

# The morefloats package

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## Abstract

The default limit of unprocessed floats, 18, can be increased with this `morefloats` package. Otherwise, `\clear(double)page`, `h(!)`, `H` from the `float` package, or `\FloatBarrier` from the `picins` package might help.

Note:  $\text{\LaTeX}$  2015 provides the `\extrafloats` command. DON HOSEK, Quixote, 1990/07/27 (Thanks!) invented the main code for handling more floats before `\extrafloats` was available. DAVID CARLISLE pointed the maintainer to the new `\extrafloats` (Thanks!). The current maintainer is H.-MARTIN MÜNCH.

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Save per page about 200 ml water, 2 g CO<sub>2</sub> and 2 g wood:  
Therefore please print only if this is really necessary.

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# 1 Introduction

The default limit of unprocessed floats, 18, can be increased with this `morefloats` package.

“Of course one immediately begins to wonder: »Why eighteen?!« And it turns out that 18 one-line tables with 10 point Computer Modern using `article.cls` produces almost exactly one page worth of material.”

(user <https://tex.stackexchange.com/users/1495/kahen> as comment to <https://tex.stackexchange.com/a/35596/6865> on 2011/11/21)

As alternatives (see also section 3 below) `\clear(double)page`, `h(!)`, `H` from the `float` package, or `\FloatBarrier` from the `picins` package might help. If the floats cannot be placed anywhere at all, extending the number of floats will just delay the arrival of the corresponding error.

# 2 Usage

Load the package placing

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

in the preamble of your  $\text{\LaTeX}$  2<sub>ε</sub> source file.

The `morefloats` package takes two options: `maxfloats` and `morefloats`, where `morefloats` gives the number of additional floats and `maxfloats` gives the maximum number of floats. `maxfloats=25` therefore means, that there are 18 (default) floats and 7 additional floats. `morefloats=7` therefore has the same meaning. It is only necessary to give one of these two options. At the time being, it is not possible to reduce the number of floats (for example to save boxes). If you have code accomplishing that, please send it to the package maintainer, thanks.

Version 1.0b used a fixed value of `maxfloats=36`. Therefore for backward compatibility this value is taken as the default one.

Example:

```
\usepackage[maxfloats=25]{morefloats}
```

or

```
\usepackage[morefloats=7]{morefloats}
```

or

```
\usepackage[maxfloats=25,morefloats=7]{morefloats}
```

Situation for  $\text{\LaTeX}$  before 2015:

`Float` uses `insert`, and each `insert` uses a group of `count`, `dimen`, `skip`, and `box` each. When there are not enough available, no `\newinsert` can be created. The `etex` package provides access at an extended range of those registers, but does not use those for `\newinsert`. Therefore the inserts must be reserved first, which forces the use of the extended register range for other new `count`, `dimen`, `skip`, and `box`: To have more floats available, use `\usepackage{etex}\reserveinserts{...}` right after `\documentclass[...]{...}`, where the argument of `\reserveinserts` should be at least the maximum number of floats. Add another 10 if the `bigfoot` or the `manyfoot` package is used, but `\reserveinserts` can be about 234 at most for older  $\text{\LaTeX}$  formats.

Situation for L<sup>A</sup>T<sub>E</sub>X since 2015:

Now `\reserveinserts` can be about 2147483647, but `\insert255{}` even then produces an error. The L<sup>A</sup>T<sub>E</sub>X 2015 “release provides a new command in the format `\extrafloats`”; “as it doesn’t use `\newinsert` (and as the 2015 format uses extended registers by default) you can allocate a lot more floats” (both DAVID CARLISLE, 29.06.2015), e.g. `\extrafloats{1234}`.

### 3 Alternatives (kind of)

The very old `morefloats` with a fixed number of `maxfloats=36` (i.e. 18 `morefloats`) has been archived at <http://mirror.ctan.org/obsolete/macros/latex/contrib/misc/morefloats.sty>.

If you really want to increase the number of (possible) floats, this is the right package. On the other hand, if you ran into trouble of **Too many unprocessed floats**, but would also accept less floats, there are some other possibilities:

- The command `\clearpage` forces L<sup>A</sup>T<sub>E</sub>X to output any floating objects that occurred before this command (and go to the next page). `\cleardoublepage` does the same but ensures that the next page with output is one with odd page number.
- Using different float specifiers: `t` top, `b` bottom, `p` page of floats.
- Suggesting L<sup>A</sup>T<sub>E</sub>X to put the object where it was placed: `h` (= here) float specifier.
- Telling L<sup>A</sup>T<sub>E</sub>X to please put the object where it was placed: `h!` (= here!) float specifier.
- Forcing L<sup>A</sup>T<sub>E</sub>X to put the object where it was placed and shut up: The `float` package provides the “style option here, giving floating environments a `[H]` option which means ‘PUT IT HERE’ (as opposed to the standard `[h]` option which means ‘You may put it here if you like’)” (`float` package documentation v1.3d as of 2001/11/08). Changing e.g. `\begin{figure}[tbp]...` to `\begin{figure}[H]...` forces the figure to be placed HERE instead of floating away.  
The `float` package is available at <https://www.ctan.org/pkg/float>.
- The `placeins` package provides the command `\FloatBarrier`. Floats occurring before the `\FloatBarrier` are not allowed to float to a later place, and floats occurring after the `\FloatBarrier` are not allowed to float to an earlier place than the `\FloatBarrier`. (There can be more than one `\FloatBarrier` in a document.) – The same package also provides an option to automatically add `\FloatBarriers` to section headings. It is further possible to make `\FloatBarriers` less strict (see that package’s documentation).  
The `placeins` package is available at <https://www.ctan.org/pkg/placeins>.

See also the following entries in the UK List of TeX Frequently Asked Questions on the Web:

- <http://www.tex.ac.uk/cgi-bin/texfaq2html?label=floats>
- <http://www.tex.ac.uk/cgi-bin/texfaq2html?label=tmupfl>
- <http://www.tex.ac.uk/cgi-bin/texfaq2html?label=figurehere>

and the excellent article on “How to influence the position of float environments like figure and table in L<sup>A</sup>T<sub>E</sub>X?” by FRANK MITTELBACH at <https://tex.stackexchange.com/a/39020/6865>!

(You programmed or found another alternative, which is available at CTAN?  
 OK, send an e-mail to me with the name, location at CTAN, and a short notice,  
 and I will probably include it in the list above.)

## 4 Example

```

1 \*example
2 \documentclass[british]{article}[2014/09/29]%      v1.4h
3 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
4 \usepackage[maxfloats=19]{morefloats}[2015/07/16]% v1.0g
5 \gdef\unit#1{\mathord{\thinspace\mathrm{#1}}}%
6 \listfiles
7 \begin{document}
8
9 \section*{Example for morefloats}
10 \markboth{Example for morefloats}{Example for morefloats}
11
12 This example demonstrates the use of package\newline
13 \textsf{morefloats}, v1.0g as of 2015/07/16 (HMM).\newline
14 The package takes options (here: \verb|maxfloats=19| is used).\newline
15 For more details please see the documentation!\newline
16
17 To reproduce the\newline
18 \texttt{\LaTeX{}} Error: Too many unprocessed floats},\newline
19 comment out the \verb|\usepackage...| in the preamble
20 (line~3)\newline
21 (by placing a \% before it).\newline
22
23 \bigskip
24
25 Save per page about $200\unit{ml}$~water, $2\unit{g}$~CO$_{2}$
26 and $2\unit{g}$~wood:\newline
27 Therefore please print only if this is really necessary.\newline
28 I do NOT think, that it is necessary to print THIS file, really!
29
30 \bigskip
31
32 There follow a lot of floating tables.
33
34 \pagebreak
35
36 Here are a lot of floating tables.\newline
37
38 \begin{table}[t] \centering%
39 \begin{tabular}{|l|}
40 \hline
41 A table, which will keep floating.\\ \hline
42 \end{tabular}%
43 \caption{The first Table}%
44 \end{table}%
45
46 \begin{table}[t] \centering%
47 \begin{tabular}{|l|}
48 \hline
49 A table, which will keep floating.\\ \hline
50 \end{tabular}%

```

```

51 \caption{The second Table}%
52 \end{table}%
53
54 \begin{table}[t] \centering%
55 \begin{tabular}{|l|}
56 \hline
57 A table, which will keep floating.\\ \hline
58 \end{tabular}%
59 \caption{The third Table}%
60 \end{table}%
61
62 \begin{table}[t] \centering%
63 \begin{tabular}{|l|}
64 \hline
65 A table, which will keep floating.\\ \hline
66 \end{tabular}%
67 \caption{The fourth Table}%
68 \end{table}%
69
70 \begin{table}[t] \centering%
71 \begin{tabular}{|l|}
72 \hline
73 A table, which will keep floating.\\ \hline
74 \end{tabular}%
75 \caption{The fifth Table}%
76 \end{table}%
77
78 \begin{table}[t] \centering%
79 \begin{tabular}{|l|}
80 \hline
81 A table, which will keep floating.\\ \hline
82 \end{tabular}%
83 \caption{The sixth Table}%
84 \end{table}%
85
86 \begin{table}[t] \centering%
87 \begin{tabular}{|l|}
88 \hline
89 A table, which will keep floating.\\ \hline
90 \end{tabular}%
91 \caption{The seventh Table}%
92 \end{table}%
93
94 \begin{table}[t] \centering%
95 \begin{tabular}{|l|}
96 \hline
97 A table, which will keep floating.\\ \hline
98 \end{tabular}%
99 \caption{The eighth Table}%
100 \end{table}%
101
102 \begin{table}[t] \centering%
103 \begin{tabular}{|l|}
104 \hline
105 A table, which will keep floating.\\ \hline
106 \end{tabular}%
107 \caption{The ninth Table}%
108 \end{table}%

```

```

109
110 \begin{table}[t] \centering%
111 \begin{tabular}{|l|}
112 \hline
113 A table, which will keep floating.\\ \hline
114 \end{tabular}%
115 \caption{The tenth Table}%
116 \end{table}%
117
118 \begin{table}[t] \centering%
119 \begin{tabular}{|l|}
120 \hline
121 A table, which will keep floating.\\ \hline
122 \end{tabular}%
123 \caption{The eleventh Table}%
124 \end{table}%
125
126 \begin{table}[t] \centering%
127 \begin{tabular}{|l|}
128 \hline
129 A table, which will keep floating.\\ \hline
130 \end{tabular}%
131 \caption{The twelfth Table}%
132 \end{table}%
133
134 \begin{table}[t] \centering%
135 \begin{tabular}{|l|}
136 \hline
137 A table, which will keep floating.\\ \hline
138 \end{tabular}%
139 \caption{The thirteenth Table}%
140 \end{table}%
141
142 \begin{table}[t] \centering%
143 \begin{tabular}{|l|}
144 \hline
145 A table, which will keep floating.\\ \hline
146 \end{tabular}%
147 \caption{The fourteenth Table}%
148 \end{table}%
149
150 \begin{table}[t] \centering%
151 \begin{tabular}{|l|}
152 \hline
153 A table, which will keep floating.\\ \hline
154 \end{tabular}%
155 \caption{The fifteenth Table}%
156 \end{table}%
157
158 \begin{table}[t] \centering%
159 \begin{tabular}{|l|}
160 \hline
161 A table, which will keep floating.\\ \hline
162 \end{tabular}%
163 \caption{The sixteenth Table}%
164 \end{table}%
165
166 \begin{table}[t] \centering%

```

```

167 \begin{tabular}{|l|}
168 \hline
169 A table, which will keep floating.\\ \hline
170 \end{tabular}%
171 \caption{The seventeenth Table}%
172 \end{table}%
173
174 \begin{table}[t] \centering%
175 \begin{tabular}{|l|}
176 \hline
177 A table, which will keep floating.\\ \hline
178 \end{tabular}%
179 \caption{The eighteenth Table}%
180 \end{table}%
181
182 \begin{table}[t] \centering%
183 \begin{tabular}{|l|}
184 \hline
185 One floating table too many
186 (without \textsf{morefloats} and appropriate option(s)).\\ \hline
187 \end{tabular}%
188 \caption{The nineteenth Table}%
189 \end{table}%
190
191 \end{document}
192 \end{example}

```



## 5 The implementation

We start off by checking that we are loading into L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> and announcing the name and version of this package.

```
193 (*package)
194 \NeedsTeXFormat{LaTeX2e}[2011/06/27]
195 %% The current format at the time of the release of this version of the
196 %% morefloats package was 2015/01/01.
197 \ProvidesPackage{morefloats}[2015/07/16 v1.0g
198         Raise limit of unprocessed floats (HMM)]
199
```

### Options

```
200 \RequirePackage{kvoptions}[2011/06/30]% v3.11
201 %% morefloats may work with earlier versions of LaTeX2e and that
202 %% package, but this was not tested.
203 %% Please consider updating your LaTeX and package
204 %% to the most recent version (if they are not already the most
205 %% recent version).
206
207 \SetupKeyvalOptions{family=morefloats,prefix=morefloats@}
208 \DeclareStringOption{maxfloats}% \morefloats@maxfloats
209 \DeclareStringOption{morefloats}% \morefloats@morefloats
210
211 \ProcessKeyvalOptions*
212
```

The morefloats package takes two options: `maxfloats` and `morefloats`, where `morefloats` gives the number of additional floats and `maxfloats` gives the maximum number of floats. `maxfloats=37` therefore means, that there are 18 (default) floats and another 19 additional floats. `morefloats=19` therefore has the same meaning. Version 1.0b used a fixed value of `maxfloats=36`. Therefore for backward compatibility this value will be taken as the default one.

Now we check whether `maxfloats=...` or `morefloats=...` or both were used, and if one option was not used, we supply the according value. If no option was used at all, we use the default values. Too many requested floats produce error messages by L<sup>A</sup>T<sub>E</sub>X, which might not be easily traced back to this, therefore we issue a warning. If option `maxfloats` or `morefloats` is no number, the user will received the according error message by L<sup>A</sup>T<sub>E</sub>X automatically.

```
213 \ifx\morefloats@maxfloats\@empty%
214   \ifx\morefloats@morefloats\@empty% apply defaults:
215     \gdef\morefloats@maxfloats{36}%
216     \gdef\morefloats@morefloats{18}%
217   \else%
218     \@tempcnta=\morefloats@morefloats\relax%
219     \ifnum\@tempcnta>1569\relax%
220       \PackageWarning{morefloats}{%
221         \morefloats@morefloats\space more floats requested.\MessageBreak%
222         LaTeX might run out of memory before this\MessageBreak%
223         (in which case it will notify you)\MessageBreak%
224       }%
225     \fi%
226     \advance \@tempcnta by +18%
227     \xdef\morefloats@maxfloats{\the\@tempcnta}%
228   \fi%
229 \else%
```

```

230 \ifx\morefloats@morefloats\@empty%
231 \@tempcnta=\morefloats@maxfloats\relax%
232 \advance \@tempcnta by -18%
233 \xdef\morefloats@morefloats{\the\@tempcnta}%
234 \ifnum\morefloats@maxfloats>1587\relax%
235 \PackageWarning{morefloats}{%
236 \morefloats@maxfloats\space floats requested.\MessageBreak%
237 LaTeX might run out of memory before this\MessageBreak%
238 (in which case it will notify you)\MessageBreak%
239 }%
240 \fi%
241 \fi%
242 \fi%
243
244 \@tempcnta=\morefloats@maxfloats\relax%
245 \edef\morefloats@max{\the\@tempcnta}%
246
247 \ifnum\@tempcnta<18\relax%
248 \PackageError{morefloats}{Option maxfloats is \the\@tempcnta<18}{%
249 maxfloats must be a number equal to or larger than 18\MessageBreak%
250 (or not used at all).\MessageBreak%
251 Now setting maxfloats=18.\MessageBreak%
252 }%
253 \gdef\morefloats@max{18}%
254 \fi%
255
256 \@tempcnta=\morefloats@morefloats\relax%
257 \edef\morefloats@more{\the\@tempcnta}%
258
259 \ifnum\@tempcnta<0\relax%
260 \PackageError{morefloats}{Option morefloats is \the\@tempcnta<0}{%
261 morefloats must be a number equal to or larger than 0\MessageBreak%
262 (or not used at all).\MessageBreak%
263 Now setting morefloats=0.\MessageBreak%
264 }%
265 \gdef\morefloats@more{0}%
266 \fi%
267
268 \@tempcnta=18\relax%
269 \advance\@tempcnta by \morefloats@more%

```

The value of morefloats should now be equal to the value of morefloats@max.

```

270 \advance\@tempcnta by -\morefloats@max%

```

Therefore \@tempcnta should now be equal to zero.

```

271 \edef\morefloats@mx{\the\@tempcnta}%
272 \ifnum\morefloats@mx=0\relax% OK
273 \@tempcnta=\morefloats@maxfloats\relax%
274 \else%
275 \PackageError{morefloats}{%
276 Clash between options maxfloats and morefloats}{%
277 Option maxfloats must be empty\MessageBreak%
278 or the sum of 18 and option value morefloats,\MessageBreak%
279 but it is maxfloats=\morefloats@maxfloats\space and %
280 morefloats=\morefloats@morefloats .\MessageBreak%
281 }%

```

We choose the larger value to be used.

```

282 \ifnum \@tempcnta<0% \morefloats@max > \morefloats@more
283   \@tempcnta=\morefloats@maxfloats\relax%
284 \else% \@tempcnta>0, \morefloats@max < \morefloats@more
285   \@tempcnta=18\relax%
286   \advance\@tempcnta by \morefloats@morefloats%
287 \fi%
288 \fi%
289 \edef\morefloats@mx{\the\@tempcnta}%

    Maybe we had to change \morefloats@maxfloats or \morefloats@maxfloats:

290 \xdef\morefloats@maxfloats{\the\@tempcnta}%
291 \advance\@tempcnta by -18
292 \xdef\morefloats@morefloats{\the\@tempcnta}%
293 \gdef\morefloats@test{1}%
294 \ifx\morefloats@morefloats\morefloats@test\relax%
295   \PackageInfo{morefloats}{%
296     Maximum number of possible floats asked for: \morefloats@maxfloats%
297     \MessageBreak%
298     (i.e. one more float)\@gobble%
299   }%
300 \else%
301   \PackageInfo{morefloats}{%
302     Maximum number of possible floats asked for: \morefloats@maxfloats%
303     \MessageBreak%
304     (i.e. \morefloats@morefloats\space more floats).\MessageBreak%
305     LaTeX might run out of memory before this\MessageBreak%
306     (in which case it will notify you)%
307     \@gobble%
308   }%
309 \fi%
310
311

```

The L<sup>A</sup>T<sub>E</sub>X 2015 “release provides a new command in the format `\extrafloats` which does a similar job [as earlier versions of this package did], although as it doesn’t use `\newinsert` (and as the 2015 format uses extended registers by default) you can allocate a lot more floats,” e.g. `\extrafloats{1234}`. Loading `etex` and `morefloats` with the new format would “over-write the new allocation mechanism and end up with fewer floats available.” Therefore here it is tested “for the new format and switch[ed] to the new mechanism in that case, so that existing documents work as before but using the new allocation scheme underneath.” (all DAVID CARLISLE, 29.06.2015, who provided also parts of the following code)

```

312 %% Test for new mechanism in LaTeX 2015:
313 \gdef\morefloats@efa{0}%
314 \ifx\e@alloc\undefined\relax%
315   %% This is an old LaTeX format, \extrafloats is not available.
316   \PackageWarning{morefloats}{%
317     \fmtname\space <\fmtversion> found.\MessageBreak%
318     LaTeX 2015/01/01 is now available\MessageBreak%
319     and can handle even more floats%
320     \@gobble%
321   }%
322   \%gdef\morefloats@efa{0}, but it already has this value
323 \else%
324   %% This is new in LaTeX 2015, \extrafloats is available,
325   %% but older versions of the etex package are incompatible.
326   \@ifpackageloaded{etex}%
327   {% etex package loaded

```

```

328 \PackageError{morefloats}{etex package loaded}{%
329   The etex package was loaded\MessageBreak%
330   but breaks the \string\extrafloats\space command.\MessageBreak%
331   Therefore now not more than 256 floats will be available.\MessageBreak%
332 }%
333 \gdef\morefloats@efa{0}, but it already has this value
334 }{% etex package not loaded
335   \gdef\morefloats@efa{1}%
336 }%
337 \fi%
338 \gdef\morefloats@test{1}%
339 \ifx\morefloats@efa\morefloats@test\relax%
340   \extrafloats{\morefloats@morefloats}%
341   % The part after the test is no longer needed and therefore not loaded:
342   \expandafter\endinput%
343 \fi%
344 %% End of the test for LaTeX 2015 (or newer).
345
346
347 \RequirePackage{ifetex}[2011/12/15]% v1.2
348 \ifetex%
349   %% then we can use the code of David Carlisle:
350   %% https://tex.stackexchange.com/a/212483/6865
351   \mathchardef\float@count=32767\relax%
352   \def\dc@extrafloats#1{%
353     \ifnum#1>\z@%
354       \count@\numexpr\float@count-1\relax%
355       \mathchardef\float@count\count@\relax%
356       \expandafter\mathchardef\csname bx@the\float@count\endcsname\float@count%
357       \@cons\@freelist{\csname bx@the\float@count\endcsname}%
358       \expandafter%
359       \dc@extrafloats\expandafter{\numexpr#1-1\relax}%
360     \fi}%
361   \dc@extrafloats{\morefloats@morefloats}%
362   \expandafter\endinput%
363 \fi%
364

```

If we ever come to this place, “everything” failed and we need to do things the old fashioned way, which severely limits the maximum number of additionally available floats.

```

365 %% Not eTeX, otherwise the last \endinput would have been applied.
366 \PackageWarning{morefloats}{%
367   e-TeX is not available here\MessageBreak%
368   but it is available in almost all\MessageBreak%
369   recent TeX distributions.\MessageBreak%
370   Maybe consider updating to one of those%
371   \@gobble%
372 }%
373

```

Float uses `insert`, and each `insert` use a group of `count`, `dimen`, `skip`, and `box` each. When there are not enough available, no `\newinsert` can be created.

```

374 %% Code similar to the one from Heiko Oberdiek,
375 %% http://permalink.gmane.org/gmane.comp.tex.latex.latex3/2159
376         \@tempcnta=\the\count10 \relax \def\maxfloats@vln{count} %
377 \ifnum \count11>\@tempcnta \@tempcnta=\the\count11 \relax \def\maxfloats@vln{dimen} \fi%
378 \ifnum \count12>\@tempcnta \@tempcnta=\the\count12 \relax \def\maxfloats@vln{skip} \fi%
379 \ifnum \count14>\@tempcnta \@tempcnta=\the\count14 \relax \def\maxfloats@vln{box} \fi%
380 %% end similar
381
382 \@tempcntb=234\relax%
383 \advance\@tempcntb by -\@tempcnta\relax%
384 \@tempcnta=\@tempcntb\relax%
385 \advance\@tempcntb by +18% already reserved by default
386 \ifnum\morefloats@mx>\@tempcntb\relax%
387   \PackageError{morefloats}{Too many floats requested}{%
388     Maximum number of possible floats asked for: \morefloats@mx .\MessageBreak%
389     There are only \the\@tempcnta\space \maxfloats@vln\space left,\MessageBreak%
390     therefore only \the\@tempcntb\space floats will be possible.\MessageBreak%
391     Reduce the number of used \maxfloats@vln\space to have more floats available!\MessageBreak%
392   }%
393   \gdef\morefloats@mx{\the\@tempcntb}%
394 \fi%
395
```

The task at hand is to increase L<sup>A</sup>T<sub>E</sub>X's default limit of 18 unprocessed floats in memory at once to `maxfloats`. An examination of `latex.tex` reveals that this is accomplished by allocating (!) an insert register for each unprocessed float. A quick check of (the obsolete, now `lATEX` update to L<sup>A</sup>T<sub>E</sub>X2e!) `lplain.lis` reveals that there is room, in fact, for up to 256 unprocessed floats, but T<sub>E</sub>X's main memory could be exhausted well before that happened.

L<sup>A</sup>T<sub>E</sub>X2e uses a `\dimen` for each `\newinsert`, and the number of `\dimens` is also restricted. Therefore only use the number of floats you need! To check the number of used registers, you could use the `regstats` and/or `regcount` packages (see subsection 6.1).

Allocating insert  
registers  
@freelist  
@elt  
newinsert

First we allocate the additional insert registers needed.

That accomplished, the next step is to define the macro `\@freelist`, which is merely a list of the box registers each preceded by `\@elt`. This approach allows processing of the list to be done far more efficiently. A similar approach is used by MITTELBACH & SCHÖPF's `doc.sty` to keep track of control sequences, which should not be indexed.

First for the 18 default L<sup>A</sup>T<sub>E</sub>X boxes.

`\ifnum maxfloats <= 18`, L<sup>A</sup>T<sub>E</sub>X already allocated the insert registers. `\fi`

```
396 \global\long\def\@freelist{\@elt\bx@A\@elt\bx@B\@elt\bx@C\@elt\bx@D\@elt\bx@E\@elt\bx@F\@elt\bx@G\@elt\bx@H\@elt%
397 \bx@I\@elt\bx@J\@elt\bx@K\@elt\bx@L\@elt\bx@M\@elt\bx@N\@elt\bx@O\@elt\bx@P\@elt\bx@Q\@elt\bx@R}
398
```

Now we need to add `\@elt\bx@...` depending on the number of `morefloats` wanted:  
(KARL BERRY helped with two out of three `\expandafters`, thanks!)

14

```
399 \ifnum \morefloats@mx> 18 \newinsert\bx@S \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@S}
400 \ifnum \morefloats@mx> 19 \newinsert\bx@T \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@T}
401 \ifnum \morefloats@mx> 20 \newinsert\bx@U \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@U}
402 \ifnum \morefloats@mx> 21 \newinsert\bx@V \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@V}
403 \ifnum \morefloats@mx> 22 \newinsert\bx@W \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@W}
404 \ifnum \morefloats@mx> 23 \newinsert\bx@X \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@X}
405 \ifnum \morefloats@mx> 24 \newinsert\bx@Y \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@Y}
406 \ifnum \morefloats@mx> 25 \newinsert\bx@Z \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@Z}
407 \ifnum \morefloats@mx> 26 \newinsert\bx@AA \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@AA}
408 \ifnum \morefloats@mx> 27 \newinsert\bx@AB \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@AB}
409 \ifnum \morefloats@mx> 28 \newinsert\bx@AC \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@AC}
410 \ifnum \morefloats@mx> 29 \newinsert\bx@AD \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@AD}
411 \ifnum \morefloats@mx> 30 \newinsert\bx@AE \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@AE}
412 \ifnum \morefloats@mx> 31 \newinsert\bx@AF \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@AF}
413 \ifnum \morefloats@mx> 32 \newinsert\bx@AG \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@AG}
414 \ifnum \morefloats@mx> 33 \newinsert\bx@AH \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@AH}
415 \ifnum \morefloats@mx> 34 \newinsert\bx@AI \expandafter\gdef\expandafter\@freelist\expandafter{\@freelist \@elt\bx@AI}
```

















```

637 \ifnum \morefloats@mx>256\relax%
638   \ifx\@alloc\@undefined\relax% old LaTeX format
639     \PackageError{morefloats}{Too many floats called for}{%
640       You requested more than 256 floats.\MessageBreak%
641       (\morefloats@mx\space to be precise.)\MessageBreak%
642       LaTeX before 2015 could not process\MessageBreak%
643       more than 256 floats, therefore the morefloats\MessageBreak%
644       package only provides 256 floats.\MessageBreak%
645       If you need more floats,\MessageBreak%
646       update to a current (>=2015) LaTeX distribution.\MessageBreak%
647       I expected LaTeX (prior 2015) to run out of dimensions\MessageBreak%
648       or memory long before reaching this anyway.\MessageBreak%
649     }%
650   \else% new LaTeX format, therefore we are here
651     % because an outdated version of the etex package was used
652     \PackageError{morefloats}{Too many floats called for}{%
653       You requested more than 256 floats.\MessageBreak%
654       (\morefloats@mx\space to be precise.)\MessageBreak%
655       LaTeX can process more than 256 floats since 2015,\MessageBreak%
656       but not if an outdated version of the etex package\MessageBreak%
657       was loaded before the morefloats package.\MessageBreak%
658       Therefore the morefloats package only provides\MessageBreak%
659       256 floats now. If you need more floats,\MessageBreak%
660       update your etex package to the recent version!\MessageBreak%
661     }%
662 \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi
663 \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi
664 \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi
665 \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi
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669 \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi
670 \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi
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673 \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi
674 \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi \fi
675 \fi \fi \fi \fi \fi \fi
676
677 \end{package}

```

## 6 Installation

### 6.1 Downloads

Everything is available at <https://www.ctan.org>, but may need additional packages themselves.

`morefloats.dtx` For unpacking the `morefloats.dtx` file and constructing the documentation it is required:

- T<sub>E</sub>XFormat L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>: <https://www.CTAN.org>
- document class `ltxdoc`, 2015/03/26, v2.0w, <https://www.ctan.org/pkg/ltxdoc>
- package `fontenc`, 2005/09/27, v1.99g, <https://ctan.org/pkg/fontenc>
- package `pdfscape`, 2008/08/11, v0.10, <https://ctan.org/pkg/pdfscape>
- package `hltxdoc`, 2012/03/21, v0.24, <https://ctan.org/pkg/hltxdoc>
- package `hypdoc`, 2011/08/19, v1.11, <https://ctan.org/pkg/hypdoc>

`morefloats.sty` The `morefloats.sty` for L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> (i.e. each document using the `morefloats` package) requires:

- T<sub>E</sub>XFormat L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>, <https://www.CTAN.org/>
- package `kvoptions`, 2011/06/30, v3.11, <https://ctan.org/pkg/kvoptions>
- package `ifetex`, 2011/12/15, v1.2, <https://ctan.org/pkg/ifetex>, is used in some cases

`regstats` To check the number of used registers it was mentioned:

`regcount`

- package `regstats`, <https://ctan.org/pkg/regstats>
- package `regcount`, <https://ctan.org/pkg/regcount>

`Oberdiek` All packages of HEIKO OBERDIEK's bundle 'oberdiek' (especially `hltxdoc`, `hypdoc`, and `kvoptions`) are also available in a TDS compliant ZIP archive:  
`hltxdoc` <http://mirror.ctan.org/install/macros/latex/contrib/oberdiek.tds.zip>.  
`hypdoc` It is probably best to download and use this, because the packages in there are quite probably both recent and compatible among themselves.

`hyperref` `hyperref` is not included in that bundle and needs to be downloaded separately, <http://mirror.ctan.org/install/macros/latex/contrib/hyperref.tds.zip>.

**Münch** A hyperlinked list of my (other) packages can be found at <https://www.ctan.org/author/muench-hm>.

### 6.2 Package, unpacking TDS

**Package.** This package is available on <https://www.CTAN.org>.

<http://mirror.ctan.org/macros/latex/contrib/morefloats/morefloats.dtx>  
The source file.

<http://mirror.ctan.org/macros/latex/contrib/morefloats/morefloats.pdf>  
The documentation.

<http://mirror.ctan.org/macros/latex/contrib/morefloats/README>  
The README file.

There is also a `morefloats.tds.zip` available:

<http://mirror.ctan.org/install/macros/latex/contrib/morefloats.tds.zip>  
Everything in TDS compliant, compiled format.

which additionally contains

<code>morefloats.ins</code>	The installation file.
<code>morefloats.drv</code>	The driver to generate the documentation.
<code>morefloats.sty</code>	The <code>.style</code> file.
<code>morefloats-example.tex</code>	The example file.
<code>morefloats-example.pdf</code>	The compiled example file.

For required other packages, please see the preceding subsection.

**Unpacking.** The `.dtx` file is a self-extracting docstrip archive. The files are extracted by running the `.dtx` through plain  $\text{\TeX}$ :

```
tex morefloats.dtx
```

About generating the documentation see paragraph 6.4 below.

**TDS.** Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

<code>morefloats.sty</code>	$\rightarrow$ <code>tex/latex/morefloats/morefloats.sty</code>
<code>morefloats.pdf</code>	$\rightarrow$ <code>doc/latex/morefloats/morefloats.pdf</code>
<code>morefloats-example.tex</code>	$\rightarrow$ <code>doc/latex/morefloats/morefloats-example.tex</code>
<code>morefloats-example.pdf</code>	$\rightarrow$ <code>doc/latex/morefloats/morefloats-example.pdf</code>
<code>morefloats.dtx</code>	$\rightarrow$ <code>source/latex/morefloats/morefloats.dtx</code>

If you have a `docstrip.cfg` that configures and enables docstrip's TDS installing feature, then some files can already be in the right place, see the documentation of docstrip.

### 6.3 Refresh file name databases

If your  $\text{\TeX}$  distribution ( $\text{\TeX}$  Live, `mik $\text{\TeX}$` , `te $\text{\TeX}$` , ...) relies on file name databases, you must refresh these. For example, `te $\text{\TeX}$`  users run `texhash` or `mktextlsr`.

### 6.4 Some details for the interested

**Unpacking with  $\text{\LaTeX}$ .** The `.dtx` chooses its action depending on the format:

**plain  $\text{\TeX}$ :** Run docstrip and extract the files.

**$\text{\LaTeX}$ :** Generate the documentation.

If you insist on using  $\text{\LaTeX}$  for docstrip (really, docstrip does not need  $\text{\LaTeX}$ ), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{morefloats.dtx}
```

Do not forget to quote the argument according to the demands of your shell.



**Generating the documentation.** You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by a configuration file `ltxdoc.cfg`. For instance, put the following line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdfL<sup>A</sup>T<sub>E</sub>X:

```
pdflatex morefloats.dtx
makeindex -s gind.ist morefloats.idx
pdflatex morefloats.dtx
makeindex -s gind.ist morefloats.idx
pdflatex morefloats.dtx
```

## 6.5 Compiling the example

The example file, `morefloats-example.tex`, can be compiled via  
(pdf)latex `morefloats-example.tex`.

## 7 Acknowledgements

L<sup>A</sup>T<sub>E</sub>X 2015 provides the `\extrafloats` command. DON HOSEK, Quixote, 1990/07/27 (Thanks!) invented the main code for handling more floats before `\extrafloats` was available. DAVID CARLISLE pointed the maintainer to the new `\extrafloats` and provided the code for `\dc@extrafloats` in case `\extrafloats` is not available at the used system (Thanks!). The current maintainer is H.-MARTIN MÜNCH.

I would like to thank additionally KARL BERRY for helping with taking over the maintainership of this package and two missing `\expandafatters`, HEIKO OBERDIEK for providing a lot (!) of useful packages (from which I also got everything I know about creating a file in `dtx` format, ok, say it: copying), everybody of the CTAN team for managing CTAN, and the `news:comp.text.tex` and `news:de.comp.text.tex` newsgroups for their help in all things T<sub>E</sub>X.

## 8 History

Some old versions have been archived at

<http://ctanhg.scharrer-online.de/pkg/morefloats.html>.

### [1990/07/27 v1.0a]

- Created by DON HOSEK.

### [2008/11/14 v1.0b]

- CLEA F. REES added a license line.

### [2010/09/20 v1.0c]

- `.dtx` created by H.-MARTIN MÜNCH.
- Included more documentation and alternatives.
- Included options to allow the user to flexible choose the number of floats from 18 up to 256 instead of fixed 36.
- Included an example file.
- Created a README file.

### [2011/02/01 v1.0d]

- References to <http://www.tex.ac.uk/cgi-bin/texfaq2html?label=figurehere> and <http://mirror.ctan.org/obsolete/macros/latex/contrib/misc/morefloats.sty> added.
- Now using the `lscape` package from the `graphics` bundle to print some pages of the documentation in landscape instead of portrait mode, because they were way too wide. (*Since v1.0e replaced by `pdfscape` package.*)
- Updated the version of the `hyperref` package. (*Since version 1.0e the `morefloats` package uses a fixed version of the `holtxdoc` package, which calls for the right version of the `hyperref` package, therefore it is no longer necessary to give the recent version of the `hyperref` package here.*)

### [2011/07/10 v1.0e]

- There is a new version of the used `kvoptions` package.
- Now using the `pdfscape` package instead of the `lscape` package in the documentation.
- The `holtxdoc` package was fixed, therefore the warning in `drv` could be removed. – Adapted the style of this documentation to new OBERDIEK `dtx` style.

### [2012/01/28 v1.0f]

- Bug fix: wrong path given in the documentation, fixed.
- Replaced `\global\edef` by `\xdef`.
- No longer uses a counter for itself but temporary ones. (For the floats of course inserts and therefore counts are still used.)
- The number of available inserts is checked before the allocation.
- Maximum number of floats/inserts is 256, not 266; corrected.
- Quite some additional changes in the `dtx` and README files.

### [2015/07/16 v1.0g]

- Implemented the new `\extrafloats`, L<sup>A</sup>T<sub>E</sub>X 2015, allowing several hundreds of additional floats.
- Update of documentation, README, and `dtx` internals.

When you find a mistake or have a suggestion for an improvement of this package, please send an e-mail to the maintainer, thanks! (Please see BUG REPORTS in the README.)

## 9 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; plain numbers refer to the code lines where the entry is used.

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