`keisennote` Package Documentation

Kosei Kawaguchi a.k.a. KKTeX

Version 1.0.4 (2025/10/04)

Contents

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:

```
\usepackage{keisennote}
```

3 Package options

4 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`. Any TEX length (e.g. `1pt`, `0.6truept`, `0.2mm`) is accepted.
`radius`	`.8truept`	Radius of each dot. Internally stored in `\dotsRadius`.
`distance`	`6truemm`	Spacing between adjacent dots. Internally stored in `\noteLineDistance`.
`triangle`	`.5pt`	Size of triangular markers. Internally stored in `\VoD@mag`.

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:

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

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

- Modify options afterwards using `\setkeys`:

  ```
  \setkeys{kn}{linewidth=0.8pt, distance=5mm}
  \noteLineWidth=\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`.

5 Commands

5.1 `\notefill`

`\notefill[<color>]`

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

```
\notefill[green]
```

5.2 `\note`

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

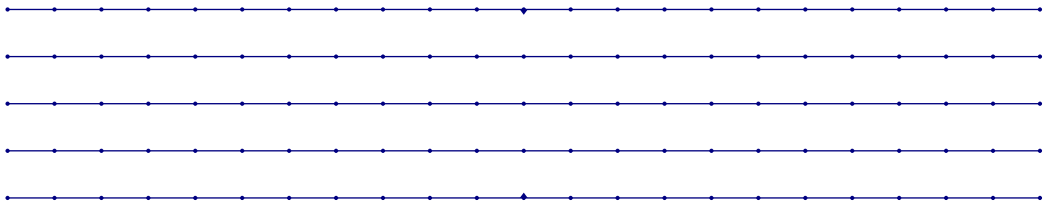
Typesets a short ruled block with a specified number of lines.

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

Example:

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

This produces the following output.



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

5.3 \masumefill

`\masume[<color>]`

Fills the current vertical space with grids and dots.

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

Example:

```
\notefill[Gray]
```

5.4 \masume

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

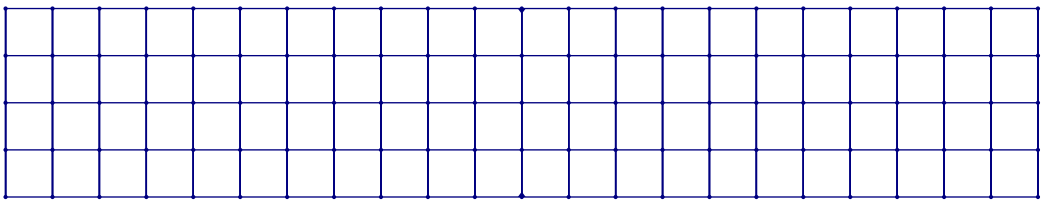
Typesets a short grid block with a specified number of lines.

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

Example:

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

This produces the following output.



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

6 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.

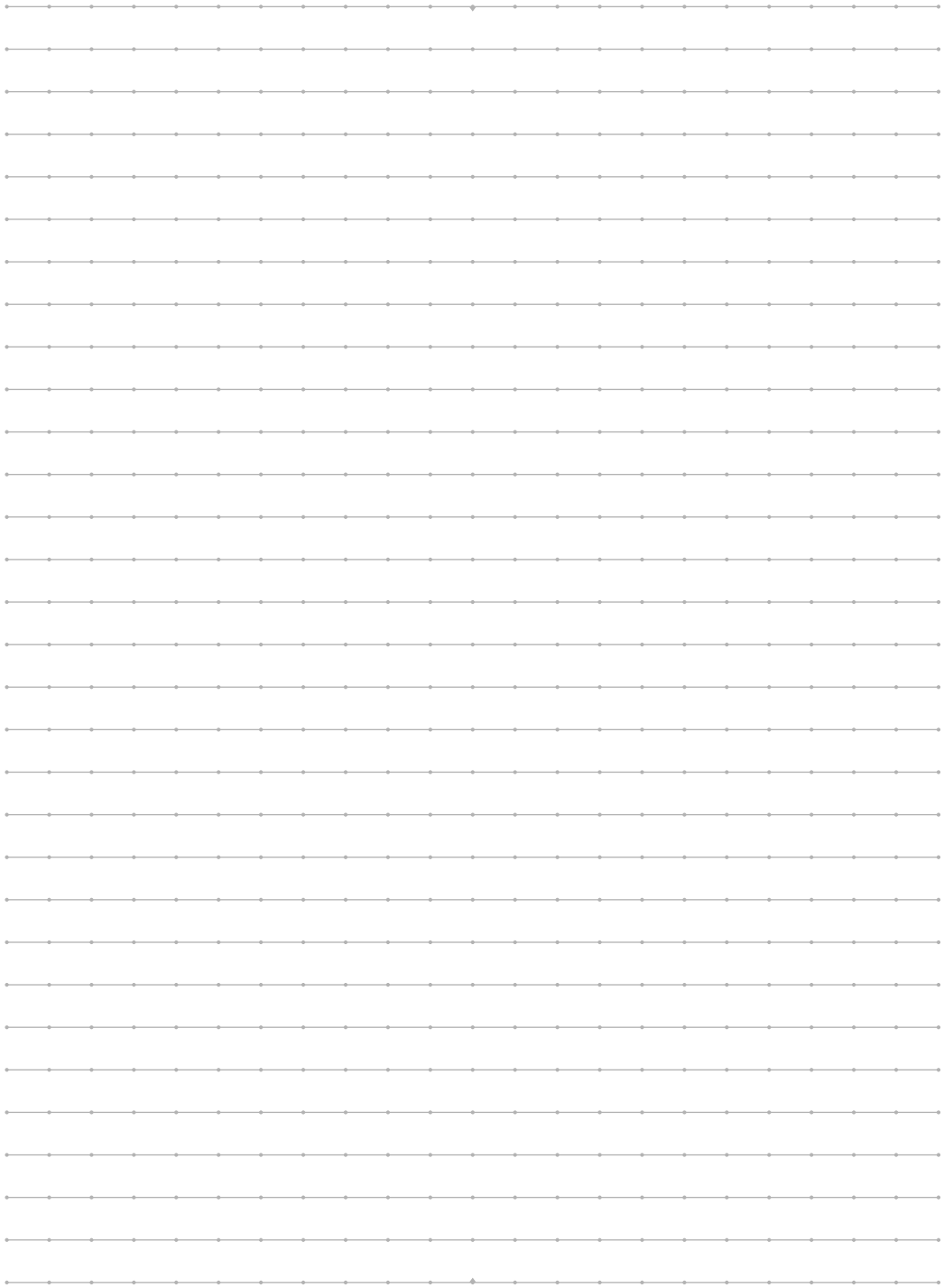
7 Examples

7.1 Short Note Block

```
\note{4}
```

7.2 Full Page Fill

`\notefill`



8 License

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

9 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.

10 Source Code

```
\ProvidesPackage{keisennote}[2025/10/04, v1.0.4]

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

\RequirePackage{kvoptions}

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

\newdimen\noteLineWidth
\noteLineWidth=.5truept

\newdimen\dotsRadius
\dotsRadius=.8truept

\newdimen\noteLineDistance
\noteLineDistance=6truemm

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

%%%
\DeclareStringOption[.5truept]{linewidth}%
```

```
\DeclareStringOption[.8truept]{radius}%
\DeclareStringOption[6truemm]{distance}%
\DeclareStringOption[.5pt]{triangle}%

\ProcessKeyvalOptions* %

%%%
\setlength{\noteLineWidth}{\kn@linewidth}
\setlength{\dotsRadius}{\kn@radius}
\setlength{\noteLineDistance}{\kn@distance}
\setlength{\VoD@mag}{\kn@triangle}


%%%
\NewDocumentCommand{\SetNoteLineWidth}{O{.5truept}}{%
  \setlength{\noteLineWidth}{#1}
}
\NewDocumentCommand{\SetNoteDotRadius}{O{.8truept}}{%
  \setlength{\dotsRadius}{#1}
}
\NewDocumentCommand{\SetNoteLineDistance}{O{6truemm}}{%
  \setlength{\noteLineDistance}{#1}
}
\NewDocumentCommand{\SetNoteTriangleSize}{O{.5pt}}{%
  \setlength{\VoD@mag}{#1}
}

%%%
\newdimen\VDNT@currentXPos
\newdimen\VDNT@currentYPos
\newdimen\VDNT@Xinterval
\newdimen\VDNT@Yinterval
\newdimen\VDNT@notegoal

%%% \         notefill
\def\VDNT@pkgname{vodnote}
\global\newcount\VDNT@uniqe


%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%% \notefill
\NewDocumentCommand{\notefill}{ O{white!70!black} }{\par\bgroup
```

```
\parindent\z@
%%
\@tempcnta\linewidth
\@tempcntb\noteLineDistance
\FPeval\VDNT@dotsNum{round(round(((\the)\@tempcnta/(\the)\
   @tempcntb)/2:0)*2:0)}%
\VDNT@Xinterval\dimexpr(\linewidth)/\VDNT@dotsNum\relax
\VDNT@Yinterval\VDNT@Xinterval
%%
\zsaveposy{\VDNT@pkgname.\the\VDNT@uniqe.TopPos}%
%%
\leavevmode\vfill\leavevmode
\zsaveposy{\VDNT@pkgname.\the\VDNT@uniqe.BottomPos}%
%%
\VDNT@notegoal=\dimexpr
  \zposy{\VDNT@pkgname.\the\VDNT@uniqe.TopPos}sp
  -\zposy{\VDNT@pkgname.\the\VDNT@uniqe.BottomPos}sp
\relax
%%
\noindent\smash{%
  \begin{tikzpicture}[xscale=0.996]
    \VDNT@currentYPos\z@
    \fill[#1] (\VDNT@Xinterval*\VDNT@dotsNum/2,\
       VDNT@currentYPos+\VoD@mag*4pt) -- ++(\VoD@mag*3pt,-\
       VoD@mag*4pt) -- ++(-\VoD@mag*6pt,0) -- cycle;
    \@whiledim\VDNT@currentYPos<\VDNT@notegoal\do{
      \VDNT@currentXPos\z@
      \draw[#1,line width=\noteLineWidth] (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];
      }
      \advance\VDNT@currentYPos\VDNT@Yinterval\relax
    }
    \fill[#1] (\VDNT@Xinterval*\VDNT@dotsNum/2,\
       VDNT@currentYPos-\VDNT@Yinterval-\VoD@mag*4pt) -- ++(\
       VoD@mag*3pt,\VoD@mag*4pt) -- ++(-\VoD@mag*6pt,0) --
       cycle;
  \end{tikzpicture}%
}%
\egroup
```

```
  %%
  \global\advance\VDNT@uniqe\@ne
  \par
}


%%% \note
\NewDocumentCommand{\note}{ m O{white!70!black} }{\par\bgroup

  %%
  \@tempcnta\linewidth
  \@tempcntb\noteLineDistance
  \FPeval\VDNT@dotsNum{round(round(((\the)\@tempcnta/(\the)\
     @tempcntb)/2:0)*2:0)}%
  \VDNT@Xinterval\dimexpr\linewidth/\VDNT@dotsNum\relax
  \VDNT@Yinterval\VDNT@Xinterval
  %%
  \noindent
    \begin{tikzpicture}[xscale=0.996]
      \VDNT@currentYPos\z@
      \fill[#2] (\VDNT@Xinterval*\VDNT@dotsNum/2,\
          VDNT@currentYPos+\VDNT@Yinterval+\VoD@mag*4pt) -- ++(\
          VoD@mag*3pt,-\VoD@mag*4pt) -- ++(-\VoD@mag*6pt,0) --
          cycle;    %
      \foreach \i in{1,2,...,#1}{
        \VDNT@currentXPos\z@
        \global\VDNT@currentYPos=\dimexpr\VDNT@Yinterval*\i\relax
        \draw[#2,line width=\noteLineWidth] (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];
        }
      }
      \fill[#2] (\VDNT@Xinterval*\VDNT@dotsNum/2,\
          VDNT@currentYPos-\VoD@mag*4pt) -- ++(\VoD@mag*3pt,\
          VoD@mag*4pt) -- ++(-\VoD@mag*6pt,0) -- cycle;    %
    \end{tikzpicture}%
  \egroup
  \par
}
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\NewDocumentCommand{\masumefill}{ O{white!70!black} }{\par\
   bgroup
  \parindent\z@
  %%
  \@tempcnta\linewidth
  \@tempcntb\noteLineDistance
  \FPeval\VDNT@dotsNum{round(round(((\the)\@tempcnta/(\the)\
     @tempcntb)/2:0)*2:0)}%
  \VDNT@Xinterval\dimexpr(\linewidth)/\VDNT@dotsNum\relax
  \VDNT@Yinterval\VDNT@Xinterval
  %%
  \zsaveposy{\VDNT@pkgname.\the\VDNT@uniqe.TopPos}%
  %%
  \leavevmode\vfill\leavevmode
  \zsaveposy{\VDNT@pkgname.\the\VDNT@uniqe.BottomPos}%
  %%
  \VDNT@notegoal=\dimexpr
    \zposy{\VDNT@pkgname.\the\VDNT@uniqe.TopPos}sp
    -\zposy{\VDNT@pkgname.\the\VDNT@uniqe.BottomPos}sp
  \relax
  %%
  \noindent\smash{%
    \begin{tikzpicture}[xscale=0.996]
      \VDNT@currentYPos\z@
      \fill[#1] (\VDNT@Xinterval*\VDNT@dotsNum/2,\
         VDNT@currentYPos+\VoD@mag*4pt) -- ++(\VoD@mag*3pt,-\
         VoD@mag*4pt) -- ++(-\VoD@mag*6pt,0) -- cycle;
      \@whiledim\VDNT@currentYPos<\VDNT@notegoal\do{
        \VDNT@currentXPos\z@
        \draw[#1,line width=\noteLineWidth] (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]
          (\VDNT@currentXPos,0) -- (\VDNT@currentXPos,\
              VDNT@currentYPos);
          \fill[#1] (\VDNT@currentXPos,\VDNT@currentYPos) circle
              [radius=\dotsRadius];
        }
        \advance\VDNT@currentYPos\VDNT@Yinterval\relax
```

```
    }
    \fill[#1] (\VDNT@Xinterval*\VDNT@dotsNum/2,\
       VDNT@currentYPos-\VDNT@Yinterval-\VoD@mag*4pt) -- ++(\
       VoD@mag*3pt,\VoD@mag*4pt) -- ++(-\VoD@mag*6pt,0) --
       cycle;
   \end{tikzpicture}%
  }%
  \egroup
  %%
  \global\advance\VDNT@uniqe\@ne
  \par
}


\NewDocumentCommand{\masume}{ m O{white!70!black} }{\par\bgroup

  %%
  \@tempcnta\linewidth
  \@tempcntb\noteLineDistance
  \FPeval\VDNT@dotsNum{round(round(((\the)\@tempcnta/(\the)\
     @tempcntb)/2:0)*2:0)}%
  \VDNT@Xinterval\dimexpr\linewidth/\VDNT@dotsNum\relax
  \VDNT@Yinterval\VDNT@Xinterval
  %%
  \noindent
   \begin{tikzpicture}[xscale=0.996]
    \VDNT@currentYPos\z@
    \fill[#2] (\VDNT@Xinterval*\VDNT@dotsNum/2,\
       VDNT@currentYPos+\VDNT@Yinterval+\VoD@mag*4pt) -- ++(\
       VoD@mag*3pt,-\VoD@mag*4pt) -- ++(-\VoD@mag*6pt,0) --
       cycle;    %
    \foreach \i in{1,2,...,#1}{
      \VDNT@currentXPos\z@
      \global\VDNT@currentYPos=\dimexpr\VDNT@Yinterval*\i\relax
      \draw[#2,line width=\noteLineWidth] (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] (\VDNT@currentXPos
           ,\VDNT@Yinterval) -- (\VDNT@currentXPos,\
           VDNT@Yinterval*#1);
        \fill[#2] (\VDNT@currentXPos,\VDNT@currentYPos) circle
           [radius=\dotsRadius];
```

```
      }
    }
    \fill[#2] (\VDNT@Xinterval*\VDNT@dotsNum/2,\
       VDNT@currentYPos-\VoD@mag*4pt) -- ++(\VoD@mag*3pt,\
       VoD@mag*4pt) -- ++(-\VoD@mag*6pt,0) -- cycle;    %
  \end{tikzpicture}%
 \egroup
 \par
}

\endinput
```