chappg — a \LaTeX{} package for numbering pages “by chapter”\footnote{This file has version number v2.1b, last revised 2006/05/09}

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Support

Some support of this package is available for unchanged copies of the package via email to me at the address given in the footnote. Support will remain available at least as long as the address remains valid. I don’t guarantee anything, but I will probably look at any bug reports you may submit, and may correct problems reported (either in my code or in yours...).

Copyright statement

Program: chappg.dtx
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1 User interface — package options

The package provides two options.
\texttt{\usepackage[auto]{chappg}} causes the package to set pagernumbering according to its scheme, using the command \texttt{\pagenumbering{bychapter}}

\texttt{\usepackage[noauto]{chappg}} tells the package not to set pagernumbering; the user is then free to set up pagernumbering according to her own scheme of things.

In the absence of any package option, the package acts as if the user had given the \texttt{auto} option; this action is compatible with earlier versions of this package.
2 User interface — commands

The purpose of the package is to provide a page-numbering style “bychapter”, for use with the \pagenumbering command. In simple use, the command

\pagenumbering{bychapter}

will

• reset the page counter to 1,

• cause page numbers to display as “(chapter)-(page)”,

• cause page numbers to be reset to 1 at the start of each chapter.

Of course, none of this is useful (indeed, an error is provoked) if the document is not using the standard report or book class, or some other class that provides \chapter-level divisions.

More complicated use of the package is possible, using the commands described below.

The package modifies the \LaTeX kernel command \pagenumbering so that it has an optional argument; all the kernel-defined numbering styles ignore the optional argument, but if the numbering style is bychapter, the argument may be used to specify a means of numbering pages. Thus, while

\pagenumbering{bychapter}

gives page numbers in the form “(chapter)-(page)”, so pages of chapter 3 will be numbered 3-1, 3-2, etc., and pages of appendix B will be numbered B-1, B-2, etc.

With the optional argument form:

\pagenumbering[Index]{bychapter}

page numbers will appear in the form “Index-(page)”. One of the anticipated uses of this facility is just as indicated — providing by-chapter numbering of the pages of chapters that don’t have numbers (as index chapters don’t in the standard classes).

The separator between the chapter and page numbers (hyphen above, but I can imagine people wanting it to be an en-dash) is \chappgsep, which en-dash-lovers may redefine (after loading the package); for example:

\renewcommand{\chappgsep}{--}\%

Havoc is wreaked with this structure in the \LaTeX \frontmatter and \mainmatter commands (which both explicitly use \pagenumbering and therefore destroy the changed definition of \thepage).

My design decision, when converting this package for use under \LaTeX 2e was to assume that \frontmatter is indeed to be in \pagenumbering{roman}, and to restore the chapter-numbering in \mainmatter. Chapters in the frontmatter can not be numbered ‘by’ their chapters, since the chapters don’t actually have numbers. If the author wishes to have some special treatment of part of the frontmatter, the analogue of the above is

\chapter{Preface}
\pagenumbering{Preface}{bychapter}
The conception breaks down again in \backmatter; again, the \chapter commands don’t number the chapters, so that the pages will all be numbered as if they were ‘within’ the last real chapter. Therefore, if by-chapter page numbering is still enabled while in the backmatter, and the user hasn’t issued a new \pagenumbering[prefix]{bychapter} since the \backmatter command, the package rewrites the prefix as \{bf??\}, and produces a warning at the end of the document.

3 User interface — a caution

The \appendix command can confuse bychapter page numbering — unless you take some precautions, the last page or two of your last “real” chapter will not be be numbered “by chapter”. The solution is to issue a \clearpage (if openany class option is in effect), or \cleardoublepage (if openright class option is in effect). By default, report class uses the openany option, so you would write:

\begin{verbatim}
... text at end of chapter.
\clearpage
\appendix
\chapter{Title of first appendix}
\end{verbatim}

whereas the book class uses the openright option by default, so you would write:

\begin{verbatim}
... text at end of chapter.
\cleardoublepage
\appendix
\chapter{Title of first appendix}
\end{verbatim}

4 Code: Preliminaries

\begin{verbatim}
\if@chappg@auto
\newif\if@chappg@resetting \@chappg@resettingfalse
\DeclareOption{auto}{\@chappg@autotrue}
\DeclareOption{noauto}{\@chappg@autofalse}
\ExecuteOptions{auto}
\ProcessOptions
\end{verbatim}

This package was largely reimplemented for use as a \LaTeX\ package, taking account of \mainmatter, etc., and providing various extra capabilities, by Robin Fairbairns, from a \LaTeX\ 2.09 style file by Max Hailperin, who first published the style in \TeXMaG\ Vol. 5, No. 3 (part 1).

This release provides typeset documentation of the first \LaTeX\ 2\epsilon\ version, for \TeX\ catalogue users’ convenience.

Conditionals for control of page number resetting

\begin{verbatim}
\newif\if@chappg@auto \@chappg@autofalse
\newif\if@chappg@resetting \@chappg@resettingfalse
\end{verbatim}

Deal with package options; we set option auto by default, for compatibility with the earlier versions of this package

\begin{verbatim}
\DeclareOption{auto}{\@chappg@autotrue}
\DeclareOption{noauto}{\@chappg@autofalse}
\ExecuteOptions{auto}
\ProcessOptions
\end{verbatim}
\texttt{\textbackslash pagename}\textbackslash \textbackslash @chappg@prefix
Replace \texttt{\textbackslash pagename} so as to have the optional argument.

8 \texttt{\textbackslash renewcommand\textbackslash pagename[2] \textbackslash @chappg@thechapter}\%
9 \texttt{\textbackslash global\textbackslash c@page}\texttt{\textbackslash \textasciitilde}
10 \texttt{\textbackslash protected\textbackslash xdef\textbackslash \textbackslash thepage}\%
11 \texttt{\textbackslash expandafter\textbackslash noexpand\textbackslash csname \textbackslash \texttt{\&\textbackslash \textasciitilde}2\textbackslash endcsname}
12 \texttt{\textbackslash noexpand\textbackslash c@page}
13 \%
14 \texttt{\textbackslash gdef\textbackslash @chappg@prefix(#1)\%}

And now make sure that page numbering resetting is in its right state
15 \texttt{\textbackslash def\textbackslash @tempa(#2)\%}
16 \texttt{\textbackslash def\textbackslash @tempb(bychapter)\%}
17 \texttt{\textbackslash ifx\textbackslash @tempa\textbackslash @tempb}
18 \texttt{\textbackslash @chappg@checkloc}
19 \texttt{\textbackslash if\textbackslash @chappg@resetting}
20 \texttt{\textbackslash else}
21 \texttt{\textbackslash @addtoreset\textbackslash \textbackslash (page)\{chapter\}\%
22 \texttt{\textbackslash @chappg@resettingtrue}
23 \texttt{\textbackslash fi}
24 \texttt{\textbackslash else}
25 \texttt{\textbackslash if\textbackslash @chappg@resetting}
26 \texttt{\textbackslash @removefromreset\textbackslash \textbackslash (page)\{chapter\}\%
27 \texttt{\textbackslash @chappg@resettingfalse}
28 \texttt{\textbackslash fi}
29 \texttt{\textbackslash fi}
30 \}

\texttt{\textbackslash bychapter} This is the command used by \texttt{\textbackslash pagename\{(bychapter)\}} to actually create the page number
31 \texttt{\textbackslash newcommand\textbackslash bychapter[1]\%
32 \texttt{\textbackslash @chappg@prefix\textbackslash chappgsep\textbackslash arabic\#1\%
33 \texttt{\textbackslash if\textbackslash @chappg@resetting\textbackslash @chappg@surprise\textbackslash else}
34 \texttt{\textbackslash xdef\textbackslash @chappg@surprise\textbackslash@line\textbackslash \textbackslash \texttt{\&\textbackslash \textasciitilde}\inputlineno\%
35 \texttt{\textbackslash global\textbackslash @chappg@surprisedtrue}
36 \texttt{\textbackslash fi}
37 \texttt{\textbackslash fi}
38 \}
39 \}

\texttt{\textbackslash chappg@thechapter} Output a chapter number if there have been any chapters; otherwise gobble the following thing, which will be \texttt{\textbackslash chappgsep}
40 \texttt{\textbackslash def\textbackslash @chappg@thechapter\%
41 \texttt{\textbackslash ifnum\textbackslash c@chapter=0}
42 \texttt{\textbackslash expandafter\textbackslash \textasciitilde\textbackslash gobble}
43 \texttt{\textbackslash else}
44 \texttt{\textbackslash thechapter}
45 \texttt{\textbackslash fi}
46 \}

\texttt{\textbackslash chappgsep} Separator in the above
47 \texttt{\textbackslash providecommand\textbackslash chappgsep(-)}

\texttt{\textbackslash mainmatter} Hack at \texttt{\textbackslash mainmatter} so that it restores bychapter numbering if there’s been a
frontmatter command and it was there in the first place
Hack at \backmatter so that it warns the user of possibly surprising results if \pagenumbering\{⟨whatever⟩\}\{⟨bychapter⟩\} hasn’t been used.

Generate a warning at end document if one of those “surprised” things has been executed, or if a \pagenumbering command was given in a bad place.

Check that the current location is appropriate for a bychapter change.
The next magic makes the page counter be reset to one rather than zero
93 \renewcommand\@stpe[1]{%  
94 }\global\csname c@#1\endcsname  \n95 \expandafter\ifx \csname c@#1\endcsname \c@page  
96 \@ne  
97 \else  
98 \z@  
99 \fi  
100 }

Finally, we select the bychapter as the default page style if the user so requires.
If the noauto option was given, the user has opted to execute the command himself,
but otherwise we behave backwards-compatibly. The selection will be hacked by
\frontmatter, if the author uses it.
101 \if@chappg\auto\pagenumbering{bychapter}\fi

\@removefromreset fragment included from
CTAN macros/latex/contrib/fragments/removefr.tex
Date: Sat, 30 Jul 1994 17:58:55 PST
From: Donald Arseneau
A utility macro:
\@removefromreset{\FOO}{\BAR} : Removes counter FOO from the list of
counters \cl@BAR to be reset when counter BAR is stepped. The opposite of
\addtoreset.
102 \def\@removefromreset#1#2{\let\@tempb\@elt  
103 \expandafter\let\expandafter\@tempa\csname c@#1\endcsname  
104 \def\@elt##1{\expandafter\ifx\csname c@##1\endcsname\@tempa\else  
105 \noexpand\@elt{##1}\fi}  
106 \expandafter\edef\csname cl@#2\endcsname\csname cl@#2\endcsname%  
107 \let\@elt\@tempb}  
108 \endinput
109 (/package)