The decorule \LaTeX\ 2ε package*

A decorative swelled rule for \LaTeX

Peter Flynn
Silmaril Consultants
Textual Therapy Division
(peter@silmaril.ie)

21st May 2020

Summary

This package implements a decorative swelled rule using only a symbol from a font installed with all distributions of \TeX, so it works independently, without the need to install any additional software or fonts.

This is the packaged version of the macro which was originally published in the ‘Typographers’ Inn’ column in TUGboat (Flynn, 2010).

*This document corresponds to decorule v. 0.7p, dated 2020/04/01.
Latest changes

v.0.7 (2020-04-01)

Regression release
- Updated to use ClassPack 1.19
- Switched all conformance attributes on revision dates to YYYY-MM-DD
- The jump in versions is because the previously submitted version was mis-numbered as 0.6 when it should have been 0.06. Thanks to Erik Braun at CTAN for spotting this.

v.0.34 (2020-04-01)

Regression release
- Recreated package with latest version (1.18) of ClassPack
- Fixed bug in using the angle counter that was preventing \LaTeX generating output

v.0.33 (2019-03-03)

Regression release
- Recreated package with latest version (1.13) of ClassPack

v.0.31 (2017-02-10)

Regression release
- Recreated package with latest version (1.04) of ClassPack

See p. 19 for earlier changes.
1 Swelled rules

Swelled rules were a popular device in 19th century typesetting, and were usually done as special sorts from a typefounder, or in some cases fabricated from combinations of decorative brass rule cut to calculated lengths.

In digital systems, they can be implemented as images or as glyphs in fonts, but are not usually extensible except by distortion. This example is constructed programmatically so that it could be adapted to the width it is required for (that feature is not implemented in this version and is left as an exercise to the user).

1.1 Other work

As discussed in the original article (Flynn, 2010) there is an swrule package by Tobias Dussa (Dussa, 2001) which builds a geometric lozenge from very fine lines, and there is a paper by Steve Peter (Peter, 2005) which describes a more extensible method using METAPOST for ConTeXt.

1.2 This solution

However, it is also possible to produce one using just a character from a font, combined with some looping in a macro with careful positioning and kerning. This example was constructed from the swung dash (\textbackslash sim) character in math mode, rotated and scaled to fit in an ascending and then descending series.

The package is available on CTAN in \url{http://ctan.org/pkg/decorule}, and the development files will be available at \url{http://latex.silmaril.ie/packages} when the classpack toolkit is released. Suggestions for improving and extending this package are welcome.
References


2 Implementation

The package consists of a single main macro \texttt{\textbackslash decorule}, which cycles through sizes of the symbol from minimum to maximum, rotating and scaling according to values preset here; and then from the maximum back down to the minimum.

2.1 Auto-initialisation

This section is added automatically by \textit{ClassPack} as a preamble to all classes and style packages. The \texttt{fixltex2e} package, which used to be included automatically, is no longer preloaded, as its features are now a part of the latest \LaTeX{} kernel.

The code starts with identity and requirements which are generated automatically as needed by the Doc\LaTeX{} system. For details see the \texttt{ltxdoc} package documentation.

```
1 \NeedsTeXFormat{LaTeX2e}[2009/09/24]
2 \ProvidesPackage{decorule}[2020/04/01 v0.7]
3 A decorative swelled rule for \LaTeX{}}
```

2.2 Packages required

\texttt{fix-cm}   Allow infinitely-variable font scaling.

```
4 \RequirePackage{fix-cm}\
```

\texttt{graphicx} Provide for graphics (PNG, JPG, or PDF format (only) for pdflatex; EPS format (only) for standard \LaTeX{}).

```
5 \RequirePackage{graphicx}\
```

2.3 Preliminary declarations

\texttt{DCR@min} Define a counter and a minimum point size to start and end with. This value is an integer, hence a counter is used.

```
6 \newcounter{DCR@min}
7 \setcounter{DCR@min}{1}
```
\newcounter{DCR@max}
\setcounter{DCR@max}{20}

Do the same for the maximum point size that the rule will get to in the middle.

\newcounter{DCR@step}
\setcounter{DCR@step}{1}

Set the step size or the increments of the glyph in whole points.

\newcounter{DCR@rotate}
\setcounter{DCR@rotate}{45}

Specify the amount in (whole) degrees by which we will need to rotate the symbol to make each glyph mesh with the previous one.

\newcounter{DCR@size}

Define a counter to hold the current (calculated) size as we loop through the sizes.

\newlength{\DCR@raise}

Define a length to hold the amount calculated at each step to raise/lower each glyph by (because we rotate them as we go).

\newlength{\DCR@skip}

Define another length to hold the amount calculated to backspace between successive glyphs to make sure they touch.

\newcommand{\DCR@symbol}{\ensuremath{\sim}}

Lastly, define the font character to use as the glyph. For the swelled rule we use the swung dash.

\newcommand{\decorule}{%}

Now we can define the macro that does the actual work.

2.4 The main macro
Start by setting the initial size to the minimum size declared above:

\begingroup\fontencoding{OT1}\fontfamily{cmr}\selectfont%
\setcounter{DCR@size}{\c@DCR@min}%

Loop through the steps up to, but not including, the maximum size (this loop ends on line 28):

\loop

We want to raise each glyph above the baseline by half the point size that we will use, so set the amount to the current size and then divide by two:

\setlength{\DCR@raise}{\c@DCR@size pt}%
\divide\DCR@raise by2

Raise, rotate, and (in this case of $\sim$) reflect the glyph in a \hbox of its own point size, using \hss as infinitely-flexible space to prevent \TeX squawking if the glyph is slightly oversized:

\raisebox{-\DCR@raise}{\fontsize{\c@DCR@size}{0}\selectfont
\rotatebox{\the\c@DCR@rotate}{\reflectbox{\hbox to\c@DCR@size pt{\hss\DCR@symbol\hss}}}}%

Calculate the amount to backspace as $\frac{2}{3}$ of the current size:

\setlength{\DCR@skip}{\c@DCR@size pt}%
\divide\DCR@skip by3
\multiply\DCR@skip by2
\kern-\DCR@skip

Increment the counter and repeat:

\addtocounter{DCR@size}{\c@DCR@step}%
\ifnum\c@DCR@size<\c@DCR@max
\repeat

Now do the same for the sole occurrence of the maximum size: this marks the mid-point of the rule:

\setlength{\DCR@raise}{\c@DCR@max pt}%
\divide\DCR@raise by2
\raisebox{-\DCR@raise}{%
\fontsize{\c@DCR@max}{0}\selectfont
\rotatebox{\the\c@DCR@rotate}{\reflectbox{\hbox to\c@DCR@max pt{\hss\DCR@symbol\hss}}}}%
Start back down following the exact same pattern in reverse, using the current size (one step less than the maximum just used). The value has been left undisturbed from the last loop of the outward journey. This time, however, do the kerning before the glyph.

\begin{verbatim}
\loop
  \setlength{\DCR@skip}{\c@DCR@size pt}\%
  \divide\DCR@skip by3
  \multiply\DCR@skip by2
  \kern-\DCR@skip
  \setlength{\DCR@raise}{\c@DCR@size pt}\%
  \divide\DCR@raise by2
  \raisebox{-\DCR@raise}{%
    \fontsize{\c@DCR@size}{0}\selectfont
    \rotatebox{\the\c@DCR@rotate}{\reflectbox{\hbox
      to\c@DCR@size pt{\hss\DCR@symbol\hss}}}}%
  \addtocounter{DCR@size}{-\c@DCR@step}%
\endgroup
\end{verbatim}

Finally, do the minimum size:

\begin{verbatim}
\setlength{\DCR@skip}{\c@DCR@min pt}\%
\divide\DCR@skip by3
\multiply\DCR@skip by2
\kern-\DCR@skip
\setlength{\DCR@raise}{\c@DCR@min pt}\%
\divide\DCR@raise by2
\raisebox{-\DCR@raise}{%
  \fontsize{\c@DCR@min}{0}\selectfont
  \rotatebox{\the\c@DCR@rotate}{\reflectbox{\hbox
    to\c@DCR@min pt{\hss\DCR@symbol\hss}}}}%
\endgroup
\end{verbatim}
A The \LaTeX Project Public License (v1.3c)

Everyone is allowed to distribute verbatim copies of this license document, but modification of it is not allowed.

A.1 Preamble

The \LaTeX Project Public License (LPPL) is the primary license under which the \LaTeX kernel and the base \LaTeX packages are distributed.

You may use this license for any work of which you hold the copyright and which you wish to distribute. This license may be particularly suitable if your work is \TeX-related (such as a \LaTeX package), but it is written in such a way that you can use it even if your work is unrelated to \TeX.

The section “Whether and How to Distribute Works under This License”, below, gives instructions, examples, and recommendations for authors who are considering distributing their works under this license.

This license gives conditions under which a work may be distributed and modified, as well as conditions under which modified versions of that work may be distributed.

We, the \LaTeX3 Project, believe that the conditions below give you the freedom to make and distribute modified versions of your work that conform with whatever technical specifications you wish while maintaining the availability, integrity, and reliability of that work. If you do not see how to achieve your goal while meeting these conditions, then read the document \texttt{cfgguide.tex} and \texttt{modguide.tex} in the base \LaTeX distribution for suggestions.

A.2 Definitions

In this license document the following terms are used:

\textbf{Work:} Any work being distributed under this License.

\textbf{Derived Work:} Any work that under any applicable law is derived from the Work.

\textbf{Modification:} Any procedure that produces a Derived Work under any applicable law — for example, the production of a file containing an original
file associated with the Work or a significant portion of such a file, either verbatim or with modifications and/or translated into another language.

**Modify**: To apply any procedure that produces a Derived Work under any applicable law.

**Distribution**: Making copies of the Work available from one person to another, in whole or in part. Distribution includes (but is not limited to) making any electronic components of the Work accessible by file transfer protocols such as FTP or HTTP or by shared file systems such as Sun’s Network File System (NFS).

**Compiled Work**: A version of the Work that has been processed into a form where it is directly usable on a computer system. This processing may include using installation facilities provided by the Work, transformations of the Work, copying of components of the Work, or other activities. Note that modification of any installation facilities provided by the Work constitutes modification of the Work.

**Current Maintainer**: A person or persons nominated as such within the Work. If there is no such explicit nomination then it is the ‘Copyright Holder’ under any applicable law.

**Base Interpreter**: A program or process that is normally needed for running or interpreting a part or the whole of the Work.

A Base Interpreter may depend on external components but these are not considered part of the Base Interpreter provided that each external component clearly identifies itself whenever it is used interactively. Unless explicitly specified when applying the license to the Work, the only applicable Base Interpreter is a ‘\TeX-Format’ or in the case of files belonging to the ‘\TeX-format’ a program implementing the ‘\TeX language’.

### A.3 Conditions on Distribution and Modification

1. Activities other than distribution and/or modification of the Work are not covered by this license; they are outside its scope. In particular, the act of running the Work is not restricted and no requirements are made concerning any offers of support for the Work.

2. You may distribute a complete, unmodified copy of the Work as you received it. Distribution of only part of the Work is considered modification of the
Work, and no right to distribute such a Derived Work may be assumed under
the terms of this clause.

3. You may distribute a Compiled Work that has been generated from a
complete, unmodified copy of the Work as distributed under Clause item 2
above above, as long as that Compiled Work is distributed in such a way that
the recipients may install the Compiled Work on their system exactly as it
would have been installed if they generated a Compiled Work directly from
the Work.

4. If you are the Current Maintainer of the Work, you may, without restriction,
modify the Work, thus creating a Derived Work. You may also distribute the
Derived Work without restriction, including Compiled Works generated from
the Derived Work. Derived Works distributed in this manner by the Current
Maintainer are considered to be updated versions of the Work.

5. If you are not the Current Maintainer of the Work, you may modify your
copy of the Work, thus creating a Derived Work based on the Work, and
compile this Derived Work, thus creating a Compiled Work based on the
Derived Work.

6. If you are not the Current Maintainer of the Work, you may distribute a
Derived Work provided the following conditions are met for every component
of the Work unless that component clearly states in the copyright notice that
it is exempt from that condition. Only the Current Maintainer is allowed to
add such statements of exemption to a component of the Work.

   (a) If a component of this Derived Work can be a direct replacement for a
       component of the Work when that component is used with the Base
       Interpreter, then, wherever this component of the Work identifies itself
to the user when used interactively with that Base Interpreter, the
       replacement component of this Derived Work clearly and unambiguously
       identifies itself as a modified version of this component to the user when
       used interactively with that Base Interpreter.

   (b) Every component of the Derived Work contains prominent notices
detailing the nature of the changes to that component, or a prominent
reference to another file that is distributed as part of the Derived Work
and that contains a complete and accurate log of the changes.

   (c) No information in the Derived Work implies that any persons, including
       (but not limited to) the authors of the original version of the Work,
       provide any support, including (but not limited to) the reporting and
       handling of errors, to recipients of the Derived Work unless those persons
have stated explicitly that they do provide such support for the Derived Work.

(d) You distribute at least one of the following with the Derived Work:

i. A complete, unmodified copy of the Work; if your distribution of a modified component is made by offering access to copy the modified component from a designated place, then offering equivalent access to copy the Work from the same or some similar place meets this condition, even though third parties are not compelled to copy the Work along with the modified component;

ii. Information that is sufficient to obtain a complete, unmodified copy of the Work.

7. If you are not the Current Maintainer of the Work, you may distribute a Compiled Work generated from a Derived Work, as long as the Derived Work is distributed to all recipients of the Compiled Work, and as long as the conditions of Clause item 6 above, above, are met with regard to the Derived Work.

8. The conditions above are not intended to prohibit, and hence do not apply to, the modification, by any method, of any component so that it becomes identical to an updated version of that component of the Work as it is distributed by the Current Maintainer under Clause item 4 above, above.

9. Distribution of the Work or any Derived Work in an alternative format, where the Work or that Derived Work (in whole or in part) is then produced by applying some process to that format, does not relax or nullify any sections of this license as they pertain to the results of applying that process.

10. (a) A Derived Work may be distributed under a different license provided that license itself honors the conditions listed in Clause item 6 in the list on p. 12 above, in regard to the Work, though it does not have to honor the rest of the conditions in this license.

(b) If a Derived Work is distributed under a different license, that Derived Work must provide sufficient documentation as part of itself to allow each recipient of that Derived Work to honor the restrictions in Clause item 6 in the list on p. 12 above, concerning changes from the Work.

11. This license places no restrictions on works that are unrelated to the Work, nor does this license place any restrictions on aggregating such works with the Work by any means.
12. Nothing in this license is intended to, or may be used to, prevent complete compliance by all parties with all applicable laws.

A.4 No Warranty

There is no warranty for the Work. Except when otherwise stated in writing, the Copyright Holder provides the Work ‘as is’, without warranty of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. The entire risk as to the quality and performance of the Work is with you. Should the Work prove defective, you assume the cost of all necessary servicing, repair, or correction.

In no event unless required by applicable law or agreed to in writing will The Copyright Holder, or any author named in the components of the Work, or any other party who may distribute and/or modify the Work as permitted above, be liable to you for damages, including any general, special, incidental or consequential damages arising out of any use of the Work or out of inability to use the Work (including, but not limited to, loss of data, data being rendered inaccurate, or losses sustained by anyone as a result of any failure of the Work to operate with any other programs), even if the Copyright Holder or said author or said other party has been advised of the possibility of such damages.

A.5 Maintenance of The Work

The Work has the status ‘author-maintained’ if the Copyright Holder explicitly and prominently states near the primary copyright notice in the Work that the Work can only be maintained by the Copyright Holder or simply that it is ‘author-maintained’.

The Work has the status ‘maintained’ if there is a Current Maintainer who has indicated in the Work that they are willing to receive error reports for the Work (for example, by supplying a valid e-mail address). It is not required for the Current Maintainer to acknowledge or act upon these error reports.

The Work changes from status ‘maintained’ to ‘unmaintained’ if there is no Current Maintainer, or the person stated to be Current Maintainer of the work cannot be reached through the indicated means of communication for a period of six months, and there are no other significant signs of active maintenance.

You can become the Current Maintainer of the Work by agreement with any existing Current Maintainer to take over this role.
If the Work is unmaintained, you can become the Current Maintainer of the Work through the following steps:

1. Make a reasonable attempt to trace the Current Maintainer (and the Copyright Holder, if the two differ) through the means of an Internet or similar search.

2. If this search is successful, then enquire whether the Work is still maintained.
   (a) If it is being maintained, then ask the Current Maintainer to update their communication data within one month.
   (b) If the search is unsuccessful or no action to resume active maintenance is taken by the Current Maintainer, then announce within the pertinent community your intention to take over maintenance. (If the Work is a \LaTeX\ work, this could be done, for example, by posting to\news:comp.text.tex.)

3. (a) If the Current Maintainer is reachable and agrees to pass maintenance of the Work to you, then this takes effect immediately upon announcement.
   (b) If the Current Maintainer is not reachable and the Copyright Holder agrees that maintenance of the Work be passed to you, then this takes effect immediately upon announcement.

4. If you make an ‘intention announcement’ as described in item 2b in the list on p.15 above and after three months your intention is challenged neither by the Current Maintainer nor by the Copyright Holder nor by other people, then you may arrange for the Work to be changed so as to name you as the (new) Current Maintainer.

5. If the previously unreachable Current Maintainer becomes reachable once more within three months of a change completed under the terms of item 3b in the list on p.15 or item 4 above, then that Current Maintainer must become or remain the Current Maintainer upon request provided they then update their communication data within one month.

A change in the Current Maintainer does not, of itself, alter the fact that the Work is distributed under the LPPL license.

If you become the Current Maintainer of the Work, you should immediately provide, within the Work, a prominent and unambiguous statement of your status as Current Maintainer. You should also announce your new status to the same pertinent community as in item 2b in the list on p.15 above.
A.6 Whether and How to Distribute Works under This License

This section contains important instructions, examples, and recommendations for authors who are considering distributing their works under this license. These authors are addressed as ‘you’ in this section.

A.6.1 Choosing This License or Another License

If for any part of your work you want or need to use distribution conditions that differ significantly from those in this license, then do not refer to this license anywhere in your work but, instead, distribute your work under a different license. You may use the text of this license as a model for your own license, but your license should not refer to the LPPL or otherwise give the impression that your work is distributed under the LPPL.

The document modguide.tex in the base LATEX distribution explains the motivation behind the conditions of this license. It explains, for example, why distributing LATEX under the GNU General Public License (GPL) was considered inappropriate. Even if your work is unrelated to LATEX, the discussion in modguide.tex may still be relevant, and authors intending to distribute their works under any license are encouraged to read it.

A.6.2 A Recommendation on Modification Without Distribution

It is wise never to modify a component of the Work, even for your own personal use, without also meeting the above conditions for distributing the modified component. While you might intend that such modifications will never be distributed, often this will happen by accident — you may forget that you have modified that component; or it may not occur to you when allowing others to access the modified version that you are thus distributing it and violating the conditions of this license in ways that could have legal implications and, worse, cause problems for the community. It is therefore usually in your best interest to keep your copy of the Work identical with the public one. Many works provide ways to control the behavior of that work without altering any of its licensed components.

A.6.3 How to Use This License

To use this license, place in each of the components of your work both an explicit copyright notice including your name and the year the work was authored and/or last substantially modified. Include also a statement that the distribution and/or modification of that component is constrained by the conditions in this license.
Here is an example of such a notice and statement:

%%% pig.dtx
%%% Copyright 2005 M. Y. Name
%%
%% This work may be distributed and/or modified under the
%% conditions of the LaTeX Project Public License, either version 1.3
%% of this license or (at your option) any later version.
%% The latest version of this license is in
%% http://www.latex-project.org/lppl.txt
%% and version 1.3 or later is part of all distributions of LaTeX
%% version 2005/12/01 or later.
%%
%% This work has the LPPL maintenance status ‘maintained’.
%%
%% The Current Maintainer of this work is M. Y. Name.
%%
%% This work consists of the files pig.dtx and pig.ins
%% and the derived file pig.sty.

Given such a notice and statement in a file, the conditions given in this license document would apply, with the ‘Work’ referring to the three files pig.dtx, pig.ins, and pig.sty (the last being generated from pig.dtx using pig.ins), the ‘Base Interpreter’ referring to any ‘\LaTeX-Format’, and both ‘Copyright Holder’ and ‘Current Maintainer’ referring to the person M. Y. Name.

If you do not want the Maintenance section of LPPL to apply to your Work, change ‘maintained’ above into ‘author-maintained’. However, we recommend that you use ‘maintained’ as the Maintenance section was added in order to ensure that your Work remains useful to the community even when you can no longer maintain and support it yourself.

### A.6.4 Derived Works That Are Not Replacements

Several clauses of the LPPL specify means to provide reliability and stability for the user community. They therefore concern themselves with the case that a Derived Work is intended to be used as a (compatible or incompatible) replacement of the original Work. If this is not the case (e.g., if a few lines of code are reused for a completely different task), then clauses 6b and 6d shall not apply.

### A.6.5 Important Recommendations

**Defining What Constitutes the Work:** The LPPL requires that distributions of the Work contain all the files of the Work. It is therefore important that you provide a way for the licensee to determine which files constitute the Work. This
could, for example, be achieved by explicitly listing all the files of the Work near
the copyright notice of each file or by using a line such as:

%% This work consists of all files listed in manifest.txt.

in that place. In the absence of an unequivocal list it might be impossible for the
licensee to determine what is considered by you to comprise the Work and, in
such a case, the licensee would be entitled to make reasonable conjectures as to
which files comprise the Work.
Change History

v0.11
General: Written for TUGboat:
Developed by hand. ........... 1

v0.20
General: Updated to package
format: Wrote .dtx file by
hand. ....................... 1

v0.21
General: Revised for .dtx file: 1)
Rewrote documentation; 2)
Generated .dtx. ............. 1
\decorule: Rearranged spacing
to suit the .dtx layout ...... 7

v0.22
General: Bugs fixed on first
release: 1) Added missing
packages (graphicx and
fix-cm); 2) Removed bogus
change record from .sty file... 1

v0.23
General: Maintenance release:
Updated documentation with
docmfp, varioref, and
geometry. ................... 1

v0.24
General: Internal update:
Updated header, replaced
docmfp with dox package,
checked conformance with
latest version of classpack,
added packages calc, listings,
and palatino. ................ 1

v0.25
General: Changed order of
paragraphs and added space .. 4
Internal update: Reworded
final paragraph of
documentation since the
package is now available on
CTAN. Removed palatino.. . . 1

v0.26
General: Internal update:
Regression test for ClassPack
v0.74 (autopackage). ......... 1

v0.27
General: Maintenance release:
Regression test for ClassPack
v0.75 (autopackage with
multifile). ................... 1

v0.28
General: Maintenance release:
Added PNG image for
conversion to EPUB3. ......... 1

v0.29
General: Regenerated: Recreated
package with new classpack
code to create zip file to the
CTAN standard. ............. 1

v0.30
General: Regression release:
Recreated package with latest
version (1.01) of ClassPack.. 1

v0.31
General: Regression release:
Recreated package with latest
version (1.04) of ClassPack.. 1

v0.32
General: Regression release:
Recreated package with latest
version (1.06) of ClassPack.. 1

v0.33
General: Regression release:
Recreated package with latest
version (1.13) of ClassPack.. 1

v0.34
General: Regression release: 1)
Recreated package with latest
version (1.18) of ClassPack; 2)
Fixed bug in using the angle
counter that was preventing
v0.7

General: Regression release: 1) Updated to use ClassPack 1.19; 2) Switched all conformance attributes on revision dates to YYYY-MM-DD; 3) The jump in versions is because the previously submitted version was misnumbered as 0.6 when it should have been 0.06. Thanks to Erik Braun at CTAN for spotting this.
# 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.

<table>
<thead>
<tr>
<th>A</th>
<th>\addtocounter</th>
<th>31, 51</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>\c@DCR@max</td>
<td>32, 34, 37, 39</td>
</tr>
<tr>
<td></td>
<td>\c@DCR@min</td>
<td>20, 52, 54, 58, 61, 63</td>
</tr>
<tr>
<td></td>
<td>\c@DCR@rotate</td>
<td>25, 38, 49, 62</td>
</tr>
<tr>
<td></td>
<td>\c@DCR@size</td>
<td>22, 24, 26, 27, 32, 41, 45, 48, 50, 52</td>
</tr>
<tr>
<td></td>
<td>\c@DCR@step</td>
<td>31, 51</td>
</tr>
<tr>
<td>counters:</td>
<td>\DCR@max</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>\DCR@min</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>\DCR@rotate</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>\DCR@size</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>\DCR@step</td>
<td>10</td>
</tr>
<tr>
<td>D</td>
<td>DCR@max (counter)</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>DCR@min (counter)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>\DCR@raise (.</td>
<td>15, 22–24, 34–36, 45–47, 58–60</td>
</tr>
<tr>
<td></td>
<td>\DCR@raise (length)</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>\DCR@rotate (counter)</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>\DCR@size (counter)</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>\DCR@skip (.</td>
<td>16, 27–30, 41–44, 54–57</td>
</tr>
<tr>
<td></td>
<td>\DCR@skip (length)</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>\DCR@step (counter)</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>\DCR@symbol</td>
<td>17, 26, 39, 50, 63</td>
</tr>
<tr>
<td></td>
<td>\decorule</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>\divide (.</td>
<td>23, 28, 35, 42, 46, 55, 59</td>
</tr>
<tr>
<td></td>
<td>\ensuremath</td>
<td>17</td>
</tr>
<tr>
<td>F</td>
<td>fix-cm (package)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>\fontencoding</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>\fontfamily</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>\fontsize</td>
<td>24, 37, 48, 61</td>
</tr>
<tr>
<td>G</td>
<td>graphicx (package)</td>
<td>5</td>
</tr>
<tr>
<td>L</td>
<td>lengths: \DCR@raise</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>\DCR@skip</td>
<td>16</td>
</tr>
<tr>
<td>M</td>
<td>\multiply</td>
<td>29, 43, 56</td>
</tr>
<tr>
<td>N</td>
<td>\newcommand</td>
<td>17, 18</td>
</tr>
<tr>
<td></td>
<td>\newcounter</td>
<td>6, 8, 10, 12, 14</td>
</tr>
<tr>
<td></td>
<td>\newlength</td>
<td>15, 16</td>
</tr>
<tr>
<td>P</td>
<td>packages: \fix-cm</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>\graphicx</td>
<td>5</td>
</tr>
<tr>
<td>R</td>
<td>\raisebox</td>
<td>24, 36, 47, 60</td>
</tr>
<tr>
<td></td>
<td>\reflectbox</td>
<td>26, 38, 49, 62</td>
</tr>
<tr>
<td></td>
<td>\RequirePackage</td>
<td>4, 5</td>
</tr>
<tr>
<td></td>
<td>\rotatebox</td>
<td>25, 38, 49, 62</td>
</tr>
</tbody>
</table>