The **nowidow** package

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1 Introduction

Religion that is pure and undefiled before God, the Father, is this: to visit orphans and widows in their affliction, and to keep oneself unstained from the world.  

James 1:27 — ESV

This package was based on the answer to a question\(^1\) about expansion with \texttt{begingroup} and \texttt{foreach} asked on \url{http://tex.stackexchange.com}. Thanks to Martin Scharrer\(^2\) for his solution.

Widows (single lines at the top of a page) and orphans (single lines at the bottom of a page) happen frequently and should be avoided.

The \texttt{widowpenalties} and \texttt{clubpenalties} commands allow to prevent them, but their syntax is a bit complex to use.

The \texttt{nowidow} package provides \texttt{nowidow} and \texttt{noclub} commands which are simpler to use in order to prevent widows and orphans.

2 Usage

To load the package, use:

\begin{verbatim}
\usepackage[<options>]{nowidow}
\end{verbatim}

When no options are specified, the package will only provide macros and not load any settings automatically. The following sections describe the possible options for this package.

\[^1\url{http://tex.stackexchange.com/questions/26272/expansion-issue-with-begingroup-and-foreach/26275#26275} \]
\[^2\url{http://tex.stackexchange.com/users/2975/martin-scharrer} \]
2.1 Options

defaultlines=<value>

The `defaultlines` option sets the default minimal number of lines to be kept after or before the page break.

all

The `all` option sets the widow and orphan penalties for the whole document upon loading the package, for example:

\usepackage[defaultlines=4,all]{nowidow}

2.2 Commands

\nowidow

To prevent widows in a paragraph, call `\nowidow` immediately at the end of the paragraph (without an empty line), optionally followed by the minimal number of lines you want after the page break:

This paragraph overflows to the next page, but I really don’t want any widows in it.\nowidow[3]

The minimal number of lines to be kept after the page break defaults to 2 if not specified or overridden by the `defaultlines` option.

\setnowidow

This macro is similar to `\nowidow` but sets the widow penalty for the whole document instead of the current paragraph only.

This macro is used when the package is loaded with the `all` option.

\noclub

This is similar to the `\nowidow` command but prevents orphans at the end of a page:

This paragraph overflows to the next page, but I really don’t want any orphans in it.\noclub[3]

The minimal number of lines to be kept before the page break defaults to 2 if not specified or overridden by the `defaultlines` option.

\setnoclub

This macro is similar to `\noclub` but sets the orphan penalty for the whole document instead of the current paragraph only.

This macro is used when the package is loaded with the `all` option.
3 Implementation

\ProvidesPackage{nowidow}

Options
\RequirePackage{kvoptions}
\SetupKeyvalOptions{
family=nowidow,
prefix=nowidow@,
}
\DeclareStringOption[2]{defaultlines}
\DeclareBoolOption{all}
\ProcessKeyvalOptions*

\nowidow@X
\def\nowidow@X#1{% 
\ifnum#1<\nowidowmax
10000
\expandafter\nowidow@X\expandafter{% 
\the\numexpr(#1)+1\expandafter\relax\expandafter}% 
\fi
}
\setnowidow
\newcommand{\setnowidow}[1][\nowidow@defaultlines]{% 
\mathchardef\nowidowmax#1\relax
\widowpenalties #1 \nowidow@X{1} 0\par
}
\ifnowidow@all
\setnowidow
\fi
\nowidow
\newcommand{\nowidow}[1][\nowidow@defaultlines]{% 
\begingroup
\setnowidow[#1]
\endgroup
}
\setnoclub
\newcommand{\setnoclub}[1][\nowidow@defaultlines]{% 
\mathchardef\nowidowmax#1\relax
\clubpenalties #1 \nowidow@X{1} 0\par
}
\ifnowidow@all
\setnoclub
\fi
\noclub
\begin{Verbatim}
36 \newcommand{\noclub}{1}[\nowidow@defaultlines]{%
37 \begingroup
38 \setnoclub[#1]
39 \endgroup
40 }
\end{Verbatim}

Change History

0.1 General: Initial version ........ 1
0.2 General: Fix nowidow@X ........ 1
0.3 General: Add setnowidow command and package options .... 1
0.4 General: Add orphan management 1
1.0 General: Improve documentation . 1

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

\begin{verbatim}
A \all .......... 2 \I \ProcessKeyvalOptions
B \begingroup .... 25, 37 \N \ProvidesPackage .. 1
C \clubpenalties .... 31 \M \RequirePackage .. 2
D \DeclareBoolOption .. 8 \R \relax .. 14, 18, 30
    \DeclareStringOption 7 \S \setnoclub ... 2, 29, 38
    \def .......... 10 \Setnowidow ... 2, 17, 26
E \endgroup ...... 27, 39 \SetupKeyvalOptions . 3
    \expandafter .. 13, 14 \O \the .......... 14
    \fi ........ 15, 23, 35 \P \Options ........ 2
    \fi ........ 15, 23, 35 \par .......... 19, 31 \W \widowpenalties ... 19
\end{verbatim}