THE DASHRULEX PACKAGE

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Draw dashed rules

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The dashrulex package provides a flexible solution for drawing dashed rules in the body, and currently provides two commands `\hdashrule` and `\hanyrule`. It's written in LaTeX3 and can be used as an alternative to the dashrule package.

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1. Preface

Sometimes it is necessary to draw dashed rules when writing documents, such as guides in the table of contents and indexes, horizontal lines in headers and footers, and even adding horizontal lines after headings. Macro packages such as dashrule and nccrules are available to accomplish this. Considering that dashrule has not been updated for a long time, dashrulex rewrites it using LaTeX3 syntax and enhances it a bit.

2. User commands

`\hdashrule[⟨raise⟩][⟨leader⟩]{⟨width⟩}{⟨thickness list⟩}{⟨dash rules⟩}`
The command to draw horizontal dashed rules, based on the `\rule` command, and the same as the `\rule` command when the ⟨dash rules⟩ are empty. ⟨raise⟩ is the vertical offset of the rule. ⟨leader⟩ is the alignment of the dashed line fill, which can be empty, c, or x (the default), corresponding to the `\leaders`, `\cleaders`, and `\xleaders` commands, respectively. ⟨width⟩ is the length of the dotted line, which can be set to `\fill` when used to fill the remaining center of the current text line. ⟨thickness list⟩ is a rule for the height of vertically oriented lines, separated by commas and written as ⟨height 1⟩,⟨height a⟩,..., where ⟨height 1⟩ denotes the height of a solid line and ⟨height a⟩ denotes the height of a blank space.⟨dash rules⟩ is expressed as ⟨length

1⟩|⟨length a⟩,⟨length 2⟩|⟨length b⟩,..., where ⟨*length 1*⟩ represents the length of the solid line and ⟨*length a*⟩ represents the length of the blank space, such as `5pt|2pt,3pt`, if the blank space is empty, then it is equal to the solid line length.

```
1X\rule{2cm}{1pt}x \\
2X\hdashrule{2cm}{1pt}{}x \\
3X\hdashrule{2cm}{1pt}{1pt}x \\
4X\hdashrule{4cm}{1pt}{1pt}x \\
5X\hdashrule[0.5ex]{4cm}{1pt}{1pt}x \\
6X\hdashrule[0.5ex]{4cm}{1pt}{3mm}x \\
7X\hdashrule[0.5ex]{4cm}{1mm}{3mm}x \\
8X\hdashrule[0.5ex]{4cm}{1mm}{3mm|3pt}x \\
9X\hdashrule[0.5ex]{4cm}{1mm}{3mm|3pt,1mm|2pt}x \\
10X\hdashrule[0.5ex]{4cm}{2pt,1pt,1pt}{3mm|3pt,1mm|2pt}x
```


\vrulemod[⟨*raise*⟩][⟨*height*⟩][⟨*depth*⟩]{⟨*width*⟩}{⟨*thickness list*⟩}

The vertical component used to fill the dashed line. ⟨*thickness list*⟩ is consistent with the \hdashrule command, ⟨*width*⟩ represents the length of the component, and the three optional parameters are consistent with those of the \raisebox command.

\hanyrule[⟨*leader*⟩]{⟨*width*⟩}{⟨*symbol list*⟩}

This command sets the length of the dotted rule and fills it with arbitrary symbols. ⟨*symbol list*⟩ can be more than one symbol and they are separated by commas. Symbols are best packed in boxes of a certain length, as spacing between symbols is not provided.

```
\newcommand{\dblvmod}
  {%
```

```
    \tikz[color=blue]
      {
        \draw[line width=0.8mm](0mm,1.1mm)--(3mm,1.1mm);
        \draw[line width=0.3mm](0mm,0mm)--(3mm,0mm);
      }%
  }
1X\hanyrule[]{5cm}{\makebox[8pt][l]{$\cdot$}}x \\
2X\hanyrule[c]{5cm}{\makebox[8pt][l]{$\cdot$}}x \\
3X\hanyrule[x]{5cm}{\makebox[8pt][l]{$\cdot$}}x \\
4X\hanyrule[c]{5cm}{\makebox[8pt]{$\cdot$}}x \\
5X\hanyrule[x]{5cm}{\makebox[8pt]{$\cdot$}}x \\
6X\hanyrule[x]{5cm}{\makebox[8pt]{$\cdot$},\makebox[8pt]{$\circ$}}x \\
7X\hanyrule[x]{5cm}{\makebox[5mm]{\vrulemod{3mm}{2pt,1pt,1pt}}}x \\
8X\hanyrule[x]{5cm}{\makebox[5mm]{\dblvmod}}x
```

```
1X · · · · · · · · · · · · · · · · x
2X · · · · · · · · · · · · · · · x
3X· · · · · · · · · · · · · · · x
4X · · · · · · · · · · · · · · · x
5X · · · · · · · · · · · · · · · ·x
6X · ○ · ○ · ○ · ○ · ○ · ○ · ○ · ○ x
7X ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬x
8X ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬x
```

3. Known issues

Currently only horizontal dashed line drawing is supported, with future plans to support vertical dashed lines, and even box dashed borders and so on.

A. References

[Pak13] Scott Pakin. dashrule. version 1.3, Mar. 28, 2013 (or newer).
         URL: https://www.ctan.org/pkg/dashrule.

[Roz05] Alexander I. Rozhenko. nccrules. version 1.0, May 13, 2005 (or newer).
         URL: https://ctan.org/pkg/nccrules.

[Tea22] The LaTeX Project Team. The LaTeX3 Interfaces. Feb. 24, 2022 (or newer).
         URL: https://ctan.org/pkg/l3kernel.

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