

# fillwith 10202

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## Abstract

A small package originally based on [Harish Kumar's answer](#) to a question I asked on T<sub>E</sub>X SE<sup>1</sup>. The intended purpose was the creation of worksheets for students where I would like L<sup>A</sup>T<sub>E</sub>X to use the available vertical space to provide lined areas for answers. Since then, the code has been (partially) rewritten in `expl3` and extended in response to both my own needs and others' questions on T<sub>E</sub>X SE. The package aims to do one thing: to fill a vertical space in the same way as, say, `\vfill`, but with some kind of 'filler' rather than empty space. Currently, the package supports solid rules or dotted lines. The remainder of the current line may optionally be filled in the same way and the 'filler' may be coloured if desired.

Lines may optionally be numbered, though the numbered versions should not be used to fill long stretches as they are extremely inefficient. **Numbered fills are highly experimental and not recommended for use in 'real' documents.** That is, it seems to work, but I recommend using an alternative package or solution if you need a reliable numbering mechanism.

## 1 Load

To use the package simply load it in your preamble in the usual way.

```
\usepackage[<options>]{fillwith}
```

A small number of options may be specified when loading the package. See section 4.

We start with an example in section 2. Section 3 describes the basic commands illustrated in this example. Section 4 explains the options used by these commands, together with other customisation features of `fillwith`.

## 2 Example

The code below illustrates most package features.

Figure 1 demonstrates filling with rules. Note the effect of altering `fillwith ht` on line-spacing.

Figure 2 shows dotted fillings. Note the use of `\fillwithset` to alter the colour.

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<sup>1</sup>See [tex.stackexchange.com/a/241139/](https://tex.stackexchange.com/a/241139/).

# fillwith Demo

A. N. Author

9th August 2024

1. What is the answer to the question?

---

---

2. How did you answer the previous question? \_\_\_\_\_

---

---

3. Why answer?

---

---

---

Figure 1: Filling with rules.

4. Evaluate your responses so far.

.....

.....

.....

5. Evaluate your responses so far.

.....

.....

.....

.....

.....

6. Criticise your evaluation. ....

.....

.....

.....

2

Figure 2: Filling with dotted lines.

Figure 3 shows numbered fillings. Note the use of `goal ht` to divide the available vertical space more-or-less equally.

```

%%
%% This is file 'fillwith-example.tex',
%% generated with the docstrip utility.
%%
%% The original source files were:
%%
%% fillwith.dtx (with options: 'ee')
%% Copyright (C) 2024 Clea F. Rees.
%%
%% This work may be distributed and/or modified under the
%% conditions of the LaTeX Project Public License, either version 1.3c
%% of this license or (at your option) any later version.
%% The latest version of this license is in
%% https://www.latex-project.org/lppl.txt
%% and version 1.3c or later is part of all distributions of LaTeX
%% version 2008-05-04 or later.
%%
%% This work has the LPPL maintenance status 'maintained'.
%%
%% The Current Maintainer of this work is Clea F. Rees.
%%
%% This file may only be distributed together with a copy of the package
%% fillwith. You may however distribute the package fillwith without
%% such generated files.
%%
%% This work consists of all files listed in manifest.txt.
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\listfiles
\documentclass[british,a6paper]{article}
\usepackage{babel}
\usepackage[scale=.85,marginparwidth=0pt,marginparsep=0pt]{geometry}
\usepackage{fillwith}
\usepackage{cfr-lm}
\begin{document}
\author{A. N. Author}
\title{\texttt{fillwith} Demo}
\maketitle
\begin{enumerate}
\item What is the answer to the question?
\fillwithrules
\item How did you answer the previous question?
\fillwith*[style=line]
\item Why answer?

\fillwith*[style=rule,fillwith ht=1.25,colour=blue!40!cyan]
\clearpage

```

7. Assess your answers.

..... 1

..... 2

8. Assess your answers.

..... 3

..... 4

..... 5

..... 6

9. Summarise your analysis. ....

..... 8

..... 9

..... 10

..... 11

3

Figure 3: Filling with numbered lines.

```

\item Evaluate your responses so far.
  \fillwithdottedlines
\item Evaluate your responses so far.

  {%
    \fillwithset{dotted colour=magenta}%
    \fillwithdottedlines[1.5]
  }
\item Criticise your evaluation.
  \fillwithdottedlines*
  \clearpage
\item Assess your answers.
  \fillwithnolines[goal ht = .33\textheight]
\item Assess your answers.

  \fillwithnolines[style=rules,no font=\bfseries\tiny,colour=green!50!gray,goal
ht = .67\textheight]
  \item Summarise your analysis.
    \fillwithnolines*
  \end{enumerate}

\end{document}
\endinput
%%
%% End of file 'fillwith-example.tex'.

```

### 3 Usage

```

\fillwith [options]
\fillwith*

```

Fill vertically with current settings, optionally modified by *options*. See section 4 for *options*. If used in the middle of a line, the starred form fills to the end of the line first, whereas the unstarred form does not.

```

\fillwithrules [line-spacing]
\fillwithrules*

```

Convenience wrappers which just set `style = rules` and set the line-spacing to *line-spacing*. These macros do nothing which cannot be done using `\fillwith` and `\fillwith*`.

```

\fillwithdottedlines [line-spacing]
\fillwithdottedlines*

```

Convenience wrappers which just set `style = dots` and set the line-spacing to *line-spacing*. These macros do nothing which cannot be done using `\fillwith` and `\fillwith*`.

```

\fillwithnolines [options]
\fillwithnolines*

```

Fill vertically with current settings, numbering each complete line, after optionally setting *options*. Numbering **requires** use of these commands, as opposed to the generic `\fillwith/\fillwith*`.

## 4 Customisation

Options can be set per use, locally or globally. A small number of options are implemented as package options (section 1).

`\fillwithset`  $\{\langle options \rangle\}$  Set local or global defaults.

`colour` (*opt.*) =  $\langle colour\ name \rangle$

`color` (*opt.*) Colour to be used for (solid) rules.

`lliw` (*opt.*)  
Initially `gray`. Available as a package option.

`dottedcolor` (*opt.*) =  $\langle colour\ name \rangle$

`dottedcolour` (*opt.*) Colour to be used for dotted lines.

Initially `black`. Available as a package option.

`cont` (*opt.*) = `true|false`

Whether to fill the remainder of any current line. Generally, users will probably prefer to use the starred command forms for local usage, but this option permits modification of the package default on a local or global basis.

Initially `false`. Default is `true`.

`fillwith ht` (*opt.*) =  $\langle real\ positive\ number\ expressed\ as\ decimal \rangle$

Multiplication factor for line-spacing. Typically, hand-written content requires greater spacing than typewritten content. This option scales the standard line-spacing.

Initially `2`, which is also the default value. Decimal values such as `1.5` are permitted.

`goal ht` (*opt.*) =  $\langle dimension \rangle$

Used only by `\fillwithnolines` and `\fillwithnolines*`. Sets the target dimension to fill with numbered lines. If unspecified, the code tries to fill the remaining vertical space on the current page. If more than one use of a `fillwith` macro is used on a single page, this option **must** be used for numbered fills to prevent a single instance taking (almost) all available space. In contrast, multiple unnumbered fills can coexist on the same page without issue — the available space will simply be divided equally between them.

Initially unset. No default.

`no font` (*opt.*) =  $\langle font\ switches \rangle$

Font switches to apply when typesetting numbers for numbered fills.

Initially `\normalfont\normalsize`, which is also the default value. Note the commands used here should be switches rather than text commands — for example, use `\bfseries` rather than `\textbf` — since the commands should not expect an argument.

`style` (*opt.*) = `rule|dots|line|lines|rules`

Style of fill. `rule`, `line`, `rules` and `lines` are synonyms which all denote solid rules or lines. `dots` uses dotted lines rather than solid rules. The dots are slightly more densely packed than the standard used for dotted fills by the standard classes, as these seem a bit too widely spaced to provide ideal guidelines.

Initially `dots`, which is also the default value.

If an unknown value is used, the code will attempt to use two macros derived from that value. The first is constructed simply by preceding *value* with a backslash and the second by also appending `part`. For example, if `style=⟨mystyle⟩` is used, the code will try to use `\mystyle` and `\mystylepart` for complete and partial lines. In theory, this supports filling with somewhat arbitrary content, but the implementation is untested and **should not be used in real documents**.

## 5 Implementation

You do not need to read the remainder of this document in order to install or use the package.

```

1 \NeedsTeXFormat{LaTeX2e}[2021-11-15]
2 \RequirePackage{svn-prov}
3 \ProvidesPackageSVN[\filebase.sty]{$Id: fillwith.dtx 10202 2024-08-08 15:33:47Z
  cfrees $}[v0.0 \revinfo][\filebase: fill vertically with non-space]
4 % this is needed only because l3doc overwrites \fileversion and \filedate
5 % neither ltxdoc nor doc does this
6 \DefineFileInfoSVN

7 \RequirePackage{xcolor}
8 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
9 % copied verbatim, excepting format from Joseph Wright's' siunitx.sty under
  LPPL
10 \@ifundefined{ExplLoaderFileDate}{%
11   \RequirePackage{expl3}%
12 }{}
13 % almost verbatim from siunitx.sty
14 \@ifl@t@r\ExplLoaderFileDate{2022-02-24}{%
15 }{%
16   \PackageError{fillwith}{Support package expl3 too old}
17   {%
18     You need to update your installation of the bundles 'l3kernel' and
19     'l3packages'.\MessageBreak
20     Loading fillwith will abort!%
21   }%
22   \endinput
23 }
24 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
25 \ExplSyntaxOn
26 \prop_gput:Nnn \g_msg_module_name_prop { fillwith } { fillwith }
27
28 % BEGIN Expl pkg option setup
29
30 \keys_define:mn { fillwith }
31 {

```

```

32 color .meta:n = {
33   colour = #1,
34 },
35 colour .code:n = {
36   \colorlet{fillwithcolour}{#1}
37 },
38 dotted color .meta:n = {
39   dotted colour = #1,
40 },
41 dotted color .meta:n = {
42   dotted colour = #1,
43 },
44 dotted colour .meta:n = {
45   dotted colour = #1,
46 },
47 dotted colour .code:n = {
48   \colorlet{fillwithdottedcolour}{#1}
49 },
50 lliw .meta:n = {
51   colour = #1,
52 },
53 colour .initial:n = gray,
54 dotted colour .initial:n = black,
55 }
56 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
57 % Joseph Wright: from siunitx.sty ; https://chat.stackexchange.com/transcript/message/643278
58 \providecommand \IfFormatAtLeastTF { \@ifl@t@r \fmtversion }
59 \IfFormatAtLeastTF { 2022-06-01 }
60 {
61   \ProcessKeyOptions [ fillwith ]
62 }{
63   \RequirePackage { l3keys2e }
64   \ProcessKeysOptions { fillwith }
65 }
66 \IfFormatAtLeastTF { 2020-10-01 }{
67 }{
68   \RequirePackage { xparse }
69   \providecommand \ExpandArgs [1]
70   { \cs_if_exist_use:c { exp_args:N #1 } }
71 }
72 % END Expl pkg option setup
73 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
74 % BEGIN vars
75 \box_new:N \l__fillwith_adj_rule_box
76 \box_new:N \l__fillwith_part_rule_box
77 \box_new:N \l__fillwith_tmpa_box
78 \box_new:N \l__fillwith_tmpb_box
79 % BEGIN coffins
80 \coffin_new:N \l__fillwith_line_coffin
81 \coffin_new:N \l__fillwith_lines_coffin
82 \coffin_new:N \l__fillwith_part_coffin
83 \coffin_new:N \l__fillwith_tmpa_coffin
84 % END coffins
85 % BEGIN dims

```

```

86 \dim_new:N \l__fillwith_ht_dim
87 \dim_new:N \l__fillwith_dp_dim
88 \dim_new:N \l__fillwith_rem_dim
89 \dim_new:N \l__fillwith_line_ht_dim
90 \dim_new:N \l__fillwith_line_adj_hsize_dim
91 \dim_set:Nn \l__fillwith_line_ht_dim { 0.4pt }
92 \dim_new:N \l__fillwith_line_madj_dim
93 \dim_new:N \l__fillwith_line_vadj_dim
94 \dim_set_eq:NN \l__fillwith_line_vadj_dim \c_zero_dim
95 \dim_new:N \l__fillwith_goal_dim
96 \dim_new:N \l__fillwith_tmpa_dim
97 % END dims
98 \int_new:N \g__fillwith_cnt_int
99 % END vars
100 % BEGIN fns
101 \cs_new_protected_nopar:Nn \__fillwith_style: {}
102 \cs_new_protected_nopar:Nn \__fillwith_coffin_tht:N
103 {
104   \dim_eval:n { \coffin_ht:N #1 + \coffin_dp:N #1 }
105 }
106 % BEGIN \__fillwith_hrulfill:
107 \cs_new_protected_nopar:Npn \__fillwith_hrulfill_part:
108 {
109   \vrule height \c_zero_dim depth \l__fillwith_line_ht_dim width 0.1pt
110 }
111 \cs_new_protected_nopar:Npn \__fillwith_hrulfill:
112 {
113   \vrule height \c_zero_dim depth \l__fillwith_line_ht_dim width \l__fillwith_line_adj_hsize
114 }
115 % END \__fillwith_hrulfill:
116 % BEGIN \__fillwith_dottedfill:
117 \cs_new_protected_nopar:Npn \__fillwith_dottedfill_part:
118 {
119   \hbox to 0.33em {\hss .\hss}
120 }
121 \cs_new_protected_nopar:Npn \__fillwith_dottedfill:
122 {
123   \leaders \hbox to 0.33em {\hss .\hss} \hfill \kern \c_zero_dim
124 }
125 % END \__fillwith_dottedfill:
126 % END fns

```

`\fillwithset` Wrapper command for configuration. Most global or local customisation will use this as most keys are not valid package options.

```

127 \NewDocumentCommand\fillwithset { +m }{
128   \keys_set:nn { fillwith } { #1 }
129 }

130 % BEGIN keys (+)
131 \keys_define:nn { fillwith }
132 {
133   cont .bool_set:N = \l__fillwith_cont_bool,
134   cont .default:n = true,

```

```

135 cont .initial:n = false,
136 fillwith ht .tl_set:N = \l__fillwith_ht_tl,
137 fillwith ht .initial:n = 2,
138 fillwith ht .default:n = 2,
139 goal ht .dim_set:N = \l__fillwith_goal_dim,
140 line nos .bool_set:N = \l__fillwith_nos_bool,
141 line nos .bool_set:N = \l__fillwith_nos_bool,
142 line nos .default:n = true,
143 line nos .initial:n = false,
144 no font .tl_set:N = \l__fillwith_no_font_tl,
145 no font .initial:n = { \normalfont\normalsize },
146 no font .default:n = { \normalfont\normalsize },
147 style .choices:mn =
148 {
149 rule, dots, line, lines, rules, unknown
150 }{
151 \if_case:w \l_keys_choice_int
152 \or: \cs_set_eq:NN \__fillwith_style: \__fillwith_hrulefill:
153 \or: \cs_set_eq:NN \__fillwith_style: \__fillwith_dottedfill:
154 \or: \cs_set_eq:NN \__fillwith_style: \__fillwith_hrulefill:
155 \or: \cs_set_eq:NN \__fillwith_style: \__fillwith_hrulefill:
156 \or: \cs_set_eq:NN \__fillwith_style: \__fillwith_hrulefill:
157 \else: \cs_set_protected_nopar:Nn \__fillwith_style: { \use:c { \l_keys_choice_tl
} }
158 \fi:
159 \if_case:w \l_keys_choice_int
160 \or: \cs_set_eq:NN \__fillwith_style_part: \__fillwith_hrulefill_part:
161 \or: \cs_set_eq:NN \__fillwith_style_part: \__fillwith_dottedfill_part:
162 \or: \cs_set_eq:NN \__fillwith_style_part: \__fillwith_hrulefill_part:
163 \or: \cs_set_eq:NN \__fillwith_style_part: \__fillwith_hrulefill_part:
164 \or: \cs_set_eq:NN \__fillwith_style_part: \__fillwith_hrulefill_part:
165 \else: \cs_set_protected_nopar:Nn \__fillwith_style_part: { \use:c
{ \l_keys_choice_tl part } }
166 \fi:
167 },
168 style .default:n = dots,
169 style .initial:n = dots,
170 }
171 % END keys (+)
172 %
173 % BEGIN \__fillwith_fill:
174 % ref: https://tex.stackexchange.com/a/241139/ Harish Kumar
175 \cs_new_protected_nopar:Nn \__fillwith_fill:
176 {
177 \__fillwith_measures:
178 \dim_set:Nn \l__fillwith_line_adj_hsize_dim { \hspace - \@totalleftmargin
}
179 \vbox_set:Nn \l__fillwith_adj_rule_box
180 {
181 \parindent=0pt
182 \vrule height \l__fillwith_ht_dim depth \l__fillwith_dp_dim width \c_zero_dim
183 \skip_horizontal:n { \@totalleftmargin }
184 \__fillwith_style:
185 }

```

```

186 \if_mode_horizontal:
187   \bool_if:NT \l__fillwith_cont_bool
188   {
189     \leaders \box_use:N \l__fillwith_part_rule_box \hfill \kern \c_zero_dim
190   }{
191     \vrule height \l__fillwith_ht_dim depth \l__fillwith_dp_dim width \c_zero_dim
192   }
193   % % % \tex_par:D
194   % \para_raw_end:
195 \else:
196   \unskip
197   \skip_vertical:n { \l__fillwith_dp_dim }
198 \fi:
199 \xleaders \box_use:N \l__fillwith_adj_rule_box \vfill
200 \para_end:
201 \normalcolor
202 }
203 % END \__fillwith_fill:
204 % BEGIN \__fillwith_measures:
205 \cs_new_protected_nopar:Nn \__fillwith_measures:
206 {
207   \color{fillwithcolour}
208   \offinterlineskip
209   \hbox_set:Nn \l__fillwith_part_rule_box
210   {
211     \strut
212     \__fillwith_style_part:
213     \kern \c_zero_dim
214   }
215   \dim_set:Nn \l__fillwith_tmpa_dim { \box_ht:N \l__fillwith_part_rule_box
216   }
217   \dim_set:Nn \l__fillwith_ht_dim { \l__fillwith_ht_tl \l__fillwith_tmpa_dim
218   }
219   \box_set_ht:Nn \l__fillwith_part_rule_box { \l__fillwith_ht_dim }
220   \dim_set:Nn \l__fillwith_tmpa_dim { \box_dp:N \l__fillwith_part_rule_box
221   }
222   % neu \fp_to_dim:n { \l__fillwith_ht_tl * \l__fillwith_tmpa_dim } ??
223   \dim_set:Nn \l__fillwith_dp_dim { \l__fillwith_ht_tl \l__fillwith_tmpa_dim
224   }
225   \box_set_dp:Nn \l__fillwith_part_rule_box { \l__fillwith_dp_dim }
226 }
227 % END \__fillwith_measures:
228 % BEGIN fillwith

```

\fillwith The package is basically this macro.

```

225 \NewDocumentCommand \fillwith { s o }
226 {
227   \group_begin:
228   \IfValueT { #2 }
229   {
230     \keys_set:nn { fillwith } { #2 }
231   }
232   \IfBooleanTF { #1 }

```

```

233 {
234   \bool_set_true:N \l__fillwith_cont_bool
235 }{
236   \bool_set_false:N \l__fillwith_cont_bool
237 }
238   \__fillwith_fill:
239 \group_end:
240 }

241 % END fillwith
242 % BEGIN fillwithrules

```

`\fillwithrules` Simple convenience wrapper with simplified syntax for (solid) rules.

```

243 \NewDocumentCommand \fillwithrules { s 0 { 2 } }
244 {
245   \group_begin:
246   \IfBooleanTF { #1 }
247   {
248     \bool_set_true:N \l__fillwith_cont_bool
249   }{
250     \bool_set_false:N \l__fillwith_cont_bool
251   }
252   \keys_set:nn { fillwith } { style = rules, fillwith ht=#2 }
253   \__fillwith_fill:
254   \group_end:
255 }

256 % END fillwithrules
257 % BEGIN fillwithdottedlines

```

`\fillwithdottedlines` Simple convenience wrapper with simplified syntax for dotted lines.

```

258 \NewDocumentCommand \fillwithdottedlines { s 0 { 2 } }
259 {
260   \group_begin:
261   \IfBooleanTF { #1 }
262   {
263     \bool_set_true:N \l__fillwith_cont_bool
264   }{
265     \bool_set_false:N \l__fillwith_cont_bool
266   }
267   \colorlet{fillwithcolour}{fillwithdottedcolour}
268   \keys_set:nn { fillwith } { style = dots, fillwith ht=#2 }
269   \__fillwith_fill:
270   \group_end:
271 }

272 % END fillwithdottedlines
273 % BEGIN fillwithnolines
274 \cs_new_protected:Nn \__fillwith_nos: % rhybudd: ARAF ! SLOW!
275 {
276   \parindent=0pt
277   \__fillwith_measures:
278   \dim_set_eq:NN \l__fillwith_line_adj_hsize_dim \linewidth

```

```

279 \vcoffin_set:Nnn \l__fillwith_line_coffin { \l__fillwith_line_adj_hsize_dim
    }
280 {
281   \parindent=0pt
282   \vrule height \l__fillwith_ht_dim depth \l__fillwith_dp_dim width \c_zero_dim
283   \skip_horizontal:n \c_zero_skip
284   \__fillwith_style:
285 }
286 \coffin_set_eq:NN \l__fillwith_lines_coffin \l__fillwith_line_coffin
287 \if_mode_horizontal:
288   \bool_if:NTF \l__fillwith_cont_bool
289   {
290     \leaders \box_use:N \l__fillwith_part_rule_box \hfill \kern \c_zero_dim
291     \int_gincr:N \g__fillwith_cnt_int
292     % \vcoffin_set:Nnn \l__fillwith_tmpa_coffin { 1.5em}
293     % {
294     %   \l__fillwith_no_font_tl \int_to_arabic:n { \g__fillwith_cnt_int
    }
295     % }
296     % \coffin_mark_handle:Nnnn \l__fillwith_tmpa_coffin {B} {l} { red }
297     % \coffin_mark_handle:Nnnn \l__fillwith_tmpa_coffin {b} {l} { green
    }
298     % \coffin_attach:NnnNnnnn \l__fillwith_lines_coffin {B} {r} \l__fillwith_tmpa_coffin
{B} {l} {2.5pt} { \l__fillwith_ht_dim + \l__fillwith_dp_dim }
299     % \coffin_mark_handle:Nnnn \l__fillwith_lines_coffin {T} {r} { blue
    }
300     % \coffin_mark_handle:Nnnn \l__fillwith_lines_coffin {t} {r} { magenta
    }
301     \dim_set:Nn \l__fillwith_line_vadj_dim { \l__fillwith_dp_dim }
302   }{
303     \vrule height \l__fillwith_ht_dim depth \l__fillwith_dp_dim width \c_zero_dim
304   }
305   \dim_set:Nn \l__fillwith_line_madj_dim { \@totalleftmargin }
306   \para_raw_end:
307 \else:
308   \dim_set_eq:NN \l__fillwith_line_madj_dim \c_zero_dim
309   \unskip
310   \skip_vertical:n { \l__fillwith_dp_dim }
311 \fi:
312 \int_gincr:N \g__fillwith_cnt_int
313 \vcoffin_set:Nnn \l__fillwith_tmpa_coffin { 1.5em}
314 {
315   \l__fillwith_no_font_tl \int_to_arabic:n { \g__fillwith_cnt_int }
316 }
317 \coffin_attach:NnnNnnnn \l__fillwith_lines_coffin {B} {r} \l__fillwith_tmpa_coffin
{B} {l} {2.5pt} {\c_zero_dim}
318 \dim_set:Nn \l__fillwith_rem_dim
319 {
320   \l__fillwith_goal_dim -\footskip - \pagetotal
321 }
322 \dim_until_do:nNnn { \__fillwith_coffin_tht:N \l__fillwith_lines_coffin
    } > { \l__fillwith_rem_dim - \l__fillwith_ht_dim - \l__fillwith_dp_dim }
323 {

```

```

324   \coffin_join:NnnNnnnn \l__fillwith_lines_coffin { b } { l } \l__fillwith_line_coffin
      { t } { l } { \c_zero_dim } { \c_zero_dim }
325   \int_gincr:N \g__fillwith_cnt_int
326   \vcoffin_set:Nnn \l__fillwith_tmpa_coffin {1.5em}
327   {
328     \l__fillwith_no_font_tl \int_to_arabic:n { \g__fillwith_cnt_int }
329   }
330   \coffin_attach:NnnNnnnn \l__fillwith_lines_coffin {B} {r} \l__fillwith_tmpa_coffin
      {B} {l} {2.5pt} {\c_zero_dim}
331   }
332   \coffin_typeset:Nnnnn \l__fillwith_lines_coffin { B } { l } { \l__fillwith_line_madj_dim
      } { \l__fillwith_line_vadj_dim }
333   \para_end:
334   \normalcolor
335 }

```

`\fillwithnolines` Provisional experimental macro for numbered fill.

```

336 \NewDocumentCommand \fillwithnolines { s O { } }
337 {
338   \group_begin:
339   \IfBooleanTF { #1 }
340   {
341     \bool_set_true:N \l__fillwith_cont_bool
342   }{
343     \bool_set_false:N \l__fillwith_cont_bool
344   }
345   \keys_set:nn { fillwith } { goal ht = \pagegoal, #2 }
346   \__fillwith_nos:
347   \group_end:
348 }

349 % END fillwithnolines
350 \ExplSyntaxOff

```

## 5.1 Demonstration

Simple example to demonstrate usage.

```

351 \listfiles
352 \documentclass[british,a6paper]{article}
353 \usepackage{babel}
354 \usepackage[scale=.85,marginparwidth=0pt,marginparsep=0pt]{geometry}
355 \usepackage{fillwith}
356 \usepackage{cfr-lm}
357 \begin{document}
358 \author{A. N. Author}
359 \title{\texttt{fillwith} Demo}
360 \maketitle
361 \begin{enumerate}
362   \item What is the answer to the question?
363   \fillwithrules
364   \item How did you answer the previous question?
365   \fillwith*[style=line]

```

```

366 \item Why answer?
367
368   \fillwith*[style=rule,fillwith ht=1.25,colour=blue!40!cyan]
369   \clearpage
370 \item Evaluate your responses so far.
371   \fillwithdottedlines
372 \item Evaluate your responses so far.
373
374   {%
375     \fillwithset{dotted colour=magenta}%
376     \fillwithdottedlines[1.5]
377   }
378 \item Criticise your evaluation.
379   \fillwithdottedlines*
380   \clearpage
381 \item Assess your answers.
382   \fillwithnolines[goal ht = .33\textheight]
383 \item Assess your answers.
384
385   \fillwithnolines[style=rules,no font=\bfseries\tiny,colour=green!50!gray,goal
     ht = .67\textheight]
386 \item Summarise your analysis.
387   \fillwithnolines*
388 \end{enumerate}
389
390 \end{document}

```

## 5.2 Other

## Change History

v0.0	v0.3 (SVN Rev: 10202)
General: First public release. . . . . 8	General: . . . . . 8

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