The `fnbreak` package

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(inactive)

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Abstract

This package detects footnotes that are split over several pages. It writes a warning into the log file.

Contents

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1 The user interface

To use this package place

```
\usepackage{fnbreak}
```

in the preamble of your document.

If a footnote is split over a page break, a warning like the following is put into the log:

```
Package fnbreak Warning: Footnote number 1
(fnbreak)                (label 'a')
(fnbreak)                has been split over different pages:
(fnbreak)                page 1 to page 2.
```

Sometimes, complicated footnote labels are used (for example, when using symbols):

```
Package fnbreak Warning: Footnote number 1
(fnbreak)                (label '\ensuremath {*}')
(fnbreak)                has been split over different pages:
(fnbreak)                page 1 to page 2.
```

In some cases complex footnote labels may prevent **fnbreak** from functioning.

nolabel To avoid these problems, you may give the package option `nolabel`:
label
```
\usepackage[nolabel]{fnbreak}
```

Then the label is omitted in the warning:

```
Package fnbreak Warning: Footnote number 1
(fnbreak)                has been split over different pages:
(fnbreak)                page 1 to page 2.
```

\fnbreaknolabel You may switch on and off printing of the footnote label in the warnings also by
\fnbreaklabel using the macros **\fnbreaknolabel** and **\fnbreaklabel**.

If the document is set two-sided, fnbreak tries to determine whether the footnote spans over a double page or flipsides. The result is shown in the warning:

```
Package fnbreak Warning: Footnote number 1
(fnbreak)                has been split over different pages (flipsides):
(fnbreak)                page 1 to page 2.
```

or:

```
Package fnbreak Warning: Footnote number 1
(fnbreak)                has been split over different pages (double page):
(fnbreak)                page 2 to page 3.
```

This only works if the page numbers are (arabic) numerical.

verbose When using the package option `verbose` the fnbreak package writes a message for
nonverbose every footnote, even if it is completely on one page:

```
\usepackage[verbose]{fnbreak}
```

The output looks as follows:

```
Package fnbreak Note:    Footnote number 2
(fnbreak)                (label '2')
(fnbreak)                completely on page 3.
```

\fnbreaknonverbose You may switch on and off printing footnote information for non-split footnotes
\fnbreakverbose using the macros **\fnbreaknonverbose** and **\fnbreakverbose**.

2 The implementation

The approach of this package is very simple: At the begin and the end of each footnote text, the footnote number and current page are written to the aux file. Then, it is tested if both pages are the same for each footnote.

Heading of the package:

```
1 ⟨package⟩\NeedsTeXFormat{LaTeX2e}[2017/04/15]
2 ⟨package⟩\ProvidesPackage{fnbreak}
3 ⟨version⟩\ProvidesFile{fnbreak-v.tex}
4 ⟨package | version⟩ [2023-03-18 v1.40 Warning for pagebreak in footnote (HH)]
5 ⟨*package⟩
```

Declare an option to show not only the footnote number but also the label.

```
6
7 \RequirePackage{ifthen}
8
```

Declare an option to show not only the footnote number but also the label.

```
9 \newif\iffnb@showlabel
10 \newif\iffnb@verbose
11
12 \DeclareOption{label}{\fnb@showlabeltrue}
13 \DeclareOption{nolabel}{\fnb@showlabelfalse}
14 \DeclareOption{verbose}{\fnb@verbosetrue}
15 \DeclareOption{nonverbose}{\fnb@verbosefalse}
16 \ExecuteOptions{label,nonverbose}
17 \ProcessOptions\relax
18
```

\fnbreakverbose   Switch on or off verbose printing of footnotes.
\fnbreaknonverbose
```
19 \newcommand*\fnbreakverbose{\fnb@verbosetrue}
20 \newcommand*\fnbreaknonverbose{\fnb@verbosefalse}
```

\fnbreaklabel   Switch on or off printing of footnote labels in the warnings.
\fnbreaknolabel
```
21 \newcommand*\fnbreaklabel{\fnb@showlabeltrue}
22 \newcommand*\fnbreaknolabel{\fnb@showlabelfalse}
23
```

Define new counter and boolean for determining whether a split footnote spans over a double page or flipsides.

```
24 \newcounter{fnb@@numberpages}
25
26 \newif\iffnb@@isdoublepage
27
```

Define default values in order to avoid possible problems:

```
28 \xdef\fnb@@footnotestartnum{0}
29 \xdef\fnb@@footnotestartpage{0}
30 \def\fnb@globalwarning{}
```

When the aux file is read the first time (before \begin{document}, do nothing:

```
31 \def\fnb@footnotestart#1#2#3{}
32 \def\fnb@footnoteend#1#2#3{}
33
```

Define command that writes the footnote start marker to the aux file:

```
34 \def\fnb@fnstart{\@bsphack
35   \protected@write\@auxout{}{%
36     \string\fnb@footnotestart{\the\c@footnote}{\thefootnote}{\thepage}%
37     }%
38   \@esphack%
39   }
40
```

Define command that writes the footnote end marker to the aux file:

```
41 \def\fnb@fnend{\@bsphack
42   \protected@write\@auxout{}{%
43     \string\fnb@footnoteend{\the\c@footnote}{\thefootnote}{\thepage}%
44     }%
45   \@esphack%
46   }
47
```

Provide the command \IfFormatAtLeastTF for old LaTeX-formats which did not know it yet:

```
48 \providecommand\IfFormatAtLeastTF{\@ifl@t@r\fmtversion}
49
```

Define the working commands at \begin{document} in order to activate them when the aux file is read at the end of the document:

```
50 \AtBeginDocument{% = \AddToHook{begindocument}
```

If the start of a footnote has been found, just define commands containing the footnote number (only for debugging) and the start page:

```
51   \def\fnb@footnotestart#1#2#3{%
52     \xdef\fnb@@footnotestartnum{#1}%
53     \gdef\fnb@@footnotestartpage{#3}%
54   }%
```

If the end of a footnote has been found, test whether the footnote numbers fit and whether the start and end pages are the same. If one of the tests fails, generate a warning:[1]

```
55   \def\fnb@footnoteend#1#2#3{%
56     \xdef\fnb@@footnoteendnum{#1}%
57     \def\fnb@@footnoteendpage{#3}%
```

Test if start and end refer to the same footnote.

```
58     \ifx\fnb@@footnotestartnum\fnb@@footnoteendnum%
```

Test if the footnote ends on the same page it has started.

```
59       \ifthenelse{\equal{\fnb@@footnotestartpage}{\fnb@@footnoteendpage}}{%
```

Yes, the footnote is completely on one page. Print a message if **verbose** mode is requested. Simulate a variant of \PackageInfo which is also written to the output rather than only to the log file.

---

[1]Thanks to Bastien Roucaries for pointing at a problem with symbol footnote marks.

```
60        \iffnb@verbose%
61          \begingroup%
62            \def\MessageBreak{^^J(fnbreak)\@spaces\@spaces\@spaces\@spaces}%
63            \set@display@protect%
64            \immediate\write\@unused{^^JPackage fnbreak Note:%
65              \space\space\space\space Footnote number #1%
66            \iffnb@showlabel\MessageBreak (label '#2') \fi%
67            \MessageBreak%
68            completely on page #3.^^J}%
69          \endgroup%
70        \fi%
71      }{%
```

No, the footnote contains a pagebreak.

If the page labels are plain (arabic) numbers we can determine whether a footnote spans over a double page or a flipside.[2] `fnb@@numberpages = 0` is used if the code cannot find out whether a footnote spans over a double page (i. e., for non-integer page numbers or single-sided documents).

```
72        \setcounter{fnb@@numberpages}{0}%
```

Do the effort only if the document is two-sided. This code requised the boolean `\if@twoside` to be defined. If this is not the case please report to the author including a minimal example file.

```
73        \if@twoside%
```

We can find double pages only if the start page as well as the end page are numbers.

```
74          \ifnum\number0<0\fnb@@footnoteendpage{}%
75            \ifnum\number0<0\fnb@@footnotestartpage{}%
```

Calculate the number of pages covered by the footnote. If it is more than two, a flipside occurs anyways.

```
76              \setcounter{fnb@@numberpages}{\fnb@@footnoteendpage}%
77              \addtocounter{fnb@@numberpages}{-\fnb@@footnotestartpage}%
78              \addtocounter{fnb@@numberpages}{1}%
```

If the footnote starts on an odd page, flipside occurs in any case.

```
79              \ifodd \fnb@@footnotestartpage{}%
80                \fnb@@isdoublepagefalse%
```

If the footnote starts on an odd page, a double page is found if the number of pages equals two.

```
81              \else%
82                \ifnum \thefnb@@numberpages=2{}%
83                  \fnb@@isdoublepagetrue%
```

If the number of pages is larger, flipside.

```
84                \else%
85                  \fnb@@isdoublepagefalse%
86                \fi%
87              \fi%
88            \fi%
89          \fi%
90        \fi%
```

---

[2]Thanks to H.-Martin Münch for the idea of determining double pages.

Print a warning.

If not determined whether a double page occurs:

```
91          \ifnum\thefnb@@numberpages=0%
92            \PackageWarningNoLine{fnbreak}{Footnote number #1%
93              \iffnb@showlabel\MessageBreak (label '#2')\fi%
94              \MessageBreak%
95              has been split over different pages:\MessageBreak%
96              page \fnb@@footnotestartpage\space to page #3}%
```

For a double page:

```
97          \else%
98            \iffnb@@isdoublepage%
99              \PackageWarningNoLine{fnbreak}{Footnote number #1%
100               \iffnb@showlabel\MessageBreak (label '#2')\fi%
101               \MessageBreak%
102               has been split over different pages (double page):\MessageBreak%
103               page \fnb@@footnotestartpage\space to page #3}%
```

For a flipside:

```
104         \else%
105           \PackageWarningNoLine{fnbreak}{Footnote number #1%
106             \iffnb@showlabel\MessageBreak (label '#2')\fi%
107             \MessageBreak%
108             has been split over different pages (flipside):\MessageBreak%
109             page \fnb@@footnotestartpage\space to page #3}%
110         \fi%
111       \fi%
```

Redefine the `\fnb@globalwarning` to print a warning at the end of the log file.

```
112       \def\fnb@globalwarning{%
113         \PackageWarningNoLine{fnbreak}{There are footnotes with a %
114           pagebreak.\MessageBreak%
115           Check if they are acceptable}%
116       }%
117     }%
118   \else%
```

This macro trys to handle different footnotes. This may not happen and is an internal error.

```
119     \PackageError{fnbreak}{Internal problem:\MessageBreak%
120       Start and stop marker of footnote do not fit:\MessageBreak%
121       start: \fnb@@footnotestartnum, page \fnb@@footnotestartpage, %
122       end: #1, page #3}{%
123       This error may not happen. %
124       Please try to make a short example which shows this behaviour %
125       and send a bug report to harald.harders@gmx.de.}%
126   \fi%
127   }%
```

Redefine `\@footnotetext` by patching the calls `\fnb@fnstart` and `\fnb@fnend` after all other packages have been loaded.[3]

```
128   \newcommand\fnb@orig@footnotetext{}%
129   \let\fnb@orig@footnotetext\@footnotetext%
130   \long\def\@footnotetext#1{\fnb@orig@footnotetext{\fnb@fnstart#1\fnb@fnend}}%
```

---

[3]Thanks to Bastien Roucaries for that patch.

Add \fnb@globalwarning to the info/warning messages printed at the end of the
.log file after the \listfiles list.

```
131    \IfFormatAtLeastTF{2021-11-15}{%
132        \AddToHook{enddocument/info}{\fnb@globalwarning}%
133    }{\newcommand\fnb@dofilelist{}%
134        \let\fnb@dofilelist\@dofilelist%
135        \def\@dofilelist{\fnb@dofilelist\fnb@globalwarning}%
136    }%
137    }
138 ⟨/package⟩
```