The count1to package*†

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Abstract

This package sets `\count1` to `\count8` with the values of `page` to `subparagraph`. `\count9` is used to flag odd pages. The values of these counters are displayed and written in the .dvi file by TEX and can later be used to select the pages of certain parts of the document for printing if the device driver supports this.

It also gives access to the total number of pages of the document via the label `TotalPages`.

Contents

1 Introduction

Most of the time users want to print only certain parts of a document; but these can only be selected by using the page numbers of these parts with most device drivers. This can be difficult or impossible if pages in different parts of the document have the same number—e. g. in the frontmatter and the first text pages (iii vs. 3).

TEX provides an easy solution to this problem: whenever a page is completed by the output routine and shipped out via `\shipout`, it displayes the values of `\count0` to `\count9` on the display (e. g. `[1]`) *and writes them to the .dvi file.*

> "The first ten `\count` registers, `\count0` to `\count9`, are reserved for a special purpose: TEX displays these ten counts on your terminal whenever ouputting a page, and it transmits them to the output file as an identification of that page. The counts are separated by decimal points on your terminal, with trailing '`.0`' patterns suppressed. Thus,

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The name count1to is a tribute to the 8+3 file-naming convention of certain "operating systems"; strictly speaking it should be count1to9.

†This document has 3 pages.

> for example, if `\count0=5` and `\count2=7` when a page is shipped out to the `dvi` file, and if the other counters are zero, TEX will type '`[5.0.7]`'. Plain TEX uses `\count0` for the page number, and it keeps `\count1` through `\count9` equal to zero; that is why you see '`[1]`' when page 1 is being output. In more complex applications the page numbers can have further structure; ten counts are shipped out so that there will be plenty of identification."[2, p. 119]

Surprinsingly, until recently there existed no package for LATEX that used these `\count`ers although some drivers allow the selection of pages based on other `\count`s then `\count0` (e. g. emTEX).

This package is the solution: It uses the everyshi package[3] to set `\count1` to `\count9` before each `\shipout` with these values:

`\count`	value
0	relative page number (set by LATEX)
1	absolute page number
2	number of current `\part`
3	number of current `\chapter` (0 with article class)
4	number of current `\section`
5	number of current `\subsection`
6	number of current `\subsubsection`
7	number of current `\paragraph`
8	number of current `\subparagraph`
9	1 on odd pages, 0 on even pages[1]

count1to also works with classes that do not define some or all of the sectioning commands and their counters, like letter. Although it is of somewhat little use then `:-)`.

A note for users of this package: When you select the pages of some part of your document with a lower structure than `\chapter`, remember that only `\part`s and `\chapter`s start on a new page; if you want to print a complete `\section`, you should also select the first page of the next `\section`. Also note that TEX ships out the values of the counters instead of their visual representation (produced with `\the`*counter*), so appendix A sets `\count4` to 1 in the article class.

A note for developers of device drivers: Please add support for `\count1` to `9` to your programs. It would also be nice if users could easily select the next page(s) after a certain count (something like "`*.*.*.*.2+1.*`" should be possible for selecting all pages with `\count4` $\mapsto$ section = 2 plus the first page of section 3).

`TotalPages`

New feature 1997/11/01

The setting of `\count1` with the absolute page number makes it possible to provide the *total* number of pages of the document (as opposed to the "number" on the last page provided by the lastpage package[1]). By referencing the label `TotalPages` (e. g. by `\ref{TotalPages}`) you get the total number of pages the document had at the last run of LATEX. If you want to use this feature, you should load count1to as the *last* package in your document because count1to executes some code at `\end{document}` and has to be sure that its code is the *last* code executed there.

[1] If you have a better application for `\count9`, let me know.

2 Options

The package has no options.

3 Required packages

The package requires the everyshi package[3].

4 Acknowledgements

As usual Rebecca Stiels improved the quality of this documentation. Rolf Niepraschk (`niepraschk@ptb.de`) provided the idea and the first implementation of the `TotalPages` label.

References

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[2] Donald E. Knuth. *The TeXBook*, volume A of *Computers and Typesetting*. Addison-Wesley, 1986. Eleventh printing, revised, May 1991.

[3] Martin Schröder. The everyshi package.
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