The `fnbreak` package

Harald Harders

`h.harders@tu-bs.de`

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Abstract

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

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

In some cases may this even break the function. To avoid these problems, you may give the package option `nolabel`:

```
\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.
```

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

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⟩\ProvidesPackage{fnbreak}
2 ⟨version⟩\ProvidesFile{fnbreak-v.tex}
3 ⟨package | version⟩  [2004/04/06  v1.10  Warning for pagebreak in footnote (HH)]
4 ⟨∗package⟩
```

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

```
5 \newif\iffnb@showlabel
6 \fnb@showlabeltrue
7 \newif\iffnb@verbose
8 \DeclareOption{nolabel}{\fnb@showlabelfalse}
9 \DeclareOption{verbose}{\fnb@verbosetrue}
10 \ProcessOptions\relax
```

Define default values in order to avoid possible problems:

```
11 \xdef\fnb@@footnotestartnum{0}
12 \xdef\fnb@@footnotestartpage{0}
```

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

```
13 \def\fnb@footnotestart#1#2#3{}
14 \def\fnb@footnoteend#1#2#3{}
```

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

```
15 \AtBeginDocument{%
```

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

```
16    \def\fnb@footnotestart#1#2#3{%
17      \xdef\fnb@@footnotestartnum{#1}%
18      \xdef\fnb@@footnotestartpage{#3}%
19    }%
```

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

```
20    \def\fnb@footnoteend#1#2#3{%
21      \xdef\fnb@@footnoteendnum{#1}%
22      \xdef\fnb@@footnoteendpage{#3}%
```

Test if start and end refer to the same footnote.

```
23        \ifx\fnb@@footnotestartnum\fnb@@footnoteendnum
```

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

```
24          \ifx\fnb@@footnotestartpage\fnb@@footnoteendpage
```

Yes, the footnote is completely on one page. Print a message if `verbose` mode is requested.

```
25            \iffnb@verbose
26              \message{Package fnbreak: Footnote number #1
27                \iffnb@showlabel(label '#2') \fi^^J%
28                \space\space\space\space\space\space
29                \space\space\space\space\space\space
30                \space\space\space\space\space
31                completely on page #3.}%
32            \fi
33          \else
```

No, the footnote contains a pagebreak. Print a warning.

```
34            \PackageWarningNoLine{fnbreak}{Footnote number #1
35              \iffnb@showlabel(label '#2')\fi
36              \MessageBreak
37              has been split over different pages:\MessageBreak
38              page \fnb@@footnotestartpage\space to page #3}%
```

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

```
39            \def\fnb@globalwarning{%
40              \PackageWarningNoLine{fnbreak}{There are footnotes with a
41                pagebreak.\MessageBreak
42                Check if they are acceptable}%
43            }%
44          \fi
45        \else
```

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

---

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

```
46      \PackageError{fnbreak}{Internal problem:\MessageBreak
47        Start and stop marker of footnote do not fit:\MessageBreak
48        start: \fnb@@footnotestartnum, page \fnb@@footnotestartpage,
49        end: #1, page #3}{%
50        This error may not happen.
51        Please try to make a short example which shows this behaviour
52        and send a bug report to h.harders@tu-bs.de.}%
53      \fi
54      }%
55    }
```

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

```
56    \def\fnb@fnstart{\@bsphack
57      \protected@write\@auxout{}{%
58        \string\fnb@footnotestart{\the\c@footnote}{\thefootnote}{\thepage}%
59      }%
60      \@esphack
61    }
```

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

```
62    \def\fnb@fnend{\@bsphack
63      \protected@write\@auxout{}{%
64        \string\fnb@footnoteend{\the\c@footnote}{\thefootnote}{\thepage}%
65      }%
66      \@esphack
67    }
```

Redefine `\@footnotetext` by patching the calls `\fnb@fnstart` and `\fnb@fnend` after all other packages have been loaded.[2]

```
68 \AtBeginDocument{%
69    \newcommand\fnb@orig@footnotetext{}%
70    \let\fnb@orig@footnotetext\@footnotetext
71    \long\def\@footnotetext#1{\fnb@orig@footnotetext{\fnb@fnstart#1\fnb@fnend}}%
```

Append `\fnb@globalwarning` to `\@dofilelist` in order to print the global warning `\fnb@globalwarning` after all other messages, e.g., the `\listfiles` list.

```
72    \newcommand\fnb@dofilelist{}%
73    \let\fnb@dofilelist\@dofilelist
74    \def\@dofilelist{\fnb@dofilelist\fnb@globalwarning}%
75 }
```

Initialise `\fnb@globalwarning` to print no warning by default.

```
76 \newcommand\fnb@globalwarning{}%
77 \let\fnb@globalwarning\relax
78 ⟨/package⟩
```

---

[2]Thanks to Bastien Roucaries for that patch

Change History

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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.