

`ffcode`: L^AT_EX 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):

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

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 the package.

*The sources are in GitHub at [yegor256/ffcode](https://github.com/yegor256/ffcode)

`nonumbers` To omit the line numbers, use `nonumbers` option of the package.
`nocn` 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: “`|\char‘\vert|`”.
 The command `\ff` behaves differently in math mode — it doesn’t add gray frames:

$x = \int_{\text{home}}^N f(x).$	<pre> 6 \begin{equation*} 7 x = \int_{\text{home}}^N f(x). 8 \end{equation*} </pre>
----------------------------------	---

4 Line Highlighting

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

<pre> 1 while (true) { 2 print("Hello!") 3 print("Enter your name:") 4 scan(x) 5 print("You name is " + x) 6 } </pre>	<pre> 6 \begin{ffcode*}{highlightlines={1,4-5}} 7 while (true) { 8 print("Hello!") 9 print("Enter your name:") 10 scan(x) 11 print("You name is " + x) 12 } 13 \end{ffcode*} </pre>
---	---

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 with the help of `pgfopts` package:

```

1 \RequirePackage{pgfopts}
2 \pgfkeys{
3   /ff/.cd,
4   nopygments/.store in=\ff@nopygments,
5   noframes/.store in=\ff@noframes,
6   nonumbers/.store in=\ff@nonumbers,
7   nobars/.store in=\ff@nobars,
8   novert/.store in=\ff@novert,
9   nocn/.store in=\ff@nocn,
10 }
11 \ProcessPgfoptions{/ff}

```

Then, we disable pygments for `minted`, if necessary:

```
12 \makeatletter\ifdefined\ff@nopygments
13   \PassOptionsToPackage{draft=true}{minted}
14 \fi\makeatother
```

Then, we configure `minted` package:

```
15 \RequirePackage{minted}
16 \setminted{breaklines}
17 \setminted{escapeinside=||,mathescape}
18 \setminted{highlightcolor=gray!25}
19 \usemintedstyle{bw}
```

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

```
20 \makeatletter\ifdefined\ff@nonumbers
21   \ifdefined\ff@nobars
22     \newminted[ffcode]{text}{}
23   \else
24     \newminted[ffcode]{text}{framesep=6pt,
25       framerule=1pt,rulecolor=gray,frame=leftline}
26   \fi
27 \else
28   \renewcommand{\theFancyVerbLine}{\textcolor{gray}%
29     {\tiny\oldstylenums{\ttfamily\arabic{FancyVerbLine}}}}
30   \ifdefined\ff@nocn
31     \ifdefined\ff@nobars
32       \newminted[ffcode]{text}{
33         linenos,numbersep=2pt
34       }
35     \else
36       \newminted[ffcode]{text}{
37         framesep=6pt,framerule=1pt,rulecolor=gray,
38         frame=leftline,linenos,numbersep=2pt
39       }
40     \fi
41   \else
42     \ifdefined\ff@nobars
43       \newminted[ffcode]{text}{
44         firstnumber=last,linenos,numbersep=2pt
45       }
46     \else
47       \newminted[ffcode]{text}{
48         framesep=6pt,framerule=1pt,rulecolor=gray,
49         frame=leftline,firstnumber=last,linenos,numbersep=2pt
50       }
51     \fi
52   \fi
53 \fi\makeatother
```

`\ff@print` Then, we define a supplementary macro `\ff@print`:

```
54 \makeatletter
55 \newcommand\ff@print[1]{\textnormal{\texttt{#1}}}
56 \makeatother
```

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

```

57 \makeatletter\newcommand\ff@rule
58 {\vrule height 6pt depth 1pt width 0pt}
59 \makeatother

```

tcolorbox Then, we use [tcolorbox](#) to define `\ff@box` command for a gray box around verbatim text block:

```

60 \makeatletter
61 \ifdefined\ff@noframes\else
62   \RequirePackage{tcolorbox}
63   \newtcbox\ff@box{nobeforeafter,colframe=gray!80!white,
64     colback=gray!5!white,boxrule=0.1pt,arc=1pt,
65     boxsep=1.2pt,left=0.5pt,right=0.5pt,top=0.2pt,bottom=0.2pt,
66     tcbox raise base}
67 \fi
68 \makeatother

```

\ff@x Then, we define `\ff@x` internal command for printing a piece of fixed-width-font text:

```

69 \makeatletter
70 \NewDocumentCommand\ff@x{v}{%
71   \ifdefined\ff@noframes%
72     \ff@rule\ff@print{#1}%
73   \else%
74     \relax\ifmmode%
75       \ff@rule\ff@print{#1}%
76     \else%
77       \ff@box{\ff@rule\ff@print{#1}}%
78     \fi%
79   \fi%
80 }
81 \makeatother

```

\ff Then, we define `\ff` macro:

```

82 \makeatletter
83 \def\ff{\ff@x}
84 \makeatother

```

novert Finally, we let vertical bars work similar to `\ff`, as suggested [here](#) and [here](#) (unless `novert` package option is used):

```

85 \makeatletter\ifdefined\ff@novert\else
86   \catcode'\|\active
87   \AtBeginDocument{\catcode'\|\active\protected\def|{\ff@x|}}
88   \catcode'\| 12 %
89 \fi\makeatother

```

Change History

v0.1.0		v0.5.1	
General: Initial version	2	\ff@print: Now, the command ff	
v0.2.0		ignores italic and bold and always	
General: Package options nonumbers		prints \texttt as it should be. . . .	3
and noframes added.	2	v0.6.0	
v0.3.0		General: Package option novert	
General: Package option nocn added. .	2	added, to disable redefinition of	
v0.4.0		vertical bar.	2
General: Package option nobars		We use pgfopts instead of	
added.	2	xkeyval.	2

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