ffcode: LaTeX Package
for Fixed-Font Code Blocks*

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1 Introduction

This package helps you write source code in your articles and make sure it looks nice. Install it from CTAN and then use like this (pay attention to `\ff` command and `ffcode` environment):


```
1  \documentclass{article}
2  \usepackage{ffcode}
3  \pagestyle{empty}
4  \begin{document}
5  The function \ff{fibo()}
6  is recursive:
7  \begin{ffcode}
8  int fibo(int n) {
9    if (n < 2) {
10     return n; |$\label{ln:ret}$|
11   }
12   return fibo(n-1)+fibo(n-2);
13 }
14 \end{ffcode}
15 The line no.~\ref{ln:ret}
16 terminates it.
17 \end{document}
```

2 Package Options

nopygments You have to run `pdflatex` with `--shell-escape` flag in order to let `minted` (the package we use) to run Pygments and format the code. If you don't want this to happen, just use `nopygments` option.

noframes If you want to omit the light gray frames around `\ff` texts, use the package option `noframes`.

nobars To omit the vertical gray bar at the left side of each snippet, use `nobars` option of

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*The sources are in GitHub at

the package.

To omit the line numbers, use `nonumbers` option of the package.

By default, the numbering is continuous: line numbers start at the first snippet and increment until the end of the document. If you want them to start from one at each snippet, use `nocn` (stands for "no continuous numbering") option of the package.

3 Typesetting

By the way, the package correctly formats low-height texts, for example, just a dot: `.`

A pair of vertical lines decorate a TeX command inside the snippet. If you want to print a single vertical line, use this: `\vert`.

The command `\ff` behaves differently in math mode — it doesn't add gray frames:

$$x = \int_{\texttt{home}}^{N} f(x).$$

```
1 \documentclass{article}
2 \usepackage{ffcode}
3 \usepackage{mathtools}
4 \pagestyle{empty}
5 \begin{document}
6 \begin{equation*}
7 x = \int_\ff{home}^N f(x).
8 \end{equation*}
9 \end{document}
```

4 Line Highlighting

You can highlight some lines in your `ffcode` environment, or can use any other additional configuration parameters from `minted` package:

```
1 while (true) {
2   print("Hello!")
3   print("Enter your name:")
4   scan(x)
5   print("You name is " + x)
6 }
```

```
1 \documentclass{article}
2 \usepackage[paperwidth=3in]{geometry}
3 \usepackage{ffcode}
4 \pagestyle{empty}
5 \begin{document}
6 \begin{ffcode*}
7   {highlightlines={1,4-5}}
8 while (true) {
9   print("Hello!")
10   print("Enter your name:")
11   scan(x)
12   print("You name is " + x)
13 }
14 \end{ffcode*}
15 \end{document}
```

Using this second argument of `ffcode*` (with the trailing asterisk), you can provide any other options from `minted` package to the snippet.

5   Implementation

First, we parse package options:

```
1 \RequirePackage{xkeyval}
2 \makeatletter
3 \DeclareOptionX{nopygments}{\PassOptionsToPackage{draft=true}{minted}}
4 \newif\iffff@noframes
5 \DeclareOptionX{noframes}{\ff@noframestrue}
6 % \changes{v0.4.0}{2022/01/09}{Package option "nobars" added.}
7 \newif\iffff@nobars
8 \DeclareOptionX{nobars}{\ff@nobarstrue}
9 % \changes{v0.2.0}{2021/06/13}{Package options "nonumbers"
10 % and "noframes" added.}
11 \newif\iffff@nonumbers
12 \DeclareOptionX{nonumbers}{\ff@nonumberstrue}
13 % \changes{v0.3.0}{2021/09/07}{Package option "nocn" added.}
14 \newif\iffff@nocn
15 \DeclareOptionX{nocn}{\ff@nocntrue}
16 \ProcessOptionsX\relax
17 \makeatother
```

Then, we configure `minted` package:

```
18 \RequirePackage{minted}
19 \setminted{breaklines}
20 \setminted{escapeinside=||,mathescape}
21 \setminted{highlightcolor=gray!25}
22 \usemintedstyle{bw}
```

`ffcode`   Then, we define `ffcode` environment:

```
23 \makeatletter\iffff@nonumbers
24   \iffff@nobars
25     \newminted[ffcode]{text}{}
26   \else
27     \newminted[ffcode]{text}{framesep=6pt,
28       framerule=1pt,rulecolor=gray,frame=leftline}
29   \fi
30 \else
31   \renewcommand{\theFancyVerbLine}{\textcolor{gray}%
32     {\tiny\oldstylenums{\ttfamily\arabic{FancyVerbLine}}}}
33   \iffff@nocn
34     \iffff@nobars
35       \newminted[ffcode]{text}{
36         linenos,numbersep=2pt
37       }
38     \else
39       \newminted[ffcode]{text}{
40         framesep=6pt,framerule=1pt,rulecolor=gray,
41         frame=leftline,linenos,numbersep=2pt
42       }
43     \fi
44   \else
45     \iffff@nobars
46       \newminted[ffcode]{text}{
47         firstnumber=last,linenos,numbersep=2pt
```

```
48        }
49      \else
50        \newminted[ffcode]{text}{
51          framesep=6pt,framerule=1pt,rulecolor=gray,
52          frame=leftline,firstnumber=last,linenos,numbersep=2pt
53        }
54      \fi
55    \fi
56 \fi\makeatother
```

\ff@print Then, we define supplementary commands \ff@print and \ff@printx:

```
57 \makeatletter
58 \newcommand\ff@print{\begingroup\obeyspaces\ff@printx}
59 \newcommand\ff@printx[1]{\textnormal{\texttt{#1}}\endgroup}
60 \makeatother
```

\ff@rule Then, we define supplementary command \ff@rule:

```
61 \makeatletter\newcommand\ff@rule
62   {\vrule height 6pt depth 1pt width 0pt}
63 \makeatother
```

\ff Finally, we define \ff command:

```
64 \makeatletter\ifff@noframes
65   \newcommand\ff[1]{\ff@rule\ff@print{#1}}
66 \else
67   \RequirePackage{tcolorbox}
68     \newtcbox\ff@box{nobeforeafter,colframe=gray!80!white,
69     colback=gray!5!white,boxrule=0.1pt,arc=1pt,
70     boxsep=1.2pt,left=0.5pt,right=0.5pt,top=0.2pt,bottom=0.2pt,
71     tcbox raise base}
72   \newcommand\ff[1]{\relax\ifmmode%
73     {\ff@rule\ff@print{#1}}%
74   \else%
75     {\ff@box{\ff@rule\ff@print{#1}}}%
76   \fi}
77 \fi\makeatother
```

Change History

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; numbers in roman refer to the code lines where the entry is used.