`keisennote` Package Documentation

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Version 1.0.4b (2025/12/27)

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1 Acknowledgements / Credit

This package is based on the code from VoD's Qiita article, with some improvements. The original author has kindly granted permission to release this as a LaTeX package.

2 Installation

Place `keisennote.sty` in a directory where LaTeX can find it, e.g., your local `texmf` tree or alongside your document.

Dependencies:

- `xcolor`
- `tikz`
- `zref`, `zref-savepos`, `fp`
- `kvoptions`

Load the package:

Input

```
\usepackage[options]{keisennote}
```

3 Package options

This package accepts key–value style options at load time. The option handling is powered by `kvoptions`, with `family=kn` and `prefix=kn@`. All options are declared as string options (accepting any TEX length expression) and are applied during `\ProcessKeyvalOptions*`. The available options and their default values are listed below.

Option name	Default value	Description
`linewidth`	`.5truept`	Width of the line used for note drawing. The value is assigned internally to `\noteLineWidth@kn`. Any TEX length (e.g. `1pt`, `0.6truept`, `0.2mm`) is accepted.
`radius`	`.8truept`	Radius of each dot. Internally stored in `\dotsRadius@kn`.
`distance`	`6truemm`	Spacing between adjacent dots. Internally stored in `\noteLineDistance@kn`.
`triangle`	`.5pt`	Size of triangular markers. Internally stored in `\@mag@kn`.

Internal behaviour

- Each option is first stored as a string macro (e.g. `\kn@linewidth`), as imposed by `\DeclareStringOption`. The package then assigns it to a `\dimen` register, for example:

Input

```
\noteLineWidth@kn=\kn@linewidth\relax
\dotsRadius@kn=\kn@radius\relax
\noteLineDistance@kn=\kn@distance\relax
\@mag@kn=\kn@triangle\relax
```

  This conversion ensures that user-supplied expressions such as `1truept` or `0.5mm` are properly interpreted as lengths.
- If the package does not perform this assignment automatically, users may do so manually; however, in normal usage this is handled internally.

Examples

- Specify options at package load:

Input

```
\usepackage[linewidth=1truept, radius=.6truept, distance=8truemm]{
keisennote}
```

- Modify options afterwards using `\setkeys`:

Input

```
\setkeys{kn}{linewidth=0.8pt, distance=5mm}
\noteLineWidth@kn=\kn@linewidth\relax % reassign to internal registers if
needed
```

Remarks

- Absolute units such as `truept` / `truemm` are used as defaults to avoid driver-dependent scaling.
- No range checks are performed on the option values. Excessively small or negative values may lead to undesirable results. If required, minimum-value guards can be implemented via `\ifdim`.

4 Commands

4.1 `\notefill`

Input

```
\notefill[<color>]
```

Fills the current vertical space with ruled notebook lines and dots.

Example:

Input

```
\notefill[green]
```

4.2 `\note`

Input

```
\note{<lines>}[<color>]
```

Typesets a short ruled block with a specified number of lines.

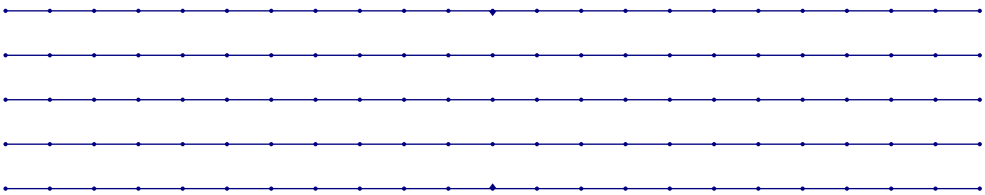
- `<lines>` (mandatory, integer ≥ 2): number of ruled lines.
- `<color>` (optional, default: white!70!black): color of lines and dots.

Example:

Input

```
\note{5}[NavyBlue]
```

This produces the following output.



Inserting `\bigskip` before (and after) using the `\note` command can sometimes improve the appearance.

4.3 \masumefill

Input

```
\masume[<color>]
```

Fills the current vertical space with grids and dots.

- <color> (optional, default: white!70!black): color of lines and dots.

Example:

Input

```
\notefill[Gray]
```

4.4 \masume

Input

```
\masume{<lines>}[<color>]
```

Typesets a short grid block with a specified number of lines.

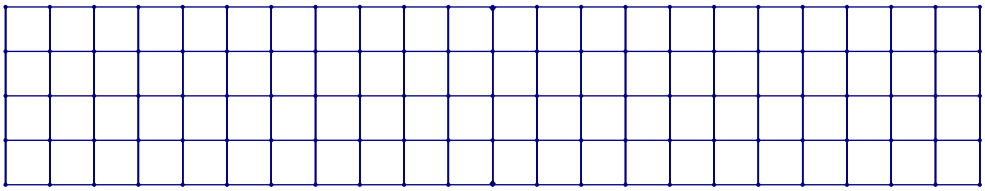
- <lines> (mandatory, integer ≥ 2): number of ruled lines.
- <color> (optional, default: white!70!black): color of lines and dots.

Example:

Input

```
\masume{5}[NavyBlue]
```

This produces the following output.



Inserting \bigskip before (and after) using the \masume command can sometimes improve the appearance.

5 Package Parameters

These dimensions can be adjusted:

`\SetNoteLineWidth` You can set the width of note lines : `\SetNoteLineWidth[2mm]`

`\SetNoteDotRadius` You can set the radius of dots. : `\SetNoteDotRadius[1pt]`

`\SetNoteLineDistance` You can set the distance between each lines.
: `\SetNoteLineDistance[7mm]`

`\SetNoteTriangleSize` You can set the size of triangles. : `\SetNoteTriangleSiz[1pt]`

If no argument is given, the parameter is reset to its default value.

6 Examples

6.1 Short Note Block

Input

```
\note{4}
```

Output:

6.2 Full Page Fill

Input

```
\notefill
```

Output:

7 License

Released under the LaTeX Project Public License (LPPL) 1.3c.

8 Version History

- **v1.0.0 (2025/09/13)** — Initial public release.
- **v1.0.3 (2025/09/13)** — KKTeX added `\masume` and `\masumefill`.
- **v1.0.4 (2025/10/4)** — KKTeX fixed the problem in `\masumefill` and added some package options and setting commands.
- **v1.0.4a (2025/10/5)** — Added some descriptions about new package options.
- **v1.0.4b (2025/12/27)** — Changed License.

9 Source Code

```
\ProvidesPackage{keisennote}[2025/12/27, v1.0.4b]

\RequirePackage[dvipsnames, svgnames, x11names]{xcolor}
\RequirePackage{zref, zref-savepos, fp}
\RequirePackage{tikz}

\RequirePackage{kvoptions}

\SetupKeyvalOptions{%
  family=kn,%
  prefix=kn@%
}

\newdimen\noteLineWidth@kn
\noteLineWidth@kn=.5truept

\newdimen\dotsRadius@kn
\dotsRadius@kn=.8truept

\newdimen\noteLineDistance@kn
\noteLineDistance@kn=6truemm

\newdimen\@mag@kn
\@mag@kn=.5pt

%%%パッケージオプションの宣言
\DeclareStringOption[.5truept]{linewidth}% 線の太さ
\DeclareStringOption[.8truept]{radius}% ドットの大きさ
\DeclareStringOption[6truemm]{distance}% ドットの間隔
```

```
\DeclareStringOption[.5pt]{triangle}% 三角形の大きさ

\ProcessKeyvalOptions* % オプション適用

%%%オプションの反映
\setlength{\noteLineWidth@kn}{\kn@linewidth}
\setlength{\dotsRadius@kn}{\kn@radius}
\setlength{\noteLineDistance@kn}{\kn@distance}
\setlength{\@mag@kn}{\kn@triangle}


%%%途中でパラメータ変更ができるように
\NewDocumentCommand{\SetNoteLineWidth}{O{.5truept}}{%
  \setlength{\noteLineWidth@kn}{#1}
}
\NewDocumentCommand{\SetNoteDotRadius}{O{.8truept}}{%
  \setlength{\dotsRadius@kn}{#1}
}
\NewDocumentCommand{\SetNoteLineDistance}{O{6truemm}}{%
  \setlength{\noteLineDistance@kn}{#1}
}
\NewDocumentCommand{\SetNoteTriangleSize}{O{.5pt}}{%
  \setlength{\@mag@kn}{#1}
}

%%%必要な内部レジスタの用意
\newdimen\VDNT@currentXPos
\newdimen\VDNT@currentYPos
\newdimen\VDNT@Xinterval
\newdimen\VDNT@Yinterval
\newdimen\VDNT@notegoal
\def\VDNT@xscaler{.996}

%%% \notefillで用いる座標管理用カウンタの準備
\def\VDNT@pkgname{vodnote}
\global\newcount\VDNT@uniqe


%%% \notefill の定義
\NewDocumentCommand{\notefill}{ O{white!70!black} }{\par\bgroup
  \parindent\z@
  %%罫線間隔の算出
  \@tempcnta\linewidth
  \@tempcntb\noteLineDistance@kn
  \FPeval\VDNT@dotsNum{round(round(((\the)\@tempcnta/(\the)\@tempcntb)/2:0)*2:0)}%
  \VDNT@Xinterval\dimexpr(\linewidth)/\VDNT@dotsNum\relax
  \VDNT@Yinterval\VDNT@Xinterval
  %%上端の座標取得
  \zsaveposy{\VDNT@pkgname.\the\VDNT@uniqe.TopPos}%
  %%下端の座標取得
```

```
  \leavevmode\vfill\leavevmode
  \zsaveposy{\VDNT@pkgname.\the\VDNT@uniqe.BottomPos}%
  %%ノート罫線描画幅の決定
  \VDNT@notegoal=\dimexpr
    \zposy{\VDNT@pkgname.\the\VDNT@uniqe.TopPos}sp
    -\zposy{\VDNT@pkgname.\the\VDNT@uniqe.BottomPos}sp
  \relax
  %%ノート罫線描画
  \noindent\smash{%
    \begin{tikzpicture}[xscale=\VDNT@xscaler]
      \VDNT@currentYPos\z@
      \fill[#1] (\VDNT@Xinterval*\VDNT@dotsNum/2,\VDNT@currentYPos+\@mag@kn*4pt) -- ++(\
           @mag@kn*3pt,-\@mag@kn*4pt) -- ++(-\@mag@kn*6pt,0) -- cycle;
      \@whiledim\VDNT@currentYPos<\VDNT@notegoal\do{
        \VDNT@currentXPos\z@
        \draw[#1,line width=\noteLineWidth@kn] (0,\VDNT@currentYPos) -- (\linewidth,\
             VDNT@currentYPos);
        \foreach \k in{0,1,...,\VDNT@dotsNum}{%
          \VDNT@currentXPos=\dimexpr\VDNT@Xinterval*\k\relax
          \fill[#1] (\VDNT@currentXPos,\VDNT@currentYPos) circle [radius=\dotsRadius@kn];
        }
        \advance\VDNT@currentYPos\VDNT@Yinterval\relax
      }
      \fill[#1] (\VDNT@Xinterval*\VDNT@dotsNum/2,\VDNT@currentYPos-\VDNT@Yinterval-\@mag@kn*4
           pt) -- ++(\@mag@kn*3pt,\@mag@kn*4pt) -- ++(-\@mag@kn*6pt,0) -- cycle;
    \end{tikzpicture}%
  }%
  \egroup
  %%座標管理用カウンタのインクリメント
  \global\advance\VDNT@uniqe\@ne
  \par
}


%%% \note の定義（２以上の整数を引数に）
\NewDocumentCommand{\note}{ m O{white!70!black} }{\par\bgroup
  %%罫線間隔の算出
  \@tempcnta\linewidth
  \@tempcntb\noteLineDistance@kn
  \FPeval\VDNT@dotsNum{round(round(((\the)\@tempcnta/(\the)\@tempcntb)/2:0)*2:0)}%
  \VDNT@Xinterval\dimexpr\linewidth/\VDNT@dotsNum\relax
  \VDNT@Yinterval\VDNT@Xinterval
  %%ノート罫線描画
  \noindent
    \begin{tikzpicture}[xscale=\VDNT@xscaler]
      \VDNT@currentYPos\z@
      \fill[#2] (\VDNT@Xinterval*\VDNT@dotsNum/2,\VDNT@currentYPos+\VDNT@Yinterval+\@mag@kn*4
           pt) -- ++(\@mag@kn*3pt,-\@mag@kn*4pt) -- ++(-\@mag@kn*6pt,0) -- cycle; %上の三角形
      \foreach \i in{1,2,...,#1}{
        \VDNT@currentXPos\z@
```

```
      \global\VDNT@currentYPos=\dimexpr\VDNT@Yinterval*\i\relax
      \draw[#2,line width=\noteLineWidth@kn] (0,\VDNT@currentYPos) -- (\linewidth,\
           VDNT@currentYPos);
      \foreach \k in{0,1,...,\VDNT@dotsNum}{
        \VDNT@currentXPos=\dimexpr\VDNT@Xinterval*\k\relax
        \fill[#2] (\VDNT@currentXPos,\VDNT@currentYPos) circle [radius=\dotsRadius@kn];
      }
    }
    \fill[#2] (\VDNT@Xinterval*\VDNT@dotsNum/2,\VDNT@currentYPos-\@mag@kn*4pt) -- ++(\
         @mag@kn*3pt,\@mag@kn*4pt) -- ++(-\@mag@kn*6pt,0) -- cycle; %下の三角形
  \end{tikzpicture}%
 \egroup
 \par
}


\NewDocumentCommand{\masumefill}{ O{white!70!black} }{\par\bgroup
 \parindent\z@
 %%罫線間隔の算出
 \@tempcnta\linewidth
 \@tempcntb\noteLineDistance@kn
 \FPeval\VDNT@dotsNum{round(round((((\the)\@tempcnta/(\the)\@tempcntb)/2:0)*2:0)}%
 \VDNT@Xinterval\dimexpr(\linewidth)/\VDNT@dotsNum\relax
 \VDNT@Yinterval\VDNT@Xinterval
 %%上端の座標取得
 \zsaveposy{\VDNT@pkgname.\the\VDNT@uniqe.TopPos}%
 %%下端の座標取得
 \leavevmode\vfill\leavevmode
 \zsaveposy{\VDNT@pkgname.\the\VDNT@uniqe.BottomPos}%
 %%ノート罫線描画幅の決定
 \VDNT@notegoal=\dimexpr
  \zposy{\VDNT@pkgname.\the\VDNT@uniqe.TopPos}sp
  -\zposy{\VDNT@pkgname.\the\VDNT@uniqe.BottomPos}sp
 \relax
 %%ノート罫線描画
 \noindent\smash{%
  \begin{tikzpicture}[xscale=\VDNT@xscaler]
   \VDNT@currentYPos\z@
   \fill[#1] (\VDNT@Xinterval*\VDNT@dotsNum/2,\VDNT@currentYPos+\@mag@kn*4pt) -- ++(\
        @mag@kn*3pt,-\@mag@kn*4pt) -- ++(-\@mag@kn*6pt,0) -- cycle;
   \@whiledim\VDNT@currentYPos<\VDNT@notegoal\do{
    \VDNT@currentXPos\z@
    \draw[#1,line width=\noteLineWidth@kn] (0,\VDNT@currentYPos) -- (\linewidth,\
         VDNT@currentYPos);
    \foreach \k in{0,1,...,\VDNT@dotsNum}{%
     \VDNT@currentXPos=\dimexpr\VDNT@Xinterval*\k\relax
     \draw[#1,line width=\noteLineWidth@kn]
     (\VDNT@currentXPos,0) -- (\VDNT@currentXPos,\VDNT@currentYPos);
     \fill[#1] (\VDNT@currentXPos,\VDNT@currentYPos) circle [radius=\dotsRadius@kn];
    }
```

```
      \advance\VDNT@currentYPos\VDNT@Yinterval\relax
    }
    \fill[#1] (\VDNT@Xinterval*\VDNT@dotsNum/2,\VDNT@currentYPos-\VDNT@Yinterval-\@mag@kn*4
        pt) -- ++(\@mag@kn*3pt,\@mag@kn*4pt) -- ++(-\@mag@kn*6pt,0) -- cycle;
  \end{tikzpicture}%
 }%
 \egroup
 %%座標管理用カウンタのインクリメント
 \global\advance\VDNT@uniqe\@ne
 \par
}


\NewDocumentCommand{\masume}{ m O{white!70!black} }{\par\bgroup
 %%罫線間隔の算出
 \@tempcnta\linewidth
 \@tempcntb\noteLineDistance@kn
 \FPeval\VDNT@dotsNum{round(round(((\the)\@tempcnta/(\the)\@tempcntb)/2:0)*2:0)}%
 \VDNT@Xinterval\dimexpr\linewidth/\VDNT@dotsNum\relax
 \VDNT@Yinterval\VDNT@Xinterval
 %%ノート罫線描画
 \noindent
  \begin{tikzpicture}[xscale=\VDNT@xscaler]
    \VDNT@currentYPos\z@
    \fill[#2] (\VDNT@Xinterval*\VDNT@dotsNum/2,\VDNT@currentYPos+\VDNT@Yinterval+\@mag@kn*4
        pt) -- ++(\@mag@kn*3pt,-\@mag@kn*4pt) -- ++(-\@mag@kn*6pt,0) -- cycle; %上の三角形
    \foreach \i in{1,2,...,#1}{
      \VDNT@currentXPos\z@
      \global\VDNT@currentYPos=\dimexpr\VDNT@Yinterval*\i\relax
      \draw[#2,line width=\noteLineWidth@kn] (0,\VDNT@currentYPos) -- (\linewidth,\
          VDNT@currentYPos);
      \foreach \k in{0,1,...,\VDNT@dotsNum}{
        \VDNT@currentXPos=\dimexpr\VDNT@Xinterval*\k\relax
        \draw[#2,line width=\noteLineWidth@kn] (\VDNT@currentXPos,\VDNT@Yinterval) -- (\
            VDNT@currentXPos,\VDNT@Yinterval*#1);
        \fill[#2] (\VDNT@currentXPos,\VDNT@currentYPos) circle [radius=\dotsRadius@kn];
      }
    }
    \fill[#2] (\VDNT@Xinterval*\VDNT@dotsNum/2,\VDNT@currentYPos-\@mag@kn*4pt) -- ++(\
        @mag@kn*3pt,\@mag@kn*4pt) -- ++(-\@mag@kn*6pt,0) -- cycle; %下の三角形
  \end{tikzpicture}%
 \egroup
 \par
}

\endinput
```