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The gmeometric Package

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LPPL status: "author-maintained".

1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{gmeometric}
3 \[2008/11/22_v0.73_to_allow_the_\`geometry'_macro_in_the_\document_(GM)]

Introduction, usage

This package allows you to use the \geometry macro, provided by the geometry v3.2 and v4.1 by Hideo Umeki, anywhere in a document: originally it’s clausèd \@onlypreamble and the main work of gmeometric is to change that.

Note it’s rather queer to change the page layout inside a document and it should be considered as drugs or alcohol: it’s O.K. only if you really know what you’re doing.

In order to work properly, the macro should launch the \clearpage or the \cleardoublepage to ‘commit’ the changes. So, the unstarred version triggers the first while the starred the latter. If that doesn’t work quite as expected, try to precede or succeede it with \onecolumn or \twocolumn.

It’s important that \clear(double)page launched by \geometry not to be a no-op, i.e., \clear(double)page immediately preceding \geometry (nothing is printed in between) discards the ‘commitment’.

You may use gmeometric just like geometry i.e., to specify the layout as the package options: they shall be passed to geometry.

This package also checks iOS the engine is X\TeX and sets the proper driver if so. Probably it’s redundant since decent X\TeX packages provide their geometry.cfg file that does that.

Installation

Unpack the gmeometric.tds.zip archive in a texmf directory or put the gmeometric.sty somewhere in the texmf/tex/latex branch on your own. Creating a texmf/tex/latex/gm directory may be advisable if you consider using other packages written by me.

Then you should refresh your \TeX distribution’s files’ database most probably.

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* This file has version number v0.73 dated 2008/11/22.
Contents of the gmeometric.zip archive

The distribution of the gmeometric package consists of the following four files.

- gmeometric.sty
- README
- gmeometric.pdf
- gmeometric.tds.zip

Compiling of the documentation

The last of the above files (the .pdf, i.e., this file) is a documentation compiled from the .sty file by running \LaTeX (twice) on the gmeometric.sty file (xelatex gmeometric.sty in the directory you wish the documentation to be in, you don’t have copy the .sty file there, \LaTeX will find it). Compiling of the documentation requires the packages: gmdoc (gmdoc.sty and gmdocc.cls), gmverb.sty, gmutils.sty, gmiflink.sty and also some standard packages: hyperref.sty, color.sty, geometry.sty, multicol.sty, lmodern.sty, fontenc.sty that should be installed on your computer by default.

If you have not installed the mwart.cls class (available on CTAN in mwcls package), the result of your compilation may differ a bit from the .pdf provided in this .zip archive in formattings: If you have not installed mwart.cls, the standard article.cls class will be used.

Usage

The main use of this package is to allow the \texttt{\geometry} command also inside the document (originally it’s \texttt{\@onlypreamble}). To make \texttt{\geometry} work properly is quite a different business. It may be advisable to ‘commit’ the layout changes with \texttt{\newpage}, \texttt{\clearpage}, or \texttt{\cleardoublepage} and maybe \texttt{\onetwocolumn}.

Some layout commands should be put before \texttt{\onetwocolumn} and other after it. An example:

\begin{verbatim}
\thispagestyle{empty}
\advance\textheight 3.4cm\relax
\oneline
\newpage
\advance\footskip -1.7cm
\geometry{hmargin=1.2cm,vmargin=1cm}
\clearpage
\end{verbatim}

And another:

\begin{verbatim}
\newpage
\geometry{bottom=3.6cm}
\end{verbatim}

In some cases it doesn’t work perfectly anyway. Well, the \texttt{\textcopyright} license warns about it.

The code

\begin{verbatim}
\RequirePackage{gmutils}[2008/11/21]% this package defines the storing and restoring commands.
\end{verbatim}

Redefine \texttt{\@onlypreamble}, add storing to \texttt{BeginDocument}.

\begin{verbatim}
\gme@tobestored
\newcommand*\gme@tobestored{\% this list consists of the cs’es relaxed at begin
\end{verbatim}
document by geometry (the only \AtBeginDocument in geometry v4.1).
\Gm@cnth, \Gm@cntv, \x@\Gm@tempcnt, \Gm@bindingoffset, \Gm@wd\mp
\Gm@odd\mp, \Gm@even\mp, \Gm@orgp\w, \Gm@orgph, \Gm@orgw, \Gm@orgh
\Gm@dimlist})
\AtBeginDocument{\@xa\StoreMacros\gme@tobestored}
\StoreMacro\onlypreamble
\let\onlypreamble\gobble
To make it work properly in X\TeX:
\ifXeTeX{%
\ifundefined{pdfoutput}{\newcount\pdfoutput}{}\%
\PassOptionsToPackage{dvipdfm}{geometry}\%
}%
\RequirePackageWithOptions{geometry}
\Restore\onlypreamble:

Hypothesis: \ifx...\undefined fails in the document because something made
\csname\Gm@lines\endcsname. So we change the test to decent. And I think I’ve
found the guilty: \ifundefined in \Gm@showparams. So I change it to the more
elegant \ifx\undefined.
\def\Gm@showparams{%
-------------------
\ifGm@pass
'pass' is specified!! (disables the geometry layouter)\%
\else
paper:\ifx\Gm@paper\undefined\else\Gm@paper\fi\%
\fi
\ifnum\Gm@cnth=\z@ \space (default)\fi
\ifnum\Gm@cntv=\z@ \space (default)\fi
\if\Gm@checkbool{landscape}\%
twocolumn:\if\Gm@twocolumn\Gm@true\else\--\fi\%
twoside:\if\Gm@twoside\Gm@true\else\--\fi\%
asymmetric:\if\Gm@mparswitch\--\else\if\Gm@twoside\Gm@true\else\--\fi\%
\fi
\if\Gm@checkbool{heightrounded}\%
h-parts:\ifnum\Gm@lmargin, \Gm@width, \Gm@margin\%
\if\Gm@checkbool{landscape}\%
twocolumn:\if\Gm@twocolumn\Gm@true\else\--\fi\%
twoside:\if\Gm@twoside\Gm@true\else\--\fi\%
asymmetric:\if\Gm@mparswitch\--\else\if\Gm@twoside\Gm@true\else\--\fi\%
\fi
\if\Gm@checkbool{heightrounded}\%
h-marginratio:\ifnum\Gm@cnth=\z@:%n\space (default)\fi\%
v-parts:\if\Gm@tmargin, \Gm@height, \Gm@bmargin\%
\if\Gm@checkbool{landscape}\%
twocolumn:\if\Gm@twocolumn\Gm@true\else\--\fi\%
twoside:\if\Gm@twoside\Gm@true\else\--\fi\%
asymmetric:\if\Gm@mparswitch\--\else\if\Gm@twoside\Gm@true\else\--\fi\%
\fi
\if\Gm@checkbool{heightrounded}\%
h-marginratio:\ifnum\Gm@cnth=\z@:%n\space (default)\fi\%
v-marginratio:\ifnum\Gm@cntv=\z@:%n\space (default)\fi\%
lines:\if\undefined\undefined\--\else\Gm@lines\fi\%
here I (na-tor) fix the bug: it was \ifundefined that of course was assigning
% \relax to \Gm@lines and that resulted in an error when \geometry was
used inside document.
\if\Gm@checkbool{heightrounded}\%
 bindingoffset:\ifthe\Gm@bindingoffset\%
 truedimen:\if\Gm@truedimen\empty\--\else\Gm@true\fi\%
\fi
\Gm@checkbool{includehead}\%
\Gm@checkbool{includefoot}\%
\Gm@checkbool{includeemp}\%
Change History

v0.69
General:
  CheckSum 40, 0

v0.70
General:
  Back to the v0.68 settings because \not@onlypreamble was far too little. Well, in this version the
  redefinition of \geometry is given up since the 'committing' commands
depend on the particular situation so
  defining only two options doesn't seem advisable, 70
  CheckSum 36, 0

v0.71
General:
  a \textit{t}\textit{d}s-compliant zip archive made, 70
  CheckSum 41, 0

v0.72
General:
  2008/08/06 only the way of
documenting changes so I don't
increase the version number, 70
  CheckSum 239, 0
  \texttt{\textbackslash Gm@showparams:}
    a bug fix:
      \texttt{\@ifundefined{Gm@lines} raised}
      an error when \texttt{\geometry} used
      inside the document, I change it to
      \texttt{\ifx\@undefined, 18}

v0.73
General:
  CheckSum 237, 0
  put to \texttt{ctan} on 2008/11/22, 0
  \texttt{\textbackslash AtBeginDocument:}
    removed two \texttt{\expandafter\textbackslash gme@tobestored: much}
less tokens added to the begin-document hook, 9

\gme@tobestored:
two cs’es added to the list for compatibility with geometry v4.1, 5