The needspace package

Author: Peter Wilson, Herries Press
Maintainer: LaTeX Project
https://github.com/LaTeX-Package-Repositories/herries-press

v1.3f 2026/10/13

1 *Documentation*

This packages two commands, `\needspace` and `\Needspace`, for reserving space to keep a certain amount of material from being split over a page break. If there is not enough space, a `\newpage` is automatically inserted.

The `\needspace`⟨*length*⟩ macro reserves an *approximate* amount of space ⟨*length*⟩ for the material following to be kept on the same page. The accuracy of its calculations depend on what penalties are in effect, but is efficient and normally adequate. A short page will be ragged bottom even if `\flushbottom` is in effect.

`\Needspace{`⟨*length*⟩`}` is less efficient but reserves the requested space ⟨*length*⟩ exactly. It should only be used between paragraphs. Short pages that are produced by `\Needspace` will be ragged bottom but short pages produced by `\Needspace*{`⟨*length*⟩`}` will be flush bottom if `\flushbottom` is in effect.

2 *Examples*

Here, we request that we need next five lines on a single page/column:

```
... previous text.

\needspace{5\baselineskip}
The next five lines ...
```

In this case, the space is reserved more accurately:

```
... previous text.

\Needspace*{4\baselineskip}
   The major principles are:
\begin{itemize}
\item ...
```

Licence and copyright

This work may be modified and/or distributed under the terms and conditions of the LaTeX Project Public License[1], version 1.3c or later (your choice). The current maintainer of this work is the LaTeX Project.

Copyright Peter Wilson, 1996–2003
Copyright Will Robertson, 2010, 2013
Copyright LaTeX Project, 2025–present

[1] https://www.latex-project.org/lppl.txt

3 *Implementation*

```
%% See needspace.dtx for Copyright and other information

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{needspace}[2026/10/13 v1.3f reserve vertical space]

\newcommand{\needspace}[1]{%
  \ifhmode \ifinner \@LRmoderr \else \par \fi \fi
  \begingroup
    \@tempskipb \lastskip
    \vskip -\@tempskipb
    \setlength\dimen@{#1}%
    \advance\dimen@\@tempskipb
    \vskip\z@\@plus\dimen@
    \penalty -100
    \vskip\z@\@plus -\dimen@
    \vskip\dimen@
    \penalty 9999%
    \vskip -\dimen@
    \vskip\@tempskipb % reinsert \lastskip
  \endgroup
}

\newcommand\Needspace{%
  \ifhmode \ifinner \@LRmoderr \else \par \fi \fi
  \@tempskipb \lastskip
  \vskip -\@tempskipb
  \penalty-100
  \begingroup
  \@ifstar{\@sneedsp@}{\@needsp@}%
}

\newcommand\@sneedsp@[1]{%
    \setlength\dimen@{#1}%
    \advance\dimen@\@tempskipb
    \dimen@ii\pagegoal \advance\dimen@ii-\pagetotal
    \ifdim \dimen@>\dimen@ii
      \break
    \else
      \vskip\@tempskipb  % reinsert \lastskip
    \fi
  \endgroup
}
```

```
\newcommand\@needsp@[1]{%
    \setlength\dimen@{#1}%
    \advance\dimen@\@tempskipb
    \dimen@ii\pagegoal \advance\dimen@ii-\pagetotal
    \ifdim \dimen@>\dimen@ii
      \ifdim \dimen@ii>\z@
        \vfil
      \fi
      \break
    \else
      \vskip\@tempskipb  % reinsert \lastskip
    \fi
  \endgroup
}
```