}[2008/06/03]

```

3 \BeforeBeginEnvironment{verbatimtab}{%
4 \LWR@forcenewpage
5 \LWR@atbeginverbatim{3}{Verbatim}%
6 }
7 \AfterEndEnvironment{verbatimtab}{%
8 \LWR@afterendverbatim{1}%
9 }
10
11

```

```
12 \LetLtxMacro{\LWRMV@orig}{\verb+immediate+ \verb+input+ \verb+immediate+ \verb+input+}
13
14 \renewcommand{\@verbatimtabinput}[2][]{%
15   \LWR@forcenewpage
16   \LWR@atbeginverbatim{#3}{Verbatim}%
17   \LWRMV@orig{\verb+immediate+ \verb+input+[#1]{#2}}%
18   \LWR@afterendverbatim{#1}%
19 }
20
21 \BeforeBeginEnvironment{listing}{%
22   \LWR@forcenewpage
23   \LWR@atbeginverbatim{#3}{programlisting}%
24 }
25
26 \AfterEndEnvironment{listing}{%
27   \LWR@afterendverbatim{#1}%
28 }
29
30 \BeforeBeginEnvironment{listingcont}{%
31   \LWR@forcenewpage
32   \LWR@atbeginverbatim{#3}{programlisting}%
33 }
34
35 \AfterEndEnvironment{listingcont}{%
36   \LWR@afterendverbatim{#1}%
37 }

38 \LetLtxMacro{\LWRMV@}{\verb+listing+ \verb+input+ \verb+listing+ \verb+input+}
39
40 \renewcommand{\@listinginput}[3][]{%
41   \LWR@forcenewpage
42   \LWR@atbeginverbatim{#3}{programlisting}%
43   \LWRMV@{\verb+listing+ \verb+input+[#1]{#2}{#3}}%
44   \LWR@afterendverbatim{#1}%
45 }
46
47
48 \renewenvironment*{boxedverbatim}{%
49 {
50   \LWR@forcenewpage
51   \LWR@atbeginverbatim{#3}{boxedverbatim}%
52   \verb+immediate+ \verb+input+%
53 }
54 {
55   \verb+endverbatim+%
56   \LWR@afterendverbatim{#1}%
57 }

58 \end{warpHTML}
```

File 263 l warp-movie15.sty

§ 365 Package **movie15**

Pkg movie15 movie15 is emualted.

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 \addmediopath 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{l warp-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@multimediacat{#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 264 **l warp-mparhack.sty**

§ 366 Package **mparhack**

Pkg mparhack mparhack is ignored.

for HTML output: Discard all options for l warp-mparhack:

```
1 \LWR@ProvidesPackageDrop{mparhack}[2005/04/17]
```

File 265 **l warp-multicap.sty**

§ 367 Package **multicap**

Pkg multicap multicap is emualted.

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 266 **l warp-multicol.sty**

§ 368 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 `multcolsheading`.

The content is placed inside a <div> of class `multicols`.

2 \begin{warpHTML}

Env multicol * {\langle numcols \rangle} [\langle heading \rangle]
3 \NewDocumentEnvironment{multicol}{s m o}

HTML <div> class to contain everything:

4 {
5 \LWR@forcenewpage
6 \BlockClass{multicol}

Optional HTML <div> class for the heading:

7 \IfValueT{\#3}{\begin{BlockClass}{multcolsheading}\#3\end{BlockClass}}%

Change \linewidth to compensate for expected size:

8 \setlength{\linewidth}{\linewidth/#2}

Locally force any minipages to be fullwidth:

9 \booltrue{\LWR@forceminipagefullwidth}
10 }

When done with the environment, close the <div>:

11 \endBlockClass

Emulated null functions which are not used in HTML:

12 \newcommand*{\columnbreak}{}
13 \newcommand*{\RLmulticolcolumns}{}
14 \newcommand*{\LRmulticolcolumns}{}
15
16 \newlength{\premulticols}
17 \newlength{\postmulticols}
18 \newlength{\multicolsep}

```
19 \newlength{\multicolbaselineskip}
20 \newlength{\multicoltolerance}
21 \newlength{\multicolpretolerance}
22 \newcommand*{\columnseprulecolor}{\normalcolor}
23 \newcounter{columnbadness}
24 \newcounter{finalcolumnbadness}
25 \newcounter{collectmore}
26 \newcounter{unbalance}
27 \newlength{\multicolovershoot}
28 \newlength{\multicolundershoot}

29 \NewDocumentCommand{\docolaction}{s o m m}{%
30     \IfValueTF{#2}{#2}{#3}%
31 }

32 \end{warpHTML}
```

File 267 **l warp-multicolrule.sty**

§ 369 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 268 **l warp-multimedia.sty**

§ 370 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 `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.

`\hyperlink{movie}`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a `YOUTUBETM` 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 269 **lwarp-multiobjective.sty**

§ 371 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}{\prec\!\!\!\prec}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\not\prec\!\!\!\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{\{\mathit{arg}\}}\limits^{\max}}}
28 \CustomizeMathJax{\def\argmin{\mathop{\{\mathit{arg}\}}\limits^{\min}}}
29 }%
30 \end{warpMathJax}

```

File 270 **lwarp-multirow.sty**

§ 372 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 372.2 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.

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,

⚠ **skipped cells**

- ⚠ **empty cells** `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```
... & \multicolumn{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`, `\LWR@restoreorigformatting` restores the original print-mode versions.

See section [72.25](#) 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}[2018/08/03]
```

`\LWR@multirowborder` Set to `left` or `right` to create a thick border for the cell, for use by `bigdelim`:

```
3 \newcommand{\LWR@multirowborder}{}%
```

§ 372.1 Multirow

```
\multirow [⟨vpos⟩] {⟨numrows⟩} [⟨bigstruts⟩] {⟨width⟩} [⟨fixup⟩] {⟨text⟩}
4 \NewDocumentCommand{\LWR@HTML@multirow}{O{c} m o m o +m}%
5 {%
6 \LWR@traceinfo{*** LWR@HTML@multirow #1 #2 #4}%
7 \booltrue{\LWR@usedmultirow}%
8 \LWR@maybenewtablerow%
9 \LWR@tabularleftedge%
```

Print the start of a new table data cell:

```
10 \LWR@htmltag{td rowspan="#2" %
```

A class adds the column spec and the rule:

```
11 class="td%"
```

Append this column's spec:

```
12 \LWR@getexpparray{\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.

```

13 \LWR@addcmidruletrim%
14 \LWR@addleftmostbartag%
15 \LWR@printbartag{\arabic{LWR@tableLaTeXcolindex}}%
16 "%

17 \LWR@tdstartstyles%
```

The vertical alignment, if given:

```

18 \ifstrequal{\#1}{c}{\LWR@tdaddstyle\LWR@print@mbox{vertical-align:middle}}{}%
19 \ifstrequal{\#1}{b}{\LWR@tdaddstyle\LWR@print@mbox{vertical-align:bottom}}{}%
20 \ifstrequal{\#1}{t}{\LWR@tdaddstyle\LWR@print@mbox{vertical-align:top}}{}%
```

The left/right border, if given:

```

21 \ifdefvoid{\LWR@multirowborder}{}{%
22   \LWR@tdaddstyle%
23   \LWR@print@mbox{border-\LWR@multirowborder:} 2px dotted black ; %
24   \LWR@print@mbox{padding-\LWR@multirowborder:} 2px%
25 }%
```

Additional style elements:

```

26 \LWR@addcmidrulewidth%
27 \LWR@addcdashline%
28 \LWR@addtabularrulecolors%
29 \LWR@tdendstyles%
30 }%
```

The column's < spec:

```
31 \LWR@getexparray{\LWR@colbeforespec}{\arabic{LWR@tableLaTeXcolindex}}%
```

While printing the text, redefine \\ to generate a new line

```

32 \begingroup\LetLtxMacro{\\\}{\LWR@endofline}\#6\endgroup%
33 \LWR@stopars%
34 \boolfalse{\LWR@intabularmetadata}%
35 \renewcommand{\LWR@multirowborder}{}%
36 \LWR@traceinfo{*** \LWR@HTML@multirow done}%
37 }%
38
39 \LWR@formatted{multirow}
```

§ 372.2 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`.

```
40 \AtBeginDocument{
41
42 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{} m O{} m O{} +m}{%
43 \booltrue{\LWR@usedmultirow}%
```

Figure out how many extra HTML columns to add for @ and ! columns:

```
44 \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.

```
45 \LetLtxMacro{\\"{\LWR@endofline}}%
46 \LWR@domulticolumn[#3][#4]{#1}{\arabic{\LWR@tabhtmlcoltotal}}{#2}{#8}%
47 \LetLtxMacro{\\"{\LWR@tabularendofline}}%
```

Move to the next L^AT_EX column:

```
48 \defaddtocounter{\LWR@tableLaTeXcolindex}{#1}%
49 \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
50 \booltrue{\LWR@skipatbang}%
51 }
52
53 \LWR@expandableformatted{multicolumnrow}
54
55 }% \AtBeginDocument
```

For MATHJAX. Only the text is used. All other parameters are ignored.

```
56 \begin{warpMathJax}
57 % \multirow[vpos]{num}[bigstruts][width][vmove]{text}
58 \CustomizeMathJax{\newcommand{\LWRsubmultirow}[2][]{\#2}}
59 \CustomizeMathJax{\newcommand{\LWRmultirow}[2][]{\LWRsubmultirow}}
60 \CustomizeMathJax{\newcommand{\multirow}[2][]{\LWRmultirow}}
61 %
62 \CustomizeMathJax{\newcommand{\mrowcell}{}}
```

```

63 \CustomizeMathJax{\newcommand{\mcolrowcell}{}}
64 \CustomizeMathJax{\newcommand{\STneed}[1]{}}
65 \end{warpMathJax}

```

File 271 **l warp-multitoc.sty**

§ 373 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 272 **l warp-musicography.sty**

§ 374 Package **musicography**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg **musicography** **musicography** is patched for use by **l warp**.

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 273 l warp-nameauth.sty

§ 375 Package **nameauth**

(Emulates or patches code by CHARLES P. SCHAUM.)

Pkg nameauth nameauth is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{nameauth}[2017/03/22]

l warp 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}}}% l warp

```

```
19      }\egroup%
20      \else
21          \bgroup\MainNameHook{%
22              \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
23          }\egroup%
24      \fi
25  \else
26      \if@nameauth@FirstFormat
27          \bgroup\FrontNamesFormat{%
28              \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
29          }\egroup%
30  \else
31      \bgroup\FrontNameHook{%
32          \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
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}}% l warp
44         }\egroup%
45     \else
46         \bgroup\MainNameHook{%
47             \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
48         }\egroup%
49     \fi
50 \else
51     \if@nameauth@FirstFormat
52         \bgroup\FrontNamesFormat{%
53             \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
54         }\egroup%
55     \else
56         \bgroup\FrontNameHook{%
57             \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
58         }\egroup%
59     \fi
60     \fi
61 \fi
62 \@nameauth@FirstFormatfalse%
63 \@nameauth@InHookfalse%
64 \fi
65 }
```

File 274 **l warp-nameref.sty**

§ 376 Package **nameref**

Pkg nameref nameref is emulated by l warp.

for HTML output: Discard all options for l warp-nameref:

```

1 \PackageInfo{l warp}{%
2 Using the l warp 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 l warp's version of 'nameref').)\MessageBreak
6 }
7 \DeclareOption*{}
8 \ProcessOptions\relax

```

File 275 **l warp-natbib.sty**

§ 377 Package **natbib**

(Emulates or patches code by PATRICK W. DALY.)

Pkg natbib natbib is patched for use by l warp.

for HTML output: 1 \LWR@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 \ifdefstreq{\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 276 l warp-nccfancyhdr.sty

§ 378 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*\{\ifffbotfloat}[2]{#2}
```

File 277 l warp-nccfoots.sty

§ 379 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 278 **l warp-nccmath.sty**

§ 380 Package **nccmath**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg nccmath nccmath is patched for use by l warp, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{nccmath}[2006/01/20]

```
2 \let\origeqnarray\eqnarray
3 \let\origendeqnarray\endeqnarray
4
5 \csletcs{\origeqnarraystar}{\eqnarray*}
6 \csletcs{\origendeqnarraystar}{\endeqnarray*}
7
8 \RenewEnviron{eqnarray}
9 {%
10
11     \LWR@eqnarrayfactor
12
13 }
14
15 \RenewEnviron{eqnarray*}
16 {%
17
18     \begingroup
19     \csletcs{\origeqnarray}{\LWR@origeqnarraystar}
20     \csletcs{\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 $\backslash*$, so the unstarred version is used here.

```

39 \CustomizeMathJax{\newcommand{\LWRnrnstar}[1][0.5ex]{\backslash[#1]}}
40 \CustomizeMathJax{\DeclareIfstar{\nr}{\LWRnrnstar}{\LWRnrnstar}}
41
42 \CustomizeMathJax{\newcommand{\mrel}[1]{\begin{aligned}#1\end{aligned}}}
43 \CustomizeMathJax{\newcommand{\underrel}[2]{\#1}_{\#2}}
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 279 **l warp-needspace.sty**

§ 381 Package **needspace**

(Emulates or patches code by PETER WILSON.)

Pkg needspace **needspace** is ignored.

for HTML output: Discard all options for l warp-needspace:

```

1 \LWR@ProvidesPackageDrop{needspace}[2010/09/12]
2
3 \DeclareDocumentCommand{\needspace}{m}{}{ }
4 \DeclareDocumentCommand{\Needspace}{s m}{}{ }

```

File 280 **l warp-nextpage.sty**

§ 382 Package **nextpage**

(Emulates or patches code by PETER WILSON.)

Pkg nextpage **nextpage** is ignored.

for HTML output: Discard all options for `\lwarf-nexpage`.

```
1 \LWR@ProvidesPackageDrop{nexpage}[2009/09/03]

2 \DeclareDocumentCommand{\cleartoevenpage}{o}{}%
3 \DeclareDocumentCommand{\movetoevenpage}{o}{}%
4 \DeclareDocumentCommand{\cleartooddpage}{o}{}%
5 \DeclareDocumentCommand{\movetooddpage}{o}{}%
```

File 281 **lwarf-nfsext-cfr.sty**

§ 383 Package **nfsext-cfr**

(Emulates or patches code by CLEA F. REES.)

Pkg `nfsext-cfr` `nfsext-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{nfsext-cfr}[2017/03/28]

Macros which are present in the `lwarf` 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@embossstyle}{}%
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@nwwidth}{}  
36 \newrobustcmd{\LWR@HTML@cdwidth}{}  
37 \newrobustcmd{\LWR@HTML@ecwidth}{}  
38 \newrobustcmd{\LWR@HTML@ucwidth}{}  
39 \newrobustcmd{\LWR@HTML@etwidth}{}  
40 \newrobustcmd{\LWR@HTML@epwidth}{}  
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{sishape}
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{newidth}
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\pststyle\@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\newidth{@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@texts i}[1]{#1}
184 \newrobustcmd{\LWR@HTML@textdf}[1]{#1}
185
186 \ifdef{\LWR@HTML@swshape}{}{\% duplicated by fontaxes
187   \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
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{texttt}{#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@textrw}[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@textsbs}[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{textsw}
240 \LWR@formatted{textti}
241 \LWR@formatted{textlt}
242 \LWR@formatted{textof}
243 \LWR@formatted{textalt}
244 \LWR@formatted{textreg}
245 \LWR@formatted{emboss}
246 \LWR@formatted{textorn}
247 \LWR@formatted{textqt}
248 \LWR@formatted{textsh}
249 \LWR@formatted{texttm}
```

```
250 \LWR@formatted{texttv}
251 \LWR@formatted{textl}
252 \LWR@formatted{texto}
253 \LWR@formatted{textp}
254 \LWR@formatted{textt}
255 \LWR@formatted{textpl}
256 \LWR@formatted{textpo}
257 \LWR@formatted{texttl}
258 \LWR@formatted{textto}
259 \LWR@formatted{textol}
260 \LWR@formatted{textwash}
261 \LWR@formatted{textu}
262 \LWR@formatted{textscu}
263 \LWR@formatted{textui}
264 \LWR@formatted{textri}
265 \LWR@formatted{textnw}
266 \LWR@formatted{textcd}
267 \LWR@formatted{textec}
268 \LWR@formatted{textuc}
269 \LWR@formatted{texttet}
270 \LWR@formatted{textep}
271 \LWR@formatted{textex}
272 \LWR@formatted{textux}
273 \LWR@formatted{textrw}
274 \LWR@formatted{textmb}
275 \LWR@formatted{textdb}
276 \LWR@formatted{textsb}
277 % \LWR@formatted{texteb}
278 \LWR@formatted{textub}
279 % \LWR@formatted{textlg}
280 \LWR@formatted{textel}
281 \LWR@formatted{textul}
282

283 \FilenameNullify{%
284     \LetLtxMacro{textln}{\firstofone}
285     \LetLtxMacro{textos}{\firstofone}
286     \LetLtxMacro{textin}{\firstofone}
287     \LetLtxMacro{textsu}{\firstofone}
288 %     \LetLtxMacro{textsi}{\firstofone}
289     \LetLtxMacro{textdf}{\firstofone}
290     \LetLtxMacro{textsw}{\firstofone}
291     \LetLtxMacro{textti}{\firstofone}
292     \LetLtxMacro{textlt}{\firstofone}
293     \LetLtxMacro{textof}{\firstofone}
294     \LetLtxMacro{textalt}{\firstofone}
295     \LetLtxMacro{textreg}{\firstofone}
296     \LetLtxMacro{emboss}{\firstofone}
297     \LetLtxMacro{textorn}{\firstofone}
298     \LetLtxMacro{textqt}{\firstofone}
299     \LetLtxMacro{textsh}{\firstofone}
300     \LetLtxMacro{texttm}{\firstofone}
301     \LetLtxMacro{texttv}{\firstofone}
302     \LetLtxMacro{textl}{\firstofone}
303     \LetLtxMacro{texto}{\firstofone}
```

```

304   \LetLtxMacro\textp{@firstofone%
305   \LetLtxMacro\textt{@firstofone%
306   \LetLtxMacro\textpl{@firstofone%
307   \LetLtxMacro\textpo{@firstofone%
308   \LetLtxMacro\texttl{@firstofone%
309   \LetLtxMacro\textto{@firstofone%
310   \LetLtxMacro\textol{@firstofone%
311   \LetLtxMacro\textswash{@firstofone%
312   \LetLtxMacro\textu{@firstofone%
313   \LetLtxMacro\textscu{@firstofone%
314   \LetLtxMacro\textui{@firstofone%
315   \LetLtxMacro\textri{@firstofone%
316   \LetLtxMacro\textnw{@firstofone%
317   \LetLtxMacro\textcd{@firstofone%
318   \LetLtxMacro\textec{@firstofone%
319   \LetLtxMacro\textuc{@firstofone%
320   \LetLtxMacro\textet{@firstofone%
321   \LetLtxMacro\textep{@firstofone%
322   \LetLtxMacro\textex{@firstofone%
323   \LetLtxMacro\textux{@firstofone%
324   \LetLtxMacro\textrw{@firstofone%
325   \LetLtxMacro\textmb{@firstofone%
326   \LetLtxMacro\textdb{@firstofone%
327   \LetLtxMacro\textsb{@firstofone%
328 % \LetLtxMacro\texteb{@firstofone%
329 % \LetLtxMacro\textub{@firstofone%
330 % \LetLtxMacro\textlg{@firstofone%
331   \LetLtxMacro\textel{@firstofone%
332   \LetLtxMacro\textul{@firstofone%
333 }
334
335 \providecommand*\{\\zeroslash}{0}
336 \newrobustcmd*\{\LWR@HTML@zeroslash}{0}
337 \LWR@formatted{zeroslash}
```

File 282 l warp-nicefrac.sty

§ 384 Package nicefrac

(Emulates or patches code by AXEL REICHERT.)

Pkg nicefrac nicefrac is patched for use by l warp.

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][]{{#2/#3}}}
25 \end{warpMathJax}

```

File 283 **l warp-niceframe.sty**

§ 385 Package **niceframe**

Pkg niceframe niceframe is emulated.

for HTML output: `\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 284 **l warp-noitcrl.sty**

§ 386 Package **noitcrl**

(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 285 **l warp-nolbreaks.sty**

§ 387 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 286 **l warp-nomencl.sty**

§ 388 Package **nomencl**

(Emulates or patches code by BORIS VEYTSMAN, BERND SCHANDL, LEE NETHERTON, CV RADHAKRISHNAN.)

Pkg nomencl nomencl is patched for use by l warp.

To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.ist -o <project>_html.nls
```

for HTML output:

\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\nameqref{\theequation}%
7         |nompageref{\theLWR@previousautopagelabel}}%\l warp
8   \endgroup
9   \@esphack}
10
11 \renewcommand*\pagedeclaration[1]{, \nameref{\BaseJobname-autopage-\#1}}%
```

File 287 **l warp-nonfloat.sty**

§ 389 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\@capttype{figure}\caption}
4 \newcommand{\tabcaption}{\def\@capttype{table}\topcaption}
5 \newenvironment{narrow}[2]{}{}
```

File 288 **l warp-nonumonpart.sty**

§ 390 Package **nonumonpart**

Pkg nonumonpart nonumonpart is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]

File 289 **l warp-nopageno.sty**

§ 391 Package **nopageno**

Pkg nopageno nopageno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]

File 290 **l warp-notes.sty**

§ 392 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}{%
```

```

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 291 **l warp-notespages.sty**

§ 393 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*\npninfo[1](){}
9 \newcommand*\tracingnpmarks(){}
10 \newcommand*\notespage[1][]{}
11 \newcommand*\notespages[1][]{}
12 \newcommand*\notesfill[1][]{}
13 \newcommand*\setnotespages[1](){}
14 \newcommand*\definenotesoption[2](){}
15 \newcommand*\definenotesstyle[2](){}
16 \newcommand*\definetitlestyle[2]){}
17 \newcommand*\nppatchchapter[1]{}}
18 \newcommand*\npunpatchchapter{}}

```

File 292 **l warp-nowidow.sty**

§ 394 Package **nowidow**

(Emulates or patches code by RAPHAËL PINSON.)

Pkg nowidow nowidow is ignored.

for HTML output: DiscardProvidesPackageDrop{l warp-nowidow}[2011/09/20]

```
\nowidow  [<lines>]
\setnowidow [<lines>
              2 \newcommand*\nowidow[1][]{}
              3 \newcommand*\setnowidow[1][]{}

\noclub  [<lines>]
\setnoclub [<lines>
              4 \newcommand*\noclub[1][]{}
              5 \newcommand*\setnoclub[1][]{}
```

File 293 **lwarf-ntheorem.sty**

§ 395 Package **ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

Pkg **ntheorem** **ntheorem** is patched for use by **lwarf**.

Table 17: Ntheorem package — css styling of theorems and proofs

Theorem: <div> of class theorembody<theoremstyle>

Theorem Header: of class theoremheader<style>

where <theoremstyle> is plain, break, etc.

§ 395.1 Limitations

- △ **Font control** This conversion is not total. Font control is via css, and the custom L^AT_EX 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`.¹⁹ 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}
    }{}
}
```

¹⁹lwarf uses `cleveref` for the HTML conversion, and loads `cleveref` `\AtEndPreamble`, just before `\AtBeginDocument`.

⚠ Equation numbering

`ntheorem` has a bug with equation numbering in \mathcal{AMS} environments when the option `thref` is used. `l warp` does not share this bug, so equations with `\split`, etc, are numbered correctly with `l warp`'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

§ 395.2 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 `l warp` emulated `hyperref`.

Some disabled options:

for HTML output:

```
1 \DeclareOption{thref}{}  
2   \AtEndDocument{  
3     \PackageWarningNoLine{l warp}{%  
4       L warp 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@ntheoremmarks}  
18 \boolfalse{LWR@ntheoremmarks}  
19  
20 \DeclareOption{thmmarks}{}  
21 \booltrue{LWR@ntheoremmarks}  
22 \newif\ifsetendmark\setendmarktrue  
23 }  
24  
25  
26 \newbool{LWR@ntheoremamsthm}  
27 \boolfalse{LWR@ntheoremamsthm}  
28  
29 \DeclareOption{amsthm}{\booltrue{LWR@ntheoremamsthm}}  
30  
31  
32 \DeclareOption{amsmath}{}  
33 \DeclareOption{hyperref}{}  
34  
35 \LWR@ProvidesPackagePass{ntheorem}[2011/08/15]
```

§ 395.3 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% l warp
51   \BlockClass{\theorembody#1}\LWR@thisthmstyle% l warp
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   \atopsep\thm@topsep
67   \atopsepadd\thm@topsepadd
68   \advance\linewidth -\theorem@indent
69   \advance\linewidth -\theorem@rightindent
70   \advance\@totalleftmargin \theorem@indent
71   \parshape \one \@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\theoreminframepreskipamount
92       \thm@topsepadd\theoreminframepostskipamount
93     \else
94       \thm@topsep\theorempreskipamount
95       \thm@topsepadd\theorempostskipamount
96     \fi
97   \else% oldframeskips
98     \thm@topsep\theorempreskipamount
99     \thm@topsepadd \theorempostskipamount
100    \ifvmode\advance\thm@topsepadd\partopsep\fi
101  \fi
102 \atopsep\thm@topsep
103 \atopsepadd\thm@topsepadd
104 \advance\linewidth -\theorem@indent
105 \advance\linewidth -\theorem@rightindent
106 \advance\@totalleftmargin \theorem@indent
107 \parshape \one \@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{thm#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@thisthmstyle{\@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\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@thisthmstyle{\@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@thisthmstyle{\@nameuse{\LWR@thmstyle#1}}}\% lwarp
176     \fi
177  }

```

§ 395.4 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{a id="\LWR@print@mbox{autoid-\arabic{\LWR@thisautoid}}"}\LWR@htmltag{/a}%
182 \LWR@startpars%

```

 183 }

§ 395.5 \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>.

```

184 \gdef\newtheoremstyle#1#2#3{%
185   \expandafter\ifundefined{th@#1}%
186   { \expandafter\gdef\csname th@#1\endcsname{%
187     \def\@begintheorem####1####2{%
188       \LWR@inctheorem% lwarf
189       #2}%
190       \def\@opargbegintheorem####1####2####3{%
191         \LWR@inctheorem% lwarf
192         #3}%
193   }%
194 }%
195 {\PackageError{\basename}{Theorem style #1 already defined}\@eha}%
196 }
```

§ 395.6 Standard styles

```

197 \renewtheoremstyle{plain}%
198   {\item[
199     \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
200   {\item[
201     \InlineClass{theoremheaderplain}{##1\ ##2\ (###3)\theorem@separator}]}%
202
203 \renewtheoremstyle{break}%
204   {\item[
205     \InlineClass{theoremheaderbreak}{##1\ ##2\theorem@separator}\newline
206   ]}%
207   {\item[
208     \InlineClass{theoremheaderbreak}%
209     {##1\ ##2\ (###3)\theorem@separator}\newline
210   ]}%
211
212 \renewtheoremstyle{change}%
213   {\item[
214     \InlineClass{theoremheaderchange}{##2\ ##1\theorem@separator}]}%
215   {\item[
216     \InlineClass{theoremheaderchange}{##2\ ##1\ (###3)\theorem@separator}]}%
217
218 \renewtheoremstyle{changebreak}%
219   {\item[
220     \InlineClass{theoremheaderchangebreak}%
221       {##2\ ##1\theorem@separator}\newline
222   ]}%

```

```

223  {\item[
224      \InlineClass{theoremheaderchangebreak}%
225      {##2\ ##1\ (##3)\theorem@separator}\newline
226  ]}
227
228 \renewtheoremstyle{margin}%
229  {\item[
230      \InlineClass{theoremheadermargin}{##2 \qquad ##1\theorem@separator}%
231  ]}
232  {\item[
233      \InlineClass{theoremheadermargin}{##2 \qquad ##1\ (##3)\theorem@separator}%
234  ]}
235
236 \renewtheoremstyle{marginbreak}%
237  {\item[
238      \InlineClass{theoremheadermarginbreak}%
239      {##2 \qquad ##1\theorem@separator}\newline
240  ]}
241  {\item[
242      \InlineClass{theoremheadermarginbreak}%
243      {##2 \qquad ##1\ (##3)\theorem@separator}\newline
244  ]}
245
246 \renewtheoremstyle{nonumberplain}%
247  {\item[
248      \InlineClass{theoremheaderplain}{##1\theorem@separator}]}%
249  {\item[
250      \InlineClass{theoremheaderplain}{##1\ (##3)\theorem@separator}]}%
251
252 \renewtheoremstyle{nonumberbreak}%
253  {\item[
254      \InlineClass{theoremheaderbreak}{##1\theorem@separator}\newline
255  ]}
256  {\item[
257      \InlineClass{theoremheaderbreak}{##1\ (##3)\theorem@separator}\newline
258  ]}
259
260 \renewtheoremstyle{empty}%
261  {\item[]}%
262  {\item[
263      \InlineClass{theoremheaderplain}{##3}]}%
264
265 \renewtheoremstyle{emptybreak}%
266  {\item[]}%
267  {\item[
268      \InlineClass{theoremheaderplain}{##3} \ \newline}%

```

§ 395.7 Additional objects

The following manually adjust the css for the standard configuration objects which are not a purely plain style:

```
269 \ifbool{LWR@ntheoremamsthm}{}{%
```

Upright text via CSS:

```

270      \newtheoremstyle{plainupright}%
271      {\item[%
272          \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
273      {\item[%
274          \InlineClass{theoremheaderplain}{##1\ ##2\ (###3)\theorem@separator}]}%
```

Upright text and small caps header via CSS:

```

275      \newtheoremstyle{nonumberplainuprightsc}%
276      {\item[%
277          \InlineClass{theoremheadersc}{##1\theorem@separator}]}%
278      {\item[%
279          \InlineClass{theoremheadersc}{##1\ (###3)\theorem@separator}]}%
280 }% not amsthm
```

§ 395.8 Renewed standard configuration

The following standard configuration is renewed using the new css:

```

281 \ifbool{LWR@ntheoremamsthm}{}{%
282 \ifx\thm@usestd@\undefined
283 \else
284     \theoremnumbering{arabic}
285     \theoremstyle{plain}
286     \RequirePackage{latexsym}
287     \theoremsymbol{\Box}
288     \theorembodyfont{\itshape}
289     \theoremheaderfont{\normalfont\bfseries}
290     \theoremseparator{}
291     \renewtheorem{Theorem}{Theorem}
292     \renewtheorem{theorem}{Theorem}
293     \renewtheorem{Satz}{Satz}
294     \renewtheorem{satz}{Satz}
295     \renewtheorem{Proposition}{Proposition}
296     \renewtheorem{proposition}{Proposition}
297     \renewtheorem{Lemma}{Lemma}
298     \renewtheorem{lemma}{Lemma}
299     \renewtheorem{Korollar}{Korollar}
300     \renewtheorem{korollar}{Korollar}
301     \renewtheorem{Corollary}{Corollary}
302     \renewtheorem{corollary}{Corollary}
303
304     \theoremstyle{plainupright}
305     \theorembodyfont{\upshape}
306     \theoremsymbol{\HTMLunicode{25A1}}% UTF-8 white box
307     \renewtheorem{Example}{Example}
308     \renewtheorem{example}{Example}
309     \renewtheorem{Beispiel}{Beispiel}
310     \renewtheorem{beispiel}{Beispiel}
311     \renewtheorem{Bemerkung}{Bemerkung}
312     \renewtheorem{bemerkung}{Bemerkung}
```

```

313 \renewtheorem{Anmerkung}{Anmerkung}
314 \renewtheorem{anmerkung}{Anmerkung}
315 \renewtheorem{Remark}{Remark}
316 \renewtheorem{remark}{Remark}
317 \renewtheorem{Definition}{Definition}
318 \renewtheorem{definition}{Definition}
319
320 \theoremstyle{nonumberplainuprightsc}
321 \theoremsymbol{\HTMLunicode{220E}}% UTF-8 end-of-proof
322 \renewtheorem{Proof}{Proof}
323 \renewtheorem{proof}{Proof}
324 \renewtheorem{Beweis}{Beweis}
325 \renewtheorem{beweis}{Beweis}
326 \qedsymbol{\HTMLunicode{220E}}% UTF-8 end-of-proof
327
328 \theoremsymbol{}
329 \fi
330 }% not amsthm

```

§ 395.9 **amsthm option**

Only if the `amsthm` option was given:

```

331 \ifbool{LWR@ntheoremamsthm}{
332
333 \gdef\th@plain{%
334   \def\theorem@headerfont{\normalfont\bfseries}\itshape%
335   \def\@begintheorem##1##2{%
336     \LWR@inctheorem% l warp
337     \item[%
338       \InLineClass{theoremheaderplain}{##1\ ##2.}%
339     ]}%
340   \def\@opargbegintheorem##1##2##3{%
341     \LWR@inctheorem% l warp
342     \item[%
343       \InLineClass{theoremheaderplain}{##1\ ##2\ (###3).}%
344     ]}}%
345
346 \gdef\th@nonumberplain{%
347   \def\theorem@headerfont{\normalfont\bfseries}\itshape%
348   \def\@begintheorem##1##2{%
349     \LWR@inctheorem% l warp
350     \item[%
351       \InLineClass{theoremheaderplain}{##1.}%
352     ]}%
353   \def\@opargbegintheorem##1##2##3{%
354     \LWR@inctheorem% l warp
355     \item[%
356       \InLineClass{theoremheaderplain}{##1\ (###3).}%
357     ]}}%
358
359 \gdef\th@definition{%
360   \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
361   \def\@begintheorem##1##2{%
362     \LWR@inctheorem% l warp

```

```
363      \item[  
364      \InlineClass{theoremheaderdefinition}{##1\ ##2.}  
365      ]}%  
366      \def\@opargbegintheorem##1##2##3{  
367          \LWR@inctheorem% l warp  
368          \item[  
369          \InlineClass{theoremheaderdefinition}{##1\ ##2\ (###3).}  
370          ]}}  
371  
372 \gdef\th@nonumberdefinition{  
373     \def\theorem@headerfont{\normalfont\bfseries}\normalfont%  
374     \def\@begintheorem##1##2{  
375         \LWR@inctheorem% l warp  
376         \item[  
377         \InlineClass{theoremheaderdefinition}{##1.}  
378         ]}%  
379         \def\@opargbegintheorem##1##2##3{  
380             \LWR@inctheorem% l warp  
381             \item[  
382             \InlineClass{theoremheaderdefinition}{##1\ (###3).}  
383             ]}}  
384  
385 \gdef\th@remark{  
386     \def\theorem@headerfont{\itshape}\normalfont%  
387     \def\@begintheorem##1##2{  
388         \LWR@inctheorem% l warp  
389         \item[  
390         \InlineClass{theoremheaderremark}{##1\ ##2.}  
391         ]}%  
392         \def\@opargbegintheorem##1##2##3{  
393             \LWR@inctheorem% l warp  
394             \item[  
395             \InlineClass{theoremheaderremark}{##1\ ##2\ (###3).}  
396             ]}}  
397  
398 \gdef\th@nonumberremark{  
399     \def\theorem@headerfont{\itshape}\normalfont%  
400     \def\@begintheorem##1##2{  
401         \LWR@inctheorem% l warp  
402         \item[  
403         \InlineClass{theoremheaderremark}{##1.}  
404         ]}%  
405         \def\@opargbegintheorem##1##2##3{  
406             \LWR@inctheorem% l warp  
407             \item[  
408             \InlineClass{theoremheaderremark}{##1\ (###3).}  
409             ]}}  
410  
411 \gdef\th@proof{  
412     \def\theorem@headerfont{\normalfont\bfseries}\itshape%  
413     \def\@begintheorem##1##2{  
414         \LWR@inctheorem% l warp  
415         \item[  
416         \InlineClass{theoremheaderproof}{##1.}  
417         ]}%
```

```

418 \def@opargbegintheorem##1##2##3{%
419     \LWR@inctheorem% l warp
420     \item[
421     \InlineClass{theoremheaderproof}{##1\ (###3).}
422     ]{}}
423
424
425
426 \newcounter{proof}%
427 \if@thmmarks
428     \newcounter{currproofctr}%
429     \newcounter{endproofctr}%
430 \fi
431
432 \gdef\proofSymbol{\openbox}
433
434 \newcommand{\proofname}{Proof}
435
436 \newenvironment{proof}[1][\proofname]{%
437     \th@proof
438     \def\theorem@headerfont{\itshape}%
439     \normalfont
440     \theoremsymbol{\HTMLunicode{220E}}% UTF-8 end-of-proof
441     \ethm{proof}{proof}{#1}
442 }%
443 {\@endtheorem}
444
445 }{}% amsthm option

```

§ 395.10 Ending a theorem

Patched for css:

```

446 \let\LWR@origendtheorem\@endtheorem
447 \renewcommand{\@endtheorem}{%
448 \ifbool{\LWR@ntheoremmarks}{%
449     \ifsetendmark%
450         \InlineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
451         \setendmarkfalse%
452     \fi%
453 }{}%
454 \LWR@origendtheorem% also does \endtrivlist
455 \ifbool{\LWR@ntheoremmarks}{\global\setendmarktrue}{}%
456 \endBlockClass%
457 }

```

§ 395.11 \NoEndMark

```
458 \gdef\NoEndMark{\global\setendmarkfalse}
```

§ 395.12 List-of

Redefined to reuse the float mechanism to add list-of-theorem links:

```
\thm@thmline {\langle 1: printed type\rangle} {\langle 2: #\rangle} {\langle 3: optional\rangle} {\langle 4: page\rangle}
```

```
459 \renewcommand{\thm@thmline@noname}[4]{%
460 \hypertocfloat{1}{theorem}{thm}{#2 #3}{}}%
461 }
462
463 \renewcommand{\thm@thmline@name}[4]{%
464 \hypertocfloat{1}{theorem}{thm}{#1 #2 #3}{}}%
465 }
```

This was redefined by `ntheorem` when loaded, so it is now redefined for `l warp`:

```
466 \def\thm@thmline{\thm@thmline@name}
```

Patch for `css`:

```
467 \def\listtheorems#1{
468 \LWR@htmlelementclass{nav}{lothm}%
469 \begingroup
470 \c@tocdepth=-2%
471 \def\thm@list{\#1}\thm@processlist
472 \endgroup
473 \LWR@htmlelementclassend{nav}{lothm}%
474 }
```

§ 395.13 Symbols

Proof QED symbol:

```
475 \newcommand{\qed}{\qquad\the\qedsymbol}
476
477 \AtBeginDocument{
478 \@ifundefined{LWR@orig@openbox}%
479 \LetLtxMacro{\LWR@orig@openbox}{\openbox}
480 \LetLtxMacro{\LWR@orig@blacksquare}{\blacksquare}
481 \LetLtxMacro{\LWR@orig@Box}{\Box}
482
483 \def\openbox{\text{\HTMLunicode{25A1}}}% UTF-8 white box
484 \def\blacksquare{\text{\HTMLunicode{220E}}}% UTF-8 end-of-proof
485 \def\Box{\text{\HTMLunicode{25A1}}}% UTF-8 white box
486
487 \appto{\LWR@restoreorigformatting}{%
488 \LetLtxMacro{\openbox}{\LWR@orig@openbox}%
489 \LetLtxMacro{\blacksquare}{\LWR@orig@blacksquare}%
490 \LetLtxMacro{\Box}{\LWR@orig@Box}%
491 }% appto
```

```
492 }{ }% @ifundefined
493 }% AtBeginDocument
```

§ 395.14 Cross-referencing

```
\thref {\langle label \rangle}

494 \newcommand*{\thref}[1]{\cref{#1}}%
```

File 294 **l warp-octave.sty**

§ 396 Package **octave**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg octave octave is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{octave}[2017/10/31]

Remove the leading 1pt kern:

```
2 \RenewDocumentCommand{\@PrintTicks}{ m }{%
3 \kern-1pt% l warp
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}{}{\text{\textnormal{2032}}}
```

Catch the inline font:

```
12 \RenewDocumentCommand{\pitch}{ m o m }{%
13 \if@OctaveNumber%
14 {%
15     \pitchfont{%
16         \LWR@textcurrentfont% l warp
17         \MakeUppercase{#1}%
18         \IfValueTF{#2}{#2}{\textsubscript{#3}}%
19     }%
20 }%
21 }%
22 \else%
23 {%
24     \pitchfont{%
25         \LWR@textcurrentfont% l warp
26         \GetOctaveTick{#1}{#2}{#3}%
27     }%
28 }%
29 }%
30 }
```

```

27      }%
28      }%
29 }%
30 \fi%
31 }

```

The original was hard to adapt to l warp'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 295 l warp-overpic.sty

§ 397 Package overpic

(Emulates or patches code by ROLF NIEPRASCHK.)

Pkg overpic overpic is patched for use by l warp.

⚠ **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 85.2 for the print-mode version of \overpicfontsize and \overpicfontskip.

for HTML output: 1 \LWR@ProvidesPackagePass{overpic}[2017/10/06]

```

2 \newcommand*\overpic[1]{\overpic[width=1cm]{#1}}
3 \newcommand*\overpic[2]{\overpic[width=1cm]{#1}\overpic[height=1cm]{#2}}
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 296 **l warp-pagegrid.sty**

§ 398 Package **pagegrid**

Pkg pagegrid pagegrid is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]

2 \newcommand*\{\pagegridsetup}{1}{}{}

File 297 **l warp-pagenote.sty**

§ 399 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@synconenotenumber { \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 298 **l warp-pagesel.sty**

§ 400 Package **pagesel**

Pkg pagesel pagesel is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]

File 299 l warp-paralist.sty**§ 401 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\textrm{\bfseries}#1}}
```

File 300 l warp-parallel.sty**§ 402 Package parallel**

(Emulates or patches code by MATTHIAS ECKERMANN.)

Pkg parallel parallel is emulated.

Package options are ignored. Footnotes are treated as normal l warp 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 l warp-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    \ifstreq{\#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      \setlength{\LWR@templengthone}{\linewidth-#3}%
23      \setcounter{LWR@parallel@Lwidth}{%
24        90*\ratio{\LWR@templengthone}{\linewidth}%
25      }%
26      \setcounter{LWR@parallel@Rwidth}{%
27        90*\ratio{\#3}{\linewidth}%
28      }%
29    }%
30    \setlength{\LWR@templengthone}{\linewidth-#3}%
31  }%
32  \setlength{\LWR@templengthone}{\linewidth-#2}%
33  \setcounter{LWR@parallel@Rwidth}{%
34    90*\ratio{\#2}{\linewidth}%
35  }%
36  \setlength{\LWR@templengthone}{\linewidth-#2}%
37  \setcounter{LWR@parallel@Lwidth}{%
38    90*\ratio{\LWR@templengthone}{\linewidth}%
39  }%
40  \setlength{\LWR@templengthone}{\linewidth-#2}%
41  \setcounter{LWR@parallel@Rwidth}{%
42    90*\ratio{\#3}{\linewidth}%
43  }%
44  \setlength{\LWR@templengthone}{\linewidth-#2}%
45  \setcounter{LWR@parallel@Lwidth}{%
46    90*\ratio{\#3}{\linewidth}%
47  }%
48  \setlength{\LWR@templengthone}{\linewidth-#2}%
49  \setcounter{LWR@parallel@Rwidth}{%
50    90*\ratio{\#3}{\linewidth}%
51  }%
52  \setlength{\LWR@templengthone}{\linewidth-#2}%
53  \renewcommand*{\ParallelAtEnd}{}%
54  \LWR@printpendingfootnotes%
55}
56 }
```

```

57
58 \newcommand*{\ParallelText}[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 301 **lwarp-parcolumns.sty**

§ 403 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 302 **lwarp-parnotes.sty**

§ 404 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{%
11            [parnotemark][\arabic{parnotemark}][]\theparnotemark%
12        }%
13    }%
14    \g@addto@macro\PN@text{%
15        \LWR@textcurrentfont{%
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@inparnotestrue
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@synconenotenumber{\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 303 **lwarp-parskip.sty**

§ 405 Package **parskip**

Pkg **parskip** **parskip** is ignored.

for HTML output: Discard all options for **lwarp-parskip**.

1 \LWR@ProvidesPackageDrop{parskip}[2001/04/09]

File 304 l warp-pbox.sty

§ 406 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{\settominwidth}[3][\columnwidth]{%
8 \settowidth{#2}{#3}%
9 }
10
11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }
```

File 305 l warp-pdfcol.sty

§ 407 Package **pdfcol**

Pkg pdfcol pdfcol is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{pdfcol}[2018/11/01]
2
3 \ltx@ifpdfcolAvailable
4 \pdfcolAvailablefalse
5
6 \def\pdfcolErrorNoStacks{
7   \PackageInfo{l warp-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 306 **l warp-pdfcolfoot.sty**

§ 408 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 307 **l warp-pdfcolmk.sty**

§ 409 Package **pdfcolmk**

Pkg pdfcolmk pdfcolmk is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]

File 308 **l warp-pdfcolparallel.sty**

§ 410 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 309 **l warp-pdfcolparcolumns.sty**

§ 411 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 310 **l warp-pdfcomment.sty**

§ 412 Package **pdfcomment**

Pkg pdfcomment pdfcomment is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcomment}{[2016/06/13]}

```
2 \newenvironment{pdfsidelinecomment}[2][]{\begin{array}{c}}{\end{array}}
3 \newcommand{\pdfcomment}[2][]{\begin{array}{c}\text{#1}\end{array}}
4 \newcommand{\pdfmargincomment}[2][]{\begin{array}{c}\text{#1}\end{array}}
5 \newcommand{\pdfmarkupcomment}[3][]{\begin{array}{c}\text{#1}\end{array}\text{#2}}
6 \newcommand{\pdffreetextcomment}[2][]{\begin{array}{c}\text{#1}\end{array}}
7 \newcommand{\pdfsquarecomment}[2][]{\begin{array}{c}\text{#1}\end{array}}
8 \newcommand{\pdfcirclecomment}[2][]{\begin{array}{c}\text{#1}\end{array}}
9 \newcommand{\pdflinecomment}[2][]{\begin{array}{c}\text{#1}\end{array}}
10 \newcommand{\pdftooltip}[3][]{\begin{array}{c}\text{#1}\end{array}\text{#2}}
11 \newcommand{\pdfcommentsetup}[2][]{\begin{array}{c}\text{#1}\end{array}}
```

```
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 311 **lwarf-pdfcrypt.sty**

§ 413 Package **pdfcrypt**

Pkg pdfcrypt pdfcrypt is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]

```
2 \newcommand*{\pdfcryptsetup}[1]{}
```

File 312 **lwarf-pdflandscape.sty**

§ 414 Package **pdflscape**

Pkg pdflscape pdflscape is ignored.

for HTML output: Discard all options for lwarf-pdflscape:

```
1 \LWR@ProvidesPackageDrop{pdflscape}[2016/05/14]
```

File 313 **lwarf-pdfmarginpar.sty**

§ 415 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 314 l warp-pdfpages.sty

§ 416 Package **pdfpages**

(Emulates or patches code by ANDREAS MATTHIAS.)

Pkg pdfpages pdfpages is patched for use by l warp.

Option link and linkname work:

```
\hyperlink{<filename>.pdf.<pagenumber>}{some text}
\hyperlink{<linkname>.<pagenumber>}{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 315 l warp-pdfprivacy.sty

§ 417 Package pdfprivacy

Pkg pdfprivacy pdfprivacy is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]

File 316 l warp-pdfrender.sty

§ 418 Package pdfrender

Pkg pdfrender pdfrender is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfrender}[2016/05/17]

```
2 \newcommand*{\pdfrender}[1]{}
3 \newcommand{\textpdfrender}[2]{#2}
```

File 317 l warp-pdfsync.sty**§ 419 Package pdfsync**

(Emulates or patches code by J. LAURENS.)

Pkg pdfsync pdfsync is ignored.

for HTML output Discard all options for l warp-pdfsync:

```
1 \LWR@ProvidesPackageDrop{pdfsync}[2008/01/26]
```

```
2 \newcommand*{\pdfsync}{}  
3 \newcommand*{\pdfsyncstart}{}  
4 \newcommand*{\pdfsyncstop}{}  
5
```

File 318 l warp-pdftricks.sty**§ 420 Package pdftricks**

(Emulates or patches code by C. V. RADHAKRISHNAN, C. V. RAJAGOPAL, ANTOINE CHAMBERT-LOIR.)

Pkg pdftricks pdftricks is patched for use by l warp.

⚠ 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 ⇒ **l warpmk pdftosvg <jobname>-fig*.pdf**

for HTML output 1 \LWR@ProvidesPackagePass{pdftricks}[2003/08/10]

Reuse the print-mode images:

```
2 \def\PDFTfilename{\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{l warp-pdftricks}{  
4 When the pdftricks images change,  
5 remember to convert PDF images to SVG using 'l warpmk 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 'l warpmk pdftosvg \BaseJobname-fig*.pdf'}}}  
11 \AfterEndDocument{\typeout{***}}
```

File 319 l warp-pdfx.sty**§ 421 Package pdfx**

Pkg pdfx pdfx is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfx}[2017/05/18]

File 320 l warp-perpage.sty**§ 422 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 321 l warp-pfnote.sty

§ 423 Package **pfnote**

Pkg pfnote pfnote is ignored.

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

for HTML output: 1 \LWR@ProvidesPackageDrop{pfnote}[1999/07/14]

File 322 l warp-phfqit.sty

§ 424 Package **phfqit**

(Emulates or patches code by PHILIPPE FAIST.)

Pkg phfqit phfqit is patched for use by l warp.

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 323 **lwarf-physics.sty**

§ 425 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, emulation is provided via lwarf's MATHJAX macros. These are not the same as the third-party MATHJAX extension.

- The `notrig` option is honored.
- ⚠ • Most macros don't work with `\big`, etc.
- ⚠ • Macros do not auto-detect variable numbers of mandatory arguments. Provide empty {} arguments for those which are not used.
- ⚠ • Many of the macros do not work with auto-detected delimiters. Use the delimiter-specific versions instead. Some macros do not even consider the following arguments, so they may work as expected.
- ⚠ • For `\Re` and `\Im`, the arguments must be in braces.
- For `\functionalderivative`, for the example in the manual with $(E - TS)$, enclose the parens in braces.
- ⚠ • `\expectationvalue` requires and uses two mandatory arguments, unlike the third-party MATHJAX physics extension.
- Each of `\matrixquantity`, `\smallmatrixquantity`, and `\matrixdeterminant` work, while `\identitymatrix` and the following simply print a place-holder, and must be replaced by hand.

for HTML output: 1 \LWR@ProvidesPackagePass{physics}% No date is provided by the package.

```
2 % doesn't work with \big, etc.
3 \begin{warpMathJax}
4 \LWR@infoprocessingmathjax{physics}
5
6 \CustomizeMathJax{\newcommand{\quantity}{}}
7 \CustomizeMathJax{\let\qty\quantity}
8 \CustomizeMathJax{\newcommand{\pqty}[1]{\left(\#1\right)}}
9 \CustomizeMathJax{\newcommand{\bqty}[1]{\left[\#1\right]}}
10 \CustomizeMathJax{\newcommand{\vqty}[1]{\left\{\#1\right\}}}
11 \CustomizeMathJax{\newcommand{\Bqty}[1]{\left\{\#1\right\}}}
12
13 % doesn't work with \big, etc.
14 \CustomizeMathJax{\newcommand{\LWRabsolutevaluenostar}[1]{\left\lvert\#1\right\rvert}}
15 \CustomizeMathJax{\newcommand{\LWRabsolutevaluestar}[1]{\left\lvert\#1\right\rvert}}
16 \CustomizeMathJax{%
17   \DeclareIfstar{\absolutevalue}{\LWRabsolutevaluestar}{\LWRabsolutevaluenostar}%
18 }
19
20 \CustomizeMathJax{\let\abs\absolutevalue}
21
22 % doesn't work with \big, etc.
23 \CustomizeMathJax{%
24   \newcommand{\LWRnormnostar}[1]{\left\lvert\left\lvert\left\lvert\#1\right\rvert\right\rvert\right\rvert}
25 }
26 \CustomizeMathJax{\newcommand{\LWRnormstar}[1]{\left\lvert\left\lvert\#1\right\rvert\right\rvert}}
27 \CustomizeMathJax{%
28   \DeclareIfstar{\norm}{\LWRnormstar}{\LWRnormnostar}%
29 }
30
31 % doesn't work with \big, etc., no paren or bracket
32 \CustomizeMathJax{\newcommand{\LWRevaluatednostar}[1]{\left.\#1\right\lvert}}
33 \CustomizeMathJax{\newcommand{\LWRevaluatedstar}[1]{\#1\lvert}}
34 \CustomizeMathJax{%
35   \DeclareIfstar{\evaluated}{\LWRevaluatedstar}{\LWRevaluatednostar}%
36 }
37
38 \CustomizeMathJax{\let\eval\evaluated}
39
40 % no \Big
41 \CustomizeMathJax{\newcommand{\LWRordernostar}[1]{\mathcal{O}\left(\#1\right)}}
42 \CustomizeMathJax{\newcommand{\LWRorderstar}[1]{\mathcal{O}\left(\#1\right)}}
43 \CustomizeMathJax{%
44   \DeclareIfstar{\order}{\LWRorderstar}{\LWRordernostar}%
45 }
46
47 % no \Big
48 \CustomizeMathJax{\newcommand{\LWRcommutatornostar}[2]{\left[\#1,\#2\right]}}
49 \CustomizeMathJax{\newcommand{\LWRcommutatorstar}[2]{\left[\#1,\#2\right]}}
50 \CustomizeMathJax{%
51   \DeclareIfstar{\commutator}{\LWRcommutatorstar}{\LWRcommutatornostar}%
52 }
53
54 \CustomizeMathJax{\let\comm\commutator}
55
56 % no \Big
```

```
57 \CustomizeMathJax{\newcommand{\LWRanticommutatornostar}[2]{%
58     \left\{#1,#2\right\}}
59 }
60 \CustomizeMathJax{\newcommand{\LWRanticommutatorstar}[2]{%
61     \left\{#1,#2\right\}}
62 }
63 \CustomizeMathJax{%
64     \DeclareIfstar{\anticommutator}{\LWRanticommutatorstar}{\LWRanticommutatornostar}%
65 }
66
67 \CustomizeMathJax{\let\acomm\anticommutator}
68
69 % no \Big
70 \CustomizeMathJax{\let\poissonbracket\anticommutator}
71 \CustomizeMathJax{\let\pb\anticommutator}
72
73 \CustomizeMathJax{\newcommand{\LWRvectorboldnostar}[1]{\mathbf{#1}}}
74 \CustomizeMathJax{\newcommand{\LWRvectorboldstar}[1]{\pmb{#1}}}
75 \CustomizeMathJax{%
76     \DeclareIfstar{\vectorbold}{\LWRvectorboldstar}{\LWRvectorboldnostar}%
77 }
78 \CustomizeMathJax{\let\vb\vectorbold}
79
80 \CustomizeMathJax{\newcommand{\LWRvectorarrownostar}[1]{\vec{\mathbf{#1}}}}
81 \CustomizeMathJax{\newcommand{\LWRvectorarrowstar}[1]{\vec{\pmb{#1}}}}
82 \CustomizeMathJax{%
83     \DeclareIfstar{\vectorarrow}{\LWRvectorarrowstar}{\LWRvectorarrownostar}%
84 }
85 \CustomizeMathJax{\let\va\vectorarrow}
86
87 % no star
88 \CustomizeMathJax{\newcommand{\LWRvectorunitnostar}[1]{\mathbf{\hat{#1}}}}
89 \CustomizeMathJax{\newcommand{\LWRvectorunitstar}[1]{\pmb{\hat{#1}}}}
90 \CustomizeMathJax{%
91     \DeclareIfstar{\vectorunit}{\LWRvectorunitstar}{\LWRvectorunitnostar}%
92 }
93 \CustomizeMathJax{\let\va\vectorunit}
94
95 \CustomizeMathJax{\newcommand{\dotproduct}{\boldsymbol{\cdot}}}
96 \CustomizeMathJax{\let\vdot\dotproduct}
97
98 \CustomizeMathJax{\newcommand{\crossproduct}{\boldsymbol{\times}}}
99 \CustomizeMathJax{\let\cross\crossproduct}
100 \CustomizeMathJax{\let\cp\crossproduct}
101
102 \CustomizeMathJax{\newcommand{\gradient}{\mathbf{\nabla}}}
103 \CustomizeMathJax{\let\grad\gradient}
104
105 \CustomizeMathJax{\let\divisionsymbol\div}
106
107 \CustomizeMathJax{\newcommand{\divergence}{\mathbf{\nabla}\cdot}}
108 \CustomizeMathJax{\let\div\divergence}
109
110 \CustomizeMathJax{\newcommand{\curl}{\mathbf{\nabla}\times}}
111
```

```
112 \CustomizeMathJax{\newcommand{\laplacian}{\nabla^2}}
```

```
113
```

```
114 % responds to notrig option
```

```
115 \ifx\trigopt 1
```

```
116   \CustomizeMathJax{\DeclareMathOperator{\sine}{sin}}
```

```
117   \CustomizeMathJax{\DeclareMathOperator{\cosine}{cos}}
```

```
118   \CustomizeMathJax{\DeclareMathOperator{\tangent}{tan}}
```

```
119   \CustomizeMathJax{\DeclareMathOperator{\cosecant}{csc}}
```

```
120   \CustomizeMathJax{\DeclareMathOperator{\secant}{sec}}
```

```
121   \CustomizeMathJax{\DeclareMathOperator{\cotangent}{cot}}
```

```
122   \CustomizeMathJax{\DeclareMathOperator{\arcsine}{arcsin}}
```

```
123   \CustomizeMathJax{\DeclareMathOperator{\arccosine}{arccos}}
```

```
124   \CustomizeMathJax{\DeclareMathOperator{\arctangent}{arctan}}
```

```
125   \CustomizeMathJax{\DeclareMathOperator{\hyp sine}{sinh}}
```

```
126   \CustomizeMathJax{\DeclareMathOperator{\hyp cosine}{cosh}}
```

```
127   \CustomizeMathJax{\DeclareMathOperator{\hyp tangent}{tanh}}
```

```
128   \CustomizeMathJax{\DeclareMathOperator{\hyp cotangent}{coth}}
```

```
129   \CustomizeMathJax{\DeclareMathOperator{\exponential}{exp}}
```

```
130   \CustomizeMathJax{\DeclareMathOperator{\logarithm}{log}}
```

```
131   \CustomizeMathJax{\DeclareMathOperator{\natural logarithm}{ln}}
```

```
132   \CustomizeMathJax{\DeclareMathOperator{\determinant}{det}}
```

```
133   \CustomizeMathJax{\DeclareMathOperator{\Probability}{Pr}}
```

```
134   \CustomizeMathJax{\newcommand{\sin}[1][{}]{\mathrm{sin}^{#1}}}
```

```
135   \CustomizeMathJax{\newcommand{\sinh}[1][{}]{\mathrm{sinh}^{#1}}}
```

```
136   \CustomizeMathJax{\newcommand{\arcsin}[1][{}]{\mathrm{arcsin}^{#1}}}
```

```
137   \CustomizeMathJax{\newcommand{\asin}[1][{}]{\mathrm{asin}^{#1}}}
```

```
138   \CustomizeMathJax{\newcommand{\cos}[1][{}]{\mathrm{cos}^{#1}}}
```

```
139   \CustomizeMathJax{\newcommand{\cosh}[1][{}]{\mathrm{cosh}^{#1}}}
```

```
140   \CustomizeMathJax{\newcommand{\arccos}[1][{}]{\mathrm{arccos}^{#1}}}
```

```
141   \CustomizeMathJax{\newcommand{\acos}[1][{}]{\mathrm{acos}^{#1}}}
```

```
142   \CustomizeMathJax{\newcommand{\tan}[1][{}]{\mathrm{tan}^{#1}}}
```

```
143   \CustomizeMathJax{\newcommand{\tanh}[1][{}]{\mathrm{tanh}^{#1}}}
```

```
144   \CustomizeMathJax{\newcommand{\arctan}[1][{}]{\mathrm{arctan}^{#1}}}
```

```
145   \CustomizeMathJax{\newcommand{\atan}[1][{}]{\mathrm{atan}^{#1}}}
```

```
146   \CustomizeMathJax{\newcommand{\csc}[1][{}]{\mathrm{csc}^{#1}}}
```

```
147   \CustomizeMathJax{\newcommand{\csch}[1][{}]{\mathrm{csch}^{#1}}}
```

```
148   \CustomizeMathJax{\newcommand{\arccsc}[1][{}]{\mathrm{arccsc}^{#1}}}
```

```
149   \CustomizeMathJax{\newcommand{\acsc}[1][{}]{\mathrm{acsc}^{#1}}}
```

```
150   \CustomizeMathJax{\newcommand{\sec}[1][{}]{\mathrm{sec}^{#1}}}
```

```
151   \CustomizeMathJax{\newcommand{\sech}[1][{}]{\mathrm{sech}^{#1}}}
```

```
152   \CustomizeMathJax{\newcommand{\arcsec}[1][{}]{\mathrm{arcsec}^{#1}}}
```

```
153   \CustomizeMathJax{\newcommand{\asec}[1][{}]{\mathrm{asec}^{#1}}}
```

```
154   \CustomizeMathJax{\newcommand{\cot}[1][{}]{\mathrm{cot}^{#1}}}
```

```
155   \CustomizeMathJax{\newcommand{\coth}[1][{}]{\mathrm{coth}^{#1}}}
```

```
156   \CustomizeMathJax{\newcommand{\arccot}[1][{}]{\mathrm{arccot}^{#1}}}
```

```
157   \CustomizeMathJax{\newcommand{\acot}[1][{}]{\mathrm{acot}^{#1}}}
```

```
158 \else
```

```
159   \CustomizeMathJax{\DeclareMathOperator{\arccsc}{arccsc}}
```

```
160   \CustomizeMathJax{\DeclareMathOperator{\arcsec}{arcsec}}
```

```
161   \CustomizeMathJax{\DeclareMathOperator{\arccot}{arccot}}
```

```
162   \CustomizeMathJax{\DeclareMathOperator{\asin}{asin}}
```

```
163   \CustomizeMathJax{\DeclareMathOperator{\acos}{acos}}
```

```
164   \CustomizeMathJax{\DeclareMathOperator{\atan}{atan}}
```

```
165   \CustomizeMathJax{\DeclareMathOperator{\acsc}{acsc}}
```

```
166   \CustomizeMathJax{\DeclareMathOperator{\asec}{asec}}
```

```

167 \CustomizeMathJax{\DeclareMathOperator{\acot}{\cot}}
168 \CustomizeMathJax{\DeclareMathOperator{\csch}{\coth}}
169 \CustomizeMathJax{\DeclareMathOperator{\sech}{\operatorname{sech}}}
170 \CustomizeMathJax{\newcommand{\tr}{\operatorname{trace}}}
171 \CustomizeMathJax{\newcommand{\Tr}{\operatorname{Trace}}}
172 \CustomizeMathJax{\newcommand{\Res}{\operatorname{Residue}}}
173 \fi
174
175 \CustomizeMathJax{\DeclareMathOperator{\trace}{\operatorname{tr}}}
176 \CustomizeMathJax{\let\tr\trace}
177 \CustomizeMathJax{\DeclareMathOperator{\Trace}{\operatorname{Tr}}}
178 \CustomizeMathJax{\let\Tr\Trace}
179 \CustomizeMathJax{\DeclareMathOperator{\rank}{\operatorname{rank}}}
180 \CustomizeMathJax{\DeclareMathOperator{\erf}{\operatorname{erf}}}
181 \CustomizeMathJax{\DeclareMathOperator{\Residue}{\operatorname{Res}}}
182 \CustomizeMathJax{\newcommand{\principalvalue}{\operatorname{mathcal{P}}}}
183 \CustomizeMathJax{\let\pv\principalvalue}
184 \CustomizeMathJax{\newcommand{\PV}{\text{P.V.}}}
185 \CustomizeMathJax{\newcommand{\real}{\operatorname{mathcal{R}}}}
186 \CustomizeMathJax{\newcommand{\imaginary}{\operatorname{mathcal{I}}}}
187
188 % must be brace arguments
189 \CustomizeMathJax{\newcommand{\Re}[1]{\mathrm{Re}\left[ #1 \right]}}
190 \CustomizeMathJax{\newcommand{\Im}[1]{\mathrm{Im}\left[ #1 \right]}}
191
192 \CustomizeMathJax{\newcommand{\LWRqqtextnostar}[1]{\quad\mathrm{#1}\quad}}
193 \CustomizeMathJax{\newcommand{\LWRqqtextstar}[1]{\mathrm{#1}\quad}}
194 \CustomizeMathJax{\DeclareIfstar{\qqtext}{\LWRqqtextstar}{\LWRqqtextnostar}}
195 \CustomizeMathJax{\let\qq\qqtext}
196
197 \CustomizeMathJax{\newcommand{\qqcomma}{,\quad}}
198 \CustomizeMathJax{\let\qc\qqcomma}
199
200 % \LWR@physics@qtext{\name}{text}
201 \newcommand*{\LWR@physics@qtext}[2]{%
202 % nostar:
203   \appto{\LWR@customizedMathJax}{\LWRbackslash{}}
204   \appto{\LWR@customizedMathJax}{%
205     \LWRbackslash{}newcommand{\LWRbackslash{}LWR\macro{tocname}{\#1}subnostar\%}
206   }%
207   \appto{\LWR@customizedMathJax}{\quad}
208   \appto{\LWR@customizedMathJax}{%
209     \LWRbackslash{}\quad\LWRbackslash{}text\{\#2\}\LWRbackslash{}\quad}
210 }%
211   \appto{\LWR@customizedMathJax}{\quad}
212   \appto{\LWR@customizedMathJax}{\LWRbackslash{}\par\%}
213 % star:
214   \appto{\LWR@customizedMathJax}{\LWRbackslash{}}
215   \appto{\LWR@customizedMathJax}{%
216     \LWRbackslash{}newcommand{\LWRbackslash{}LWR\macro{tocname}{\#1}substar\%}
217   }%
218   \appto{\LWR@customizedMathJax}{\quad}
219   \appto{\LWR@customizedMathJax}{\LWRbackslash{}text\{\#2\}\LWRbackslash{}\quad\%}
220   \appto{\LWR@customizedMathJax}{\quad}
221   \appto{\LWR@customizedMathJax}{\LWRbackslash{}\par\%}

```

```
222 % user macro:
223   \appto\LWR@customizedMathJax{\LWRbackslash{}}
224   \appto\LWR@customizedMathJax{%
225     \LWRbackslash{}DeclareIfstar{\LWRbackslash\macrotocname{\#1}\}%
226   }%
227   \appto\LWR@customizedMathJax{\{}%
228   \appto\LWR@customizedMathJax{\LWRbackslash\macrotocname{\#1}substar\}}%
229   \appto\LWR@customizedMathJax{\LWRbackslash\macrotocname{\#1}subnstar\}}%
230   \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
231 }
232
233 \LWR@physics@qtext{\qcc}{c.c.}
234 \LWR@physics@qtext{\qif}{if}
235 \LWR@physics@qtext{\qthen}{then}
236 \LWR@physics@qtext{\qelse}{else}
237 \LWR@physics@qtext{\qotherwise}{otherwise}
238 \LWR@physics@qtext{\qunless}{unless}
239 \LWR@physics@qtext{\qgiven}{given}
240 \LWR@physics@qtext{\qusing}{using}
241 \LWR@physics@qtext{\qassume}{assume}
242 \LWR@physics@qtext{\qsince}{since}
243 \LWR@physics@qtext{\qlet}{let}
244 \LWR@physics@qtext{\qfor}{for}
245 \LWR@physics@qtext{\qall}{all}
246 \LWR@physics@qtext{\qeven}{even}
247 \LWR@physics@qtext{\qodd}{odd}
248 \LWR@physics@qtext{\qinteger}{integer}
249 \LWR@physics@qtext{\qand}{and}
250 \LWR@physics@qtext{\qor}{or}
251 \LWR@physics@qtext{\qas}{as}
252 \LWR@physics@qtext{\qin}{in}
253
254
255 \CustomizeMathJax{\newcommand{\differential}[1][]{\text{d}}^{\#1}}}
256 \CustomizeMathJax{\let\dd\differential}
257
258
259 \CustomizeMathJax{\newcommand{\LWRderivatenostar}[3][]{%
260   \frac{\text{d}}{\text{d}\text{#1}}\text{#2}\{\text{d}\#3^{\#1}\}}}
261 }
262 \CustomizeMathJax{\newcommand{\LWRderivestar}[3][]{%
263   {\text{d}}^{\#1}\#\text{2}/\{\text{d}\#3^{\#1}\}}}
264 }
265 \CustomizeMathJax{%
266   \DeclareIfstar{\derivative}{\LWRderivestar}{\LWRderivatenostar}%
267 }
268
269 \CustomizeMathJax{\let\dv\derivative}
270
271
272 \CustomizeMathJax{\newcommand{\LWRpartialderivatenostar}[3][]{%
273   \frac{\partial}{\partial\text{#1}}\text{#2}\{\partial\#3^{\#1}\}}}
274 }
275 \CustomizeMathJax{\newcommand{\LWRpartialderivestar}[3][]{%
276   {\partial}^{\#1}\#\text{2}/\{\partial\#3^{\#1}\}}}
```

```
277 }
278 \CustomizeMathJax{%
279     \DeclareIfstar{\partialderivative}{%
280         {\LWRpartialderivativestar}{\LWRpartialderivatenostar}}
281 }
282
283 \CustomizeMathJax{\let\pderivative\partialderivative}
284 \CustomizeMathJax{\let\pdv\partialderivative}
285
286
287 \CustomizeMathJax{\newcommand{\variation}{\delta}}
288 \CustomizeMathJax{\let\var\variation}
289
290 % Must provide two mandatory args.
291 % For the example in the manual with (E-TS), enclose the parens in braces
292 \CustomizeMathJax{\newcommand{\LWRfunctionalderivatenostar}[3][]{%
293     \frac{\delta^{#1}\#2}{\delta^{#3}\#1}}}
294 }
295 \CustomizeMathJax{\newcommand{\LWRfunctionalderivativestar}[3][]{%
296     {\delta^{#1}\#2}/{\delta^{#3}\#1}}}
297 }
298 \CustomizeMathJax{%
299     \DeclareIfstar{\functionalderivative}{%
300         {\LWRfunctionalderivativestar}{\LWRfunctionalderivatenostar}}
301 }
302 \CustomizeMathJax{\let\fdv\functionalderivative}
303
304
305 % use \braket to contract
306 \CustomizeMathJax{\newcommand{\LWRbranostar}[1]{\left\langle #1 \right\rvert}}
307 \CustomizeMathJax{\newcommand{\LWRbrastar}[1]{\left\langle #1 \right\rvert}}
308 \CustomizeMathJax{\DeclareIfstar{\bra}{\LWRbrastar}{\LWRbranostar}}
309
310 \CustomizeMathJax{\newcommand{\LWRketnostar}[1]{\left\langle \left. #1 \right\rangle\right\rangle}}
311 \CustomizeMathJax{\newcommand{\LWRketstar}[1]{\left\langle \left. #1 \right\rangle\right\rangle}}
312 \CustomizeMathJax{\DeclareIfstar{\ket}{\LWRketstar}{\LWRketnostar}}
313
314 % must have two args
315 \CustomizeMathJax{\newcommand{\LWRinnerproductnostar}[2]{%
316     \left\langle #1 \middle| #2 \right\rangle}
317 }
318 \CustomizeMathJax{\newcommand{\LWRinnerproductstar}[2]{%
319     \left\langle #1 \middle| #2 \right\rangle}
320 }
321 \CustomizeMathJax{%
322     \DeclareIfstar{\innerproduct}{%
323         {\LWRinnerproductstar}{\LWRinnerproductnostar}}
324 }
325
326 \CustomizeMathJax{\let\braket\innerproduct}
327 \CustomizeMathJax{\let\ip\innerproduct}
328
329
330 % must have two args
331 \CustomizeMathJax{\newcommand{\LWRouterproductnostar}[2]{%
```

```

332     \left\lvert\left\lvert\#1\right\rvert\right\rvert\middle\langle\!\!\middle\langle\#2\!\!\right\rangle\!\!\right\rvert\right\rvert\%\\
333 }
334 \CustomizeMathJax{\newcommand{\LWRouterproductstar}[2]{%
335     \left\lvert\left\lvert\#1\right\rvert\right\rvert\!\!\left\langle\!\!\left\langle\#2\!\!\right\rvert\right\rvert\right\rvert\%\\
336 }
337 \CustomizeMathJax{%
338     \DeclareIfstar{\outerproduct}{\\
339         {\LWRouterproductstar}{\LWRouterproductnostar}\\
340 }
341 \\
342 \CustomizeMathJax{\let\dyad\outerproduct}\\
343 \CustomizeMathJax{\let\op\outerproduct}\\
344 \\
345 \\
346 % must have two args, unlike the MathJax version
347 \CustomizeMathJax{%
348     \newcommand{\LWRexpectationvaluenostar}[2]{%
349         \vphantom{\#1}\%\\
350         \left\langle\!\!\left\langle\#2\right\rvert\middle\vert\smash{\#1}\middle\vert\right\rangle\!\!\right\rangle\%\\
351         \right\langle\!\!\right\rangle\%\\
352     }%
353 }
354 \CustomizeMathJax{%
355     \newcommand{\LWRexpectationvaluestar}[2]{%
356         \vphantom{\#1\#2}\%\\
357         \left\langle\!\!\left\langle\smash{\#2}\right\rvert\middle\vert\smash{\#1}\middle\vert\right\rangle\!\!\right\rangle\%\\
358         \middle\langle\!\!\middle\langle\smash{\#1}\middle\vert\middle\vert\smash{\#2}\right\rangle\!\!\right\rangle\%\\
359         \right\langle\!\!\right\rangle\%\\
360     }%
361 }
362 \CustomizeMathJax{%
363     \newcommand{\LWRexpectationvaluedoublestar}[2]{%
364         \left\langle\!\!\left\langle\#2\right\rvert\middle\vert\left\langle\!\!\left\langle\#1\right\rvert\middle\vert\right\rangle\!\!\right\rangle\!\!\right\rangle\%\\
365     }%
366 }
367 \CustomizeMathJax{%
368     \DeclareIfstar{\LWRsubexpectationvalue}{\\
369         {\LWRexpectationvaluedoublestar}{\LWRexpectationvaluestar}\\
370 }
371 \CustomizeMathJax{%
372     \DeclareIfstar{\expectationvalue}{\\
373         {\LWRsubexpectationvalue}{\LWRexpectationvaluenostar}\\
374 }
375 \\
376 \CustomizeMathJax{\let\expval\expectationvalue}\\
377 \CustomizeMathJax{\let\ev\expectationvalue}\\
378 \\
379 \\
380 \CustomizeMathJax{%
381     \newcommand{\LWRmatrixelementnostar}[3]{%
382         \vphantom{\#2}\left\langle\!\!\left\langle\#1\right\rvert\middle\vert\smash{\#2}\middle\vert\right\rangle\!\!\right\rangle\%\\
383         \right\langle\!\!\right\rangle\%\\
384 }
385 \CustomizeMathJax{%
386     \newcommand{\LWRmatrixelementstar}[3]{%

```

```
387      \vphantom{#1#2#3}%
388      \left\langle \smash{#1}%
389      \middle\vert \smash{#2} \middle\vert \smash{#3}%
390      \right\rangle%
391  }%
392 }
393 \CustomizeMathJax{%
394   \newcommand{\LWRmatrixelementdoublestar}[3]{%
395     \left\langle \smash{#1} \middle\vert \smash{#2} \middle\vert \smash{#3} \right\rangle%
396   }%
397 }
398 \CustomizeMathJax{%
399   \ DeclareIfstar{\LWRsubmatrixelement}{%
400     {\LWRmatrixelementdoublestar}{\LWRmatrixelementstar}%
401   }%
402 }
403 \CustomizeMathJax{%
404   \ DeclareIfstar{\matrixelement}{%
405     {\LWRsubmatrixelement}{\LWRmatrixelementnostar}%
406   }%
407 }
408 \CustomizeMathJax{\let\mel\matrixelement}
409
410
411 \CustomizeMathJax{\newcommand{\matrixquantity}[1]{\begin{matrix}#1\end{matrix}}}
412 \CustomizeMathJax{\let\mqty\matrixquantity}
413
414
415 \CustomizeMathJax{\newcommand{\pmqty}[1]{\begin{pmatrix}#1\end{pmatrix}}}
416 \CustomizeMathJax{\newcommand{\Pmqty}[1]{%
417   \left\langle \lgroupt \begin{matrix}#1\end{matrix} \right\rangle%
418 }%
419 \CustomizeMathJax{\newcommand{\bmqty}[1]{\begin{bmatrix}#1\end{bmatrix}}}
420 \CustomizeMathJax{\newcommand{\vmqty}[1]{\begin{vmatrix}#1\end{vmatrix}}}
421
422 \CustomizeMathJax{\newcommand{\smallmatrixquantity}[1]{%
423   \begin{smallmatrix}#1\end{smallmatrix}}%
424 }
425 \CustomizeMathJax{\let\smqty\smallmatrixquantity}
426 \CustomizeMathJax{\newcommand{\spmqty}[1]{%
427   \pqty{\begin{smallmatrix}#1\end{smallmatrix}}%
428 }%
429 \CustomizeMathJax{\newcommand{\sPmqty}[1]{%
430   \left\langle \lgroupt \begin{smallmatrix}#1\end{smallmatrix} \right\rangle%
431 }%
432 \CustomizeMathJax{\newcommand{\sbmqty}[1]{%
433   \bqty{\begin{smallmatrix}#1\end{smallmatrix}}%
434 }%
435 \CustomizeMathJax{\newcommand{\svmqty}[1]{%
436   \vqty{\begin{smallmatrix}#1\end{smallmatrix}}%
437 }%
438
439 \CustomizeMathJax{\let\matrixdeterminant\vmqty}
440 \CustomizeMathJax{\let\mdet\vmqty}
441 \CustomizeMathJax{\let\smdet\svmqty}
```

```

442
443 \CustomizeMathJax{\newcommand{\identitymatrix}[1]{(\text{imat}\{#1\})}}
444 \CustomizeMathJax{\let\imat\identitymatrix}
445
446 \CustomizeMathJax{\newcommand{\LWRxmatrix}[3]{(\text{xmat}\{\}\{#2\}\{#3\})}}
447 \CustomizeMathJax{\DeclareIfstar{\xmatrix}{\LWRxmatrix}{\LWRxmatrix}}
448 \CustomizeMathJax{\let\xmat\xmatrix}
449
450 \CustomizeMathJax{\newcommand{\zeromatrix}[2]{(\text{zmat}\{#1\}\{#2\})}}
451 \CustomizeMathJax{\let\zmat\zeromatrix}
452
453 \CustomizeMathJax{\newcommand{\paulimatrix}[1]{(\text{pmat}\{#1\})}}
454 \CustomizeMathJax{\let\pmat\paulimatrix}
455
456 \CustomizeMathJax{\newcommand{\diagonalmatrix}[2][]{%
457   \left(\text{dmat}\right)}%
458 }
459 \CustomizeMathJax{\let\dmat\diagonalmatrix}
460
461 \CustomizeMathJax{\newcommand{\antidiagonalmatrix}[2][]{%
462   \left(\text{admat}\right)}%
463 }
464 \CustomizeMathJax{\let\admat\antidiagonalmatrix}
465 \end{warpMathJax}

```

File 324 **lwarp-physunits.sty**

§ 426 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}{\\", \mathrm{#1cal}}}
25 \CustomizeMathJax{\newcommand{\BTU}{\\", \mathrm{BTU}}}
26 \CustomizeMathJax{\newcommand{\tnt}{\\", \mathrm{ton}, of, TNT}}
27 \CustomizeMathJax{\newcommand{\Watt}{\\", \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}{\\", \mathrm{#1m}}}
32 \CustomizeMathJax{\newcommand{\m}{\\", \mathrm{#1m}}}
33 \CustomizeMathJax{\newcommand{\km}{\\", \mathrm{km}}}
34 \CustomizeMathJax{\newcommand{\au}{\\", \mathrm{au}}}
35 \CustomizeMathJax{\newcommand{\pc}{\\", \mathrm{#1pc}}}
36 \CustomizeMathJax{\newcommand{\ly}{\\", \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}{\\", \mathrm{#1s}}}
43 \CustomizeMathJax{\newcommand{\Sec}{\\", \mathrm{#1s}}}
44 \CustomizeMathJax{\newcommand{\Min}{\\", \mathrm{min}}}
45 \CustomizeMathJax{\newcommand{\h}{\\", \mathrm{h}}}
46 \CustomizeMathJax{\newcommand{\y}{\\", \mathrm{#1y}}}
47 \CustomizeMathJax{\newcommand{\Day}{\\", \mathrm{d}}}
48
49 \CustomizeMathJax{\newcommand{\gm}{\\", \mathrm{#1g}}}
50 \CustomizeMathJax{\newcommand{\kg}{\\", \mathrm{kg}}}
51 \CustomizeMathJax{\newcommand{\lb}{\\", \mathrm{lb}}}
52 \CustomizeMathJax{\newcommand{\amu}{\\", \mathrm{amu}}}
53 \CustomizeMathJax{\newcommand{\N}{\\", \mathrm{#1N}}}
54 \CustomizeMathJax{\newcommand{\Newton}{\\", \mathrm{#1N}}}
55 \CustomizeMathJax{\newcommand{\dyne}{\\", \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}{\\", \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}{\\", \mathrm{#1m}\\", \mathrm{s}^{-2}}}
64 \CustomizeMathJax{\newcommand{\gacc}{\\", \mathrm{g}}}
65 \CustomizeMathJax{\newcommand{\ftpss}{\\", \mathrm{ft}\\", \mathrm{s}^{-2}}}
66 \CustomizeMathJax{\newcommand{\K}{\\", \mathrm{#1K}}}
67 \CustomizeMathJax{\newcommand{\Kelvin}{\\", \mathrm{#1K}}}
68 \CustomizeMathJax{\newcommand{\Celcius}{\\", \mathring{\circ}\mathrm{C}}}
69 \CustomizeMathJax{\newcommand{\Rankine}{\\", \mathring{\circ}\mathrm{R}}}
70 \CustomizeMathJax{\newcommand{\Fahrenheit}{\\", \mathring{\circ}\mathrm{F}}}
71
72 \CustomizeMathJax{\newcommand{\rpm}{\\", \mathrm{rev}\\", \Min^{-1}}}
73
74 \CustomizeMathJax{\newcommand{\Hz}{\\", \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{psf}}}
82 \CustomizeMathJax{\newcommand{\Ba}[1][ ]{\\", \mathrm{#1Ba}}}
83 \CustomizeMathJax{\newcommand{\Torr}{\\", \mathrm{#1Torr}}}
84 \CustomizeMathJax{\newcommand{\mol}{\\", \mathrm{mol}}}
85 \end{warpMathJax}
```

File 325 **l warp-pifont.sty**

§ 427 Package **pifont**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg pifont pifont is patched for use by l warp.

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][pisymbol#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 326 **l warp-placeins.sty**

§ 428 Package **placeins**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg placeins placeins is ignored.

Discard all options for l warp-placeins:

for HTML output:

```

1 \LWR@ProvidesPackageDrop{placeins}[2005/04/18]

2 \newcommand*\{FloatBarrier}{}  


```

File 327 **l warp-plarydshln.sty**

§ 429 Package **plarydshln**

Pkg plarydshln plarydshln is emulated by l warp-arydshln.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{plarydshln}[2018/10/20]

2 \LWR@origRequirePackage{l warp-arydshln}  


```

File 328 **l warp-plex.sty**

§ 430 Package **plex**

Pkg plex plex is preloaded by jtarticle and related classes.

for HTML output:

```

1 \LWR@Loadbefore{plex}
2
3 \LWR@ProvidesPackagePass{plex}[2017/07/21]

4 \let\state\relax
5
6 \DeclareExpandableDocumentCommand{\rensucci}{s o m}{#3}
7
8 % \layoutfloat{width,height}[pos]#4
9 \DeclareDocumentCommand{\Layoutfloat}{d() o m}{}
10
11 % \DeclareLayoutCaption{type} <dir>(width)[pos]pos2]
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 329 **lwarp-plexarydshln.sty**

§ 431 Package **plexarydshln**

Pkg `plexarydshln` `plexarydshln` is emulated by `lwarp-arydshln`.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{plexarydshln}[2018/10/20]
2 \LWR@origRequirePackage{lwarp-arydshln}
```

File 330 **lwarp-plextcolortbl.sty**

§ 432 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 331 **lwarp-prelim2e.sty**

§ 433 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 332 l warp-prettyref.sty**§ 434 Package prettyref**

(Emulates or patches code by KEVIN S. RULAND.)

Pkg prettyref prettyref is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{prettyref}[1998/07/09]

```
2 \newreformat{fig}{Figure \ref{\#1}}  
3 \newreformat{tab}{Table \ref{\#1}}
```

File 333 l warp-preview.sty**§ 435 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 334 l warp-psfrag.sty**§ 436 Package psfrag**

(Emulates or patches code by MICHAEL C. GRANT, DAVID CARLISLE.)

Pkg psfrag psfrag is patched for use by l warp.

- ⚠ **use psfrags** The psfrags environment is modified to use `\teximage` 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 l warp.

⚠ 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{latentimage}[-psfrags-\~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{latentimage}}
```

File 335 l warp-psfragx.sty

§ 437 Package **psfragx**

(Emulates or patches code by PASCAL KOCKAERT.)

Pkg psfragx `psfragx` is patched for use by `l warp`.

for HTML output: 1 \LWR@ProvidesPackagePass{psfragx}[2012/05/02]

A `latentimage` captures the modified image from the document.

```
2 \def\pfx@includegraphicx#1#2{%
3   \begin{latentimage}[-psfragx-\~\PackageDiagramAltText]%
4     \mbox{\pfx@overpix{#1}{#2}\endpfx@overpix}%
5   \end{latentimage}%
6 }
7
8 \def\@@@overpix[#1]<#2>[#3]#4{%
9   \begin{latentimage}[-psfragx-\~\PackageDiagramAltText]%
10    \pfx@overpix{#1,ovpfgd={#2},ovpbgd={#3}}{#4}%
11 }
12
13 \def\endoverpix{%
14   \endpfx@overpix%
15   \end{latentimage}%
16 }
```

File 336 l warp-pst-eps.sty

§ 438 Package **pst-eps**

(Emulates or patches code by HERBERT VOSS.)

Pkg pst-eps `pst-eps` is patched for use by `l warp`.

for HTML output: 1 \LWR@ProvidesPackagePass{pst-eps}[2005/05/20]

```

2 \renewenvironment{TeXtoEPS}{}{}
3 \renewcommand{\PSTtoEPS}[3][]{}

```

File 337 **l warp-pstool.sty**

§ 439 Package **pstool**

(Emulates or patches code by ZEBB PRIME, WILL ROBERTSON.)

Pkg **pstool** **pstool** is patched for use by **l warp**.

\graphicspath is ignored, and the file directory must be stated.

⚠ **path and filename** The filename must not have a file extension.

Use

Enter ⇒ **l warpmk html**

followed by

Enter ⇒ **l warpmk 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 \LetLtxMacro\pstool@neverprocess\pstool@alwaysprocess
8 \LetLtxMacro\pstool@maybeprocess\pstool@alwaysprocess
9
10 \renewcommand\pstool@@psfragfig[4]{%
11   \begin{lateximage}[-pstool-\~\PackageDiagramAltText]%
12     \includegraphics{#2.pdf}%
13   \end{lateximage}%
14 }

```

File 338 **l warp-pstricks.sty**

§ 440 Package **pstricks**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

Pkg **pstricks** **pstricks** is patched for use by **l warp**.

⚠ **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}}
```

File 339 **l warp-pxatbegshi.sty**

§ 441 Package **pxatbegshi**

Pkg `pxatbegshi` `pxatbegshi` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]

```
2 \LWR@origRequirePackage{l warp-atbegshi}
```

File 340 **l warp-pxeveryshi.sty**

§ 442 Package **pxeveryshi**

Pkg `pxeveryshi` `pxeveryshi` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]

```
2 \LWR@origRequirePackage{l warp-everyshi}
```

File 341 **l warp-pxftnright.sty**

§ 443 Package **pxftnright**

Pkg `pxftnright` `pxftnright` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]

```
2 \LWR@origRequirePackage{l warp-ftnright}
```

File 342 **l warp-pxjahyper.sty**

§ 444 Package **pxjahyper**

Pkg `pxjahyper` `pxjahyper` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

File 343 **l warp-quotchap.sty**

§ 445 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@stopars%

```

```

24   \begin{BlockClass}{qauthor}%
25   {#1}%
26   \end{BlockClass}%
27   \LWR@startpars%
28 }
```

Fonts are ignored. Use css.

```

29 \newcommand{\qsetcfont}[1]{}
30 \providecommand*{\quotefont}{}
31 \providecommand*{\qauthorfont}{}
```

File 344 **l warp-quoting.sty**

§ 446 Package **quoting**

(Emulates or patches code by THOMAS TITZ.)

Pkg **quoting** **quoting** is patched for use by **l warp**.

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 345 **l warp-ragged2e.sty**

§ 447 Package **ragged2e**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg **ragged2e** **ragged2e** is emulated.

Discard all options for **l warp-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 346 **lwarp-realscripts.sty**

§ 448 Package **realscripts**

(Emulates or patches code by WILL ROBERTSON.)

Pkg **realscripts** **realscripts** is emulated. See **lwarp.css** for the 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@realsubscript {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@realsubscript {m} {
46   \LWR@HTML@textsuperscript{\#1}
47 }
48
49 \LWR@formatted{realsubscript}
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 {\textsuperscript{\#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@mbx{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         \textsuperscript{#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 347 lwarf-refcheck.sty

§ 449 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 348 lwarf-register.sty

§ 450 Package **register**

(Emulates or patches code by MATTHEW LOVELL.)

Pkg register register is patched for use by lwarf.

```

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 349 **l warp-relsize.sty**

§ 451 Package **relsize**

(Emulates or patches code by DONALD ARSENEAU, BERNIE COSELL, MATT SWIFT.)

Pkg **relsize** **relsize** is patched for use by **l warp**, 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@reyscale\reyscale
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\reyscale{\LWR@reyscale}%
15   \LetLtxMacro{\textlarger}{\LWR@origtextlarger}%
16   \LetLtxMacro{\textsmaller}{\LWR@origtextsmaller}%
17   \let\textscale{\LWR@textscale}%
18 }
19
20 \newcounter{LWR@relsize临时}
21
22 \renewcommand*{\relsize}[1]{}
23 \renewcommand*{\larger}[1][]{}
24 \renewcommand*{\smaller}[1][]{}
25 \renewcommand*{\reyscale}[1]{}
26
27 \renewcommand*{\textlarger}[2][1]{%
28   \setcounter{LWR@relsize临时}{100+ (#1*20)}%
29   \InlineClass{font-size:\arabic{LWR@relsize临时}\%}{textlarger}{#2}%
30 }
31
32 \renewcommand*{\textsmaller}[2][1]{%
33   \setcounter{LWR@relsize临时}{100- (#1*20)}%
34   \InlineClass{font-size:\arabic{LWR@relsize临时}\%}{textsmaller}{#2}%
35 }
36
37 \renewcommand*{\textscale}[2]{%
38   \setcounter{LWR@relsize临时}{100*\real{#1}}%
39   \InlineClass{font-size:\arabic{LWR@relsize临时}\%}{textscale}{#2}%
40 }

```

For MATHJAX:

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\mathlarger}[1]{#1}}
43 \CustomizeMathJax{\newcommand{\mathsmaller}[1]{#1}}
44 \end{warpMathJax}

```

File 350 **l warp-repeatingindex.sty**

§ 452 Package **repeatingindex**

Pkg repeatingindex repeatingindex is emulated for l warp.

⚠ style file l warp must be used with a special style file:

```
\usepackage[makeindex,makeindexStyle={l warp_repeatingindex}]{l warp}
```

where l warp_repeatingindex.ist may be copied from the following modified version of l warp.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{repeatingindex}[2001/10/13]

In the l warp core, \LWR@indexitem is modified to accept the optional \item argument.

```
2 \RequirePackage{makeidx}
3 \def\entryprefix{\itshape}
4 \def\entrypostfix{\dots}
```

File 351 **l warp-resizegather.sty**

§ 453 Package **resizegather**

Pkg **resizegather** **resizegather** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]
2 \newcommand*\{\resizegathersetup}{1}{}

File 352 **l warp-returntogrid.sty**

§ 454 Package **returntogrid**

Pkg **returntogrid** **returntogrid** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{returntogrid}[2018/08/21]
2 \NewDocumentCommand\returntogrid{ 0 {} }{}
3 \NewDocumentCommand\returntogridsetup { m } {}
4 \NewDocumentCommand\showdebugpagegrid {} {}

File 353 **l warp-rmathbr.sty**

§ 455 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}[2016/04/10]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def*\{\~\}}
4 \CustomizeMathJax{\newcommand{\cdott}{\cdot}}
5 \CustomizeMathJax{\newcommand{\nobr}{}}
6 \end{warpMathJax}

File 354 **l warp-rmpage.sty**

§ 456 Package **rmpage**

Pkg **rmpage** **rmpage** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

File 355 **l warp-romanbar.sty**

§ 457 Package **romanbar**

(Emulates or patches code by H.-MARTIN MÜNCH.)

Pkg romanbar romanbar is patched for use by l warp.

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 356 **l warp-romanbarpagenumber.sty**

§ 458 Package **romanbarpagenumber**

Pkg romanbarpagenumber romanbarpagenumber is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

File 357 **l warp-rotating.sty**

§ 459 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@ProvidesPackageDrop{rotating}[2016/08/11]

```
2 \RequirePackage{graphicx}
```

```
3 \LetLtxMacro{\sidewaystable}{\table}
4 \let\endsidewaystable\endtable
5
6 \LetLtxMacro{\sidewaysfigure}{\figure}
7 \let\endsidewaysfigure\endfigure
8
```

```

9 \newenvironment*{sideways}{}{}
10 \newenvironment*{turn}[1]{}{}
11 \newenvironment*{rotate}[1]{}{}
12 \NewDocumentCommand{\turnbox}{m +m}{#2}
13 \let\rotcaption\caption
14 \let\@makerotcaption\@makecaption

```

File 358 **l warp-rotfloat.sty**

§ 460 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 {*1: type*} {*2: placement*} {*3: ext*} [*4: within*]

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  \DeclareFloatingEnvironment[fileext=#3]{#1}{%
11 }{%
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 359 **l warp-rviewport.sty**

§ 461 Package **rviewport**

Pkg rviewport rviewport is honored inside a `\teximage`, and otherwise ignored for HTML output.

If rviewport is important for an image, enclose the image inside a `\teximage` environment.

for HTML output: 1 \LWR@ProvidesPackagePass{rviewport}[2011/08/27]

2 \define@key{igraph}{rviewport}{}

File 360 **l warp-savetrees.sty**

§ 462 Package **savetrees**

Pkg savetrees savetrees is ignored.

for HTML output: Discard all options for l warp-savetrees:

1 \LWR@ProvidesPackageDrop{savetrees}[2016/04/13]

File 361 **l warp-scalefnt.sty**

§ 463 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 362 **l warp-schemata.sty**

§ 464 Package **schemata**

(Emulates or patches code by CHARLES P. SCHAUM.)

Pkg schemata schemata is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{schemata}[2016/01/25]

```

2 \LetLtxMacro{\LWR@schemata@origschema}{\schema}
3 \LetLtxMacro{\LWR@schemata@origSchema}{\Schema}
4
5 \renewcommand{\schema}[3][open]{%
6 \begin{lateximage}%
7 \LWR@print@normalsize
8 \LWR@schemata@origschema[#1]{#2}{#3}%
9 \end{lateximage}%
10 }
11
12 \renewcommand{\Schema}[5][open]{%
13 \begin{lateximage}%
14 \LWR@print@normalsize
15 \LWR@schemata@origSchema[#1]{#2}{#3}{#4}{#5}%
16 \end{lateximage}%
17 }

```

File 363 **lwarf-scrextend.sty**

§ 465 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}{}
20         \begin{BlockClass}{subject}%
21             \@subject%
22         \end{BlockClass}%
23     }%
24     \LWR@stoppars%
25     \LWR@htmlltag{\LWR@tagtitle}%
26     \@title%
27     \LWR@htmlltag{\LWR@tagtitleend}%
28     \ifdefvoid{\@subtitle}{}
29         \begin{BlockClass}{subtitle}%
30             \@subtitle%
31         \end{BlockClass}%
32     }%
33     \LWR@startpars%
34     \begin{BlockClass}{author}%
35
36     \renewcommand*{\cr}{}
37     \renewcommand*{\crcr}{}
38     \renewcommand*{\noalign}{}
39
40     \renewcommand{\and}{}
41     \end{BlockClass}%
42     \begin{BlockClass}{oneauthor}%
43         \begin{BlockClass}{oneauthor}%
44             \@author%
45         \end{BlockClass}%
46     \end{BlockClass}%
47     \begin{BlockClass}{titledate}%
48         \begin{BlockClass}{date}%
49             \begin{BlockClass}{published}%
50                 \begin{BlockClass}{published}%
51                     \begin{BlockClass}{published}%
52                         \begin{BlockClass}{published}%
53                             \begin{BlockClass}{published}%
54                                 \begin{BlockClass}{published}%
55                                     \begin{BlockClass}{published}%
56                                         \begin{BlockClass}{published}%
57                                             \begin{BlockClass}{published}%
58                                                 \begin{BlockClass}{published}%
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{\cleardoubleoddpage}{}{ }
92 \DeclareDocumentCommand{\cleardoubleoddpageusingstyle}{m}{}
93 \DeclareDocumentCommand{\cleardoubleoddemptypage}{}{ }
94 \DeclareDocumentCommand{\cleardoubleoddplainpage}{}{ }
95 \DeclareDocumentCommand{\cleardoubleoddstandardpage}{}{ }
96 \DeclareDocumentCommand{\cleardoubleevenpage}{}{ }
97 \DeclareDocumentCommand{\cleardoubleevenpageusingstyle}{m}{}
98 \DeclareDocumentCommand{\cleardoubleevenemptypage}{}{ }
99 \DeclareDocumentCommand{\cleardoubleevenplainpage}{}{ }
100 \DeclareDocumentCommand{\cleardoubleevenstandardpage}{}{ }
101
102 \DeclareDocumentCommand{\multiplefootnoteseparator}{}{%
103   \begingroup\let\thefootnotemark\multfootsep\makefnmark\endgroup
104 }
105
106 \DeclareDocumentCommand{\multfootsep}{}{,}
107
108 \DeclareDocumentCommand{\footref}{m}{%
109   \begingroup
110     \unrestored@protected@xdef\@thefnmark{\ref{\#1}}%
111   \endgroup
112   \footnotemark
113 }
114
115 \DeclareDocumentCommand{\deffootnote}{o m m}{}
116 \DeclareDocumentCommand{\deffootnotemark}{m}{}
117 \DeclareDocumentCommand{\setfootnoterule}{o m}{}
118 \DeclareDocumentCommand{\raggedfootnote}{}{ }
119
120 \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}{dictum}
121   #2
122   \IfValueT{\#1}
123   {
124     \LWR@stoppars%
125     \ifbool{FormatWP}{%
126       \begin{BlockClass}[\LWR@print@mbox{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{\dictumaauthorformat}{m}{(#1)}
136 \DeclareDocumentCommand{\dictumrule}{}{}
137 \DeclareDocumentCommand{\raggeddictum}{}{}
138 \DeclareDocumentCommand{\raggeddictumtext}{}{}
139 \DeclareDocumentCommand{\raggeddictumaauthor}{}{}
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 \qquad \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@templengthtwo}{#3}
163 \ifblank{#2}
164 {
165   \begin{BlockClass}[
166     \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthtwo}} ;
167     \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
168   ]{addmargin}
169 }
170 {
171   \setlength{\LWR@templengthone}{#2}
172   \begin{BlockClass}[
173     \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ;
174     \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
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>

```
179
180 \ExplSyntaxOn
181 \cs_new:cpx {addmargin*} {\addmargin*}
182 \cs_new_eq:cN {endaddmargin*} \endaddmargin
183 \ExplSyntaxOff
184
185 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}
```

File 364 **lwarp-scrhack.sty**

§ 466 Package **scrhack**

Pkg scrhack scrhack is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{scrhack}[2018/03/30]

File 365 **lwarp-scrlayer.sty**

§ 467 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][]{}
34 \newcommand*\{\DeclareNewPageStyleByLayers}[3][]{}
35 \newcommand*\{\ProvidePageStyleByLayers}[3][]{}
36 \newcommand*\{\RedeclarePageStyleByLayers}[3][]{}
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{fooheight}{\newlength\fooheight}{}
54 \DeclareDocumentCommand{\automark}{s o m}{}
55 \DeclareDocumentCommand{\manualmark}{}{m}
56 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

57 \newcommand{\partmarkformat}{}
58 \ife@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][]{}
68 \newcommand*\{\scrlayerAddToInterface}[3][]{}
69 \newcommand*\{\scrlayerAddCsToInterface}[3][]{}
70 \newcommand*\{\scrlayerOnAutoRemoveInterface}[2][]{}
```

File 366 l warp-scrlayer-notecolumn.sty**§ 468 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 367 l warp-scrlayer-scrpage.sty**§ 469 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{fooheight}{\newlength\fooheight}{}
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{\ceffoot}{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*{\defpairofpagestyles}[3][]{}
23 \newcommand*{\newpairofpagestyles}[3][]{}
24 \newcommand*{\renewpairofpagestyles}[3][]{}
25 \newcommand*{\providepairofpagestyles}[3][]{}

26 \newcommand*{\clearmainofpairofpagestyles}(){}
27 \newcommand*{\clearplainofpairofpagestyles}(){}
28 \newcommand*{\clearpairofpagestyles}(){}
29 \newcommand*{\clearscrheadings}(){}
30 \newcommand*{\clearscrheadfoot}){}
31 \newcommand*{\clearscrplain}{}{}

32 \NewDocumentCommand{\deftriplepagestyle}{m o o m m m m m m}{}
33 \NewDocumentCommand{\newtriplepagestyle}{m o o m m m m m m}{}
34 \NewDocumentCommand{\renewtriplepagestyle}{m o o m m m m m m}{}
35 \NewDocumentCommand{\providetriplepagestyle}{m o o m m m m m m}{}
36 \newcommand*{\defpagestyle}[3]){}
37 \newcommand*{\newpagestyle}[3]){}
38 \newcommand*{\providepagestyle}[3]){}
39 \newcommand*{\renewpagestyle}[3]){}

```

File 368 lwarf-scrpage2.sty

§ 470 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{fooheight}{\newlength\fooheight}{}
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{\cefot}{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}{}{m}
23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
24 \NewDocumentCommand{\deftripstyle}{m o o m 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 369 **lwarf-section.sty**

§ 471 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\hdsiz{\huge}\else
4 \def\chsize{\huge}\def\hdsiz{\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{hdepth}
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\nmdot{.}
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 370 **l warp-sectionbreak.sty**

§ 472 Package **sectionbreak**

(Emulates or patches code by MICHAL HOFTICH.)

Pkg sectionbreak **sectionbreak** is patched for use by **l warp**.

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 371 **l warp-sectsty.sty**

§ 473 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*\{\minisectionfont} [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 372 **l warp-semantic-markup.sty**

§ 474 Package **semantic-markup**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg semantic-markup semantic-markup is patched for use by l warp.

⚠ 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\f\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     {%
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 373 **l warp-setspace.sty**

§ 475 Package **setspace**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

Pkg `setspace` **setspace** is emulated.

Discard all options for `l warp-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 374 **l warp-shadow.sty**

§ 476 Package **shadow**

(Emulates or patches code by MAURO ORLANDINI.)

Pkg shadow shadow is emulated.

for HTML output Discard all options for l warp-shadow:

```
1 \LWR@ProvidesPackageDrop{shadow}[2003/02/19]

2 \newdimen\sboxsep
3 \newdimen\sboxrule
4 \newdimen\sdim
5
6 \newcommand{\shabox}[1]{%
7 \InlineClass{shabox}{#1}%
8 }
```

File 375 **l warp-shapepar.sty**

§ 477 Package **shapepar**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg shapepar shapepar is patched for use by l warp. Shapes appear in print mode, as well as inside a `\teximage`, 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 376 l warp-showidx.sty**§ 478 Package showidx**

Pkg showidx showidx is ignored.

for HTML output: Discard all options for l warp-showidx:

```
1 \LWR@ProvidesPackageDrop{showidx}[2014/09/29]
\@wrindex is redefined \AtBeginDocument by the l warp core.
```

File 377 l warp-showkeys.sty**§ 479 Package showkeys**

(Emulates or patches code by DAVID CARLISLE, MORTEN HØGHOLM.)

Pkg showkeys showkeys is ignored.

for HTML output: Discard all options for l warp-showkeys:

```
1 \LWR@ProvidesPackageDrop{showkeys}[2014/10/28]
2 \NewDocumentCommand{\showkeys}{s}{}  


---


```

File 378 l warp-showtags.sty**§ 480 Package showtags**

Pkg showtags showtags is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{showtags}% no version is given
2 \newcommand{\thecitetag}[1]{}

File 379 l warp-sidecap.sty**§ 481 Package sidecap**

(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSLEIN.)

Pkg sidecap sidecap is emulated.

for HTML output: Discard all options for l warp-sidecap.

```
1 \LWR@ProvidesPackageDrop{sidecap}[2003/06/06]
```

See:

[http://tex.stackexchange.com/questions/45401/
use-the-s-star-argument-with-newdocumentenvironment](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:cpx {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:cpx {SCfigure*} {\SCfigure*}
18 \cs_new_eq:cN {endSCfigure*} \endSCfigure
19 \ExplSyntaxOff
20
21
22 \newenvironment*{wide}{}{}
```

File 380 l warp-sidenotes.sty**§ 482 Package sidenotes**

(Emulates or patches code by ANDY THOMAS, OLIVER SCHEBAUM.)

Pkg sidenotes Patched for l warp.

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@stopars
 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{KFLTsidenotes@marginfloat}{O{-1.2ex} m}
25 {%
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 `LATEX2E 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@syncconenumber{\LWR@sidenote}{\thesidenote}}
50 \appto{\LWR@syncnotenames}{\LWR@syncconenotename{\LWR@sidenote}{\sidenotename}}
51 \CustomizeMathJax{\def{\LWR@sidenote{1}}}
52 \CustomizeMathJax{\newcommand{\sidenotemark}[1][\LWR@sidenote]{{}^{\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][\LWR@sidenote]{{}^{\mathrm{#1}}}}
```

File 381 **lwarf-SIunits.sty**

§ 483 Package **Slunits**

(Emulates or patches code by MARCEL HELDOORN.)

Pkg **SIunits** Slunits is patched for use by lwarf.

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 L^AT_EX 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@subsingle$*% lwarf
5         {%
6             \LWR@HTML@unit{#1}{#2}
7         }%
```

```

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     {%
19         \textbackslash{}unit\{\LWR@HTMLsanitize{\#1}\}%
20         \{ \LWR@HTMLsanitize{\#2}\} extra space
21     }%
22     {SIunits} add'l hashing
23     {%
24         \LWR@origensuredmath{%
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{\squaren}[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{\rp cubed}{^-3}}
68 \CustomizeMathJax{\newcommand{\rp fourth}{^-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}{\mathrm{kilo}\mathrm{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{\text{\kern-1.6pt{}}\!x2103}}}
133 \CustomizeMathJax{\newcommand{\celsius}{\mathrm{celsius}}}
134 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
135 \CustomizeMathJax{\newcommand{\lux}{\mathrm{l}\mathrm{x}}}
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     {\mathrm{metre}\mathrm{usk}\mathrm{reciprocal}\mathrm{metre}}}}
143   \CustomizeMathJax{\newcommand{\steradianbase}{%
144     {\mathrm{squaremetre}\mathrm{usk}\mathrm{rpsquare}\mathrm{metre}}}}
145   \CustomizeMathJax{\newcommand{\hertzbase}{%
146     {\mathrm{reciprocal}\mathrm{second}}}}
147   \CustomizeMathJax{\newcommand{\newtonbase}{%
148     {\mathrm{metre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}}}}
149   \CustomizeMathJax{\newcommand{\pascalbase}{%
150     {\mathrm{reciprocal}\mathrm{metre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}}}}
151   \CustomizeMathJax{\newcommand{\joulebase}{%
152     {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}}}}
153   \CustomizeMathJax{\newcommand{\wattbase}{%
154     {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{rpcubic}\mathrm{second}}}}
155   \CustomizeMathJax{\newcommand{\coulombbase}{%
156     {\mathrm{ampere}\mathrm{usk}\mathrm{second}}}}
157   \CustomizeMathJax{\newcommand{\voltbase}{%
158     {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{rpcubic}\mathrm{second}\mathrm{usk}\mathrm{reciprocal}\mathrm{ampere}}}}
159   \CustomizeMathJax{\newcommand{\faradbase}{%
160     {\mathrm{rpsquare}\mathrm{metre}\mathrm{usk}\mathrm{reciprocal}\mathrm{kilogram}\mathrm{usk}\mathrm{fourth}\mathrm{second}\mathrm{usk}\mathrm{ampere}\mathrm{squared}}}}
161   \CustomizeMathJax{\newcommand{\ohmbase}{%
162     {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{rpcubic}\mathrm{second}\mathrm{usk}\mathrm{rpsquare}\mathrm{ampere}}}}
163   \CustomizeMathJax{\newcommand{\siemensbase}{%
164     {\mathrm{rpsquare}\mathrm{metre}\mathrm{usk}\mathrm{reciprocal}\mathrm{kilogram}\mathrm{usk}\mathrm{cubic}\mathrm{second}\mathrm{usk}\mathrm{ampere}\mathrm{squared}}}}
165   \CustomizeMathJax{\newcommand{\weberbase}{%
166     {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}\mathrm{usk}\mathrm{reciprocal}\mathrm{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{\day}{\mathrm{d}}}
237 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
238 \CustomizeMathJax{\newcommand{\paminute}{\mathrm{^\prime}}}
239 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^\prime\prime}}}
240 \CustomizeMathJax{\newcommand{\pasecond}{\mathrm{^\prime\prime\prime}}}
241 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^\prime\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{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\,a}}}
259 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
260 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{bar}}}
261 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
262 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\AA}}}
263 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r\,per\,min}}}
264 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r\,per\,s}}}
265 \CustomizeMathJax{\newcommand{\squaremetre}{\mathrm{metre^2}}}
266 \CustomizeMathJax{\newcommand{\cubicmetre}{\mathrm{cubic\,metre}}}
267 \CustomizeMathJax{\newcommand{\graypersecond}{\mathrm{gray\,per\,s}}}
268 \CustomizeMathJax{\newcommand{\graypersecondnp}{\mathrm{gray\,usk\,reciprocal\,s}}}
269 \CustomizeMathJax{\newcommand{\metrepersquaresecond}{\mathrm{metre\,per\,s^2}}}
270 \CustomizeMathJax{\newcommand{\metrepersquaresecondnp}{\mathrm{metre\,usk\,s\,rpsquared}}}
271 \CustomizeMathJax{\newcommand{\joulepermole}{\mathrm{joule\,per\,mole}}}
272 \CustomizeMathJax{\newcommand{\joulepermolenp}{\mathrm{joule\,usk\,reciprocal\,mole}}}
273 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mathrm{mole\,per\,cubic\,metre}}}
274 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mathrm{mole\,usk\,rpu\,cubic\,metre}}}
275 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\mathrm{radian\,per\,s^2}}}
276 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\mathrm{radian\,usk\,s\,rpsquared}}}
277 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecond}{\mathrm{kilogram\,usk\,squaremetre\,per\,s}}}
```

```
278 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecondnp}{\kilogram\usk\squaremetre\usk\reciprocal\metre}}\\
279 \CustomizeMathJax{\newcommand{\radianpersecond}{\radian\per\second}}\\
280 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\radian\usk\reciprocal\second}}\\
281 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\squaremetre\per\cubic\metre}}\\
282 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{\squaremetre\usk\rpcubic\metre}}\\
283 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\katal\per\cubic\metre}}\\
284 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\katal\usk\rpcubic\metre}}\\
285 \CustomizeMathJax{\newcommand{\coulombpermol}{\coulomb\per\mole}}\\
286 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\coulomb\usk\reciprocal\mole}}\\
287 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\ampere\per\squaremetre}}\\
288 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\ampere\usk\rpsquare\metre}}\\
289 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\kilogram\per\cubic\metre}}\\
290 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\kilogram\usk\rpcubic\metre}}\\
291 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{\squaremetre\per\newton\usk\second}}\\
292 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{\squaremetre\usk\reciprocal\newton\usk\second}}\\
293 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}\\
294 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}\\
295 \CustomizeMathJax{\newcommand{\coulombpercubicmetrenp}{\coulomb\usk\rpcubic\metre}}\\
296 \CustomizeMathJax{\newcommand{\amperemetresecond}{\ampere\usk\metre\usk\second}}\\
297 \CustomizeMathJax{\newcommand{\voltpermetre}{\volt\per\metre}}\\
298 \CustomizeMathJax{\newcommand{\voltpermetrenp}{\volt\usk\reciprocal\metre}}\\
299 \CustomizeMathJax{\newcommand{\coulombpersquaremetre}{\coulomb\per\squaremetre}}\\
300 \CustomizeMathJax{\newcommand{\coulombpersquaremetrenp}{\coulomb\usk\rpsquare\metre}}\\
301 \CustomizeMathJax{\newcommand{\faradpermetre}{\farad\per\metre}}\\
302 \CustomizeMathJax{\newcommand{\faradpermetrenp}{\farad\usk\reciprocal\metre}}\\
303 \CustomizeMathJax{\newcommand{\ohmmetre}{\ohm\usk\metre}}\\
304 \CustomizeMathJax{\newcommand{\kilowatthour}{\kilo\watt\hour}}\\
305 \CustomizeMathJax{\newcommand{\wattpersquaremetre}{\watt\per\squaremetre}}\\
306 \CustomizeMathJax{\newcommand{\wattpersquaremetrenp}{\watt\usk\rpsquare\metre}}\\
307 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}\\
308 \CustomizeMathJax{\newcommand{\joulepersquaremetrenp}{\joule\usk\rpsquare\metre}}\\
309 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}\\
310 \CustomizeMathJax{\newcommand{\newtonpercubicmetrenp}{\newton\usk\rpcubic\metre}}\\
311 \CustomizeMathJax{\newcommand{\newtonperkilogram}{\newton\per\kilogram}}\\
312 \CustomizeMathJax{\newcommand{\newtonperkilogramnp}{\newton\usk\reciprocal\kilogram}}\\
313 \CustomizeMathJax{\newcommand{\jouleperkelvin}{\joule\per\kelvin}}\\
314 \CustomizeMathJax{\newcommand{\jouleperkelvinnp}{\joule\usk\reciprocal\kelvin}}\\
315 \CustomizeMathJax{\newcommand{\jouleperkilogram}{\joule\per\kilogram}}\\
316 \CustomizeMathJax{\newcommand{\jouleperkilogramnp}{\joule\usk\reciprocal\kilogram}}\\
317 \CustomizeMathJax{\newcommand{\coulombperkilogram}{\coulomb\per\kilogram}}\\
318 \CustomizeMathJax{\newcommand{\coulombperkilogramnp}{\coulomb\usk\reciprocal\kilogram}}\\
319 \CustomizeMathJax{\newcommand{\squaremetrepersecond}{\squaremetre\per\second}}\\
320 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{\squaremetre\usk\reciprocal\second}}\\
321 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecond}{\squaremetre\per\second\squared}}\\
322 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecondnp}{\squaremetre\usk\second\rpsquared}}\\
323 \CustomizeMathJax{\newcommand{\kilogrammetrepersecond}{\kilogram\usk\metre\per\second}}\\
324 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{\kilogram\usk\metre\usk\reciprocal\second}}\\
325 \CustomizeMathJax{\newcommand{\candelapersquaremetre}{\candela\per\squaremetre}}\\
326 \CustomizeMathJax{\newcommand{\candelapersquaremetrenp}{\candela\usk\rpsquare\metre}}\\
327 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\per\metre}}\\
328 \CustomizeMathJax{\newcommand{\amperepermetrenp}{\ampere\usk\reciprocal\metre}}\\
329 \CustomizeMathJax{\newcommand{\joulepertesla}{\joule\per\tesla}}\\
330 \CustomizeMathJax{\newcommand{\jouleperteslanp}{\joule\usk\reciprocal\tesla}}\\
331 \CustomizeMathJax{\newcommand{\henrypermetre}{\henry\per\metre}}\\
332 \CustomizeMathJax{\newcommand{\henrypermetrenp}{\henry\usk\reciprocal\metre}}
```

File 382 **lwarf-siunitx.sty**

§ 484 Package **siunitx**

(Emulates or patches code by JOSEPH WRIGHT.)

Pkg siunitx siunitx is patched for use by lwarf.

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, lwarf 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. siunitx macros with more than one optional value cannot absorb the second optional value, and complicated parsing such as for \ang is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

lwarf's MATHJAX emulation for siunitx is meant to be a stop-gap measure until an extension is included in MATHJAX. As of this writing, the third-party siunitx extension for MATHJAX is not currently hosted at any public CDN, thus siunitx is not usable with this extension unless a local copy of this extension is created first. See \MathJaxFilename to select a custom MathJax script, but lwarf's emulation would have to be disabled as well.

Document modifications required for MATHJAX:

custom units • Custom units may be added with \CustomizeMathJax. See the lwarf-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{%
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@subsingle dollar.

```

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:
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%    l warp
110          \boolfalse{mathjax}%    l warp
111 %         \__siunitx_print:nn { number } {#1}
112             \LWR@subsingle dollar{%
113                 \textbackslash( \LWR@HTMLsanitize{#1} \textbackslash)% l warp
114             }{siunitx}{%
115                 \__siunitx_print:nn { number } {
116                     \LWR@origensuredmath{#1}%
117                 }% l warp
118             }% l warp
119             \endgroup%    l warp
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%    l warp
128             \boolfalse{mathjax}%    l warp
129 %         \__siunitx_print:nn { number } {#1}
130             \LWR@subsingle dollar{%
131                 \textbackslash( \LWR@HTMLsanitize{#1} \textbackslash)% l warp
132             }{siunitx}{%
133                 \__siunitx_print:nn { number } {
134                     \LWR@origensuredmath{#1}%
135                 }% l warp
136             }% l warp
137             \endgroup%    l warp
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}%
174   {%
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   }%
196   {%
197     \__siunitx_print:nV { unit } \l_siunitx_unit_tl
198     \__siunitx_print:nn { number } { \l_siunitx_output_decimal_tl }
199   }%

```

```
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 {\textsuperscript{#1} }

206 \RenewDocumentCommand \num { o m } {
207   \leavevmode
208   \group_begin:% l warp
209     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% l warp
210     \LetLtxMacro\mbox\LWR@print@mbox% l warp
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:% l warp
216 }
217
218 \RenewDocumentCommand \numrange { o m m } {
219   \leavevmode
220   \group_begin:% l warp
221     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% l warp
222     \LetLtxMacro\mbox\LWR@print@mbox% l warp
223     \bool_set_false:N \l__siunitx_font_set_bool
224     \IfNoValueF {#1}
225       { \keys_set:nn { siunitx } {#1} }
226     \__siunitx_range_numbers:nn {#2} {#3}
227   \group_end:% l warp
228 }
229
230 \RenewDocumentCommand \ang { o > { \SplitArgument { 2 } { ; } } m } {
231   \group_begin:% l warp
232     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% l warp
233     \LetLtxMacro\mbox\LWR@print@mbox% l warp
234     \IfNoValueF {#1}
235       { \keys_set:nn { siunitx } {#1} }
236     \__siunitx_angle_output:nnn #2
237   \group_end:% l warp
238 }
239
240 \RenewDocumentCommand \si { o m } {
241   \leavevmode
242   \group_begin:% l warp
243     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% l warp
244     \LetLtxMacro\mbox\LWR@print@mbox% l warp
245     \bool_set_false:N \l__siunitx_font_set_bool
246     \IfNoValueTF {#1}
247       { \__siunitx_unit_output:nn {#2} { } }
248       {
249         \keys_set:nn { siunitx } {#1}
250         \__siunitx_unit_output:nn {#2} {#1}
251       }
252   \group_end:% l warp
```

```

253 }
254
255
256 \RenewDocumentCommand{\SIrange}{o m m m}
257 {%
258   \leavevmode
259   \group_begin:\% lwarp
260   \LetLtxMacro{\ensuredmath}{\LWR@origensuredmath} \lwarp
261   \LetLtxMacro{\mbox}{\LWR@print@mbox} \lwarp
262   \bool_set_false:N \l_siunitx_font_set_bool
263   \IfNoValueTF {\#1}
264     { \__siunitx_range_unit:nnnn {\#4} { } {\#2} {\#3} }
265     {
266       \keys_set:nn { siunitx } {\#1}
267       \__siunitx_range_unit:nnnn {\#4} {\#1} {\#2} {\#3}
268     }
269   \group_end:\% lwarp
270 }
271
272 \ExplSyntaxOff

```

For MATHJAX. (The following runs much faster as separate \CustomizeMathJax calls instead of one single call.)

```

273 \begin{warpMathJax}
274 \LWR@infoprocessingmathjax{siunitx}
275
276 \CustomizeMathJax{\newcommand{\ang}[2][]{{\mathrm{#2}}}\degree}
277 \CustomizeMathJax{\newcommand{\num}[2][]{{\mathrm{#2}}}}
278 \CustomizeMathJax{\newcommand{\si}[2][]{\mathrm{#2}}}
279 %
280 % \SI[opt]{num}{preunit}{unit}
281 \CustomizeMathJax{\newcommand{\LWRSI}[2][]{\mathrm{\#1}\LWRSI{number},\#2}}
282 \CustomizeMathJax{\newcommand{\SI}[2][]{\def\LWRSI{number}\#2}\LWRSI}
283 %
284 \CustomizeMathJax{\newcommand{\numlist}[2][]{\mathrm{#2}}}
285 \CustomizeMathJax{\newcommand{\numrange}[3][]{\mathrm{\#2}--\#3}}
286 \CustomizeMathJax{\newcommand{\SIList}[3][]{\mathrm{\#2},\#3}}
287 \CustomizeMathJax{\newcommand{\SIrange}[4][]{\mathrm{\#2},\#4--\#3,\#4}}
288 \CustomizeMathJax{\newcommand{\tablenum}[2][]{\mathrm{#2}}}
289 %
290 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
291 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
292 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
293 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
294 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
295 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
296 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
297 %
298 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
299 \CustomizeMathJax{\newcommand{\degreeCelsius}{\text{\scriptsize{\textcircled{C}}}}}
300 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
301 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
302 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
303 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}

```

```
304 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
305 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
306 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
307 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
308 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
309 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
310 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
311 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
312 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
313 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
314 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
315 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
316 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
317 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
318 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
319 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
320 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
321 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
322 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
323 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
324 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
325 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
326 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^\prime}}}
327 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
328 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^{\prime\prime}}}}
329 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
330 \CustomizeMathJax{\newcommand{\astronomicalunit}{\mathrm{au}}}
331 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
332 \CustomizeMathJax{\newcommand{\bohr}{\mathrm{a\_0}}}
333 \CustomizeMathJax{\newcommand{\clight}{\mathrm{c\_0}}}
334 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{D}\_\mathrm{a}}}
335 \CustomizeMathJax{\newcommand{\electronmass}{\mathrm{m}\_\mathrm{e}}}
336 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
337 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathrm{e}}}
338 \CustomizeMathJax{\newcommand{\hartree}{\mathrm{E}\_\mathrm{h}}}
339 \CustomizeMathJax{\newcommand{\planckbar}{\mathrm{\lambda_0}}}
340 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\text{\AA}}}}
341 \CustomizeMathJax{\let\LRorigbar\bar}
342 \CustomizeMathJax{\newcommand{\bar}{\mathrm{bar}}}
343 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
344 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
345 \CustomizeMathJax{\newcommand{\decibel}{\mathrm{dB}}}
346 \CustomizeMathJax{\newcommand{\knot}{\mathrm{kn}}}
347 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
348 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathrm{M}}}
349 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
350 %
351 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
352 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
353 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
354 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
355 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
356 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
357 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\mu}}}
358 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
```

```
359 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
360 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
361 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
362 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
363 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
364 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
365 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
366 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
367 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
368 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
369 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
370 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
371 %
372 \CustomizeMathJax{\newcommand{\percent}{\mathrm{\%}}}
373 %
374 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
375 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
376 %
377 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
378 \CustomizeMathJax{\newcommand{\kg}{\mathrm{kilo}\mathrm{g}}}
379 \CustomizeMathJax{\newcommand{\of}[1]{_{\mathrm{#1}}}}
380 \CustomizeMathJax{\newcommand{\squared}{^2}}
381 \CustomizeMathJax{\newcommand{\square}{^2}}
382 \CustomizeMathJax{\newcommand{\cubed}{^3}}
383 \CustomizeMathJax{\newcommand{\cubic}{^3}}
384 \CustomizeMathJax{\newcommand{\per}{/}}
385 \CustomizeMathJax{\newcommand{\celsius}{\mathrm{\textnormal{\textnormal{x2103}}}}}
386 %
387 \CustomizeMathJax{\newcommand{\fg}{\mathrm{femto}\mathrm{g}}}
388 \CustomizeMathJax{\newcommand{\pg}{\mathrm{pico}\mathrm{g}}}
389 \CustomizeMathJax{\newcommand{\ng}{\mathrm{nano}\mathrm{g}}}
390 \CustomizeMathJax{\newcommand{\ug}{\mathrm{micro}\mathrm{g}}}
391 \CustomizeMathJax{\newcommand{\mg}{\mathrm{milli}\mathrm{g}}}
392 \CustomizeMathJax{\newcommand{\g}{\mathrm{g}}}
393 \CustomizeMathJax{\newcommand{\kg}{\mathrm{kilo}\mathrm{g}}}
394 %
395 \CustomizeMathJax{\newcommand{\amu}{\mathrm{u}}}
396 %
397 \CustomizeMathJax{\newcommand{\pm}{\mathrm{pico}\mathrm{metre}}}
398 \CustomizeMathJax{\newcommand{\nm}{\mathrm{nano}\mathrm{metre}}}
399 \CustomizeMathJax{\newcommand{\um}{\mathrm{micro}\mathrm{metre}}}
400 \CustomizeMathJax{\newcommand{\mm}{\mathrm{milli}\mathrm{metre}}}
401 \CustomizeMathJax{\newcommand{\cm}{\mathrm{centi}\mathrm{metre}}}
402 \CustomizeMathJax{\newcommand{\dm}{\mathrm{deci}\mathrm{metre}}}
403 \CustomizeMathJax{\newcommand{\m}{\mathrm{metre}}}
404 \CustomizeMathJax{\newcommand{\km}{\mathrm{kilo}\mathrm{metre}}}
405 %
406 \CustomizeMathJax{\newcommand{\as}{\mathrm{atto}\mathrm{second}}}
407 \CustomizeMathJax{\newcommand{\fs}{\mathrm{femto}\mathrm{second}}}
408 \CustomizeMathJax{\newcommand{\ps}{\mathrm{pico}\mathrm{second}}}
409 \CustomizeMathJax{\newcommand{\ns}{\mathrm{nano}\mathrm{second}}}
410 \CustomizeMathJax{\newcommand{\us}{\mathrm{micro}\mathrm{second}}}
411 \CustomizeMathJax{\newcommand{\ms}{\mathrm{milli}\mathrm{second}}}
412 \CustomizeMathJax{\newcommand{\s}{\mathrm{second}}}
413 %
```

```
414 \CustomizeMathJax{\newcommand{\fmol}{\femto\mol}}
415 \CustomizeMathJax{\newcommand{\pmol}{\pico\mol}}
416 \CustomizeMathJax{\newcommand{\nmol}{\nano\mol}}
417 \CustomizeMathJax{\newcommand{\umol}{\micro\mol}}
418 \CustomizeMathJax{\newcommand{\mmol}{\milli\mol}}
419 \CustomizeMathJax{\newcommand{\mol}{\mol}}
420 \CustomizeMathJax{\newcommand{\kmol}{\kilo\mol}}
421 %
422 \CustomizeMathJax{\newcommand{\pA}{\pico\ampere}}
423 \CustomizeMathJax{\newcommand{\nA}{\nano\ampere}}
424 \CustomizeMathJax{\newcommand{\uA}{\micro\ampere}}
425 \CustomizeMathJax{\newcommand{\mA}{\milli\ampere}}
426 \CustomizeMathJax{\newcommand{\A}{\ampere}}
427 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
428 %
429 \CustomizeMathJax{\newcommand{\ul}{\micro\litre}}
430 \CustomizeMathJax{\newcommand{\ml}{\milli\litre}}
431 \CustomizeMathJax{\newcommand{\l}{\litre}}
432 \CustomizeMathJax{\newcommand{\hl}{\hecto\litre}}
433 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
434 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
435 \CustomizeMathJax{\newcommand{\L}{\liter}}
436 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
437 %
438 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
439 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
440 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
441 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
442 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
443 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
444 %
445 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
446 \CustomizeMathJax{\newcommand{\N}{\newton}}
447 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
448 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
449 %
450 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
451 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
452 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
453 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
454 %
455 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
456 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
457 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
458 %
459 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
460 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
461 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
462 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
463 \CustomizeMathJax{\newcommand{\V}{\volt}}
464 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
465 %
466 \CustomizeMathJax{\newcommand{\W}{\watt}}
467 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
468 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
```

```

469 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
470 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
471 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
472 %
473 \CustomizeMathJax{\newcommand{\J}{\joule}}
474 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
475 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
476 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}
477 %
478 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
479 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
480 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
481 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
482 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
483 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
484 %
485 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
486 %
487 \CustomizeMathJax{\newcommand{\F}{\farad}}
488 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
489 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
490 %
491 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
492 %
493 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
494 %
495 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}
496 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
497 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
498 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
499 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
500 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
501 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
502 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
503 \end{warpMathJax}

```

File 383 **lwarp-slantsc.sty**

§ 485 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@noscshape}{}%
3 \LWR@formatted{noscshape}%
4 %
5 \FilenameNullify{%
6   \LetLtxMacro\noscshape\empty%
7 }

```

File 384 l warp-slashed.sty

§ 486 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}{\cancel{#1}}}
4 \end{warpMathJax}
```

File 385 l warp-soul.sty

§ 487 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}%
\convertcolorspec

Storage for the colors to use:

```
3 \newcommand*\LWR@soululcolor{}%
4 \newcommand*\LWR@soulstcolor{}%
5 \definecolor{\LWR@soulhlcolordefault}{HTML}{F8E800}%
6 \newcommand*\LWR@soulhlcolor{\LWR@soulhlcolordefault}%
7 \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  {\langle text\rangle} {\langle color\rangle} {\langle class\rangle} {\langle colorstyle\rangle} {\langle FormatWPstyle\rangle}

Add colors if not empty:

18 \newcommand{\LWR@soulcolor}[5]{%
19 \ifcsempty{#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*\capsselect}[1]{}}
51 \newcommand*\setul}[2]{}}
52 \newcommand*\resetul}{}}
53 \newcommand*\setuldepth}[1]{}}
54 \newcommand*\setuloverlap}[1]{}}
55 \newcommand*\lless}{}}

```

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 386 **l warp-soulpos.sty**

§ 488 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\ifulenctype[1]{%
13 \expandafter\@secondoftwo%
14 }
15
16 \newcommand{\ulstarttype}{0}
17 \newcommand{\ulenctype}{0}
18 \newcommand{\ulpostolerance}{0}%
```

File 387 **l warp-soulutf8.sty**

§ 489 Package **soulutf8**

Pkg soulutf8 soulutf8 is emulated.

l warp's HTML output naturally supports UTF-8 encoding.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{soulutf8}[2016/05/16]
2 \RequirePackage{soul}
```

File 388 **l warp-splitidx.sty**

§ 490 Package **splitidx**

(Emulates or patches code by MARKUS KOHM.)

Pkg **splitidx** **splitidx** is patched for use by **l warp**.

If the **latexmk** option is selected for **l warp**, **latexmk** will compile the document but will *not* compile the indexes. **l warpmk printindex** and **l warpmk 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 593.17 in the **l warp-patch-memoir** package for the **\@wrspindexhyp** 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 **l warp**'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@verbindex\@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 \LWR@new@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 389 **lwarp-srccltx.sty**

§ 491 Package **srccltx**

Pkg **srccltx** **srccltx** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop[srccltx][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 390 **l warp-srctex.sty**

§ 492 Package **srctex**

Pkg srctex srctex is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]
2 \LWR@origRequirePackage{l warp-srcltx}

File 391 **l warp-stabular.sty**

§ 493 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 [<vpos>] {<colspec>}

  2 \newenvironment{stabular}[2][c]
  3 {
  4 \begin{tabular}[#1]{#2}
  5 \renewcommand{\noalign}{1}{}
  6 }
  7 {\end{tabular}

Env stabular {<width>} [<vpos>] {<colspec>}

  8 \NewDocumentEnvironment{stabular*}{m o m}
  9 {
 10 \begin{tabular}[#2]{#3}
 11 \renewcommand{\noalign}{1}{}
 12 }
 13 {\end{tabular}}
```

File 392 **l warp-stackengine.sty**

§ 494 Package **stackengine**

(Emulates or patches code by STEVEN B. SEGETES.)

Pkg stackengine stackengine is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{stackengine}[2017/02/13]

The original version is necessary for the patched `\@stack` and `\stackanchor`, where nesting `lateximage`s does not work:

```

2 \LetLtxMacro{\LWR@orig@stackengine}{\stackengine}

3 \renewcommand*{\stackengine}[8]{%
4     \ifstreq{\#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     \ifstreq{\#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\lW\@g savebox\csname\sv@name content\endcsname{\#2}%
58     \expandafter\gdef\expandafter#1\expandafter{%
59       \expandafter\begin\expandafter{ lateximage \expandafter}%
60       \expandafter\usebox\expandafter{%
61         \csname\sv@name content\endcsname}%
62       \expandafter\end\expandafter{ lateximage \expandafter}%
63     }%
64     \endgroup%    lwarp
65 }

```

File 393 **lwarp-stackrel.sty**

§ 495 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 394 l warp-statex2.sty

§ 496 Package **statex2**

(Emulates or patches code by RODNEY A SPARAPANI.)

Pkg statex2 statex2 is patched for use by l warp, 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{\sfsl}[1]{\mathsf{#1}}}% not slanted
25
26 \if@manualbold
27 \CustomizeMathJax{\newcommand{\mb}[1]{\#1}}
28 \else
29 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{\#1}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mathbf{\mathrm{diag}}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mathbf{\mathrm{blockdiag}}}}
34 \CustomizeMathJax{\newcommand{\erf}{\mathbf{\mathrm{erf}}}}
35 \CustomizeMathJax{\newcommand{\logit}{\mathbf{\mathrm{logit}}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mathbf{\mathrm{trace}}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mathbf{\mathrm{\chi^2}}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\mathbf{\mathrm{\frac{d\{#1\}}{d\{#2\}}}}}\wrap{\mathbf{\mathrm{\#2}}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mathbf{\mathrm{\frac{d\{#1\}}{d\{#2\}}}}}\wrap{\mathbf{\mathrm{\#1}}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mathbf{\mathrm{\mathbf{e}^{#1}}}}}
42 \CustomizeMathJax{\newcommand{\E}[2]{\mathbf{\mathrm{\mathbf{e}^{#1}}_{\#2}}}\wrap{\mathbf{\mathrm{\#2}}}}
43 \CustomizeMathJax{\newcommand{\ha}{\mathbf{\mathrm{\frac{\alpha}{2}}}}}
44 \CustomizeMathJax{\newcommand{\I}[2]{\mathbf{\mathrm{\frac{\partial}{\partial #1}}}}\wrap{\mathbf{\mathrm{\#2}}}}
45 \mathbf{\mathrm{\frac{\partial}{\partial #1}}}_{\mathbf{\mathrm{\#1}}}\LWRwapparen{\mathbf{\mathrm{\#2}}}%}
46 }
47 \CustomizeMathJax{\newcommand{\IBeta}[2]{%
48   \mathbf{\mathrm{\frac{\Gamma\{#1+\#2\}}{\Gamma\{#1\}\Gamma\{#2\}}}}%
49 }}
50 \CustomizeMathJax{\newcommand{\If}{\mathbf{\mathrm{if}}}}
51 \CustomizeMathJax{\newcommand{\im}{\mathbf{\mathrm{i}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\mathbf{\mathrm{\overline{#1}}}}}
53 \CustomizeMathJax{\newcommand{\ow}{\mathbf{\mathrm{otherwise}}}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2]{%
55   \mathbf{\mathrm{\frac{\partial}{\partial #1}}}}\wrap{\mathbf{\mathrm{\#2}}}}
56 }
57 \CustomizeMathJax{\newcommand{\pderivf}[2]{%
58   \mathbf{\mathrm{\frac{\partial}{\partial #1}}}}\wrap{\mathbf{\mathrm{\#2}}}}%
59 }
60 \CustomizeMathJax{\newcommand{\sd}{\mathbf{\mathrm{\sigma}}}}
61 \CustomizeMathJax{\newcommand{\ul}{\mathbf{\mathrm{\underline{#1}}}}}
62 \CustomizeMathJax{\newcommand{\V}[2]{\mathbf{\mathrm{\mathbf{V}\{#1\}\{#2\}}}}\wrap{\mathbf{\mathrm{\#2}}}}
63 \CustomizeMathJax{\newcommand{\vs}{\mathbf{\mathrm{\mathbf{v}\{#1\}\{#2\}}}}\wrap{\mathbf{\mathrm{\#2}}}}
64 \CustomizeMathJax{\newcommand{\where}{\mathbf{\mathrm{where}}}}
65 \CustomizeMathJax{\newcommand{\wrap}[2]{\mathbf{\mathrm{\left[ #1 \right]}}}}% only []
66 \CustomizeMathJax{\newcommand{\LWRwapparen}[1]{\mathbf{\mathrm{\left( #1 \right)}}}}% lwarp
67
68 % \CustomizeMathJax{\renewcommand{\sim}{\mathbf{\mathrm{\sim}}}}% doesn't work,
69 % replace <space>~<space> with <space>\sim<space>
70
71 \CustomizeMathJax{\newcommand{\iid}{\mathbf{\mathrm{\mathbf{id}}}}\stackrel{\mathbf{\mathrm{\mathbf{mathrm{id}}}}}{\mathbf{\mathrm{\sim}}};}
72 \CustomizeMathJax{\newcommand{\ind}{\mathbf{\mathrm{\mathbf{ind}}}}\stackrel{\mathbf{\mathrm{\mathbf{mathrm{ind}}}}}{\mathbf{\mathrm{\sim}}};}
73 \CustomizeMathJax{\newcommand{\indpr}{%
74   \mathbf{\mathrm{\mathbf{\mathbf{mathrm{ind}}}}}\stackrel{\mathbf{\mathrm{\mathbf{mathrm{prior}}}}}{\mathbf{\mathrm{\sim}}};}

```

```

75 }}
76 \CustomizeMathJax{\newcommand{\post}{\; \stackrel{\mathbf{m}{\mathrm{post}}}{\sim} ;}}
77 \CustomizeMathJax{\newcommand{\prior}{\; \stackrel{\mathbf{m}{\mathrm{prior}}}{\sim} ;}}
78
79 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
80 \CustomizeMathJax{\renewcommand{\Gamma}[1][]{{\mathbf{m}{\mathrm{\STATEXGamma}}}\LWRwapparen{\mathbf{m}{\#1}}}}
81 %
82 \CustomizeMathJax{\renewcommand{\and}{\; \mathbf{m}{\mathrm{and}} \;}}
83 %
84 \CustomizeMathJax{\newcommand{\H}{\mathbf{m}{\mathrm{H}}}}
85 %
86 \CustomizeMathJax{\newcommand{\P}[2][]{\mathbf{m}{\mathrm{P}}}_{\mathbf{m}{\#1}}\wrap{\mathbf{m}{\#2}}}}
87 %
88 \CustomizeMathJax{\newcommand{\mid}{\mathbf{m}{\mathrm{mid}}}}
89
90 \CustomizeMathJax{\newcommand{\B}[1]{\mathbf{m}{\mathrm{B}}}\LWRwapparen{\mathbf{m}{\#1}}}}
91 \CustomizeMathJax{\newcommand{\BB}[1]{\mathbf{m}{\mathrm{BetaBin}}}\LWRwapparen{\mathbf{m}{\#1}}}}
92 \CustomizeMathJax{\newcommand{\Bin}[2]{\mathbf{m}{\mathrm{Bin}}}\LWRwapparen{\mathbf{m}{\#1}, \#2}}}
93 \CustomizeMathJax{\newcommand{\Dir}[1]{\mathbf{m}{\mathrm{Dirichlet}}}\LWRwapparen{\mathbf{m}{\#1}}}}
94 \CustomizeMathJax{\newcommand{\HG}[3]{%
95     \mathbf{m}{\mathrm{Hypergeometric}}}\LWRwapparen{\mathbf{m}{\#1}, \#2, \#3}}%
96 }
97 \CustomizeMathJax{\newcommand{\M}[2]{%
98     \mathbf{m}{\mathrm{Multinomial}}}\LWRwapparen{\mathbf{m}{\#1}, \#2}}%
99 }
100 \CustomizeMathJax{\newcommand{\NB}[2]{\mathbf{m}{\mathrm{NegBin}}}\LWRwapparen{\mathbf{m}{\#1}, \#2}}}
101 \CustomizeMathJax{\newcommand{\Poi}[1]{\mathbf{m}{\mathrm{Poisson}}}\LWRwapparen{\mathbf{m}{\#1}}}}
102 \CustomizeMathJax{\let\Poisson=\Poi}
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{%
105     \mathbf{m}{\frac{\Gamma[\#2+1]\Gamma[\#3+\#1]\Gamma[\#2+\#4-\#1]\Gamma[\#3+\#4]}{\{\Gamma[\#1+\#1]\Gamma[\#2-\#1+1]\Gamma[\#2+\#3+\#4]\Gamma[\#3]\Gamma[\#4]\}}}}%
106     \mathbf{I}[\#1]\{\{0, 1, \_, \#2\}, \text{where } \#3>0, \#4>0 \text{ and } n=1, 2, \_.}}%
107     \#3>0, \#4>0 \text{ and } n=1, 2, \_.}}%
108 }
109 \CustomizeMathJax{\newcommand{\pBin}[3][x]{%
110     \mathbf{m}{\binom{\#2}{\#1}\#3^{\#1}}}\LWRwapparen{\mathbf{m}{\{1-\#3\}^{\{2-\#1\}}}}}}%
111     \mathbf{m}{\mathbf{I}[\#1]\{\{0, 1, \_, \#2\}, \text{where } p \in (0, 1) \text{ and } n=1, 2, \_.}}}}%
112 }
113 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{%
114     \mathbf{m}{\frac{1}{2^{\#1}}e^{-\#2}\mathbf{I}[\#1]\{\{0, 1, \_.\}, \text{where } \#2>0}}}}%
115 }
116
117 \CustomizeMathJax{\newcommand{\Cau}[2]{\mathbf{m}{\mathrm{Cauchy}}}\LWRwapparen{\mathbf{m}{\#1}, \#2}}}
118 \CustomizeMathJax{\let\Cauchy=\Cau}
119 \CustomizeMathJax{\newcommand{\Chi}[2][]{%
120     \mathbf{chisq}_{\mathbf{m}{\#1}}}\LWRwapparen{\mathbf{m}{\#2}}}}%
121 }
122 \CustomizeMathJax{\let\Chisq=\Chi}
123 \CustomizeMathJax{\newcommand{\Bet}[2]{\mathbf{m}{\mathrm{Beta}}}\LWRwapparen{\mathbf{m}{\#1}, \#2}}}
124 \CustomizeMathJax{\let\Beta=\Bet}
125 \CustomizeMathJax{\newcommand{\Exp}[1]{\mathbf{m}{\mathrm{Exp}}}\LWRwapparen{\mathbf{m}{\#1}}}}
126 \CustomizeMathJax{\newcommand{\F}[2]{\mathbf{m}{\mathrm{F}}}\LWRwapparen{\mathbf{m}{\#1}, \#2}}}
127 \CustomizeMathJax{\newcommand{\Gam}[2]{\mathbf{m}{\mathrm{Gamma}}}\LWRwapparen{\mathbf{m}{\#1}, \#2}}}
128 \CustomizeMathJax{\newcommand{\IC}[1]{\mathbf{m}{\mathrm{\chi^{-2}}}}\LWRwapparen{\mathbf{m}{\#1}}}}
129 \CustomizeMathJax{\newcommand{\IG}[2]{%

```

```

130      \mb{\mathrm{Gamma}^{-1}}\LWRwapparen{\mb{#1,\ #2}}%
131  }
132 \CustomizeMathJax{\newcommand{\IW}[2]{%
133   \mb{\mathrm{Wishart}^{-1}}\LWRwapparen{\mb{#1,\ #2}}%
134 }}
135 \CustomizeMathJax{\newcommand{\Log}[2]{%
136 \mb{\mathrm{Log}}!\-\!N}\LWRwapparen{\mb{#1,\ #2}}%
137 }}
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139   \mb{\mathrm{Log}}!\-\!N}\LWRwapparen{\mb{#1,\ #2}}%
140 }}
141 \CustomizeMathJax{\newcommand{\N}[3][]{%
142   \mb{\mathrm{N}}_-\{\mb{#1}}\LWRwapparen{\mb{#2,\ #3}}%
143 }}
144 \CustomizeMathJax{\newcommand{\Par}[2]{\mb{\mathrm{Pareto}}}\LWRwapparen{\mb{#1,\ #2}}}}
145 \CustomizeMathJax{\let\Pareto=\Par}
146 \CustomizeMathJax{\newcommand{\Tsq}[2]{\mb{\mathrm{T}^2}}\LWRwapparen{\mb{#1,\ #2}}}}
147 \CustomizeMathJax{\newcommand{\U}[1]{\mb{\mathrm{U}}}\LWRwapparen{\mb{#1}}}}
148 \CustomizeMathJax{\newcommand{\W}[2]{\mb{\mathrm{Wishart}}}\LWRwapparen{\mb{#1,\ #2}}}}
149
150 \CustomizeMathJax{\renewcommand{\t}[1]{\mb{\mathrm{t}}}\LWRwapparen{\mb{#1}}}}
151
152 \CustomizeMathJax{\newcommand{\pBet}[3][x]{%
153   \IBeta{#2}{#3}%
154   #1^{#2-1}\LWRwapparen{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}\LWRwapparen{1+#1}^2}%
158   {\frac{1}{#3\cpi}\left\{1+\wrap{\LWRwapparen{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\cpi}}\cdot\sqrt{#3}}e^{-\LWRwapparen{#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}\LWRwapparen{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{#3-#2}{#2}\I[#1]{#2,\ #3}, \where #2<#3}}%
184 }}% no special case for 0,1

```

```
185  
186 \CustomizeMathJax{\newcommand{\=}{\bar{#1}}}  
187 \CustomizeMathJax{\let\widehat{\let\widetilde{}}  
188 \CustomizeMathJax{\newcommand{\'}{\LWRwrapparen{\bar{#1}}}}}  
189 \CustomizeMathJax{\newcommand{\b}{\bar{#1}}}  
190 \CustomizeMathJax{\newcommand{\c}{\mb{\mathrm{#1}}}}  
191 \CustomizeMathJax{\newcommand{\d}{\mb{\mathrm{#1}}}}  
192 \CustomizeMathJax{\newcommand{\ldots}{\mb{\ldots}}}  
193 \CustomizeMathJax{\newcommand{\ldots}{\mb{\ldots}}}  
194 \end{warpMathJax}
```

File 395 l warp-statmath.sty**§ 497 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 \begin{warpMathJax}  
3 \LWR@infoprocessingmathjax{statmath}  
4  
5 \CustomizeMathJax{\let\abcbf{\mathbf}}  
6 \CustomizeMathJax{\newcommand{\greekbf}{\boldsymbol{\mathbf}}}  
7 \CustomizeMathJax{\newcommand{\bfA}{\abcbf A}}  
8 \CustomizeMathJax{\newcommand{\bfB}{\abcbf B}}  
9 \CustomizeMathJax{\newcommand{\bfC}{\abcbf C}}  
10 \CustomizeMathJax{\newcommand{\bfD}{\abcbf D}}  
11 \CustomizeMathJax{\newcommand{\bfE}{\abcbf E}}  
12 \CustomizeMathJax{\newcommand{\bfF}{\abcbf F}}  
13 \CustomizeMathJax{\newcommand{\bfG}{\abcbf G}}  
14 \CustomizeMathJax{\newcommand{\bfH}{\abcbf H}}  
15 \CustomizeMathJax{\newcommand{\bfI}{\abcbf I}}  
16 \CustomizeMathJax{\newcommand{\bfJ}{\abcbf J}}  
17 \CustomizeMathJax{\newcommand{\bfK}{\abcbf K}}  
18 \CustomizeMathJax{\newcommand{\bfL}{\abcbf L}}  
19 \CustomizeMathJax{\newcommand{\bfM}{\abcbf M}}  
20 \CustomizeMathJax{\newcommand{\bfN}{\abcbf N}}  
21 \CustomizeMathJax{\newcommand{\bfO}{\abcbf O}}  
22 \CustomizeMathJax{\newcommand{\bfP}{\abcbf P}}  
23 \CustomizeMathJax{\newcommand{\bfQ}{\abcbf Q}}  
24 \CustomizeMathJax{\newcommand{\bfR}{\abcbf R}}  
25 \CustomizeMathJax{\newcommand{\bfS}{\abcbf S}}  
26 \CustomizeMathJax{\newcommand{\bfT}{\abcbf T}}  
27 \CustomizeMathJax{\newcommand{\bfU}{\abcbf U}}  
28 \CustomizeMathJax{\newcommand{\bfV}{\abcbf V}}  
29 \CustomizeMathJax{\newcommand{\bfW}{\abcbf W}}  
30 \CustomizeMathJax{\newcommand{\bfX}{\abcbf X}}  
31 \CustomizeMathJax{\newcommand{\bfY}{\abcbf Y}}  
32 \CustomizeMathJax{\newcommand{\bfZ}{\abcbf Z}}  
33 \CustomizeMathJax{\newcommand{\bfa}{\abcbf a}}
```

```
34 \CustomizeMathJax{\newcommand{\bfb}{\abcbf b}}
35 \CustomizeMathJax{\newcommand{\bfc}{\abcbf c}}
36 \CustomizeMathJax{\newcommand{\bfd}{\abcbf d}}
37 \CustomizeMathJax{\newcommand{\bfe}{\abcbf e}}
38 \CustomizeMathJax{\newcommand{\bff}{\abcbf f}}
39 \CustomizeMathJax{\newcommand{\bfg}{\abcbf g}}
40 \CustomizeMathJax{\newcommand{\bfh}{\abcbf h}}
41 \CustomizeMathJax{\newcommand{\bfi}{\abcbf i}}
42 \CustomizeMathJax{\newcommand{\bfj}{\abcbf j}}
43 \CustomizeMathJax{\newcommand{\bfk}{\abcbf k}}
44 \CustomizeMathJax{\newcommand{\bfl}{\abcbf l}}
45 \CustomizeMathJax{\newcommand{\bfm}{\abcbf m}}
46 \CustomizeMathJax{\newcommand{\bfn}{\abcbf n}}
47 \CustomizeMathJax{\newcommand{\bfo}{\abcbf o}}
48 \CustomizeMathJax{\newcommand{\bfp}{\abcbf p}}
49 \CustomizeMathJax{\newcommand{\bfq}{\abcbf q}}
50 \CustomizeMathJax{\newcommand{\bfr}{\abcbf r}}
51 \CustomizeMathJax{\newcommand{\ bfs}{\abcbf s}}
52 \CustomizeMathJax{\newcommand{\bft}{\abcbf t}}
53 \CustomizeMathJax{\newcommand{\bfu}{\abcbf u}}
54 \CustomizeMathJax{\newcommand{\bfv}{\abcbf v}}
55 \CustomizeMathJax{\newcommand{\bfw}{\abcbf w}}
56 \CustomizeMathJax{\newcommand{\bfx}{\abcbf x}}
57 \CustomizeMathJax{\newcommand{\bfy}{\abcbf y}}
58 \CustomizeMathJax{\newcommand{\bfz}{\abcbf z}}
59 \CustomizeMathJax{\newcommand{\bfalpha}{\greekbf \alpha}}
60 \CustomizeMathJax{\newcommand{\bfbeta}{\greekbf \beta}}
61 \CustomizeMathJax{\newcommand{\bfdelta}{\greekbf \delta}}
62 \CustomizeMathJax{\newcommand{\bfepsilon}{\greekbf \epsilon}}
63 \CustomizeMathJax{\newcommand{\bfvarepsilon}{\greekbf \varepsilon}}
64 \CustomizeMathJax{\newcommand{\bfzeta}{\greekbf \zeta}}
65 \CustomizeMathJax{\newcommand{\bfeta}{\greekbf \eta}}
66 \CustomizeMathJax{\newcommand{\bftheta}{\greekbf \theta}}
67 \CustomizeMathJax{\newcommand{\bfvartheta}{\greekbf \vartheta}}
68 \CustomizeMathJax{\newcommand{\bfgamma}{\greekbf \gamma}}
69 \CustomizeMathJax{\newcommand{\bfkappa}{\greekbf \kappa}}
70 \CustomizeMathJax{\newcommand{\bflambda}{\greekbf \lambda}}
71 \CustomizeMathJax{\newcommand{\bfmu}{\greekbf \mu}}
72 \CustomizeMathJax{\newcommand{\bfnu}{\greekbf \nu}}
73 \CustomizeMathJax{\newcommand{\bfxi}{\greekbf \xi}}
74 \CustomizeMathJax{\newcommand{\bfpi}{\greekbf \pi}}
75 \CustomizeMathJax{\newcommand{\bfvarpi}{\greekbf \varpi}}
76 \CustomizeMathJax{\newcommand{\bfrho}{\greekbf \rho}}
77 \CustomizeMathJax{\newcommand{\bfvarrho}{\greekbf \varrho}}
78 \CustomizeMathJax{\newcommand{\bfsigma}{\greekbf \sigma}}
79 \CustomizeMathJax{\newcommand{\bfvarsigma}{\greekbf \varsigma}}
80 \CustomizeMathJax{\newcommand{\bftau}{\greekbf \tau}}
81 \CustomizeMathJax{\newcommand{\bfupsilon}{\greekbf \upsilon}}
82 \CustomizeMathJax{\newcommand{\bfphi}{\greekbf \phi}}
83 \CustomizeMathJax{\newcommand{\bfvarphi}{\greekbf \varphi}}
84 \CustomizeMathJax{\newcommand{\bfchi}{\greekbf \chi}}
85 \CustomizeMathJax{\newcommand{\bfpsi}{\greekbf \psi}}
86 \CustomizeMathJax{\newcommand{\bfomega}{\greekbf \omega}}
87 \CustomizeMathJax{\newcommand{\bfiot}{\greekbf \iota}}
88 \CustomizeMathJax{\newcommand{\bfGamma}{\greekbf \Gamma}}
```

```

89 \CustomizeMathJax{\newcommand{\bfDelta}{\greekbf \Delta}}
90 \CustomizeMathJax{\newcommand{\bfTheta}{\greekbf \Theta}}
91 \CustomizeMathJax{\newcommand{\bfLambda}{\greekbf \Lambda}}
92 \CustomizeMathJax{\newcommand{\bfXi}{\greekbf \Xi}}
93 \CustomizeMathJax{\newcommand{\bfPi}{\greekbf \Pi}}
94 \CustomizeMathJax{\newcommand{\bfSigma}{\greekbf \Sigma}}
95 \CustomizeMathJax{\newcommand{\bfUpsilon}{\greekbf \Upsilon}}
96 \CustomizeMathJax{\newcommand{\bfPhi}{\greekbf \Phi}}
97 \CustomizeMathJax{\newcommand{\bfPsi}{\greekbf \Psi}}
98 \CustomizeMathJax{\newcommand{\bfOmega}{\greekbf \Omega}}
99 \CustomizeMathJax{\newcommand{\bfzero}{\greekbf 0}}
100 \CustomizeMathJax{\DeclareMathOperator{\cov}{Cov}}
101 \CustomizeMathJax{\DeclareMathOperator{\E}{E}}
102 \CustomizeMathJax{\DeclareMathOperator{\V}{V}}
103 \CustomizeMathJax{\newcommand{\inas}{\overset{a.s.}{\to}}}
104 \CustomizeMathJax{\newcommand{\indist}{\overset{d}{\to}}}
105 \CustomizeMathJax{\newcommand{\inprob}{\overset{p}{\to}}}
106 \CustomizeMathJax{\DeclareMathOperator{\plim}{plim}}
107 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
108 \CustomizeMathJax{\DeclareMathOperator{\vc}{vec}}
109 \CustomizeMathJax{\DeclareMathOperator{\vcs}{vecs}}
110 \CustomizeMathJax{\DeclareMathOperator{\vch}{vech}}
111 \CustomizeMathJax{\DeclareMathOperator{\diag}{diag}}
112 \CustomizeMathJax{\DeclareMathOperator{\argmin}{arg\,,min}}
113 \CustomizeMathJax{\DeclareMathOperator{\argmax}{arg\,,max}}
114 \end{warpMathJax}

```

File 396 **lwarf-steinmetz.sty**

§ 498 Package **steinmetz**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg **steinmetz** **steinmetz** is patched for use by **lwarf**. Emulation is provided for **MATHJAX**

for HTML output: 1 \LWR@ProvidesPackagePass{steinmetz}[2009/06/14]

```

2 \begin{warpHTML}
3 \renewcommand{\phase}[2][]{
4   \begin{lateximage}*[steinmetz]{\detokenize{\#2}\!}]
5   \ensuremath{\underline{/}\#2}
6   \end{lateximage}
7 }
8 \end{warpHTML}
9
10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\phase}[2][]{\underline{/}\#2}}
12 \end{warpMathJax}

```

File 397 **l warp-stffloats.sty**

§ 499 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 398 **l warp-struktex.sty**

§ 500 Package **struktex**

(Emulates or patches code by JOBST HOFFMANN.)

Pkg struktex struktex is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{struktex}[2018/06/04]

```
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 399 **l warp-subcaption.sty**

§ 501 Package **subcaption**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg **subcaption** **subcaption** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{subcaption}[2018/05/01]

Tells **l warp** 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 400 **l warp-subfig.sty**

§ 502 Package **subfig**

(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)

Pkg **subfig** **subfig** is supported and patched by **l warp**.

⚠ **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.

In the document source, use **\hfill** and **\hspace*** **subfig>inline** 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 **l warp-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]{%
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 \tempcpta=\@ne
15 \if@minipage
16   \tempcpta=\z@
17 \else\ifdim \lastskip=\z@ \else
18   \tempcpta=\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 %
29 % \setbox\tempboxa \hbox{#4}%
30 % \tempdima=\wd\tempboxa
31 % \ifundefined{FBsc@max}{}{%
32 %   \global\advance\Xhsizem-\wd\tempboxa
33 %   \dimen@\ht\tempboxa
34 %   \advance\dimen@\dp\tempboxa
35 %   \ifdim\dimen@>\FBso@max
36 %     \global\FBso@max\dimen@
37 }%
```

Do not use boxes, which interfere with lateximages:

```
37 \% \vtop%
38 \bgroup
39 \% \vbox%
40 \bgroup
41 \ifcase\tempcpta
42   \minipagetrue
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\relax \else
52              \sf@subcaption{\#1}{\#2}{\#3}%
53 %
54 %          \vskip\sf@capskip
55          \vskip\sf@captopadj
56 %
57          \hrule width0pt height0pt depth0pt
58 % \LWR@startpars% lwarp
59 % \box@\tempboxa
60 % #4
61 % \LWR@stopars% lwarp
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 %
72 %     \vbox to \FBsuboheight{\FBafil\box@\tempboxa\FBbfil}%
73 %     #4
74 %
75 % \LWR@stopars% lwarp
76 %
77 % \egroup
78 %     \vskip\sf@capskip
79 %
80 %     \hrule width0pt height0pt depth0pt
81 %     \sf@subcaption{\#1}{\#2}{\#3}%
82 %
83 %     \vskip\sf@bottom
84 %
85 % \@ifundefined{FBsc@max}{}%
86 %     {\addtocounter{FRobj}{-1}%
87 %     \ifnum\c@FRobj=0\else
88 %         \subfloatrowsep
89 %         \fi}%
90 %
91 % \ifmaincaptiontop\else
92 %     \global\advance\nameuse{c@\captiontype}\m@ne
93 %
94 % \end{minipage}% lwarp
95 % \LWR@startpars% lwarp
96 % \endgroup\ignorespaces%
97 }%

```

\sf@subcaption {<1 type>} {<2 LOF entry>} {<3 caption>}

```

97 \long\def\sf@subcaption#1#2#3{%
98 \LWR@stopars% 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{@capttype}}{\the\value{#1}}%
106      \egroup
107  \fi
108  \bgroup
109      \ifx \relax#3\relax
110          \let\captionlabelsep=\relax
111      \fi
112 %     \setbox0\vbox{%
113 %         \hbox@\the\@tempdima{%
114 %
115 %             \hss
116 %             \parbox[t]{\the\@tempdima}{%
117 %                 \caption@make
118 %                     {@nameuse{sub\@capttype name}}%
119 %                     {@nameuse{thesub\@capttype}}%
120 %                     {#3}
121 %             }%
122 %             \hss
123 %         }
124 %     }%
125     \@ifundefined{FBsc@max}%
126     {\box0}%
127     {
128 %     \parbox[t]{\the\@tempdima}{%
129 \LWR@traceinfo{sfsubcap B1}\% lwarp
130         \LWR@figcaption\% lwarp
131         \caption@make
132             {@nameuse{sub\@capttype name}}%
133             {@nameuse{thesub\@capttype}}%
134             {\LWR@isolate{#3}}%
135
136         \endLWR@figcaption\% lwarp
137 \LWR@traceinfo{sfsubcap B2}\% lwarp
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 %                 \hbox@\the\@tempdima{%
```

```

156
157 %          \hss
158 %          \next{%
159 \LWR@traceinfo{sfsubcap C1}{ l warp
160          \caption@make
161          {\@nameuse{sub@\capttype name}}%
162          {\@nameuse{thesub@\capttype}}%
163          {\#3}
164 \LWR@traceinfo{sfsubcap C1}{ l warp
165 }%
166 %          \hss
167
168 %  }
169 %  }
170  }%
171 \egroup
172 \LWR@startpars{ l warp
173 }

```

\subfloat@label Patches for \sf@sub@label:

```

174 \def\subfloat@label{%
175 \LWR@ensuredoingapar{ l warp
176 \@ifnextchar({% match left parenthesis
177 { \sf@sub@label{%
178 { \sf@sub@label{ \sf@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]{%
189 \LWR@orig@newsubfloat[#1]{\hypertocfloat{2}{sub#2}{\ext@sub#2}{##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  {\langle text\rangle} {\langle pagenum\rangle}
192 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}}
\l@subtable   {\langle text\rangle} {\langle pagenum\rangle}
193 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}
```

File 401 **l warp-subfigure.sty**

§ 503 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\subfigcapadj
16 \newskip\subfigbottomskip
17 \newdimen\subfigcapmargin
18 \newskip\subfiglabelskip
19 \newcommand*\subcapsize{}
20 \newcommand*\subcaplabelfont{}
21 \newcommand*\subcapfont{}
```

File 402 **l warp-subsupscripts.sty**

§ 504 Package **subsupscripts**

(Emulates or patches code by RICCARDO BRESCIANI.)

Pkg **subsupscripts** **subsupscripts** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```
1 \LWR@ProvidesPackagePass{subsupscripts}[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{\lr superscriptsC}[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{\lrsupscripts}[3]{\fourscripts{\#1}{\#2}{\#3}{}}
25 }
26 \CustomizeMathJax{%
27   \newcommand{\lr twoscripts}[3]{\fourscripts{\#1}{\#2}{\#3}{}}
28 }
29 \CustomizeMathJax{%
30   \newcommand{\twoscripts}[4][- .16ex]{{}^{\#3}_{\#4}\hspace{\#1}\#2}%
31 }
32 \CustomizeMathJax{%
33   \newcommand{\tworscripts}[4][- .07ex]{{\#2}\hspace{\#1}{}^{\#3}_{\#4}}%
34 }
35 \CustomizeMathJax{%
36   \newcommand{\l subscript}[3][- .16ex]{\twoscripts{\#1}{\#2}{\#3}{}}
37 }
38 \CustomizeMathJax{%
39   \newcommand{\superscript}[3][- .16ex]{\twoscripts{\#1}{\#2}{\#3}{}}
40 }
41 \CustomizeMathJax{%
42   \newcommand{\r subscript}[3][- .07ex]{\tworscripts{\#1}{\#2}{\#3}{}}
43 }
44 \CustomizeMathJax{%
45   \newcommand{\rsuperscript}[3][- .07ex]{\tworscripts{\#1}{\#2}{\#3}{}}
46 }
47 \end{warpMathJax}
```

File 403 **l warp-supertabular.sty**

§ 505 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 & 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{\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 404 **lwarf-svg.sty**

§ 506 Package **SVG**

(Emulates or patches code by PHILIP ILTEN, FALK HANISCH.)

Pkg svg **svg** is patched for use by **lwarf**.

for HTML output: 1 \LWR@ProvidesPackagePass{svg}[2019/10/22]

```

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 405 l warp-syntonly.sty**§ 507 Package syntonly**

(Emulates or patches code by FRANK MITTELBACH, RAINER SCHÖPF.)

Pkg syntonly syntonly is ignored.

for HTML output: Discard all options for l warp-syntonly:

```
1 \LWR@ProvidesPackageDrop{syntonly}[2017/06/30]

2 \newif\ifsyntax@
3 \syntax@false
4
5 \newcommand*{\syntaxonly}{}%
6
7 \onlypreamble\syntaxonly

8 \def\nopages@{}
```

File 406 l warp-tabfigures.sty**§ 508 Package tabfigures**

Pkg tabfigures tabfigures is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

File 407 l warp-tablefootnote.sty**§ 509 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 408 **l warp-tables.sty**

§ 510 Package **tables**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **tables** **tables** is emulated. `\LWR@hline` is used to handle the optional argument when **tables** is loaded.

for HTML output: 1 `\LWR@ProvidesPackageDrop{tables}`

```
2 \newdimen\tablinesep  
3 \newdimen\arraylinesep  
4 \newdimen\extrarulesep
```

File 409 **l warp-tabularx.sty**

§ 511 Package **tabularx**

(Emulates or patches code by DAVID CARLISLE.)

Pkg **tabularx** **tabularx** is emulated by **l warp**.

for HTML output: Discard all options for **l warp-tabularx**:

```
1 \LWR@ProvidesPackageDrop{tabularx}[2016/02/03]  
2 \RequirePackage{array}  
  
3 \DeclareDocumentEnvironment{tabularx}{m o m}  
4 {\begin{array}{#3}}  
5 {\end{array}}  
6  
7 \DeclareDocumentEnvironment{tabularx*}{m o m}  
8 {\begin{array}{#3}}  
9 {\end{array}}
```

File 410 **l warp-tabulary.sty**

§ 512 Package **tabulary**

(Emulates or patches code by DAVID CARLISLE.)

Pkg **tabulary** **tabulary** is emulated by **l warp**.

for HTML output: Discard all options for l warp-tabulary.

Column types L, C, R, and J are emulated by l warp core code.

```
1 \LWR@ProvidesPackageDrop{tabulary}[2014/06/11]
2 \RequirePackage{array}

3 \NewDocumentEnvironment{tabulary}{m o m}
4 {\begin{array}{#3}}
5 {\end{array}}
6
7 \NewDocumentEnvironment{tabulary*}{m o m}
8 {\begin{array}{#3}}
9 {\end{array}}
10
11 \newdimen\tymin
12 \newdimen\tymax
13 \def\tyformat{}
```

File 411 l warp-tagpdf.sty

§ 513 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\pdffakespace { }
104   {
105     \__uftag_fakespace:
106   }
107 }
108
109 \ExplSyntaxOff
```

File 412 l warp-tascmac.sty

§ 514 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 413 l warp-textarea.sty**§ 515 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@restoretarea\empty
```

File 414 l warp-textcomp.sty**§ 516 Package `textcomp`**

(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)

Pkg `textcomp` `textcomp` is patched for use by `l warp`.

§ 516.1 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.

§ 516.2 Package loading

for HTML output: 1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]

§ 516.3 HTML symbols

For HTML, use HTML entities or direct Unicode, depending on the engine.

\AtBeginDocument improves support for Lua^LATEX and X^E^LATEX.

§ 516.3.1 pdf^LATEX 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@textrquill}{\HTMLunicode{2046}}
10 \newcommand*{\LWR@HTML@textcircledP}{\HTMLunicode{2117}}
11 \newcommand*{\LWR@HTML@texttwelvedash}{\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

```

§ 516.3.2 X^E^LATEX and Lua^LATEX 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}{°}
26 \newcommand*{\LWR@HTML@textcelsius}{℃}
27 \newcommand*{\LWR@HTML@textohm}{Ω}
28 \newcommand*{\LWR@HTML@textmu}{μ}
29 \newcommand*{\LWR@HTML@textlquill}{ℓ}
30 \newcommand*{\LWR@HTML@textrquill}{₱}
31 \newcommand*{\LWR@HTML@textcircledP}{₱}
32 \newcommand*{\LWR@HTML@texttwelvedash}{–}% emdash
33 \newcommand*{\LWR@HTML@textthreequartersemdash}{–}% emdash
34 \newcommand*{\LWR@HTML@textmho}{₫}
35 \newcommand*{\LWR@HTML@textnaira}{₦}
36 \newcommand*{\LWR@HTML@textpeso}{₱}

```

```

37 \newcommand*{\LWR@HTML@textrecipe}{\R}
38 \newcommand*{\LWR@HTML@textinterrobang}{\textinterrobang}
39 \newcommand*{\LWR@HTML@textinterrobangdown}{\textinterrobangdown}
40 \newcommand*{\LWR@HTML@textperthousand}{\textperthousand}
41 \newcommand*{\LWR@HTML@textpertenthousand}{\textpertenthousand}
42 \newcommand*{\LWR@HTML@textbaht}{\textbaht}
43 \newcommand*{\LWR@HTML@textdiscount}{\textdiscount}
44 \newcommand*{\LWR@HTML@textservicemark}{\textservicemark}
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}

```

§ 516.4 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 415 l warp-textfit.sty**§ 517 Package **textfit****

Pkg **textfit** **textfit** is emulated.

Text is placed into a 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 416 l warp-textpos.sty**§ 518 Package **textpos****

(Emulates or patches code by NORMAN GRAY.)

Pkg **textpos** **textpos** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{textpos}[2019/04/15]

```
2 \NewDocumentEnvironment{textblock}{m o r(){}{}}
3 \NewDocumentEnvironment{textblock*}{m o r(){}{}}
4 \newcommand*{\TPGrid}[3][]{\vphantom{#1}\vphantom{#2}\vphantom{#3}}
5 \NewDocumentCommand{\TPMargin}{s o}{}
```

```

6 \newcommand{\textblockcolour}[1]{}
7 \newcommand{\textblockrulecolour}[1]{}
8 \newcommand{\textblockcolor}[1]{}
9 \newcommand{\textblockrulecolor}[1]{}
10 \newcommand{\tekstblokkulur}[1]{}
11 \newcommand{\tekstblokrulekulur}[1]{}
12 \newlength{\TPHorizModule}
13 \newlength{\TPVertModule}
14 \newlength{\TPboxrulesize}
15 \newcommand{\textblocklabel}[1]{}
16 \newcommand{\showtextsize}{}
17 \newcommand{\textblockorigin}[2]{}
18 \newcommand{\TPoptions}[1]{}
19 \newcommand{\TPreferencePosition}[1]{}

```

File 417 **l warp-theorem.sty**

§ 519 Package **theorem**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg **theorem** **theorem** is patched for use by **l warp**.

Table 18: Theorem package—css styling of theorems and proofs

Theorem: <div> of class theorembody<theoremstyle>

Theorem Header: of class theoremheader

where <theoremstyle> is plain, break, etc.

for HTML output: 1 \LWR@ProvidesPackagePass{theorem}[2014/10/28]

§ 519.1 **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}\% l warp
8   }%
9   {%
10     \theorem@style{#1}%
11     \renewcommand{\LWR@newtheoremstyle}{#1}\% l warp
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\xnthy#1#2[#3]{%
17   \expandafter\@if definable\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 \attempa \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@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}\% lwarp
31   }%
32 }
33 \gdef\ynthy#1#2{%
34   \expandafter\@if definable\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 \attempa
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@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}\% lwarp
44   }%
45 }
46 \gdef\othy#1[#2]#3{%
47   \expandafter\ifx\csname c@#2\endcsname\relax
48     \nocounterr{#2}%
49   \else
50     \expandafter\@if definable\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 \attempa
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@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}\% lwarp
60   }%
61 \fi}

```

§ 519.2 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 \qquad ##1}\newline%
92     ]
93   }%
94 \def\@opargbegintheorem##1##2##3{%
95   \item[
96     \InlineClass{theoremheader}{##2 \qquad ##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 }
```

```

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 \qquad ##1}
133     ]
134   }%
135 \def\@opargbegintheorem##1##2##3{%
136   \item[%
137       \InlineClass{theoremheader}{##2 \qquad ##1\ (##3)}
138   ]
139 }
140 }

```

Patched for css:

```

141 \gdef\@thm#1#2{\refstepcounter{#1}%
142 \LWR@forcenewpage% lwarp
143   \BlockClass{theorembdy}\LWR@thisthmstyle}% lwarp
144   \trivlist
145   \atopsep \theorempreskipamount           % used by first \item
146   \atopsepadd \theorempostskipamount       % used by \endparenv
147   \@ifnextchar [%]
148   { \@ythm{#1}{#2} }%
149   { \begin{theorem}{#2}{\csname the#1\endcsname}\ignorespaces }%
150
151 \gdef\@endtheorem{%
152 \endtrivlist
153 \endBlockClass
154 }

```

File 418 l warp-thinsp.sty**§ 520 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 419 l warp-threadcol.sty**§ 521 Package threadcol**

Pkg threadcol threadcol is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]

```
2 \newcommand{\setthreadname}[1]{}
```

File 420 l warp-threeparttable.sty**§ 522 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 of class tnoteitemheader, otherwise they are plain text.

for HTML output: 1 \LWR@ProvidesPackageDrop{threeparttable}[2003/06/13]

Env threeparttable [$\langle alignment \rangle$]

```
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 421 **l warp-threeparttablex.sty**

§ 523 Package **threeparttablex**

Pkg threeparttablex threeparttablex is patched for use by l warp.

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 . .
\warpHTMLonly{ % 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, l warp 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@templengthone}{.375in*\value{LWR@tabletotalLaTeXcols}}%
4   \setlength{\LWR@templengthone}{\minof{\textwidth}{\LWR@templengthone}}%
5   \setlength{\LWR@templengthone}{\maxof{2.5in}{\LWR@templengthone}}%
6   \multicolumn{\value{LWR@tabletotalLaTeXcols}}{c}{%
7     \parbox{\LWR@templengthone}{%
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 422 **l warp-thumb.sty**

§ 524 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 423 **l warp-thumbs.sty**

§ 525 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 424 **l warp-tikz.sty**

§ 526 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 l warp-tikz:

```
1 \LWR@ProvidesPackagePass{tikz}[2015/08/07]
```

catcodes l warp 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, l warp must change \$'s catcode itself.

Also see:

<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 \latextimage. Enclose the low-level \pgfpicture in a \latextimage. This is also used by the higher-level \tikz and tikzpicture.

```

7 \preto\pgfpicture{%
8   \begin{latextimage}[-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@printtiny}
22 \def\pgfutil@font@scriptsize{\LWR@printsizescript}
23 \def\pgfutil@font@footnotesize{\LWR@printfootnotesize}
24 \def\pgfutil@font@small{\LWR@print@small}
25 \def\pgfutil@font@normalsize{\LWR@print@normalsize}
26 \def\pgfutil@font@large{\LWR@printlarge}
27 \def\pgfutil@font@Large{\LWR@printLarge}
28 \def\pgfutil@font@huge{\LWR@printhuge}
29 \def\pgfutil@font@Huge{\LWR@printHuge}
30
31 \def\pgfutil@font@itshape{\LWR@origitshape}
32 \def\pgfutil@font@bfseries{\LWR@origbfseries}
33
34 \def\pgfutil@font@normalfont{\LWR@orignormalfont}
```

File 425 **lwarf-titleps.sty**

§ 527 Package **titleps**

(Emulates or patches code by JAVIER BEZOS.)

Pkg **titleps** **titleps** is loaded and used by **lwarf** during **HTML** output. All user options and macros are ignored and disabled.

Discard all options for **lwarf-titleps**:

for HTML output: 1 \LWR@ProvidesPackageDrop{titleps}[2016/03/15]

\pagestyle and \thispagestyle are already disabled in the **lwarf** code.

```

\newpagestyle  {\langle name\rangle} [\langle style\rangle] {\langle commands\rangle}
               2 \NewDocumentCommand{\newpagestyle}{m o m}{}}

\renewpagestyle {\langle name\rangle} [\langle style\rangle] {\langle commands\rangle}
               3 \NewDocumentCommand{\renewpagestyle}{m o m}{}}

\sethead  [\langle el\rangle] [\langle ec\rangle] [\langle er\rangle] {\langle ol\rangle} {\langle oc\rangle} {\langle or\rangle}
```

```
4 \NewDocumentCommand{\sethead}{o o o m m m}{}  
  
\setfoot [⟨el⟩] [⟨ec⟩] [⟨er⟩] {⟨ol⟩} {⟨oc⟩} {⟨or⟩}  
5 \NewDocumentCommand{\setfoot}{o o o m m m}{}  
  
\settilemarks * {⟨names⟩}  
6 \NewDocumentCommand{\settilemarks}{s m}{}  
  
\headrule  
7 \newcommand*{\headrule}{}  
  
\footrule  
8 \newcommand*{\footrule}{}  
  
\setheadrule {⟨length⟩}  
9 \newcommand*{\setheadrule}[1]{}  
  
\setfootrule {⟨length⟩}  
10 \newcommand*{\setfootrule}[1]{}  
  
\makeheadrule  
11 \newcommand*{\makeheadrule}{}  
  
\makefootrule  
12 \newcommand*{\makefootrule}{}  
  
\setmarkboth {⟨code⟩}  
13 \newcommand*{\setmarkboth}[1]{}  
  
\widenhead  
14 \NewDocumentCommand{\widenhead}{s o o m m}{}  
  
\bottilemarks  
15 \newcommand*{\bottilemarks}{}  
  
\toptilemarks  
16 \newcommand*{\toptilemarks}{}  
  
\firstrulemarks
```

```
17 \newcommand*{\firsttitlemarks}{}  
  
\nexttitlemarks  
18 \newcommand*{\nexttoptitlemarks}{}  
  
\outertitlemarks  
19 \newcommand*{\outertitlemarks}{}  
  
\innertitlemarks  
20 \newcommand*{\innertitlemarks}{}  
  
\newtitlemark * {\langle name\rangle}  
21 \NewDocumentCommand{\newtitlemark}{s m}{}  
  
\pretitlemark * {\langle section\rangle} {\langle text\rangle}  
22 \NewDocumentCommand{\pretitlemark}{s m m}{}  
  
\ifsamemark {\langle group\rangle} {\langle command\rangle} {\langle true\rangle} {\langle false\rangle}  
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 {\langle markset\rangle}  
28 \newcommand{\newmarkset}[1]{}  
  
\newextramark * {\langle markset\rangle} {\langle macro-name\rangle}  
29 \NewDocumentCommand{\newextramark}{s m m}{}  
  
\botextramarks {\langle markset\rangle}
```

```
30 \newcommand{\botextramarks}[1]{}

\topextramarks  {\langle markset\rangle}
31 \newcommand{\topextramarks}[1]{}

\firsextramarks {\langle markset\rangle}
32 \newcommand{\firsextramarks}[1]{}

\nextextramarks {\langle markset\rangle}
33 \newcommand{\nexttopextramarks}[1]{}

\outerextramarks {\langle markset\rangle}
34 \newcommand{\outerextramarks}[1]{}

\innerextramarks {\langle markset\rangle}
35 \newcommand{\innerextramarks}[1]{}
```

File 426 **l warp-titleref.sty**

§ 528 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 427 **l warp-titlesec.sty**

§ 529 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 `\warp-titlesec`:

```
for HTML output: 1 \PackageInfo{l warp}{Using the l warp version of package 'titlesec'.}%
2 \ProvidesPackage{l warp-titlesec}[2016/03/21]
3
4 \newbool{LWR@loadtitleps}
5 \boolfalse{LWR@loadtitleps}
6
7 \DeclareOption{pagestyles}{
8     \booltrue{LWR@Loadtitleps}
9 }
10
11 \DeclareOption*{}
12
13 \ProcessOptions\relax
14
15 \ifbool{LWR@loadtitleps}{
16     \RequirePackage{l warp-titleps}
17 }{}


\titelabel {⟨label-format⟩}
18 \newcommand*\titlename{⟨label-format⟩}[1]{}

\titleformat* {⟨command⟩} {⟨format⟩}

\titleformat {⟨command⟩} [⟨shape⟩] {⟨format⟩} {⟨label⟩} {⟨sep⟩} {⟨before⟩} [⟨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 m m m m o}{}

\chaptename
24 @ifundefined{@chapapp}{\let\@chapapp\chaptename}{}
25 \newcommand\chaptename{\@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}  
  
\titleline * [⟨align⟩] {⟨material⟩}  
35 \NewDocumentCommand{\titleline}{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 428 l warp-titletoc.sty

§ 530 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 l warp-titletoc:

```
for HTML output: 1 \LWR@ProvidesPackageDrop{titletoc}[2011/12/15]

\dotcontents {⟨section⟩} [⟨left⟩] {⟨above⟩} {⟨label⟩} {⟨leader⟩}
 2 \NewDocumentCommand{\dotcontents}{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 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 429 **l warp-titling.sty**

§ 531 Package **titling**

(Emulates or patches code by PETER WILSON.)

Pkg titling

package support
⚠ load order

l warp supports the native L^AT_EX titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

\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 66.8.

The various titling footnote restyling commands have no effect.

Pass all options to l warp-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{\textsuperscript{\@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 \tmark \atethfnmark \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 \tmark \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@htmlltag{\LWR@tagtitle}%
61         \@bspretitle \@title \@bsposttitle%
62         \LWR@htmlltag{\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}{titldate}%
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’, ‘fn-symbol’, etc.

92 \renewcommand{\thanksmarkseries}[1]{%

93 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}{footnote}}}%

94 }

Set default titlepage thanks footnote marks. See section 66.7.

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 430 **l warp-tocbasic.sty**

§ 532 Package **tocbasic**

(Emulates or patches code by MARKUS KOHM.)

Pkg **tocbasic** **tocbasic** is nullified for **l warp**.

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 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 431 **lwarf-tocbibind.sty**

§ 533 Package **tocbibind**

(Emulates or patches code by PETER WILSON.)

Pkg **tocbibind** **tocbibind** is patched for use by **lwarf**.

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 L^AT_EX 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 **numbered index section** 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{\emptyset}}{%
34     \def\@chapcntformat##1{%
35         #1\csname the##1\endcsname\simplechapterdelim\quad%
```

```
36      }%
37 }
38
39 \DeclareDocumentCommand{\restorechapter}{}{%
40 \let\@chapcntformat\@secCntFormat%
41 }
```

File 432 **l warp-tocdata.sty**

§ 534 Package **tocdata**

(Emulates or patches code by BRIAN DUNN.)

Pkg tocdata tocdata is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{tocdata}[2019/07/06]

```
2 \renewcommand*{\LWR@maybetocdata}{%
3   \ifdefempty{\TD@thistocdata}{}{%
4     \qquad \InlineClass{authorartist}{\tocdataformat{\TD@thistocdata}}{%
5       \def\TD@thistocdata{}%
6     }%
7   }%
8 \renewrobustcmd{\tocdatapartprint}[4]
9 {%
10   \InlineClass{authorartist}{%
11     \qquad --- %
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{\TD@istaauthorprint}[5]{%
```

```

36   \LWR@TD@settextalign{#1}%
37   \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
38   \InlineClass{authorartist}{\TOptionalnameprint{#2}\TOptionalnameprint{#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{\TDartistaauthortextprint}[2]{%
56   \LWR@TD@setnamealign{#1}%
57   \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58   #2%
59   \end{BlockClass}%
60 }

```

File 433 **l warp-tocenter.sty**

§ 535 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 m}{}

File 434 **l warp-tocloft.sty**

§ 536 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 LATEX 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 {\langle style\rangle}
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 {⟨sep⟩}  
21 \providecommand{\cftdotfill}[1]{}  
  
\cftsetpnumwidth {⟨length⟩}  
22 \DeclareDocumentCommand{\cftsetpnumwidth}{m}{}  
  
\cftsetrmargin {⟨length⟩}  
23 \DeclareDocumentCommand{\cftsetrmargin}{m}{}  
  
\cftpnumalign {⟨alignment⟩}  
24 \DeclareDocumentCommand{\cftpnumalign}{m}{}  
  
25 \LWR@providelength{\cftparskip}
```

The part-related items are also provided by memoir:

```
26 \LWR@providelength{\cftbeforeparts skip}  
27 \LWR@providelength{\cftp indent}  
28 \LWR@providelength{\cftp partnumwidth}  
29 \providecommand*\cftp partfont{}  
30 \providecommand*\cftp partpresnum{}  
31 \providecommand*\cftp partaftersnum{}  
32 \providecommand*\cftp partaftersnumb{}  
33 \providecommand*\cftp partleader{}  
34 \providecommand*\cftp partdotsep{}{1}  
35 \providecommand*\cftp partpagefont{}  
36 \providecommand*\cftp partafterpnum{}}
```

memoir uses the full name “chapter” instead of “chap”:

```
37 \LWR@providelength{\cftbeforechapskip}  
38 \LWR@providelength{\cftchap indent}  
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}{}  
48 \newcommand*{\cftchapaftersnumb}{  
49 \cftchapaftersnumb  
50 }
```

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*{\cftsecpagelayout}{}
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*{\cftsubsecpagelayout}{}
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*{\cftsubsubsecpagelayout}{}
80 \newcommand*{\cftsubsubsecafterpnum}{}

81 \LWR@providelength{\cftbeforeparaskip}
82 \LWR@providelength{\cftparraindent}
83 \LWR@providelength{\cftparranumwidth}
84 \newcommand*{\cftparrafont}{}
85 \newcommand*{\cftparrapresnum}{}
86 \newcommand*{\cftparraaftersnum}{}
87 \newcommand*{\cftparraaftersnumb}{}
88 \newcommand*{\cftparraleader}{}
89 \newcommand*{\cftparradotsep}{1}
90 \newcommand*{\cftparrapagelayout}{}
91 \newcommand*{\cftparraafterpnum}{}
```

```
92 \LWR@provide length{\cftbefore subpara skip}
93 \LWR@provide length{\cftsub para indent}
94 \LWR@provide length{\cftsub para num width}
95 \newcommand*{\cftsub para font} {}
96 \newcommand*{\cftsub para presnum} {}
97 \newcommand*{\cftsub para after snum} {}
98 \newcommand*{\cftsub para after snum b} {}
99 \newcommand*{\cftsub para leader} {}
100 \newcommand*{\cftsub para dotsep}{1}
101 \newcommand*{\cftsub para page font} {}
102 \newcommand*{\cftsub para after pnum} {}

103 \LWR@provide length{\cft before fig skip}
104 \LWR@provide length{\cftfig indent}
105 \LWR@provide length{\cftfig num width}
106 \newcommand*{\cftfig font} {}
107 \newcommand*{\cftfig presnum} {}
108 \newcommand*{\cftfig after snum} {}
109 \newcommand*{\cftfig after snum b} {}
110 \newcommand*{\cftfig leader} {}
111 \newcommand*{\cftfig dotsep}{1}
112 \newcommand*{\cftfig page font} {}
113 \newcommand*{\cftfig after pnum} {}

114 \LWR@provide length{\cft before subfig skip}
115 \LWR@provide length{\cftsub fig indent}
116 \LWR@provide length{\cftsub fig num width}
117 \newcommand*{\cftsub fig font} {}
118 \newcommand*{\cftsub fig presnum} {}
119 \newcommand*{\cftsub fig after snum} {}
120 \newcommand*{\cftsub fig after snum b} {}
121 \newcommand*{\cftsub fig leader} {}
122 \newcommand*{\cftsub fig dotsep}{1}
123 \newcommand*{\cftsub fig page font} {}
124 \newcommand*{\cftsub fig after pnum} {}

125 \LWR@provide length{\cft before tabs skip}
126 \LWR@provide length{\cfttab indent}
127 \LWR@provide length{\cfttab num width}
128 \newcommand*{\cfttab font} {}
129 \newcommand*{\cfttab presnum} {}
130 \newcommand*{\cfttab after snum} {}
131 \newcommand*{\cfttab after snum b} {}
132 \newcommand*{\cfttab leader} {}
133 \newcommand*{\cfttab dotsep}{1}
134 \newcommand*{\cfttab page font} {}
135 \newcommand*{\cfttab after pnum} {}

136 \LWR@provide length{\cft before sub tabs skip}
137 \LWR@provide length{\cftsub tab indent}
138 \LWR@provide length{\cftsub tab num width}
139 \newcommand*{\cftsub tab font} {}
140 \newcommand*{\cftsub tab presnum} {}
141 \newcommand*{\cftsub tab after snum} {}
142 \newcommand*{\cftsub tab after snum b} {}
```

```

143 \newcommand*{\cftsubtableleader}(){}
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}%
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 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{cftaftetitle}{}%
201  \@namedef{cft#3prehook}{}%
202  \@namedef{cft#3posthook}{}%
203 }

\cftchapterprecis  {\langle text\rangle}

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 435 **lwarp-tocstyle.sty**

§ 537 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 436 l warp-todo.sty

§ 538 Package **todo**

(Emulates or patches code by FEDERICO GARCIA.)

Pkg todo todo is patched for use by l warp.

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\todomark\else\textrm{\#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\todomark\else\textrm{\#1}\fi}#2%
18 }
19
20 \xpatchcmd{\@displaytodo}
21     {\todoformat #1}{\todoformat \textbf{#1}}{%
22     {\PackageWarning{l warp-todo}{Unable to patch @displaytodo.}}}
23
24 \xpatchcmd{\@displayfulltodo}
25     {\todoformat #1}{\todoformat \textbf{#1}}{%
26     {\PackageWarning{l warp-todo}{Unable to patch @displayfulltodo.}}}
27
28 \patchcmd{\todoenv}{\itshape see text.}{\textit{see text.}}{%
29     {\PackageWarning{l warp-todo}{Unable to patch todoenv.}}}
30
31 \patchcmd{\astodos}{\todoformat #1}{\todoformat \textbf{#1}}{%
32     {\PackageWarning{l warp-todo}{Unable to patch astodos.}}}
33
34 \AtBeginDocument{
35     \crefname{todo}{todo}{todos}
36     \Crefname{todo}{Todo}{Todos}
37 }
```

File 437 **l warp-todonotes.sty**

§ 539 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}{\textcolor{red}{#1}}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\textcolor{red}{#1}}{\textcolor{red}{#2}}}

8 \let\LWRTODONOTES@orig@todototoc\todototoc
9
10 \renewcommand*{\todototoc}{%
11 \LWR@phantomsection%
12 \LWRTODONOTES@orig@todototoc%
13 }
14
15 \renewcommand{\@todonotes@drawMarginNoteWithLine}{%
16 \fcolorbox{%
17   \color{todonotes@currentbordercolor}%
18   \color{todonotes@currentbackgroundcolor}%
19   \arabic{@todonotes@numberoftodonotes}%
20 }{\marginpar{\@todonotes@drawMarginNote}%
21 }
22
23 \renewcommand{\@todonotes@drawInlineNote}{%
24 \fcolorboxBlock{%
25   \color{todonotes@currentbordercolor}%
26   \color{todonotes@currentbackgroundcolor}%
27   {%
28     \if@todonotes@authorgiven%
29       \color{todonotes@author:}%
30     \fi%
31     \color{todonotes@text}%
32   }%
33 }
34
35 \renewcommand{\@todonotes@drawMarginNote}{%
36   \if@todonotes@authorgiven%
```

```
37      \atodonotes@author\par%
38  \fi%
39  \arabic{@todonotes@numberoftodonotes}: %
40  \fcolorbox%
41  {\atodonotes@currentbordercolor}%
42  {\atodonotes@currentbackgroundcolor}%
43  {%
44      \atodonotes@sizecommand%
45      \atodonotes@text %
46  }%
47 }%
48
49 \renewcommand{\atodonotes@drawLineToRightMargin}{}
50
51 \renewcommand{\atodonotes@drawLineToLeftMargin}{}
52
53 \renewcommand{\missingfigure}[2][]{%
54 \setkeys{todonotes}{#1}%
55 \addcontentsline{tdo}{todo}{\atodonotes@MissingFigureText: #2}%
56 \fcolorboxBlock%
57  {\atodonotes@currentbordercolor}%
58  {\atodonotes@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 438 **lwarf-topcapt.sty**

§ 540 Package **topcapt**

Pkg topcapt **topcapt** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]

2 \LetLtxMacro{\topcaption}{\caption}

File 439 l warp-tram.sty**§ 541 Package tram**

Pkg **tram** **tram** is emulated.

⚠ **block only** The HTML emulation uses a `<div>`, which must not appear inside an HTML `` 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 440 l warp-transparent.sty**§ 542 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 E T A X !** Note that `transparent` does not work with X E T A X .

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 441 l warp-trimclip.sty**§ 543 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 442 l warp-trivfloat.sty**§ 544 Package trivfloat**

(Emulates or patches code by JOSEPH WRIGHT.)

Pkg trivfloat trivfloat is forced to use the built-in l warp 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 l warp-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 `l warp`.

for HTML output:

```

3 \begin{warpHTML}

4 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{}}

5 \end{warpHTML}

```

§ 544.1 Combining `\newfloat`, `\trivfloat`, and `algorithmicx`

for HTML & PRINT:

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

```

7 \end{warpall}

File 443 **l warp-truncate.sty**

§ 545 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 444 **l warp-turnthepage.sty**

§ 546 Package **turnthepage**

Pkg `turnthepage` `turnthepage` is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]  
2 \newcommand{\turnthepage}{}  


---


```

File 445 **l warp-twoup.sty**

§ 547 Package **twoup**

Pkg twoup twoup is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]  
2 \newcommand{\cleartolastpage}{}  


---


```

File 446 **l warp-typearea.sty**

§ 548 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{\recalctypearea}{}{}  
4 \@ifundefined{fooheight}{\newlength\fooheight}{}  
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 447 **l warp-typicons.sty**

§ 549 Package **typicons**

(Emulates or patches code by ARTHUR VIGIL, XAVIER DANAUX.)

Pkg typicons typicons is patched for use by l warp.

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{latentimage}*[typicon][typicon#1]%
8   \begingroup%
9     \LWR@orig@typicon@TI%
10    \LWR@orig@symbol{#1}%
11  \endgroup%
12  \end{latentimage}%
13 }
14
15 \renewcommand*{\TI}{%
16   \LetLtxMacro{\symbol}{\LWR@typicon@symbol}%
17 }
18
19 \renewcommand*{\ticon}[1]{%
20 {%
21   \begin{latentimage}*[#1 icon][typicon#1]%
22   \TI\csname ticon@#1\endcsname%
23   \end{latentimage}%
24 }
```

File 448 l warp-ulem.sty

§ 550 Package **ulem**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **ulem** Patched for use by **l warp**.

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 449 l warp-umoline.sty

§ 551 Package **umoline**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg umoline umoline is patched for use by l warp.

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 450 l warp-underscore.sty

§ 552 Package **underscore**

Pkg underscore underscore is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]

File 451 **l warp-unicode-math.sty**

§ 553 Package **unicode-math**

(Emulates or patches code by WILL ROBERTSON.)

Pkg **unicode-math** **unicode-math** is supported as-is for **HTML** with **svgmath**.

For **MATHJAX**, many characters may not be read correctly, such as bold letters, and so are not read correctly by **pdftotext** for **HTML**. Symbol font commands are emulated, but not all combinations are supported by **MathJax**.

for HTML output:

```
1 \LWR@ProvidesPackagePass{unicode-math}[2019/09/26]

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{unicode-math}
4
5 % Not all are possible in MathJax.
6 \CustomizeMathJax{\let\symnormal\mathit}
7 \CustomizeMathJax{\let\symliteral\mathrm}
8 \CustomizeMathJax{\let\symbb\mathbb}
9 \CustomizeMathJax{\let\sympbit\mathbb}% not italic
10 \CustomizeMathJax{\let\symcal\mathcal}
11 \CustomizeMathJax{\let\symscr\mathscr}
12 \CustomizeMathJax{\let\symfrak\mathfrak}
13 \CustomizeMathJax{\let\symsfup\mathsf}
14
15 % \CustomizeMathJax{\let\symsfit\mathit}% not sans
16 \CustomizeMathJax{\newcommand{\symsfit}[1]{%
17     \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}%
18 }
19
20 % \CustomizeMathJax{\let\symbfsf\mathbf}% not sans
21 \CustomizeMathJax{\newcommand{\symbfsf}[1]{%
22     \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}%
23 }
24
25 \CustomizeMathJax{\let\symbfup\mathbf}
26 \CustomizeMathJax{\newcommand{\symbfit}[1]{\boldsymbol{#1}}}
27 \CustomizeMathJax{\let\symbfcal\mathcal}% not bold
28
29 \CustomizeMathJax{\let\symbfscr\mathscr}% not bold
30 \CustomizeMathJax{\newcommand{\symbfscr}[1]{%
31     \mmlToken{mi}[mathvariant="math-bold-script"]{#1}}%
32 }
33
34 \CustomizeMathJax{\let\symbffrak\mathfrak}% not bold
35 \CustomizeMathJax{\newcommand{\symbffrak}[1]{%
36     \mmlToken{mi}[mathvariant="math-bold-fraktur"]{#1}}%
37 }
38
```

```

39 % \CustomizeMathJax{\let\symbolfsup\mathbf}{% not sans
40 \CustomizeMathJax{\newcommand{\symbolfsup}[1]{%
41   \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}}{%
42 }
43
44 % \CustomizeMathJax{\let\symbolfsfit\mathit}{% not bold nor sans
45 \CustomizeMathJax{\newcommand{\symbolfsfit}[1]{%
46   \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}}}{%
47 }
48
49 % Duplicates below are commented out.
50 \CustomizeMathJax{\let\symbolup\mathrm}{%
51 \CustomizeMathJax{\let\symbolbf\mathbf}{% \symbolup defined above
52 \CustomizeMathJax{\let\symbolit\mathit}{%
53 % \CustomizeMathJax{\let\symbolfit\mathit}{% not bold
54 \CustomizeMathJax{\let\symbolsf\mathsf}{%
55 % \CustomizeMathJax{\let\symbolfsup\mathbf}{% not sans
56 % \CustomizeMathJax{\let\symbolfit\mathit}{% not sans
57 % \CustomizeMathJax{\let\symbolfsfit\mathit}{% not bold nor sans
58 \CustomizeMathJax{\let\symboltt\mathit}{%
59 % \CustomizeMathJax{\let\symbolbb\mathbb}{%
60 % \CustomizeMathJax{\let\symbolbit\mathbb}{% not italic
61 % \CustomizeMathJax{\let\symbolscr\mathscr}{%
62 % \CustomizeMathJax{\let\symbolfscr\mathscr}{% not bold
63 % \CustomizeMathJax{\let\symbolfrak\mathfrak}{%
64 \CustomizeMathJax{\let\symbolffrac\mathbffrac}{%
65 \end{warpMathJax}

```

File 452 **lwarf-units.sty**

§ 554 Package **units**

(Emulates or patches code by AXEL REICHERT.)

Pkg **units** **units** is patched for use by **lwarf**.

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}}{\cdot}{,}%
20     \nicefrac{#2}{#3}%
21   }%
22 }%
23
24 \LWR@formatted{unitfrac}

```

For Mathjax:

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\unit}[2][]{\#1 \#2}}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][]{\#1 \#2/\#3}}
28 \end{warpMathJax}

```

File 453 **l warp-unitsdef.sty**

§ 555 Package **unitsdef**

(Emulates or patches code by PATRICK HAPPEL.)

Pkg unitsdef unitsdef is patched for use by l warp.

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}}\kern-.1em}%
9     {\HTMLUnicode{2032}}\prime
10 }%
11
12 \renewunit{\arcsec}{%
13   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
14     {\ensuremath{{}^{\prime\prime}}\kern-.1em}%
15     {\HTMLUnicode{2033}}\kern-.1em\prime
16 }%
17
18 \renewrobustcmd{\SI}[2]{%
19   \begingroup%
20     \let\unit@\xspace\relax%

```

```
21     \unitSIdef\selectfont%
22         \LWR@textcurrentfont{\#1#2}% l warp
23 \endgroup%
24 }
```

File 454 l warp-upref.sty**§ 556 Package upref**

Pkg upref upref is ignored.

for HTML output: Discard all options for l warp-upref:

```
1 \LWR@ProvidesPackageDrop{upref}[2007/03/14]
```

File 455 l warp-url.sty**§ 557 Package url**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg url url is patched for use by l warp.

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 456 l warp-uspace.sty**§ 558 Package uspace**

Pkg uspace uspace is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{uspace}[2016/11/06]

File 457 l warp-verse.sty**§ 559 Package verse**

(Emulates or patches code by PETER WILSON.)

Pkg `verse` `verse` is supported and patched by `l warp`.

for HTML output:

```
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. `l warp` 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 `\HTMLvleftskip` 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 `pdftotext`'s ability to discern the layout (-layout option) of the text in the `HTML`-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLvleftskip` 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.

⚠ verse margin

`\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`

`\Len \vleftskip`

```

7 \ifdef{\vleftskip}{%
8 \setlength{\vleftskip}{\HTMLvleftskip}
9 \setlength{\leftmargini}{\HTMLleftmargini}
10 }{%
11 \LWR@forcenewpage
12 \LWR@atbeginverbatim{3}{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{1}%
17 }

```

Patch to place `poemtitle` inside an `HTML ` of class `poemtitle`:

```

18 \ifdef{\poemtitle}{%
19 \DeclareDocumentCommand{\vstypepoemtitle}{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 458 **lwarp-personotes.sty**

§ 560 Package **personotes**

(Emulates or patches code by NORMAN GRAY.)

Pkg `personotes` **personotes** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{personotes}[2019/07/06]

```

2 \newcommand{\versenote}[1]{\marginpar{\#1}}
3 \newdimen\versotextwidth
4 \newdimen\versoleftmargin
5 \newcommand*\versolayout(){}

```

In case the user changed the page number before loading `personotes`:

```

6 \setcounter{page}{1}

```

File 459 l warp-vertbars.sty

§ 561 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 460 l warp-vmargin.sty

§ 562 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][]{\ifstreq{\#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 461 l warp-vowel.sty

§ 563 Package **vowel**

(Emulates or patches code by FUKUI REI.)

Pkg vowel vowel is patched for use by l warp.

This package has been tested with *pdflatex* 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 462 l warp-vpe.sty

§ 564 Package **vpe**

Pkg vpe vpe is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

File 463 l warp-vwcol.sty

§ 565 Package **VWCOL**

(Emulates or patches code by WILL ROBERTSON.)

Pkg vwcol vwcol is patched for use with l warp.

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 {<style tag>}
1 \newcommand*{\LWR@vwcol@addrule}[1]{%
2   \appto{\LWR@vwcolstyle}{%
3     #1: %
4     \LWR@printlength{\vwcol@rule} solid \LWR@origpound\LWR@vwcol@rulecolor ; %
5   }%
6 }%
7 }
```

```
\LWR@vwcol@addrule {<style tag>}
8 \newcommand*{\LWR@vwcol@addgap}[1]{%
9   \appto{\LWR@vwcolstyle}{%
10    #1: %
11    \LWR@printlength{\vwcol@sep} ; %
12  }%
13 }
```

Env `vwcol` {*key/values*}

Redefine the environment to add a `HTML` style. The style is built depending on the required options.

14 \renewenvironment*{vwcol}[1][]{%

New paragraph, and process the options:

15 \LWR@stopars%
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         }
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 464 l warp-wallpaper.sty

§ 566 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 465 l warp-watermark.sty

§ 567 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 466 l warp-widetable.sty**§ 568 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 467 l warp-widows-and-orphans.sty**§ 569 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{}{}
3 \NewDocumentCommand\Wa0parameters{}{}
4 \NewDocumentCommand\Wa0ignorenext{}{}

File 468 l warp-witharrows.sty**§ 570 Package witharrows**

(Emulates or patches code by F. PANTIGNY.)

Pkg **witharrows** **witharrows** is patched for use by **l warp**. Emulation is provided for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{witharrows}[2019/12/27]

2 \begin{warpHTML}
3 \makeatletter
4 \ifbool{mathjax}{
5 % For the hidden print version in the HTML:
6 \newcommand{\Arrow}[2][]{
7 \newcommand{\unicode}[1]{
8 \NewDocumentEnvironment { DispWithArrows } { ! d < > ! O { } +b }
9 {
10 \IfValueTF{#1}{
11 \begin{displaymath}
12 #1 \left\{ \right.

```
13          \begin{align}
14          #3
15          \end{align}
16          \right .
17          \end{displaymath}
18      }{
19          \begin{displaymath}
20          \begin{align}
21          #3
22          \end{align}
23          \end{displaymath}
24      }
25  }
26  {}
27 \NewDocumentEnvironment { DispWithArrows* } { ! d < > ! O { } +b}
28  {
29      \IfValueTF{#1}{
30          \begin{displaymath}
31          #1 \left\{ \left.
32          \begin{align*}
33          #3
34          \end{align*}
35          \right .
36          \end{displaymath}
37      }{
38          \begin{displaymath}
39          \begin{align*}
40          #3
41          \end{align*}
42          \end{displaymath}
43      }
44  }
45  {}
46 }{
47 % If not MathJax, use SVG images.
48 \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknownmathsize}}
49 \BeforeBeginEnvironment{DispWithArrows}){
50     \begin{BlockClass}{displaymathnumbered}%
51     \begin{ lateximage}%
52     }
53     \AfterEndEnvironment{DispWithArrows}{\end{ lateximage}\end{BlockClass}}
54     \BeforeBeginEnvironment{DispWithArrows*}){
55         \begin{BlockClass}{displaymath}%
56         \begin{ lateximage}%
57         }
58         \AfterEndEnvironment{DispWithArrows*}{\end{ lateximage}\end{BlockClass}}
59 }
60 \makeatother
61 \end{warpHTML}
62
63 \begin{warpMathJax}
64 \CustomizeMathJax{\newenvironment{WithArrows}[1][]{\begin{aligned}}{\end{aligned}}}
65 % Unable to make a sized box.
66 \CustomizeMathJax{\newcommand{\Arrow}[2][]{\&{\Large\unicode{x2938}}\textit{#2}}}
67 \end{warpMathJax}
```

File 469 **l warp-wrapfig.sty**

§ 571 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 470 l warp-xbmks.sty

§ 572 Package **xbmks**

Pkg xbmks xbmks is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{xbmks}[2018/07/04]

```
2 \newcommand{\xmksetup}[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 471 l warp-xcolor.sty

§ 573 Package **xcolor**

(Emulates or patches code by DR. UWE KERN.)

Pkg xcolor xcolor is supported by l warp.

§ 573.1 Limitations

\colorboxBlock and \fcolorboxBlock	\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.

§ 573.2 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 86. 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 518.

\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 1114.

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 1115.

HTML lateximage: Remembers and reuses the print version.

\colorboxBlock:

Print: Becomes \colorbox.

HTML: Newly defined by *lwarp-xcolor* to use a <div>, page 1115.

HTML lateximage: Remembers and reuses the print version \colorbox.

\fcolorbox:

Print: Modified to allow a background of none.

\LWR@print@fcolorbox at section 86

HTML: Redefined by *lwarp-xcolor*, page 1115.

HTML lateximage: Remembers and reuses the print version.

\fcolorboxBlock:

Print: Becomes \fcolorbox. Section 86

HTML: Newly defined by *lwarp-xcolor* to use a <div>, page 1116.

HTML lateximage: Remembers and reuses the print version \fcolorbox.

fcolorminipage:

Print: Newly defined in the *lwarp* core.

\LWR@print@fcolorminipage at section 86

HTML: Newly defined by `lwarp-xcolor`, page 1117.

HTML `lateximage`: Uses the print version.

\boxframe:

Print: Used as-is.

HTML: Redefined by `lwarp-xcolor`, page 1118.

HTML `lateximage`: Remembers and reuses the print version.

§ 573.3 Package loading

```
for HTML output: 1 \LWR@ProvidesPackagePass{xcolor}[2016/05/11]
                  2 \begin{warpHTML}
```

§ 573.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a `lateximage` environment:

```
3 \LetLtxMacro{\LWR@print@pagecolor}{\pagecolor}
4 \LetLtxMacro{\LWR@print@nopagecolor}{\nopagecolor}
```

`\LWR@restoreorigformatting` Inside a `lateximage` the following gets restored to their print-mode actions:

```
5 \appto{\LWR@restoreorigformatting}{%
6 \LetLtxMacro{\pagecolor}{\LWR@print@pagecolor}%
7 \LetLtxMacro{\nopagecolor}{\LWR@print@nopagecolor}%
8 }
```

§ 573.5 \normalcolor

```
\normalcolor
9 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%
10
11 \LWR@formatted{normalcolor}
```

§ 573.6 HTML color style

```
\LWR@findcurrenttextcolor Sets \LWR@tempcolor to the current color.
12 \renewcommand*{\LWR@findcurrenttextcolor}{%
13 \protect\colorlet{\LWR@current@color}{.}%
14 \protect\convertcolorspec[named]{\LWR@current@color}{HTML}\LWR@tempcolor%
15 }
```

Prints a color style for the current color.

```
16 \newcommand*{\LWR@currenttextcolorstyle}{%
17 \LWR@findcurrenttextcolor%
18 \ifdefstring{\LWR@tempcolor}{000000}%
19 {}%
20 {color: \LWR@origpound\LWR@tempcolor ; }%
21 }
```

\LWR@textcurrentcolor {*text*} Like \textcolor but uses the current \color instead.

```
22 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
23 \begingroup%
24 \LWR@FBcancel%
25 \LWR@findcurrenttextcolor%
26 \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
27     \renewcommand*\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
28     #1%
29 }%
30 \endgroup%
31 }
```

\LWR@colorstyle {*model*} {*color*}

For a color style, prints the color converted to HTML colors.

```
32 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
33 \begingroup%
34 \LWR@FBcancel%
```

Use the xcolor package to convert to an HTML color space:

```
35 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
```

Print the converted color:

```
36 \LWR@origpound\LWR@tempcolor%
37 \endgroup%
38 }
```

\LWR@backgroundcolor [*model*] {*color*} {*text*}

Similar to \textcolor, but prints black text against a color background.

Converted into an HTML hex color span.

```
39 \NewDocumentCommand{\LWR@backgroundcolor}{O{named} m m}{%
40 \begingroup%
41 \LWR@FBcancel%
42 \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
43 #3%
44 }%
45 \endgroup%
46 }
```

§ 573.7 **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.

```
47 \newcommand*{\LWR@borderpadding}[2]{%
48 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
49 padding:\LWR@printlength{\fboxsep}%
50 }
```

§ 573.8 **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.

```
51 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
52 \IfValueTF{#1}{%
53   \LWR@print@color[#1]{#2}%
54   \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
55 }{%
56   \LWR@print@color{#2}%
57   \convertcolorspec{named}{#2}{HTML}\LWR@tempcolor%
58 }%
59 \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
60 }%
61
62 \LWR@formatted{color}
```

\textcolor [*model*] {*color*} {*text*}

Converted into an HTML hex color span.

```
63 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
64 \begingroup%
65 \LWR@FBcancel%
66 \IfValueTF{#1}{%
67   \color[#1]{#2}%
68 }{%
69   \color{#2}%
70 }%
71 \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%
72 \endgroup%
73 }%
74
75 \LWR@formatted{textcolor}
```

\pagecolor [*model*] {*color*}

Ignored. Use css instead.

```
76 \renewcommand*{\pagecolor}[2][named]{}
```

\nopagecolor Ignored.

```
77 \renewcommand*\nopagecolor{}
```

\colorbox [⟨model⟩] {⟨color⟩} {⟨text⟩}

Converted into an HTML hex background color .

```
78 \NewDocumentCommand{\LWR@HTML@colorbox}{O{named} m +m}{%
79 \begingroup%
80 \LWR@FBcancel%
81 \InlineClass[%%
82 background:\LWR@colorstyle{#1}{#2} ; %
83 padding:\LWR@printlength{\fboxsep}%
84 ]{colorbox}{#3}%
85 \endgroup%
86 }
87
88 \AtBeginDocument{%
89     \LWR@formatted{colorbox}%
90 }
```

\colorboxBlock [⟨model⟩] {⟨color⟩} {⟨text⟩}

Converted into an HTML hex background color <div>.

```
91 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%
92 \begingroup%
93 \LWR@FBcancel%
94 \LWR@stoppars%
95 \begin{BlockClass}[%%
96 background:\LWR@colorstyle{#1}{#2} ; %
97 padding:\LWR@printlength{\fboxsep}%
98 ]{colorboxBlock}%
99 #3%
100 \end{BlockClass}%
101 \endgroup%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
102 \global\booltrue{\LWR@minipagethispar}%
103 }
104
105 \AtBeginDocument{%
106     \LWR@formatted{colorboxBlock}%
107 }
```

```
\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.

```
108 \NewDocumentCommand{\LWR@HTML\fcolorbox}{O{named} m O{named} m +m}{%
109 \LWR@traceinfo{HTML fcolorbox #2 #4}%
110 \begingroup%
111 \LWR@FBcancel%
112 \LWR@forceminwidth{\fboxrule}%
113 \ifthenelse{\equal{#4}{none}}{%
114     {%
115         \InlineClass[%
116             \LWR@borderpadding{#1}{#2}%
117         ]{\fcolorbox}{#5}%
118     }%
119     {%
120         \InlineClass[%
121             \LWR@borderpadding{#1}{#2} ; %
122             background:\LWR@colorstyle{#3}{#4}%
123         ]{\fcolorbox}{#5}%
124     }%
125 \endgroup%
126 }%
127
128 \AtBeginDocument{%
129     \LWR@formatted{\fcolorbox}%
130 }
```

```
\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.

```
131 \NewDocumentCommand{\LWR@HTML\fcolorboxBlock}{O{named} m O{named} m +m}{%
132 \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
133 \begingroup%
134 \LWR@FBcancel%
135 \LWR@forceminwidth{\fboxrule}%
136 \LWR@stopars%
137 \ifthenelse{\equal{#4}{none}}{%
138     {%
139         \begin{BlockClass}[%%
140             \LWR@borderpadding{#1}{#2}%
141         ]{\fcolorboxBlock}%
142         #5%
143     \end{BlockClass}%
144 }%
145     {%
146         {%
147             \begin{BlockClass}[%%
148                 \LWR@borderpadding{#1}{#2}%
149             ]{\fcolorboxBlock}%
150             #5%
151         \end{BlockClass}%
152     }%
153 }
```

```

146      \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
147      \begin{BlockClass}[%  

148          background:\LWR@origpound\LWR@tempcolortwo\ ; %  

149          \LWR@borderpadding{#1}{#2}%
150      ]{fcolorboxBlock}
151      #5
152      \end{BlockClass}%
153  }%
154 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

155 \global\booltrue{\LWR@minipagethispar}%
156 \LWR@traceinfo{HTML fcolorboxBlock done}%
157 }
158
159 \AtBeginDocument{%
160     \LWR@formatted{fcolorboxBlock}%
161 }

```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the **lwarp** core: section 86

```

\LWR@subfcolorminipage {⟨framemodel⟩} {⟨framecolor⟩} {⟨background tag⟩} {⟨height⟩}
162 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%
163 \LWR@stoppars%
164 \begin{BlockClass}[%  

165 #3%
166 \LWR@borderpadding{#1}{#2} ; %
167 \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
168 width:\LWR@printlength{\LWR@tempwidth}%
169 ]{fcolorminipage}%
170 }

Env  fcolorminipage [⟨1:framemodel⟩] {⟨2:framecolor⟩} [⟨3:boxmodel⟩] {⟨4:boxcolor⟩} [⟨5:align⟩] [⟨6:height⟩]
[⟨7:inner-align⟩] {⟨8:width⟩}

171 \NewDocumentEnvironment{\LWR@HTML@fcolorminipage}{O{named} m O{named} m O{c} o o m}
172 {%
173 \LWR@FBcancel%
174 \setlength{\LWR@tempwidth}{#8}%
175 \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
176 \LWR@forceminwidth{\fboxrule}%
177 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
178 \ifthenelse{\equal{#4}{none}}{%
179     {\LWR@subfcolorminipage{#1}{#2}{}}{#6}%
180 }%
181     \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%

```

```

182      \LWR@subfcolorminipage{#1}{#2}%
183          {background:\LWR@origpound\LWR@tempcolortwo\ ; }%
184          {#6}%
185      }%
186 }%
187 {%
188     \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

189     \global\booltrue{\LWR@minipagethispar}%
190 }%
191
192 \AtBeginDocument{%
193 \LWR@formattedenv{fcolorminipage}%
194 }%

```

\boxframe {*width*} {*height*} {*depth*}

The depth is added to the height, but the box is not descended below by the depth. \textcolor is honored.

```

195 \newcommand*{\LWR@HTML@boxframe}[3]{%
196 {%
197 \setlength{\LWR@tempwidth}{#1}%
198 \setlength{\LWR@tempheight}{#2}%
199 \addtolength{\LWR@tempheight}{#3}%
200 \LWR@forceminwidth{\fboxrule}%
201 \LWR@findcurrenttextcolor%
202 \InlineClass[%%
203 display:inline-block ; %
204 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@currenttextcolor{} ; %
205 width:\LWR@printlength{\LWR@tempwidth} ; %
206 height:\LWR@printlength{\LWR@tempheight}%
207 ]{\boxframe}{}%
208 }%
209 }%
210
211 \LWR@formattedenv{boxframe}

```

§ 573.9 Row colors

```

\rowc@l@rs [⟨cmds⟩] {⟨startrow⟩} {⟨odd color⟩} {⟨even color⟩}
212 \newcommand*{\LWR@xcolor@tempcolor}{}%
213
214 \def\rowc@l@rs[#1]#2#3#4%
215 {
216 \rownum=1%
217     \rowcolorstrue%
218     \ifxempty{#3}%
219         {\def\@oddrowcolor{\@norowcolor}}%

```

```

220      {%
221          \convertcolorspec{named}{#3}{HTML}\LWR@xcolortempcolor%
222          \edef\@oddrowcolor{%
223              \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
224          }%
225      }%
226      \@ifxempty{#4}%
227          {\def\@evenrowcolor{@norowcolor}%
228          {%
229              \convertcolorspec{named}{#4}{HTML}\LWR@xcolortempcolor%
230              \edef\@evenrowcolor{%
231                  \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
232              }%
233          }%
234          \if@rowcmd
235              \def\@rowcolors
236          {%
237 %                 #1%
238              \if@rowcolors
239 %                 \noalign{%
240                  \relax\ifnum\rownum<#2@\norowcolor\else
241                      \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
242 %                 }%
243              \fi%
244          }%
245          \else
246              \def\@rowcolors
247          {%
248              \if@rowcolors
249                  \ifnum\rownum<#2%
250 %                     \noalign{%
251                      \norowcolor
252 %                     }
253                     \else
254 %                     #1%
255 %                     \noalign{%
256                         \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
257 %                     }%
258                     \fi
259                     \fi%
260          }%
261          \fi
262          \ignorespaces%
263      }%

```

\@norowcolor Turns off color for this row.

```

264 \def\@norowcolor{%
265 \renewcommand{\LWR@xcolorrowHTMLcolor}{()}%
266 }%

```

\@rowc@lors Executed at the end of each row.

```

267 \def\@rowc@lors{%
268 %     \noalign{%

```

```
269           \advance\rownum\@ne%
270 %     }%
271     \@rowcolors%
272 }

273 \end{warpHTML}
```

File 472 **lwarp-xexchangebar.sty**

§ 574 Package **xexchangebar**

Pkg xexchangebar xexchangebar is ignored

for HTML output: 1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]
2 \LWR@origRequirePackage{lwarp-changebar}

File 473 **lwarp-xellipsis.sty**

§ 575 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{\xeliprebef}%
15   \xeliprechar%
16   \LWR@xellipsespace{\xelipraeft}%
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   \repeat
24 }
```

```

23      \xelipchar%
24      \repeat%
25      \LWR@xellipsespace{\xelipaft}%
26      \LWR@xellipsespace{\xelippostbef}%
27      \xelippostchar%
28      \LWR@xellipsespace{\xelippostaft}%
29 }%
30 }%

```

File 474 **l warp-xetexko-vertical.sty**

§ 576 Package **xetexko-vertical**

(Emulates or patches code by DOHYUN KIM.)

Pkg xetexko-vertical xetexko-vertical is patched for use by l warp.

for HTML output:

```

1 \LWR@loadbefore{xetexko-vertical}
2
3 \LWR@ProvidesPackagePass{xetexko-vertical}[2018/04/06]

4 \renewcommand{\verticalltypesetting}{}
5 \renewenvironment{vertical}[1]{\BlockClass{verticalrl}}{\endBlockClass}
6 \renewenvironment{horizontal}[1]{\BlockClass{horizontaltb}}{\endBlockClass}
7 \renewcommand{\vertlatin}[1]{#1}

```

File 475 **l warp-xfakebold.sty**

§ 577 Package **xfakebold**

(Emulates or patches code by HERBERT Voss.)

Pkg xfakebold xfakebold is patched for use by l warp, and additional underlying support is found in the l warp core.

⚠ **page breaks** Note that the print version resets to unbold at each page break, whereas the HTML version maintains the bold state until it is undone.

for HTML output:

```

1 \LWR@ProvidesPackagePass{xfakebold}[2018/07/25]

2 \let\LWR@orig@setBold\setBold
3 \let\LWR@orig@unsetBold\unsetBold
4 \renewcommand*\setBold{\booltrue{\LWR@xfakebold}}
5 \renewcommand*\unsetBold{\boolfalse{\LWR@xfakebold}}
6
7 \renewcommand*\LWR@applyxfakebold{%
8   \ifbool{\LWR@xfakebold}{\LWR@orig@setBold}{\LWR@orig@unsetBold}%
9 }

```

For MATHJAX, `xfakebold` is ignored.

```
10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\setBold}[1][]{\textbf{#1}}}
12 \CustomizeMathJax{\newcommand{\unsetBold}{\textnormal{#1}}}
13 \end{warpMathJax}
```

File 476 **lwarf-xfrac.sty**

§ 578 Package **xfrac**

(Emulates or patches code by THE LATEX3 PROJECT.)

Pkg **xfrac** Supported by adding `xfrac` instances, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{xfrac}[2018-08-23]

In the user's document preamble, `lwarf` should be loaded after font-related setup.
⚠ **font size** During HTML conversion, this font is used by `lwarf` 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 (lmr) font. If another font is used, it may be desirable to redefine `\xfracHTMLfontsize` with a different em size.

`\sfrac` [$\langle instance \rangle$] [$\langle num \rangle$] [$\langle sep \rangle$] [$\langle denom \rangle$]

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.

for HTML & PRINT: 2 \begin{warpall}

`\xfracHTMLfontsize` User-redefinable macro which controls the font size of the fraction.

3 \newcommand*\xfracHTMLfontsize{.6em}

4 \end{warpall}

for HTML output: 5 \begin{warpHTML}

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.

6 \DeclareInstance{xfrac}{default}{text}{

```
7   numerator-format = {%
8     \begingroup%
9     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
10    \InlineClass{numerator}{#1}\,,
11    \endgroup%
12  },
13  denominator-format = {%
14    \begingroup%
15    \RenewDocumentCommand{\scalebox}{m o m}{##3}%
16    \InlineClass{denominator}{#1}\,,
17    \endgroup%
18  },
```

For *pdftotext*, do not scale the text:

```
19  scaling = false
20 }
21
22 \DeclareInstance{xfrac}{lmr}{text}{
23   numerator-format = {%
24     \begingroup%
25     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
26     \InlineClass{numerator}{#1}\,,
27     \endgroup%
28  },
29  denominator-format = {%
30    \begingroup%
31    \RenewDocumentCommand{\scalebox}{m o m}{##3}%
32    \InlineClass{denominator}{#1}\,,
33    \endgroup%
34  },
```

For *pdftotext*, do not scale the text:

```
35  scaling = false
36 }
37
38 \DeclareInstance{xfrac}{lmss}{text}{
39   numerator-format = {%
40     \begingroup%
41     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
42     \InlineClass{numerator}{#1}\,,
43     \endgroup%
44  },
45  denominator-format = {%
46    \begingroup%
47    \RenewDocumentCommand{\scalebox}{m o m}{##3}%
48    \InlineClass{denominator}{#1}\,,
49    \endgroup%
50  },
```

For *pdftotext*, do not scale the text:

```
51  scaling = false
52 }
```

```

53
54 \DeclareInstance{xfrac}{lmtt}{text}{
55   numerator-format = {%
56     \begingroup%
57     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
58     \InlineClass{numerator}{#1},%
59     \endgroup%
60   },
61   denominator-format = {%
62     \begingroup%
63     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
64     \InlineClass{denominator}{#1}%
65     \endgroup%
66   },

```

For *pdftotext*, do not scale the text:

```

67   scaling = false
68 }

```

For MATHJAX:

```

69 \begin{warpMathJax}
70 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][]{\{}^{\LWRsfracnumerator\!#1\}_{\#2}}\}}
71 \CustomizeMathJax{\newcommand{\sfrac}[2][]{\def\LWRsfracnumerator{\#2}\LWRsfrac}}
72 \end{warpMathJax}

73 \end{warpHTML}

```

File 477 **lwarp-xltabular.sty**

§ 579 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 478 l warp-xltxttra.sty**§ 580 Package xltxttra***(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)*

Pkg xltxttra xltxttra is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{xltxttra}[2016/01/21]

```
2 \RequirePackage{realscripts}
3 \RequirePackage{metalogo}
4 \newcommand*\TeX@logo@spacing[6]{}
5
6 \newcommand*{\vfrac}[2]{%
7 \textsuperscript{\#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 479 l warp-xmpincl.sty**§ 581 Package xmpincl***(Emulates or patches code by MAARTEN SNEEP.)*

Pkg xmpincl xmpincl is ignored.

for HTML output: Discard all options for l warp-xmpincl:

1 \LWR@ProvidesPackageDrop{xmpincl}[2008/05/10]

2 \newcommand*{\includexmp}[1]{}

File 480 l warp-xpiano.sty**§ 582 Package xpiano***(Emulates or patches code by ENRICO GREGORIO.)***Pkg** xpiano xpiano is patched for use by l warp.**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 481 l warp-xpinyin.sty**§ 583 Package xpinyin***(Emulates or patches code by SOBEN LEE.)***Pkg** xpinyin xpinyin is supported.

Pinyin is disabled for file names, the sidetoc, 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 *pdftotext* 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:n [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 pdftotext
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}
```

File 482 l warp-xr.sty

§ 584 Package **Xr**

(Emulates or patches code by JEAN-PIERRE DRUCBERT, DAVID CARLISLE.)

Pkg xr xr is patched for use by l warp. 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}{O{} O{} m O{} }{%
5   \ifblank{#1}{%
6     \LWR@orig@\externaldocument{#3_html}%
7   }{%
8     \LWR@orig@\externaldocument[#1]{#3_html}%
9   }%
10 }
```

File 483 l warp-xr-hyper.sty

§ 585 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{l warp-xr}

File 484 l warp-xtab.sty

§ 586 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][]{%
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 485 **l warp-xunicode.sty**

§ 587 Package **xunicode**

Pkg xunicode Error if xunicode is loaded after l warp.

Patch l warp-xunicode, but also verify that is was loaded before l warp:

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 486 **lwarf-xurl.sty**

§ 588 Package **xurl**

Pkg xurl xurl is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]
2
3 \def\useOriginalUrlSetting{}

```

File 487 **lwarf-xy.sty**

§ 589 Package **XY**

(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)

Pkg xy xy is patched for use by l warp.

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@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 488 **l warp-zhlineskip.sty**

§ 590 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 489 **l warp-zwpagelayout.sty**

§ 591 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{grblk}{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@redefinecmyk
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#1{\gdef\ZW@oddwarning}
40 \def\SetEvenPageMessage#1{\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 490 **l warp-patch-komascript.sty**

§ 592 Package **patch-komascript**

Pkg l warp-patch-komascript Patches for komascript classes.

l warp loads this package when scrbook, scrartcl, or scrreprt 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 }
39
40 \RenewDocumentCommand{\part}{o o +m}{%
41   \renewcommand{\part@preamble}{#3}%
42 }
43
44 \RenewDocumentCommand{\chapter}{o o +m}{%
45   \renewcommand{\chapter@preamble}{#3}%
46 }
47
48 \RenewDocumentCommand{\section}{o o +m}{%
49   \renewcommand{\section@preamble}{#3}%
50 }
51
52 \RenewDocumentCommand{\subsection}{o o +m}{%
53   \renewcommand{\subsection@preamble}{#3}%
54 }
55
56 \RenewDocumentCommand{\subsubsection}{o o +m}{%
57   \renewcommand{\subsubsection@preamble}{#3}%
58 }
59
60 \RenewDocumentCommand{\subsubsubsection}{o o +m}{%
61   \renewcommand{\subsubsubsection@preamble}{#3}%
62 }
63
64 \RenewDocumentCommand{\subsubsubsubsection}{o o +m}{%
65   \renewcommand{\subsubsubsubsection@preamble}{#3}%
66 }
67
68 \RenewDocumentCommand{\subsubsubsubsubsection}{o o +m}{%
69   \renewcommand{\subsubsubsubsubsection@preamble}{#3}%
70 }
71
72 \RenewDocumentCommand{\subsubsubsubsubsubsection}{o o +m}{%
73   \renewcommand{\subsubsubsubsubsubsection@preamble}{#3}%
74 }
75
76 \RenewDocumentCommand{\subsubsubsubsubsubsubsection}{o o +m}{%
77   \renewcommand{\subsubsubsubsubsubsubsection@preamble}{#3}%
78 }
79
80 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsection}{o o +m}{%
81   \renewcommand{\subsubsubsubsubsubsubsubsection@preamble}{#3}%
82 }
83
84 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsection}{o o +m}{%
85   \renewcommand{\subsubsubsubsubsubsubsubsubsection@preamble}{#3}%
86 }
87
88 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
89   \renewcommand{\subsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
90 }
91
92 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
93   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
94 }
95
96 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
97   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
98 }
99
100 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
101   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
102 }
103
104 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
105   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
106 }
107
108 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
109   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
110 }
111
112 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
113   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
114 }
115
116 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
117   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
118 }
119
120 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
121   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
122 }
123
124 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
125   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
126 }
127
128 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
129   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
130 }
131
132 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
133   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
134 }
135
136 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
137   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
138 }
139
140 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
141   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
142 }
143
144 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
145   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
146 }
147
148 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
149   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
150 }
151
152 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
153   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
154 }
155
156 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
157   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
158 }
159
160 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
161   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
162 }
163
164 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
165   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
166 }
167
168 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
169   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
170 }
171
172 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
173   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
174 }
175
176 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
177   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
178 }
179
180 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
181   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
182 }
183
184 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
185   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
186 }
187
188 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
189   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
190 }
191
192 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
193   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
194 }
195
196 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
197   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
198 }
199
200 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
201   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
202 }
203
204 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
205   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
206 }
207
208 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
209   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
210 }
211
212 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
213   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
214 }
215
216 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
217   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
218 }
219
220 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
221   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
222 }
223
224 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
225   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
226 }
227
228 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
229   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
230 }
231
232 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
233   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
234 }
235
236 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
237   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
238 }
239
240 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
241   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
242 }
243
244 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
245   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
246 }
247
248 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
249   \renewcommand{\subsubsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
250 }
251
252 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsubsection}{o o +m}{%
253   \renewcommand{\subsubsubsubsubsubsubsubsubsubsection@preamble}{#3}%
254 }
255
256 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsubsection}{o o +m}{%
257   \renewcommand{\subsubsubsubsubsubsubsubsubsection@preamble}{#3}%
258 }
259
260 \RenewDocumentCommand{\subsubsubsubsubsubsubsubsection}{o o +m}{%
261   \renewcommand{\subsubsubsubsubsubsubsubsection@preamble}{#3}%
262 }
263
264 \RenewDocumentCommand{\subsubsubsubsubsubsubsection}{o o +m}{%
265   \renewcommand{\subsubsubsubsubsubsubsection@preamble}{#3}%
266 }
267
268 \RenewDocumentCommand{\subsubsubsubsubsubsubsection}{o o +m}{%
269   \renewcommand{\subsubsubsubsubsubsubsection@preamble}{#3}%
270 }
271
272 \RenewDocumentCommand{\subsubsubsubsubsubsubsection}{o o +m}{%
273   \renewcommand{\subsubsubsubsubsubsubsection@preamble}{#3}%
274 }
275
276 \RenewDocumentCommand{\subsubsubsubsubsubsubsection}{o o +m}{%
277   \renewcommand{\subsubsubsubsubsubsubsection@preamble}{#3}%
278 }
279
280 \RenewDocumentCommand{\subsubsubsubsubsubsubsection}{o o +m}{%
281   \renewcommand{\subsubsubsubsubsubsubsection@preamble}{#3}%
282 }
283
284 \RenewDocumentCommand{\subsubsubsubsubsubsubsection}{o o +m}{%
285   \renewcommand{\subsubsubsubsubsubsubsection@preamble}{#3}%
286 }
287
288 \RenewDocumentCommand{\subsubsubsubsubsubsubsection}{o o +m}{%
289   \renewcommand{\subsubsubsubsubsubsubsection@preamble}{#3}%
290 }
291
292 \RenewDocumentCommand{\subsubsubsubsubsubsubsection}{o o +m}{%
293   \renewcommand{\subsubsubsubsubsubsubsection@preamble}{#3}%
294 }
295
296 \RenewDocumentCommand{\subsubsubsubsubsubsubsection}{o o +m}{%
297   \renewcommand{\subsubsubsubsubsubsubsection@preamble}{#3}%
298 }
299
299 }
```

```
37 }
38 }
```

Simple captions are used in all cases.

```
39 \AtBeginDocument{
40 \AtBeginDocument{
41     \LetLtxMacro{\captionbelow}{\caption}
42     \LetLtxMacro{\captionabove}{\caption}
43
44     \LetLtxMacro{\captionofbelow}{\captionof}
45     \LetLtxMacro{\captionofabove}{\captionof}
46 }
47 }
48
49 \RenewDocumentEnvironment{captionbeside}{ommoooo}
50 {}
51 {%
52     \IfValueTF{#1}{%
53         {\caption[#1]{#2}}%
54         {\caption{#2}}%
55 }
56
57 \RenewDocumentEnvironment{captionofbeside}{ommoooo}
58 {}
59 {%
60     \IfValueTF{#2}{%
61         {\captionof{#1}{#2}{#3}}%
62         {\captionof{#1}{#3}}%
63 }
64
65 \RenewDocumentCommand{\setcapindent}{s m}{}%
66 \renewcommand*{\setcaphanging}{}%
67 \renewcommand*{\setcapwidth}[2]{}%
68 \renewcommand*{\setcapdynwidth}[2]{}%
69 \RenewDocumentCommand{\setcapmargin}{s o m}{}%
```

File 491 **l warp-patch-memoir.sty**

§ 593 Package **patch-memoir**

(Emulates or patches code by PETER WILSON.)

Pkg l warp-patch-memoir Patches for memoir class.

⚠ Not fully tested! Please send bug reports!

l warp loads this package when the memoir class is detected.

⚠ **captions** l warp uses caption, which causes a warning from memoir. This is normal. Adjust captions via caption, instead of memoir.

 **options clash** While emulating memoir, l warp pre-loads a number of packages (section 593.1). 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 l warp:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{l warp}
...
\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 l warp 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 defintions, and behave as expected, where the \begin and \end do have to each be on its own line.

 **verbatim footnotes** \verbfootnote is not supported.

 **\newfootnotesseries** \newfootnotesseries, etc. are not supported.

 **page notes** l warp 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 l warpmk. 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{l warp-patch-memoir}

§ 593.1 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 l warp is directly loading the "l warp—" version of each, which happens to avoid memoir's emulation system.

```
2 \RequirePackage{l warp-abstract}% req'd
3 % \RequirePackage{l warp-array}% no longer req'd
4 \RequirePackage{l warp-booktabs}% req'd
5 % \RequirePackage{l warp-ccaption}% emulated below
6 \RequirePackage{l warp-changepage}% req'd
7 \RequirePackage{l warp-crop}
8 % \RequirePackage{l warp-dcolumn}% no longer req'd
9 \RequirePackage{l warp-enumerate}% req'd
10 \RequirePackage{l warp-epigraph}% req'd
11 \RequirePackage{l warp-fancyvrb}% req'd
12 \RequirePackage{l warp-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{l warp-framed}% req'd
18
19 \RequirePackage{l warp-hanging}% req'd
20 \RequirePackage{l warp-makeidx}% req'd
21 \DisemulatePackage{moreverb}
22 \RequirePackage{l warp-moreverb}
23 \RequirePackage{l warp-mparhack}
24 \RequirePackage{l warp-needspace}% req'd
25 \RequirePackage{l warp-nextpage}% req'd
26 \RequirePackage{l warp-pagenote}% req'd
27 \RequirePackage{l warp-parskip}
28 \RequirePackage{l warp-setspace}% req'd
29 \RequirePackage{l warp-showidx}

30 \makeindex

31 % \RequirePackage{l warp-tabularx}% no longer req'd
32 \RequirePackage{l warp-titling}% req'd
33 % \RequirePackage{l warp-tocbibind}% not emulated by memoir
34 \RequirePackage{l warp-tocloft}% req'd
35 \RequirePackage{l warp-verse}% req'd
```

§ 593.2 Label handling

Insert the `lwarp` label mechanism into the `memoir` package mechanism:

- `\@mem@old@label` is the L^AT_EX 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 L^AT_EX'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@lwarplabel{sub@\#1}%
49     \@esphack
50   }
51 }
```

§ 593.3 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*\{\stockbiisi}{}  
64 \renewcommand*\{\stockbviis}{}  
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*\{\pageaiss}{}  
74 \renewcommand*\{\pagebvi}{}  
75 \renewcommand*\{\pagebviis}{}  
76 \renewcommand*\{\pagebv}{}  
77 \renewcommand*\{\pagebiv}{}  
78 \renewcommand*\{\pagebiss}{}  
79 % \renewcommand*\{\pagemetriccrownvo}{}% in docs but not in the package  
80 \renewcommand*\{\pagemlargecrownvo}{}  
81 \renewcommand*\{\pagemdemyvo}{}  
82 \renewcommand*\{\pagemsallroyalvo}{}  
83  
84 \renewcommand*\{\stockdbill}{}  
85 \renewcommand*\{\stocksstatement}{}  
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*\{\stocksalldemyo}{}  
108 \renewcommand*\{\stockdemyvo}{}  
109 \renewcommand*\{\stockmediumvo}{}  
110 \renewcommand*\{\stocksallroyalvo}{}  
111 \renewcommand*\{\stockroyalvo}{}  
112
```

```
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{\xlvchars}  
142 % \setlength{\xlvchars}{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*\{\setcolsepandrulerule}[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{\setpagegl}[3]{}
184 \renewcommand{\setpagetm}[3]{}
185 \renewcommand{\setpagegr}[3]{}
186 \renewcommand{\setpagemr}[3]{}
187 \renewcommand{\setpagebr}[3]{}
188 \renewcommand{\setpagebm}[3]{}
189 \renewcommand{\setpagecc}[3]{}
```

§ 593.4 Text and fonts

```
190 \let\minuscule\tiny
191 \let\HUGE\Huge
192
193 \renewcommand*{\abnormalparskip}[1]{}
194 \renewcommand*{\nonzeroparskip}{}{}
195 \renewcommand*{\traditionalparskip}{}{}
196
197 \let\onelinekip\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*{\midsloppy}{}%
223 \renewenvironment*{\midsloppypar}{}{}%
224
225 \renewcommand*{\sloppybottom}{}%
```

§ 593.5 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]{}%
```

§ 593.6 Abstracts

```

239 % \newlength{\absindent}
240 % \newlength{\absparsep}
241 \renewcommand*{\abstractcol}{}%
242 \renewcommand*{\abstractintoc}{}%
243 \renewcommand*{\abstractnum}{}%
244 \renewcommand*{\abstractrunin}{}%
```

§ 593.7 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\mempreaddapppagetotohook{}%
252 \renewcommand\mempostaddapppagetotohook{}%
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*\beforepartskeep(){}
274 \renewcommand*\afterpartskeep(){}
275 \renewcommand*\midbookskip(){}
276 \renewcommand*\midpartskeep(){}
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*\afterchaptnum){}
309 % \newlength{\midchapskip}
310 \renewcommand*\afterchaptertitle){}
```

```
311 % \newlength{\afterchapskip}
312 \renewcommand*{\printchaptername}{}
313 \renewcommand*{\chapnamefont}{}
314 \renewcommand*{\chapernamenum}{}
315 \renewcommand*{\printchapernum}{}
316 \renewcommand*{\chapnumfont}{}
317 \renewcommand{\printchaptertitle}[1]{}
318 \renewcommand*{\chaptilefont}{}
319 \renewcommand*{\printchapternum}{}
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{\precistotext}[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*{\setafterskip}[1]{}
352 \renewcommand*{\setparaindent}[1]{}
353 \renewcommand*{\setparaheadstyle}[1]{}
354 \renewcommand*{\setbeforeparaskip}[1]{}
355 \renewcommand*{\setafterskip}[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]{}%

```

§ 593.8 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*{\emptypshook}{}%
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}{\@nameuse{#1}}{}}
440 \renewcommand{\createplainmark}[3]{\csdef{\#1mark}{}{}}

441 \renewcommand{\memUhead}[1]{}{}
442 \renewcommand*{\clearplainmark}[1]{}{}
443 \renewcommand*{\clearmark}[1]{}{}
444 \renewcommand{\addtopsmarks}[3]{}{}
445 \renewcommand{\ifonlyfloats}[2]{\if#2}
446 \renewcommand*{\mergepagefloatstyle}[3]{}{}
447
448 \renewcommand*{\framepichead}{}{}
449 \renewcommand*{\framepictextfoot}{}{}
450 \renewcommand*{\framepichook}{}{}
451 \renewcommand*{\showheadfootlocoff}{}{}
452 \renewcommand*{\showtextblocklocoff}{}{}
```

§ 593.9 Paragraphs and lists

```

453 \renewcommand{\hangfrom}[1]{\@nameuse{#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}\qquad%
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*{\savetrvseps}{}%
489 \renewcommand*{\restoretrivseps}{}%

```

§ 593.10 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{\tocheadstart}{}%
501 \renewcommand{\printtictitle}[1]{}%
502 \renewcommand{\tocmark}{}%
503 \renewcommand{\aftertictitle}{}%
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*{\cftpabreak}{}%
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{\cftchaptnumwidth}
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{\cftbeforesections skip}
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{\cftsubsubsecciónwidth}
577 \renewcommand*{\cftsubsubsecciónfont}(){}
578 \renewcommand*{\cftsubsubsecciónname}(){}
579 \renewcommand*{\cftsubsubsecciónpresnum}){}
580 \renewcommand*{\cftsubsubsecciónaftersnum}){}
581 \renewcommand*{\cftsubsubsecciónaftersnumb}){}
582 \renewcommand*{\cftsubsubsecciónleader}){}
583 \renewcommand*{\cftsubsubseccióndotsep}{1}
584 \renewcommand*{\cftsubsubsecciónpagefont}){}
585 \renewcommand*{\cftsubsubsecciónafterpnum}){}
586 \renewcommand*{\cftsubsubsecciónformatpnum}[1]{}
587 \renewcommand*{\cftsubsubsecciónformatpnumhook}[1]{}

588 % \newlength{\cftbeforeparagraphskip}
589 % \newlength{\cftpparagraphindent}
590 % \newlength{\cftpparagraphnumwidth}
591 \renewcommand*{\cftpparagraphfont}){}
592 \renewcommand*{\cftpparagraphname}){}
593 \renewcommand*{\cftpparagraphpresnum}){}
594 \renewcommand*{\cftpparagraphaftersnum}){}
595 \renewcommand*{\cftpparagraphaftersnumb}){}
596 \renewcommand*{\cftpparagraphleader}){}
597 \renewcommand*{\cftpparagraphdotsep}{1}
598 \renewcommand*{\cftpparagraphpagefont}){}
599 \renewcommand*{\cftpparagraphafterpnum}){}
600 \renewcommand*{\cftpparagraphformatpnum}[1]{}
601 \renewcommand*{\cftpparagraphformatpnumhook}[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}{}}
```



```

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{\cftparskip}%
686 \renewcommand*\{cftpagenumbersoff\}[1]\{%
687 \renewcommand*\{cftpagenumberson\}[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{\cftpagenumberson\}[1]\{%

```

§ 593.11 Floats and captions

\@xfloat

\@dblfloat Reestablish lwarf'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{cftafterskip}{}%
742     \namedef{cft#3prehook}{}%
743     \namedef{cft#3posthook}{}%
744 }
```

```
745 \renewcommand{\setfloatadjustment}[2]{}
```

Borrowed from the `lwarp` version of `keyfloat`:

```
746 \NewDocumentEnvironment{KFLTmemoir@marginfloat}{O{-1.2ex} m}
747 {%
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{marginable}{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]{}
773
774 \renewcommand{\fleitable}{\tablename}%
775 \renewcommand{\flegfigure}{\figurename}%
776 \renewcommand{\flegtocable}{}%
777 \renewcommand{\flegtocfigure}{}%

778 \renewcommand{\@makesubfloatcaption}[2]{%
779     \minipage{fullwidth}%
780     \begin{minipage}{\linewidth}%
781         #1 \ignorespaces #2 \unskip%
782     \end{minipage}%
783 }%
784
785 \renewcommand*{\tightsubcaptions}{}%
786 \renewcommand*{\loosesubcaptions}{}%
787
788 \renewcommand*{\subcaptionsize}[1]{}
789 \renewcommand*{\subcaptionlabelfont}[1]{}
790 \renewcommand*{\subcaptionfont}[1]{}
791 \renewcommand*{\subcaptionstyle}[1]{}
792
793 \renewcommand*{\hangsubcaption}{}%
794 \renewcommand*{\shortsubcaption}{}%
795 \renewcommand*{\normalsubcaption}{}%
796
797 \RenewDocumentEnvironment{sidecaption}{o m o}%
798 {}
799 {%
800     \IfValueTF{#1}{\caption[#1]{#2}}{\caption{#2}}%
801     \IfValueT{#3}{\label{#3}}%
802 }
803
804 % \newlength{\sidecapwidth}%
805 % \newlength{\sidecapsep}%
806 \renewcommand*{\setsidecaps}[2]{}
807 \renewcommand*{\sidecapmargin}[1]{}
808 % \newif\ifscapmargleft%
809 \scapmargleftfalse
810 \renewcommand*{\setsidecappos}[1]{}


```

Env sidecontcaption

```
811 \RenewDocumentEnvironment{sidecontcaption}{m o}%
812 {}
```

```

813 {%
814     \ifdef{\ContinuedFloat}%
815         {\ContinuedFloat}%
816         {\addtocounter{@cotype}{-1}}%
817     \caption{#1}%

```

Without \@cotype, the section is referred to instead.

```

818     \IfValueT{#2}{\label[\@cotype]{#2}}%
819 }

```

\sidenamedlegend does not appear to use the toc argument.

```

820 \renewenvironment{sidenamedlegend}[2][]{
821     \begin{center}
822     \nameuse{@cotype name}\CaptionSeparator#2
823     \end{center}
824 }
825 {}
826
827 \renewenvironment{sidelegend}[1]
828 {\begin{center}
829     #1
830
831 }
832 {\end{center}}
833
834 \renewcommand*\sidecapstyle{}
835 \renewcommand*\overridescapmargin[1]{}%
836 % \newlength{\sidecapraise}
837 \renewcommand*\sidecapfloatwidth{\linewidth}
838
839 \LetLtxMacro\ctabular\tabular
840 \LetLtxMacro\endctabular\endtabular
841
842 \renewcommand{\autorows}[5][]%
843     #5%
844 }
845
846 \renewcommand{\autocols}[5][]%
847     #5%
848 }

```

§ 593.12 Footnotes and page notes

```

849 \renewcommand*\feetabovefloat{}%
850 \renewcommand*\feetbelowfloat{}%
851 \renewcommand*\feetatbottom{}%
852
853 \renewcommand*\verbfootnote[2][]%
854     \PackageError{lwarp,memoir}%
855     {Verbatim footnotes are not yet supported by lwarp}%
856     {This may be improved some day.}%
857 }
858
859 \renewcommand*\plainfootnotes{}%

```

```
860 \renewcommand*\{\twocolumnfootnotes\}{}  
861 \renewcommand*\{\threecolumnfootnotes\}{}  
862 \renewcommand*\{\paragraphfootnotes\}{}  
863 \renewcommand*\{\footfudgefiddle\}{}  
864  
865 \renewcommand*\{\newfootnotesseries}[1]{%  
866     \PackageError{lwarf,memoir}{%  
867         Memoir footnote series are not yet supported by lwarf}{%  
868         This may be improved some day.}%  
869 }  
870  
871 \renewcommand*\{\plainfootstyle}[1]{}  
872 \renewcommand*\{\twocolumnfootstyle}[1]{}  
873 \renewcommand*\{\threecolumnfootstyle}[1]{}  
874 \renewcommand*\{\paragraphfootstyle}[1]{}  
875  
876 \renewcommand*\{\footfootmark\}{}  
877 \renewcommand*\{\footmarkstyle}[1]{}  
878  
879 % \newlength{\footmarkwidth}  
880 % \newlength{\footmarksep}  
881 % \newlength{\footparindent}  
882  
883 \renewcommand*\{\foottextfont\}{}  
884  
885 \renewcommand*\{\marginparmargin}[1]{}  
886 \renewcommand*\{\sideparmargin}[1]{}  
887  
888 \LetLtxMacro\sidepar\marginpar  
889 \renewcommand*\{\sideparfont\}{}  
890 \renewcommand*\{\sideparform\}{}  
891 \LWR@providelength{\sideparvshift}  
892  
893 \renewcommand*\{\parnopar\}{}  
894  
895 \renewcommand{\sidebar}[1]{\begin{quote}\#1\end{quote}}  
896 \renewcommand*\{\sidebarmargin}[1]{}  
897 \renewcommand*\{\sidebarfont\}{}  
898 \renewcommand*\{\sidebarform\}{}  
899 % \newlength{\sidebarhsep}  
900 % \newlength{\sidebarvsep}  
901 % \newlength{\sidebarwidth}  
902 % \newlength{\sidebartopsep}  
903 \renewcommand{\setsidebarheight}[1]{}  
904 \renewcommand*\{\setsidebars}[6]{}  
905 \renewcommand*\{\footnotesatfoot\}{}  
906 \renewcommand*\{\footnotesinmargin\}{}  
907  
908 \LetLtxMacro\sidefootnote\footnote  
909 \LetLtxMacro\sidefootnotemark\footnotemark  
910 \LetLtxMacro\sidefootnotetext\footnotetext  
911  
912 \renewcommand*\{\sidefootmargin}[1]{}  
913 % \newlength{\sidefoothsep}  
914 % \newlength{\sidefootvsep}
```

```

915 % \newlength{\sidefootwidth}
916 % \newlength{\sidefootadjust}
917 % \newlength{\sidefootheight}
918 \renewcommand*{\setsidefooheight}[1]{}
919 % \renewcommand*{\sidefootfont}{}% in docs but not in the package
920 \renewcommand*{\setsidefeet}[6]{}
921 \renewcommand*{\sidefootmarkstyle}[1]{}
922 \renewcommand*{\sidefoottextfont}{}%
923 \renewcommand*{\sidefootform}{}%

924 \renewcommand*{\continuousnotenums}{\pncontopttrue}% from pagenote
925 \renewcommand*{\notpageref}{}%
926 \renewcommand*{\prenotetext}{}%
927 \renewcommand*{\postnotetext}{}%
928 \LetLtxMacro{\printpageinnotes}{\hyperref{\printpageinnotes}}
929 \renewcommand*{\foottopagenote}{}%
930 \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` prints 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.

```

931 \xpatchcmd{\m@m@wrpnote}
932   {\string\startnoteentry{\thepagenote}}
933   {\string\startnoteentry{{\thepagenote}{\arabic{pagenote}}}}
934   {}
935   {\LWR@patcherror{memoir}{m@m@wrpnote}}
936
937 \renewcommand\startnoteentrystart[4]{%
938   \prenoteinnotes%
939   \noteidinnotes{\@firstoftwo#1}{#2}%
940   \@ifmtarg{#2}{%
941     \phantomsection\def@\currentlabel{#1}%
942     \def@\currentlabel{\@firstoftwo#1}%
943     \def\cref@currentlabel{%
944       [pagenote][\@secondoftwo#1][]\@firstoftwo#1% original
945     }%
946   }{%
947     \pagenoteanchor{#4}%
948     \pageinnotes{#3}%
949     \prenotetext%
950 }

```

§ 593.13 Decorative text

```

951 \renewcommand*{\epigraphposition}[1]{}
952 \renewcommand*{\epigraphtextposition}[1]{}

```

```

953 \renewcommand*\{epigraphsourceposition}[1]{}
954 \renewcommand*\{epigraphfontsize}[1]{}
955 \renewcommand*\{epigraphforheader}[2][]{}
956 \renewcommand*\{epigraphpicture}{} 
```

§ 593.14 Poetry

```

957 \renewcommand*\{vinphantom}{}%
958 \renewcommand*\{vleftofline}[1]{#1}%
959 % \let\linenumberfrequency\poemlines
960 % \renewcommand*\{linenumberfont}[1]{}%
961
962 \DeclareDocumentCommand{\PoemTitle}{s o o m}{%
963     \IfValueTF{#2}{%
964         {\poemtitle[#2]{#4}}%
965         {\poemtitle{#4}}%
966     }%
967
968 \renewcommand*\{NumberPoemTitle}{}%
969 \renewcommand*\{PlainPoemTitle}{}%
970 \renewcommand*\{poemtitlepstyle}{}%
971 \renewcommand*\{poemtitlestarmark}[1]{}%
972 \renewcommand*\{poemtitlestarpstyle}{}%
973 \renewcommand*\{PoemTitleheadstart}{}%
974 \renewcommand*\{printPoemTitlenum}{}%
975 \renewcommand*\{printPoemTitlenum}{}%
976 \renewcommand*\{afterPoemTitlenum}{}%
977 \renewcommand*\{printPoemTitletitle}[1]{}%
978 \renewcommand*\{afterPoemTitle}{}%
979 \newlength{\midpoemtitleskip}%
980 \renewcommand*\{PoemTitlenumfont}{}%
981 \renewcommand*\{PoemTitlefont}{} 
```

§ 593.15 Boxes, verbatims and files

```

982 \renewenvironment{qframe}{\framed}{\endframed}%
983 \renewenvironment{qshade}{\shaded}{\endshaded}%
984 \renewcommand*\{setverbatimfont}[1]{}%
985 \renewcommand*\{tabson}[1]{}%
986 \renewcommand*\{tabsoff}{}%
987 \renewcommand*\{wrappingon}{}%
988 \renewcommand*\{wrappingoff}{}%
989 \renewcommand*\{verbatimindent}{}%
990 \renewcommand*\{verbatimbreakchar}[1]{}%
991 \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.

```

992 \renewcommand*\{b vbox}{}%
993 \renewcommand*\{b vtopandtail}{}%
994 \renewcommand*\{b vsides}{}%
995 \renewcommand*\{nob vbox}{} 
```

```

996 % \newlength\bxboxsep
997 \renewcommand*\{\bvtoprulehook}{}
998 \renewcommand*\{\bvtopmidhook}{}
999 \renewcommand*\{\bvendrulehook}{}
1000 \renewcommand*\{\bvlleftsidehook}{}
1001 \renewcommand*\{\bvrightrightsidehook}{}
1002 \renewcommand*\{\bvxperpagetrue}{}
1003 \renewcommand*\{\bvxperpagefalse}{}
1004 \renewcommand{\bvtopofpage}[1]{}
1005 \renewcommand{\bvendofpage}[1]{}
1006 \renewcommand*\{\linenumberfrequency}[1]{}
1007 \renewcommand*\{\resetbvxlinenumber}{}
1008 \renewcommand*\{\setbvxlinenums}[2]{}
1009 \renewcommand*\{\linenumberfont}[1]{}
1010 \renewcommand*\{\bvxnumbersinside}{}
1011 \renewcommand*\{\bvxnumbersoutside}{}

```

§ 593.16 Cross referencing

```

1012 \renewcommand*\{\lref}[1]{\cref{#1}}
1013 \renewcommand*\{\tref}[1]{\cref{#1}}
1014 \renewcommand*\{\pref}[1]{\cpageref{#1}}
1015 \renewcommand*\{\Aref}[1]{\cref{#1}}
1016 \renewcommand*\{\Bref}[1]{\cref{#1}}
1017 \renewcommand*\{\Pref}[1]{\cref{#1}}
1018 \renewcommand*\{\Sref}[1]{\cref{#1}}
1019 \renewcommand*\{\figurerefname}{Figure}
1020 \renewcommand*\{\tablerefname}{Table}
1021 \renewcommand*\{\pagerefname}{page}
1022 \renewcommand*\{\bookrefname}{Book~}
1023 \renewcommand*\{\partrefname}{Part~}
1024 \renewcommand*\{\chapterrefname}{Chapter~}
1025 \renewcommand*\{\sectionrefname}{\S}
1026 \renewcommand*\{\appendixrefname}{Appendix~}
1027 \LetLtxMacro\titleref\nameref
1028 \renewcommand*\{\headnameref}{}
1029 \renewcommand*\{\tocnameref}{}
1030
1031 \providecounter{LWR@currenttitle}
1032
1033 \renewcommand*\{\currenttitle}{%
1034     \addtocounter{LWR@currenttitle}{1}%
1035     \label{currenttitle}\arabic{LWR@currenttitle}}%
1036     \nameref{currenttitle}\arabic{LWR@currenttitle}}%
1037 }
1038
1039 \renewcommand*\{\theTitleReference}[2]{}
1040 \renewcommand*\{\namerefon}{}
1041 \renewcommand*\{\namerefoff}{}

```

§ 593.17 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.

```
1042 \AtBeginDocument{
```

```

1043
1044 \def\@wrindexhyp#1||{\%
1045   \addtocounter{LWR@autoindex}{1}%
1046   \LWR@new@label{LWRindex-\arabic{LWR@autoindex}}%
1047 %   \ifshowindexmark\@showidx{#1}\fi
1048   \protected@write\@auxout{}{%
1049 %     {\string\@wrindexm@{\@idxfile}{#1}{\thepage}}%
1050     {\string\@wrindexm@{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%
1051   \endgroup
1052   \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.

```

1053 \def\@wrspindexhyp#1||{\%
1054   \addtocounter{LWR@autoindex}{1}%
1055   \LWR@new@label{LWRindex-\arabic{LWR@autoindex}}%
1056 %   \ifshowindexmark\@showidx{#1}\fi
1057   \protected@write\@auxout{}{%
1058 %     {\string\@wrindexm@{\@idxfile}{#1}{\@nameuse{\the\@sptheidx}}}%
1059     {\string\@wrindexm@{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%
1060   \endgroup
1061   \esphack}%
1062
1063 }% \AtBeginDocument

```

\@spindex Patched to append _html to the file:

```

1064 \renewcommand{\@spindex}[2]{%
1065   \@ifundefined{#1@idxfile}{%
1066     {\@ifreportnoidxfile
1067       \@memwarn{Undefined index file #1}%
1068     \fi
1069     \begingroup
1070     \@sanitize
1071     \@nowrindex}%
1072   {\def\@idxfile{#1_html}%
1073    \def\@sptheidx{#2}%
1074    \begingroup
1075    \@sanitize
1076    \@wrspindex}%

```

\makeindex Patched to use _html filename and \BaseJobname:

```

1077 \catcode`\_=12%
1078 \renewcommand*{\makeindex}[1][\BaseJobname]{%
1079   \if@files
1080     \def\gindex{\@bsphack%
1081       \@ifnextchar [{\@index}{\@index[\BaseJobname]}}%
1082     \def\specialindex{\@bsphack\@spindex}%
1083     \makememindexhook
1084     \expandafter\newwrite\csname #1@idxfile\endcsname
1085     \expandafter\immediate\openout \csname #1@idxfile\endcsname #1_html.idx\relax
1086     \typeout{Writing index file #1_html.idx }%

```

```
1087 \fi}
1088 \catcode`\_=8%

\printindex Patched to use _html filename and \BaseJobname. This will later be patched by the
lwarp core.

1089 \catcode`\_=12%
1090 \renewcommand{\printindex}[1][\BaseJobname]{\@input@{\#1_html.ind}}
1091 \catcode`\_=8%

1092 \DeclareDocumentCommand{\newblock}{}{%
1093 %
1094 \renewcommand*{\showindexmarks}{}
1095 \renewcommand*{\hideindexmarks}{}
1096 %
1097 \renewcommand*{\xindyindex}{}
```

§ 593.18 Miscellaneous

```
1098 \renewcommand*{\changemarks}{}
1099 \renewcommand*{\nochangemarks}{}
1100 \renewcommand*{\added}[1]{}
1101 \renewcommand*{\deleted}[1]{}
1102 \renewcommand*{\changed}[1]{}
1103 %
1104 \renewcommand*{\showtrimsoff}{}
1105 \renewcommand*{\showtrimson}{}
1106 \renewcommand*{\trimXmarks}{}
1107 \renewcommand*{\trimLmarks}{}
1108 \renewcommand*{\trimFrame}{}
1109 \renewcommand*{\trimNone}{}
1110 \renewcommand*{\trimmarkscolor}{}
1111 \renewcommand*{\trimmarks}{}
1112 \renewcommand*{\tmarktl}{}
1113 \renewcommand*{\tmarktr}{}
1114 \renewcommand*{\tmarkbr}{}
1115 \renewcommand*{\tmarkbl}{}
1116 \renewcommand*{\tmarktm}{}
1117 \renewcommand*{\tmarkmr}{}
1118 \renewcommand*{\tmarkbm}{}
1119 \renewcommand*{\tmarkml}{}
1120 \renewcommand*{\trimmark}{}
1121 \renewcommand*{\quarkmarks}{}
1122 \renewcommand*{\registrationColour}[1]{}
1123 %
1124 \renewcommand*{\leavespergathering}[1]{}
1125 %
1126 \renewcommand*{\noprelistbreak}{}
1127 %
1128 \renewcommand*{\cleartorecto}{}
1129 \renewcommand*{\cleartoverso}{}
1130 %
1131 \renewenvironment{vplace}[1][]{}
```

§ 593.19 **ccaption emulation**

```

1132 \renewcommand*{\captiondelim}[1]{\renewcommand*{\CaptionSeparator}{#1}}
1133 \renewcommand*{\captionnamefont}[1]{}
1134 \renewcommand*{\captiontitlefont}[1]{}
1135 \renewcommand*{\flushleftright}{}
1136 \renewcommand*{\centerlastline}{}
1137 \renewcommand*{\captionstyle}[2]{}
1138 \DeclareDocumentCommand{\captionwidth}{m}{}
1139 \renewcommand*{\changecaptionwidth}{}
1140 \renewcommand*{\normalcaptionwidth}{}
1141 \renewcommand*{\hangcaption}{}
1142 \renewcommand*{\indentcaption}[1]{}
1143 \renewcommand*{\normalcaption}{}
1144 \renewcommand{\precaption}[1]{}
1145 \renewcommand{\postcaption}[1]{}
1146 \renewcommand{\midbicaption}[1]{}
1147 \renewcommand{\contcaption}[1]{%
1148 %    \ContinuedFloat%
1149 %    \caption{#1}%
1150    \begin{LWR@figcaption}% later becomes \caption*
1151    \LWR@isolate{@nameuse{@capttype name}}~%
1152    \thechapter.\the\value{@capttype}\CaptionSeparator\LWR@isolate{#1}%
1153    \end{LWR@figcaption}%
1154 }

1155 \newlength{\abovelegendskip}
1156 \setlength{\abovelegendskip}{0.5\baselineskip}
1157 \newlength{\belowlegendskip}
1158 \setlength{\belowlegendskip}{\abovelegendskip}
```

The extra \\ here forces a
 in HTML when \legend is used in a \marginpar.

```

1159 \renewcommand{\legend}[1]{\begin{center}#1\\\end{center}}
1160
1161 \renewcommand{\namedlegend}[2]{%
1162     \begin{center}
1163     @nameuse{fleg@\capttype}\CaptionSeparator#2\\
1164     \end{center}
1165     @nameuse{flegtoc@\capttype}{#1}
1166 }
1167
1168 \renewcommand{\newfixedcaption}[3][\caption]{%
1169     \renewcommand{#2}{\def@\capttype{#3}#1}
1170 \renewcommand{\renewfixedcaption}[3][\caption]{%
1171     \renewcommand{#2}{\def@\capttype{#3}#1}
1172 \renewcommand{\providefixedcaption}[3][\caption]{%
1173     \providecommand{#2}{\def@\capttype{#3}#1}
1174
1175 \renewcommand{\bitwonumcaption}[6]{%
1176     \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1177     \addtocounter{@capttype}{-1}%
1178     \begingroup%
1179     \csdef{@capttype name}{#4}%
1180     \ifblank{#5}{\caption{#6}}{\caption[#5]{#6}}%
1181     \endgroup%
```

```

1182     \ifblank{#1}{}{\label{#1}}%
1183 }
1184
1185 \LetLtxMacro\bionenumcaption\bitwonumcaption% todo
1186
1187 \renewcommand{\bicaption}[5][]{%
1188     \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1189     \begin{LWR@figcaption}% later becomes \caption*
1190     \LWR@isolate{#4} % space
1191     \thechapter.\the\value{@capttype}\CaptionSeparator\LWR@isolate{#5}%
1192     \end{LWR@figcaption}%
1193     \ifblank{#1}{}{\label{#1}}%
1194 }
1195
1196 \renewcommand{\bicontcaption}[3]{%
1197     \contcaption{#1}%
1198     \begingroup%
1199     \csdef{@capttype name}{#2}%
1200     \contcaption{#3}%
1201     \endgroup%
1202 }

1203 % only in ccaption, not in memoir:
1204 % \LetLtxMacro\longbitwonumcaption\bitwonumcaption%
1205 % \LetLtxMacro\longbionenumcaption\bitwonumcaption%
1206 % \LetLtxMacro\longbicaption\bicaption%

```

Patches for subfloats to support additional lwarf labels:

```

1207 \renewcommand{@memsubbody}{%
1208   \bgroup
1209   \let\label=\memsub@label
1210   \ifdonemaincaption\else
1211     \advance\csname c@\@capttype\endcsname\@ne
1212   \fi
1213   % \refstepcounter{sub \@capttype} \contkeep%
1214 %   \leavevmode%           lwarf
1215   %@ifnextchar [%%
1216   { \memsubfig}%
1217   { \memsubfig[\@empty]}}
1218
1219 \renewcommand{@memcontsubbody}{%
1220   \bgroup
1221   \let\label=\memsub@label
1222   \contset
1223   % \refstepcounter{sub \@capttype} \contkeep%
1224 %   \leavevmode%           lwarf
1225   %@ifnextchar [%%
1226   { \memsubfig}%
1227   { \memsubfig[\@empty]}}
1228
1229
1230 \long\def@memsubfloat#1[#2][#3]#4{%
1231 %   \@tempcnta=\@ne
1232 %   \@if@tightsubcap
1233 %   \if@minipage

```

```
1234 %      \atempcnda=\z@  
1235 %      \else  
1236 %          \ifdim\lastskip=\z@  
1237 %              \atempcnda=\@ne  
1238 %          \else  
1239 %              \atempcnda=\tw@  
1240 %          \fi  
1241 %      \fi  
1242 %  \fi  
1243 %  \if@contbotsub  
1244 %      \def\subfig@top{\subfloattopskip}%  
1245 %      \def\subfig@bottom{\subfloatbottomskip}%  
1246 %  \else  
1247 %      \def\subfig@top{\subfloatbottomskip}%  
1248 %      \def\subfig@bottom{\subfloattopskip}%  
1249 %  \fi  
1250 %  \setbox\@tempboxa \hbox{\#4}%  
1251 %  \tempdima=\wd\@tempboxa  
1252 %  \vbox  
1253 %      \bgroup%  
1254 %      \mem@step@subcounter%  
1255 %      \vbox  
1256 %      \LWR@stoppars%  
1257 %      \minipage{fullwidth} lwarp  
1258 %      \begin{minipage}{\linewidth} lwarp  
1259 %      \bgroup  
1260 %          \ifcase\atempcnda  
1261 %              \atminipagefalse  
1262 %          \or  
1263 %              \vspace{\subfig@top}  
1264 %          \or  
1265 %              \ifdim \lastskip=\z@ \else  
1266 %                  \tempskipb\subfig@top\@xaddvskip  
1267 %              \fi  
1268 %          \fi  
1269 %  \if@contbotsub  
1270 %      #4% \box\@tempboxa  
1271 %      \egroup  
1272 %      \ifx \empty#3\relax \else  
1273 %          \vskip\subfloatcapskip  
1274 %          \memsubcaption{\#1}{\#2}{\#3}%  
1275 %      \fi  
1276 %  \else  
1277 %      \ifx \empty#3\relax \else  
1278 %          \memsubcaption{\#1}{\#2}{\#3}%  
1279 %          \vskip\subfloatcapskip  
1280 %          \vskip\subfloatcapadj  
1281 %      \fi\egroup  
1282 %      #4% \box\@tempboxa  
1283 %  \fi  
1284 %      \vspace{\subfig@bottom}  
1285 %  \end{minipage}% lwarp  
1286 %  \LWR@startpars% lwarp  
1287 %  \egroup  
1288 %  \egroup
```

1289 }

§ 593.20 Final patchwork

1290 \newlistof{tableofcontents}{toc}{\contentsname}
1291 \newlistof{listoffigures}{lof}{\listfigurename}
1292 \newlistof{listoftables}{lot}{\listtablename}

File 492 **l warp-common-multimedia.sty**

§ 594 Package **common-multimedia**

Pkg l warp-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 \addmediopath 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/...

```

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 \newlength{\LWR@multimedia@width}
8 \newlength{\LWR@multimedia@height}
9 \newlength{\LWR@multimedia@maxdimension}
```

\LWR@multimedia@printsize 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@printsize}{%
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 {*poster text*} {*filename*} {*audio/video*} {*mimetype*}

Creates a video or audio from a file. The 2019/10 update of the L^AT_EX 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@printsize\ margin:auto]{AVviewport}
37   }
```

Paragraph tags are unnecessary for the A/v tags.

```
38 \LWR@stopars
```

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@stopars

```

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 {<poster text>} {<filename>} {<audio/video>} {<mimetype>}

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}{\Vviewport}
66   }{%
67     \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{\Vviewport}
68   }

```

Paragraph tags are unnecessary for the a/v tags.

```
69   \LWR@stopars
```

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@stopars

```

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@stopars
99   \LWR@htmltag{%
100     embed % space
101     \ifblank{\#3}{\type=\textquotedbl#3\textquotedbl\ }%
102     style=\textquotedbl\LWR@multimedia@printsize\ 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@multimediacb.

```

108 \newcommand*{\LWR@multimedia@percenterrror}{%
109   \PackageError{lwarp-media9}{%
110   {%
111     Do not use a percent comment between\MessageBreak
112     \protect\includemedia\space arguments%
113   }
114 }

```

```

113      }
114      {%
115          Percent is changed to a regular character\MessageBreak
116          to allow its use inside a URL.%}
117      }
118 }
```

\LWR@multimediacb [⟨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@multimediacb}[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}%
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 }
```

Change History

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For the most recent changes, see page 1204.

v0.10	General: 2016/03/08 Initial version . . . 1	Test Suite: Assigned cleveref name for Test Float. 1
v0.11	General: 2016/03/11 1 Added section: Operating-System portability. 215 Added section: Selecting the operating system. 113 Test Suite: MS-WINDOWS in README.txt 1 Test Suite: Images and index in README.txt 1	Test Suite: Floatrow 1
v0.12	\LWR@newhtmlfile: Bugfix: toc with numbered files. 376 General: 2016/03/14 1 Global: Uses \p@{type} in float captions. 1 Test Suite: Sub-figures 1	v0.15 General: 2016/04/06 1 Added. 773 Ampersand (&): Fixed handling when passed as an argument. . . . 431 Docs: Added warning icons for items needing special attention. 195 Docs: Clarify print/HTML output. 113 Docs: Moved the supported features table to the introduction. 62 Files: l warp_formal.css added. 1 Fix: steps counter 772 Fixed & handling. 771 Test Suite: test_suite_formal.css file added. 1
v0.13	\CaptionSeparator: Fix for newer babel package. 501 \LWR@LwarpStart: \up and \fup 396 General: 2016/03/24 1 Fix dollar-redefined bug for newer package. 1062 Removed package: subfig 1 Test Suite: Ordinals, Subcaption 1	v0.16 General: 2016/04/11 1 \titlingpage: Improved print-output spacing. 403 xfrac: Adjusted for the use of any font. 1122 Added XeLaTeX, LuaLaTeX support. 196 Docs: Font and UTF-8 support. . . . 96 Docs: Moved location of \usepackage{l warp}. 99 Docs: Text not converting. 187 Lwarp no longer selects fonts. 96, 225 Removed package: suffix 1 Test Suite: Improved titlingpage. 403 Test Suite: Lwarp no longer selects fonts. 1 Test Suite: Supports XeLaTeX, LuaLaTeX. 1
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		mparhack: Added.	894	
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cuted: Added.	714		\LWR@tabledatasinglecolumntag: Add: \cmidrule trims.	450
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pifont:	Added.	964	
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textcomp:	Nullify in filenames.	1053	
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umoline:	Added.	1094	
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AMS environments:	Added xfakebold support.	628	
eqnarray:	xfakebold: Added support.	547	
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\LWR@footnotetext:	Factored for multiple foot boxes.	360	
\LWR@checkloadfilename:	Prevented alg, algorithmic, fncylab, pdfcprot.	232	
\LWR@printpendingfootnotes:	Factored for multiple footnote boxes.	363	
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hyperref:	Fix for options with braces.	810	
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listings:	Fix for listings v1.7.	843	
longtable:	Improved error handling.	847	
manyfoot:	Added.	858	
niceframe:	Added.	918	
perpage:	Added.	951	
showtags:	Added.	997	
tablefootnote:	Added.	1044	
threeparttable:	Added.	1061	
threeparttable:	Fix for caption type.	1059	
<i>lwarpmk:</i>	Improved error handling if incomplete compile.	305	
Prevented alg, algorithmic, fncylab, pdfcprot.		199	
tabular:	Fix: \warpprintonly inside tabular.	481	
\LWR@maybetocdata:	Added support for tocdata.	511	
\framebox:	Fix: Handle paren arg.	579	
\hypertoc:	Added support for tocdata.	511	
\hypertocfloat:	Added support for tocdata.	513	
\makebox:	Fix: Handle paren arg.	579	
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array:	Fix for \tabularnewline.	639, 848	
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eqlist:	Added.	740	
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ftcap:	Added.	785	
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keyfloat:	Updated for v2.00.	827	
listliketab:	Added.	844	
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multirow:	Error if \multirow without \mrowcell.	899	
rotfloat:	Requires graphicx.	981	
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xtab:	Fix: Clear caption after use.	1130	
tabular:	Error if \multirow without \mrowcell.	480, 482, 484	
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\LWR@closeparagraph:	Reduced underfull \hbox warnings.	351	
\LWR@lookforpackagename:	changes: Updated to v3.1.2.	233	
\LWR@mathjaxfilename:	Added.	356	
\LWR@restoreorigformatting:	Fix: \& in a lateimage.	519	
\MathJaxFilename:	Added.	356	
\enddocument:	If labels changed, require recompile before making limages.	398	
\framebox:	Fix: Accept long arg.	579	
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Logos:	Improved for metalogo, lateximages.	601
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\@mpfootnotetext:	Improved HTML formatting.	362
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\LWR@stoppars:	Reduced underfull \hbox warnings.	353
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l warpmk:	If wrong l warpmk.conf version, or wrong OS, displays the print command to recompile.	305
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\LWR@newautopagelabel:	Fix: References for xr, xr-hyper.	370
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\chapter:	Added support for hypbmsec.	389
\ebweight:	nfssext-cfr: Added.	588
\hypertoc:	Fix: References for xr, xr-hyper.	511
\hypertocfloat:	Fix: References for xr, xr-hyper.	512
\lgweight:	nfssext-cfr: Added.	589
\paragraph:	Added support for hypbmsec.	390
\part:	Added support for hypbmsec.	389
\section:	Added support for hypbmsec.	390
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\texteb:	nfssext-cfr: Added.	584
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l warp.css:	Added backnaur.	259
l warp.css:	Removed unneeded support for \sisshape, \textsi.	259
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none specified.	356
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\LWR@gsavebox: Added global save	
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\attribution: Fix: Paragraph tags. .	409
\color: Added HTML support.	1114
\fboxBlock: Fix: Paragraph tags. . .	581
\hspace: Fix: Avoid empty	597
\l@book: Added \book for memoir. . .	513
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\marginparBlock: Fix: Paragraph	
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\l warp-common-multimedia: Fix:	
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\l warp-common-multimedia: Fix:	
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\l warp-patch-komascript: Fix for	
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\l warp-patch-memoir: Added	
\book.	1143
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\frontmatter* and	
\mainmatter*.	1144
\lyluatex: Added.	856
musicography: Updated to	
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\measuredfigure.	1060
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\vvcoll: Fix: Paragraph tags.	1103
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\LWR@HTMLsanitizeexpand:	Fix: \&.	372
\LWR@ProvidesPackagePass:	Fix: catoptions.	235
\LWR@checkloadfilename:	Prevented bxcjkjatype, hangul.	232
\LWR@closetabledatacell:	Fix: Nested tabulars.	431
\LWR@customizeMathJax:	MathJax: Hide definitions.	374
\LWR@earlyloadnever:	Factored.	199
\LWR@forcenewautoidanchor:	Factored.	500
\LWR@mathjaxwarn:	Warn if using packages not supported by MATHJAX.	610
\LWR@parseaftercolumn:	Remove outermost braces.	437
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\warp.css:	Fix: Nested tabulars.	259
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arydshln:	Added MATHJAX emulation.	641
ar:	Added MATHJAX emulation.	638
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fontawesome:	Supports font size, color.	776
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\table:	Fix: Require longtable.	848
\xtabular:	Fix: Required packages.	850
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\pdfcolfoot:	Added.	944
\pdfcolmk:	Added.	944
\pdfcolparallel:	Added.	944
\pdfcolparcolumns:	Added.	945
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xurl:	Updated to v0.08.	1131
AMS environments:	Fix: Nested.	629
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	<code>\LWR@setvirtualpage</code> .	771, 799, 831
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	<code>\LWR@checkloadfilename</code> : Prevented	
	<code>formula</code> , <code>shadethm</code> , <code>slashbox</code> .	232
	<code>\LWR@infoprocessingmathjax</code> : Add:	
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	<code>\LWR@restoreorigformatting</code> :	
	Improved math, <code>displaymath</code> .	519
	<code>\fcolorbox</code> : Made robust.	566
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	mathcomp:	Added.
		862
	mathdots:	Added.
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		980
	subsubscripts:	Added.
		1040
	tagpdf:	Added.
		1046
	unicode-math:	Improved
		MATHJAX.
	url:	Creates hyperlinks.
		1098
	xfrac:	Added MATHJAX emulation.
		1124
	AMS environments:	Fix: Centering
	starred envs.	628, 629
	Improved math, <code>displaymath</code> .	536
	Prevented formula, <code>shadethm</code> ,	
	<code>slashbox</code> .	199
	lateximage:	Fix: Rule color in
		<code>lateximage</code> .
		556
	fcolorminipage:	Made robust.
		568
	eqnarray:	Fix: <code>eqnarray*</code> .
		547
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	<code>\LWR@addbaselinemarker</code> : Improved	
	warning messages.	526
	<code>\LWR@checkloadfilename</code> : Prevented	
	<code>statex</code> .	232
	<code>\LWR@replacestrings</code> : Added.	370
	<code>\LWR@subHTMLsanitize</code> : Faster.	371
	<code>\textcolor</code> : <code>xcolor</code> : \textcolor:	
	Spurious space.	1114
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	<code>\warp.css</code> : Added <code>nolbreaks</code> .	259
	DotArrow:	Added.
		719
	Slunits:	Improved <code>\unit</code> . Fixed in
	math mode.	Added MATHJAX
	emulation.	1000
	axessibility:	Added MATHJAX
	emulation.	650
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	colonequals:	Added.
		708
	decimal:	Added.
		716
	dotlessi:	Added.
		720
	econometrics:	Added.
		723

engtlc: Added.	731	lwarf-patch-memoir: Fixed framed.	1138
gridset: Updated to v0.3.	805	lwarf-patch-memoir: Fixed: \specialindex.	1160
hyperref: Added \pdfstringdefDisableCommands.	813	lwarf-patch-memoir: No longer requires subfigure.	1138
luamplib: Added.	851	lwarf-patch-memoir: Updated for new sizes.	1139
multiobjective: Added.	897	lwarf-patch-memoir: Updated.	1142, 1143
nolbreaks: Added.	919	physunits: Updated to v1.0.4.	962
physunits: Added.	962	v0.84	
returntoregrid: Added.	980	@currentHref: backref: Fixed from lwarf v0.72 changes.	493
stackrel: Added.	1026	@currentlabelname: Default name for previous/next links.	485
statex2: Added.	1027	\fnsymbol: \LWR@formatted, fixed double bar.	405
statmath: Added.	1031	@makecaption: caption now optional.	501
lwarfmk: Improved error if in lwarf source directory.	305	Warn inside a	501
Prevented statex.	199	@textsubscript: Use \LWR@formatted. No longer \AtBeginDocument.	591
v0.82		@textsuperscript: Use \LWR@formatted.	591
\LWR@disablepinyin: Added.	214	@xdlbfloating: caption now optional.	499
\LWR@doequation: MATHJAX: Improved footnotes.	542	AddSubtitlePublished: Added \subtitle, \published for komastyle.	408
\LWR@syncmathjax: Removed <par> tags.	539	Fixed \subtitle, \printsubtitle if no titling.	408
General: 2020/03/25	1	HTMLFirstPageBottom: Added \FirstPageBottom.	355
MATHJAX: Improved footnotes.	374, 542	\LWR@LwarpEnd: Added prev/next links.	398
amsmath: Fixed: \intertext for MATHJAX.	631	\LWR@LwarpStart: Added prev/next links.	396
chemfig: Updated to v1.5.	679	\LWR@createfooter: Added \FirstPageBottom.	375
draftwatermark: Updated to v2.0.	721	\LWR@domulticolumn: Fix: Multicolumn style.	466
endnotes: Added MATHJAX emulation.	731	\LWR@excludecomment: Independent cut files.	224
endnotes: Fix: Mark in print mode.	731	\LWR@filenamenoblocks: Fix: Dashes in filename.	369
etoc: Added.	743	\LWR@filestart: Improved HTML title.	392
luatexko: Added.	851	\LWR@floatbegin: Warn inside a	497
lwarf-patch-memoir: Supports tocvsec2.	1144, 1148	\LWR@forcenewautoidanchor:<par> handling.	500
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marginnote: Fix: Neutralize in print mode.	861		
nccfoots: Added MATHJAX emulation.	908		
pagenote: Added MATHJAX emulation.	936		
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sidenotes: Added MATHJAX emulation.	1000		
soul: Fixed: \<.	1019		
syntonly: Added \nopages@.	1044		
syntonly: Added to \lwarf@loadafter.	200		
ulem: Fixed: \dashunderline.	1092		
xpinyin: Added full pinyin support.	1126		
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<code>\LWR@new@label</code> : Removed optional args.	490
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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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