The pdfcolparcolumns package
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Abstract
Since version 1.40 pdf\LaTeX{} supports several color stacks. This package
uses them to fix color problems in package parcolumns.

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*Please report any issues at https://github.com/ho-tex/oberdiek/issues
1 Usage

\usepackage{pdfcolparcolumns}

The package pdfcolparcolumns loads package parcolumns [1]. If color stacks are available then the macros of parcolumns are patched to add support for color stacks.

1.1 Option rulebetweencolor

Package pdfcolparcolumns also fixes the color for the rule between columns (if rulebetween is set). Default color is \normalcolor. But this can be changed by using option rulebetweencolor. It takes a color specification as value. If the value is empty, then the default (\normalcolor) is used. Examples:

\begin{verbatim}
rulebetweencolor=blue,
rulebetweencolor={red},
rulebetweencolor=\{}, \% \normalcolor is used
rulebetweencolor=[rgb]{1,0,.5} \% see below
\end{verbatim}

If used inside the optional argument of environment parcolumns and the value contains an optional argument, then whole value must be put in curly braces:

\begin{verbatim}
\begin{parcolumns}{[rulebetween,
rulebetweencolor=\{[rgb]{1,0,.5}\}],}
...\end{parcolumns}
\end{verbatim}

This option rulebetweencolor can also be set using \setkeys:

\begin{verbatim}
\setkeys{parcolumns}{rulebetweencolor=green}
\end{verbatim}

1.2 Future

Currently package parcolumns does not seem to be maintained. Nevertheless if there will be a new version that adds support for color stacks, then this package may become obsolete.

2 Implementation

2.1 Identification

\begin{verbatim}
1 ⟨∗package⟩
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{pdfcolparcolumns}⟨2019/12/29 v1.5 Color stacks for parcolumns (HD)⟩
\end{verbatim}

2.2 Load packages

2.2.1 Package parcolumns

Currently package parcolumns does not define options. Thus it is just a precaution that the options of package pdfcolparcolumns are passed to package parcolumns.

\begin{verbatim}
5 \DeclareOption*{%
6 \PassOptionsToPackage{\CurrentOption}{parcolumns}%
7 }
8 \ProcessOptions\relax
9 \RequirePackage{parcolumns}[2004/11/25]
\end{verbatim}
\section*{2.2.2 Package \texttt{pdfcol}}
\begin{verbatim}
10 \RequirePackage{pdfcol}[2007/09/09]
11 \ifeodef{pdfcolAvailable}
12 \PackageInfo{pdfcolparcolumns}{Loading aborted, because color stacks are not available}
13 \fi
\end{verbatim}

\subsection*{2.2.3 Package \texttt{infwarerr}}
\begin{verbatim}
18 \RequirePackage{infwarerr}[2007/09/09]
\end{verbatim}

\section*{2.3 Color stack macros}

\texttt{\pcpc@MaxStack} Macro \texttt{\pcpc@MaxStack} holds the highest number of allocated stacks.
\begin{verbatim}
19 \global\chardef\pcpc@MaxStack=0
\end{verbatim}

\texttt{\pcpc@InitStacks} Macro \texttt{\pcpc@InitStacks} takes the number of columns as argument and ensures that there are enough color stacks for all columns.
\begin{verbatim}
20 \def\pcpc@InitStacks#1{
21 \ifnum#1>\pcpc@MaxStack
22 \begingroup
23 \loop
24 \pdfcolInitStack{pcpc@\the\count@}
25 \ifnum#1>\count@
26 \repeat
27 \global\chardef\pcpc@MaxStack=\count@
28 \endgroup
29 \fi
30 }
31 }
\end{verbatim}

\texttt{\pcpc@SwitchStack}
\begin{verbatim}
32 \def\pcpc@SwitchStack#1{
33 \pdfcolSwitchStack{pcpc@\number#1}
34 }
\end{verbatim}

\texttt{\pcpc@SetCurrent}
\begin{verbatim}
36 \def\pcpc@SetCurrent#1{
37 \pdfcolSetCurrent{pcpc@\number#1}
38 }
\end{verbatim}

\section*{2.4 Patches}

Now the color stack macros are patched into the macros of package \texttt{parcolumns}.

\subsection*{2.4.1 Init stacks}
\texttt{\pcpc@InitStacks} should go into the definition of environment \texttt{parcolumns}. \texttt{\pc@alloccolumns} is executed there and nowhere else, thus we hook into it.
\begin{verbatim}
39 \g@addto@macro\pc@alloccolumns{
40 \pcpc@InitStacks\pc@columncount
41 }
\end{verbatim}

\subsection*{2.4.2 Switch stack}
\texttt{\pcpc@SwitchStack} should be called by macro \texttt{\colchunk@}. However it is easier to patch \texttt{\pc@setcolumnwidth} that is executed in \texttt{\colchunk@} only.
\begin{verbatim}
42 \g@addto@macro\pc@setcolumnwidth{
\end{verbatim}
2.4.3 Set current stack color

`\pcpc@SetCurrent` is set at the begin of each line. It must be inserted into `\pc@placeboxes`. Unhappily there is no easy way. Therefore we check and redefine `\pc@placeboxes`.

\begin{verbatim}
def\x{%  
global\let\@tempa\relax  
\count@\z@  
\hb@xt@\linewidth{%  
  \vfuzz30ex  
  \vbadness@\@M  
  \splittopskip\z@skip  
  \loop  
    \ifnum\count@<\pc@columncount  
    \advance\count@\@ne  
    \expandafter\ifvoid\csname pc@column\number\count@\endcsname  
    \hskip\csname pc@column@width@\number\count@\endcsname  
    \else  
    \expandafter\setbox\expandafter\@tempboxa\expandafter  
        \vsplit\csname pc@column\number\count@\endcsname\to\dp\strutbox  
        \vbox{\unvbox\@tempboxa}  
    \fi  
    \expandafter\ifvoid\csname pc@column\number\count@\endcsname  
    \else  
    \global\let\@tempa\pc@placeboxes  
    \fi  
    \ifnum\count@<\pc@columncount  
    \strut  
    \hfill  
    \ifpc@rulebetween  
    \vrule  
    \hfill  
    \fi  
    \fi  
  \repeat  
}\@tempa  
\@PackageWarningNoLine{pdfcolparcolumns}{%  
Command \string\pc@placeboxes\space has changed.\MessageBreak  
Supported versions of package `parcolumns':\MessageBreak  
space\space 2004/08/05.\MessageBreak  
The redefinition of \string\pc@placeboxes\space may not\MessageBreak  
\MessageBreak  
behave correctly depending on the changes\MessageBreak  
}%
\fi
\endgroup

\pc@placeboxes
\renewcommand*{\pc@placeboxes}{%  
\global\let\@tempa\relax  
\count@\z@}
\end{verbatim}

\pc@placeboxes
\renewcommand*{\pc@placeboxes}{%  
\global\let\@tempa\relax  
\count@\z@}
3 Installation

3.1 Download

**Package.** This package is available on CTAN:\[1\]:


**Bundle.** All the packages of the bundle ‘oberdiek’ are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

- CTAN:install/macros/latex/contrib/oberdiek.tds.zip

*TDS* refers to the standard “A Directory Structure for *TeX* Files” (CTAN:pkg/tds). Directories with `texmf` in their name are usually organized this way.

3.2 Bundle installation

**Unpacking.** Unpack the `oberdiek.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (Linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

3.3 Package installation

**Unpacking.** The `.dtx` file is a self-extracting docstrip archive. The files are extracted by running the `.dtx` through plain *TeX*:

```
tex pdfcolparcolumns.dtx
```

*TDS.* Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

- `pdfcolparcolumns.sty` → `tex/latex/oberdiek/pdfcolparcolumns.sty`
- `pdfcolparcolumns.pdf` → `doc/latex/oberdiek/pdfcolparcolumns.pdf`
- `pdfcolparcolumns.dtx` → `source/latex/oberdiek/pdfcolparcolumns.dtx`

If you have a `docstrip.cfg` that configures and enables docstrip’s TDS installing feature, then some files can already be in the right place, see the documentation of docstrip.

3.4 Refresh file name databases

If your *TeX* distribution (*TeX* Live, MiKTeX, ...) relies on file name databases, you must refresh these. For example, *TeX* Live users run `texhash` or `mktexlsr`.

\[1\]CTAN:pkg/pdfcolparcolumns
3.5 Some details for the interested

Unpacking with \TeX. The \texttt{.dtx} chooses its action depending on the format:

plain \TeX: Run \texttt{docstrip} and extract the files.

LATEX: Generate the documentation.

If you insist on using LATEX for \texttt{docstrip} (really, \texttt{docstrip} does not need LATEX), then inform the autodetect routine about your intention:

\begin{verbatim}
latex \let\install=y\input{pdfcolparcolumns.dtx}
\end{verbatim}

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the \texttt{.dtx} or the \texttt{.drv} to generate the documentation. The process can be configured by the configuration file \texttt{ltxdoc.cfg}. For instance, put this line into this file, if you want to have A4 as paper format:

\begin{verbatim}
\PassOptionsToClass{a4paper}{article}
\end{verbatim}

An example follows how to generate the documentation with pdfLATEX:

\begin{verbatim}
pdflatex pdfcolparcolumns.dtx
makeindex -s gind.ist pdfcolparcolumns.idx
pdflatex pdfcolparcolumns.dtx
makeindex -s gind.ist pdfcolparcolumns.idx
pdflatex pdfcolparcolumns.dtx
\end{verbatim}

4 References


5 History

[2007/07/26 v1.0]
- First version, published in the newsgroup \texttt{comp.text.tex} with the name \texttt{parcolumns-colorstacks}: “Re: \texttt{xcolor glitches}”\textsuperscript{2}

[2007/09/09 v1.1]
- CTAN version, package name renamed to \texttt{pdfcolparcolumns}.
- Uses package \texttt{pdfcol}.
- Documentation added.
- Test file added.

[2008/08/11 v1.2]
- Code is not changed.
- URLs updated.

\textsuperscript{2}Url: \url{https://groups.google.com/group/comp.text.tex/msg/56bd897b11bca414}

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\textbf{[2010/01/11 v1.3]}

- Fix for rule color.
- New option \texttt{rulebetween} color for environment \texttt{parcolumns}.

\textbf{[2016/05/16 v1.4]}

- Documentation updates.

\textbf{[2019/12/29 v1.5]}

- \texttt{\PassOptionsToPackage} not \texttt{\PassoptionsToPackage}

\section{Index}

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; plain numbers refer to the code lines where the entry is used.

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\end{tabular}
<table>
<thead>
<tr>
<th>R</th>
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<tbody>
<tr>
<td>\renewcommand</td>
<td>\unvbox</td>
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<tr>
<td>\repeat</td>
<td>\vbox</td>
</tr>
<tr>
<td>\RequirePackage</td>
<td>\vbadness</td>
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<td></td>
<td>\vfuzz</td>
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<td>\setbox</td>
<td>\vrule</td>
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<td>\vsplit</td>
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</tr>
</tbody>
</table>

**Notes:**
- The table above lists some common LaTeX commands and packages used for typesetting.
- Each command is listed with its corresponding package or command name.
- The referenced page numbers indicate where these commands are discussed.
- The commands and packages span various aspects of LaTeX, including commands for setting spacing, boxes, and rules.

**Example Usage:**
- \renewcommand is used to redefine commands.
- \repeat is a macro for repeating text.
- \RequirePackage is used to load packages into a document.
- \setbox is a box command for setting a box.
- \space is used to set space within text.
- \splittopskip is used to set the top skip in a document.
- \strut and \strutbox are used for setting vertical space.
- \the is used to set the current chapter or section number.

**Further Resources:**
- The Comprehensive LaTeX Symbol List (CLS) provides a detailed list of LaTeX symbols and commands.
- The LaTeX Project documentation offers comprehensive guides and tutorials for LaTeX usage.

**Conclusion:**
- The table above provides a snapshot of some essential LaTeX commands and their usage details, which are crucial for producing high-quality documents.