

keisennote Package Documentation

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Version 1.2.1 (2026/02/02)

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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. Special thanks to VoD for their contribution to the TeX community.

2 Installation

Place `keisennote.sty` in a directory where LaTeX can find it. Dependencies: `xcolor`, `tikz`, `zref`, `zref-savepos`, `fp`, `kvoptions`, `pgfkeys`.

3 Package options

Set global defaults at load time using key-value style. The same four keys can be changed in the middle of the document with `\SetKeisenNote`; see section 5.

Option name	Default value	Description
<code>linewidth</code>	<code>.5truept</code>	Width of the ruled lines.
<code>radius</code>	<code>.7truept</code>	Radius of dots on the lines.
<code>distance</code>	<code>6truept</code>	Distance between lines (and dots).
<code>triangle</code>	<code>.7truept</code>	Scale of the center triangular markers.

4 Commands

All commands below accept an optional argument in `pgfkeys` format: `[color=..., show number=..., step=...]`.

4.1 Notebook Style (`\notefill`, `\note`)

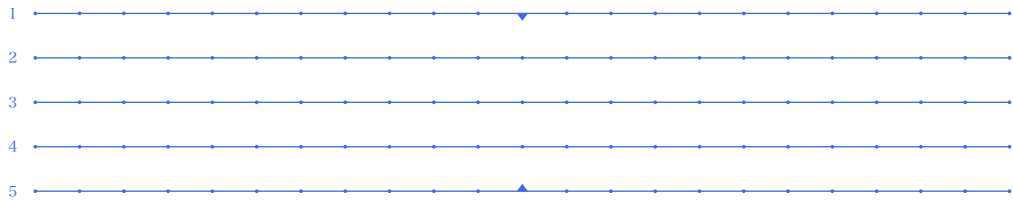
Input

```
1 \notefill[options]
2 \note{<lines>}[options]
```

`\notefill` automatically fills the remaining vertical space. `\note` draws a block with the specified number of lines.

Example with Line Numbers:

```
\note{5}[color=RoyalBlue, show number=true, step=1]
```



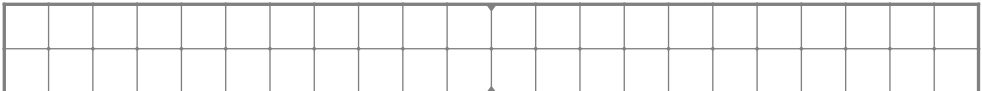
4.2 Grid Style (\masumefill, \masume)

```
1 \masumefill*[options]
2 \masume*{<lines>}[options]
```

The starred version (*) draws a thick outer frame around the grid.

Example with Frame:

```
1 \masume*{3}[color=Gray]
```



5 Dynamic Parameter Adjustment

You can change the layout parameters in the middle of the document with a single command, using the same key-value style as the package options.

```
1 \SetKeisenNote[<key>=<value>, ...]
```

Key name	Package default	Description
<code>linewidth</code>	<code>.5truept</code>	Width of the ruled lines.
<code>radius</code>	<code>.7truept</code>	Radius of dots on the lines.
<code>distance</code>	<code>6truemm</code>	Distance between lines (and dots).
<code>triangle</code>	<code>.7truept</code>	Scale of the center triangular markers.

Only the keys you actually name are changed; the others keep their current values. Calling `\SetKeisenNote` without an optional argument therefore does nothing. The assignments obey the usual T_EX grouping, so a change made inside a group or an environment is undone when that group ends.

Example:

Input

```

1 \SetKeisenNote[distance=10mm, linewidth=1pt]
2 \note{3}

```

Note that `color`, `show number` and `step` are not handled here: they are per-drawing settings and belong in the optional argument of `\notefill`, `\note`, `\masumefill` and `\masume`.

5.1 Migrating from v1.2.0

Version 1.2.1 replaced the four separate setter commands with `\SetKeisenNote`. The old names are no longer defined, so documents written for v1.2.0 or earlier have to be updated as follows.

Removed in v1.2.1	Replacement
<code>\SetNoteLineWidth[<dim>]</code>	<code>\SetKeisenNote[linewidth=<dim>]</code>
<code>\SetNoteDotRadius[<dim>]</code>	<code>\SetKeisenNote[radius=<dim>]</code>
<code>\SetNoteLineDistance[<dim>]</code>	<code>\SetKeisenNote[distance=<dim>]</code>
<code>\SetNoteTriangleSize[<dim>]</code>	<code>\SetKeisenNote[triangle=<dim>]</code>

One behavioural difference is worth noting: the old commands reset the parameter to its package default when their optional argument was omitted. There is no equivalent shorthand now — to go back to a default, state the value explicitly, for example `\SetKeisenNote[distance=6truemm]`.

6 Technical Notes

- **Multiple Compilations:** Commands like `\notefill` use `zref-savepos` to determine the available space. You must compile the document **at least twice** to ensure the lines are drawn correctly.
- **Line Numbers:** The `show number` option displays the line count. For `\note`, it counts down to 1. For `\notefill`, it calculates the total capacity of the space.

7 Examples

7.1 Full Page Notebook Fill

Input

```
1 \notefill[color=lightgray, show number=true]
```

(See the next page for the result.)



8 License

Released under the MIT License.

9 Version History

- **v1.0.0 – v1.0.4a** — Initial versions, added grid commands and package options.
- **v1.2.0 (2025/12/30)** — Added `pgfkeys` support for command options, improved `\masume*` border logic, and changed license.
- **v1.2.1 (2026/02/02)** — The four separate parameter setters were replaced by the single key-value command `\SetKeisenNote` (see section 5); internal clean-up of the package code.

10 Source Code

The complete package source is reproduced below, so that the listing can never drift away from the code that is actually shipped.

```
%%% License %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% This package is licensed under the terms of the MIT License.

% Copyright (c) 2025–2026 Kosei Kawaguchi

% Permission is hereby granted, free of charge,
% to any person obtaining a copy of this software and associated documentation files
% (the "Software"), to deal in the Software without restriction,
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% FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
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% DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
% ARISING FROM,
% OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{keisennote}[2026/02/02, v1.2.1]
```



```

%%%% basic settings
\RequirePackage[dvipsnames, svgnames, x11names]{xcolor}
\RequirePackage{zref, zref-savepos, fp}
\RequirePackage{tikz}
\RequirePackage{kvoptions, pgfkeys}
%%%%

%%%% keyval package options
\SetupKeyvalOptions{
  family=kn,
  prefix=kn@
}
\DeclareStringOption[.5truept]{linewidth}
% 線の太さ
\DeclareStringOption[.7truept]{radius}
% ドットの大きさ
\DeclareStringOption[6truemm]{distance}
% ドットの間隔
\DeclareStringOption[.7truept]{triangle}
% 三角形の大きさ
\ProcessKeyvalOptions*

\newdimen\noteLineWidth@kn
\newdimen\noteDotsRadius@kn
\newdimen\noteLineDistance@kn
\newdimen\noteTriangle@mag@kn
\setlength{\noteLineWidth@kn}{\kn@linewidth}
\setlength{\noteDotsRadius@kn}{\kn@radius}
\setlength{\noteLineDistance@kn}{\kn@distance}
\setlength{\noteTriangle@mag@kn}{\kn@triangle}
%%%%

%%%% setting commands
\pgfkeys{
  /KKTex/keisen/.is family,
  /KKTex/keisen,
  linewidth/.code = {\setlength{\noteLineWidth@kn}{#1}},
  radius/.code = {\setlength{\noteDotsRadius@kn}{#1}},
  distance/.code = {\setlength{\noteLineDistance@kn}{#1}},
  triangle/.code = {\setlength{\noteTriangle@mag@kn}{#1}},
}

\NewDocumentCommand{\SetKeisenNote}{0{}}{%
  \pgfkeys{/KKTex/keisen, #1}%
}
%%%%

```

```

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

\def\VDNT@xscaler{.996}

\def\VDNT@pkgname{vodnote}
\global\newcount\VDNT@unique
%%%

%%% 以下keisennoteのメイン

% 行間算出
\newcount\kn@linecount@internal
\newcommand{\cal@kn@internal}{%
\FPeval\VDNT@dotsNum{round(((\the)\@tempcnta/(\the)\@tempcntb)/2:0)*2:0)}%
\VDNT@Xinterval\dimexpr(\linewidth)/\VDNT@dotsNum\relax%
\VDNT@Yinterval\VDNT@Xinterval%
}

% \notefill
\newcommand{\savepos@kn@internal@notefill}{%
\zsavposy{\VDNT@pkgname.\the\VDNT@unique.TopPos}%
% 上端の座標取得
\leavevmode\vfill\leavevmode%
% 下まで移動→座標記憶
\zsavposy{\VDNT@pkgname.\the\VDNT@unique.BottomPos}%
% 下端の座標取得
}

\newcommand{\cal@kn@internal@notefill}{%
\VDNT@notegoal=\dimexpr
\zposy{\VDNT@pkgname.\the\VDNT@unique.TopPos}sp
-\zposy{\VDNT@pkgname.\the\VDNT@unique.BottomPos}sp
\relax%
}

\newif\ifVDNT@shownumber
\pgfkeys{
/VDNT/.is family, /VDNT,
color/.estore in = \VDNT@color,
step/.estore in = \VDNT@step,
show number/.is if = VDNT@shownumber,
default/.style = {color=white!70!black, step=5}
}

\NewDocumentCommand{\notefill}{0}{ }{%

```

```

\par\bggroup%
\pgfkeys{/VDNT, default, #1}%
\parindent\z@%
\@tempcnta\linewidth%
% 総横幅
\@tempcntb\noteLineDistance@kn%
% 単位横幅
\cal@kn@internal%
\savepos@kn@internal@notefill%
\cal@kn@internal@notefill%
\pgfmathtruncatemacro{\VDNT@totalLines}{floor(\VDNT@notegoal / \VDNT@Yinterval)}%
% 行間算出
\noindent\smash{%
\begin{tikzpicture}[xscale=\VDNT@xscaler]
\VDNT@currentYPos\z@
% --
\kn@linecount@internal=\VDNT@totalLines\relax%
\advance\kn@linecount@internal by \@ne\relax%
% --
\coordinate (TopMarkerTip) at (\VDNT@Xinterval*\VDNT@dotsNum/2, \VDNT@currentYPos+\
noteTriangle@mag@kn*4pt);
\fill[\VDNT@color] (TopMarkerTip) -- ++(\noteTriangle@mag@kn*3pt,-\noteTriangle@mag@kn*4pt)
-- ++(-\noteTriangle@mag@kn*6pt,0) -- cycle;
\@whiledim\VDNT@currentYPos<\VDNT@notegoal\do{%
\coordinate (L) at (0, \VDNT@currentYPos);
\coordinate (R) at (\linewidth, \VDNT@currentYPos);
\ifVDNT@shownumber
\pgfmathtruncatemacro{\rem@notefill}{mod(\kn@linecount@internal,\VDNT@step)}
\ifnum\rem@notefill=0
\node[anchor=east, font=\scriptsize, text=\VDNT@color, overlay] at ([xshift=-\f@size/2
pt]L) {\the\kn@linecount@internal};
\fi
\fi
\draw[\VDNT@color, line width=\noteLineWidth@kn] (L) -- (R);
\foreach \k in{0,1,...,\VDNT@dotsNum}{%
\pgfmathtruncatemacro{\VDNT@halfNum}{\VDNT@dotsNum/2}%
\def\do@draw@dot{1}%
\ifdim\VDNT@currentYPos=0pt\relax
\ifnum\k=\VDNT@halfNum \def\do@draw@dot{0}\fi
\fi
\VDNT@currentXPos=\dimexpr\VDNT@currentYPos+\VDNT@Yinterval\relax
\ifdim\VDNT@currentXPos<\VDNT@notegoal\else
\ifnum\k=\VDNT@halfNum \def\do@draw@dot{0}\fi
\fi
\ifnum\do@draw@dot=1\relax
\coordinate (Dot) at (\the\dimexpr\VDNT@Xinterval*\k\relax, \VDNT@currentYPos);
\fill[\VDNT@color] (Dot) circle [radius=\noteDotsRadius@kn];
\fi
}
\advance\VDNT@currentYPos\VDNT@Yinterval\relax

```

```

\advance\kn@linecount@internal by -\@ne\relax
}
\coordinate (BottomMarkerTip) at (\VDNT@Xinterval*\VDNT@dotsNum/2, \VDNT@currentYPos-\
VDNT@Yinterval-\noteTriangle@mag@kn*4pt);
\fill[\VDNT@color] (BottomMarkerTip) -- ++(\noteTriangle@mag@kn*3pt,\noteTriangle@mag@kn*4
pt) -- ++(-\noteTriangle@mag@kn*6pt,0) -- cycle;
\end{tikzpicture}%
}%
\egroup%
\global\advance\VDNT@unique\@ne%
\par%
}

\NewDocumentCommand{\masumefill}{s O{}}{%
\par\bgroup%
\pgfkeys{/VDNT, default, #2}%
\parindent\z@%
\@tempcnta\linewidth%
\@tempcntb\noteLineDistance@kn%
\cal@kn@internal%
\savepos@kn@internal@notefill%
\cal@kn@internal@notefill%
\pgfmathtruncatemacro{\VDNT@totalLines}{\floor(\VDNT@notegoal / \VDNT@Yinterval)}%
\noindent\smash{%
\begin{tikzpicture}[xscale=\VDNT@xscaler]
\VDNT@currentYPos\z@
\kn@linecount@internal=\VDNT@totalLines\relax%
\advance\kn@linecount@internal by \@ne\relax%
\coordinate (TopMarkerTip) at (\VDNT@Xinterval*\VDNT@dotsNum/2, \VDNT@currentYPos+\
noteTriangle@mag@kn*4pt);
\fill[\VDNT@color] (TopMarkerTip) -- ++(\noteTriangle@mag@kn*3pt,-\noteTriangle@mag@kn*4pt)
-- ++(-\noteTriangle@mag@kn*6pt,0) -- cycle;
\@whiledim\VDNT@currentYPos<\VDNT@notegoal\do{%
\coordinate (L) at (0, \VDNT@currentYPos);
\coordinate (R) at (\linewidth, \VDNT@currentYPos);
\ifVDNT@shownumber
\pgfmathtruncatemacro{\rem@notefill}{\mod(\kn@linecount@internal,\VDNT@step)}
\ifnum\rem@notefill=0
\node[anchor=east, font=\scriptsize, text=\VDNT@color, overlay] at ([xshift=-\f@size/2
pt]L) {\the\kn@linecount@internal};
\fi
\fi
\draw[\VDNT@color, line width=\noteLineWidth@kn] (L) -- (R);
\foreach \k in{0,1,...,\VDNT@dotsNum}{%
\pgfmathtruncatemacro{\VDNT@halfNum}{\VDNT@dotsNum/2}%
\def\do@draw@dot{1}%
\ifdim\VDNT@currentYPos=0pt\relax
\ifnum\k=\VDNT@halfNum \def\do@draw@dot{0}\fi
\fi
\VDNT@currentXPos=\dimexpr\VDNT@currentYPos+\VDNT@Yinterval\relax

```

```

\ifdim\VDNT@currentXPos<\VDNT@notegoal\else
  \ifnum\k=\VDNT@halfNum \def\do@draw@dot{0}\fi
\fi
% -----
\coordinate (VBottom) at (\the\dimexpr\VDNT@Xinterval*\k\relax, \VDNT@currentYPos);
\VDNT@currentXPos=\dimexpr\VDNT@currentYPos+\VDNT@Yinterval\relax
\ifdim\VDNT@currentXPos<\VDNT@notegoal\relax
  \draw[\VDNT@color, line width=\noteLineWidth@kn] (VBottom) -- ++(0, \VDNT@Yinterval);
\fi
% -----
\ifnum\do@draw@dot=1\relax
  \coordinate (Dot) at (\the\dimexpr\VDNT@Xinterval*\k\relax, \VDNT@currentYPos);
  \fill[\VDNT@color] (Dot) circle [radius=\noteDotsRadius@kn];
\fi
}
\advance\VDNT@currentYPos\VDNT@Yinterval\relax
\advance\kn@linecount@internal by -\@ne\relax
}
\IfBooleanT{#1}{%
  \draw[\VDNT@color, line width=\noteLineWidth@kn*2.5] (0,0) rectangle (\linewidth, \the\dimexpr\VDNT@currentYPos-\VDNT@Yinterval\relax);
}%
\coordinate (BottomMarkerTip) at (\VDNT@Xinterval*\VDNT@dotsNum/2, \VDNT@currentYPos-\VDNT@Yinterval-\noteTriangle@mag@kn*4pt);
\fill[\VDNT@color] (BottomMarkerTip) -- ++(\noteTriangle@mag@kn*3pt, \noteTriangle@mag@kn*4pt) -- ++(-\noteTriangle@mag@kn*6pt, 0) -- cycle;
\end{tikzpicture}%
}%
\egroup%
\global\advance\VDNT@unique\@ne%
\par%
}

```

% \note の定義（2以上の整数を引数に）

```

\NewDocumentCommand{\note}{ m O{} }{%
  \par\bgroup%
  \pgfkeys{/VDNT, default, #2}%
  \@tempcnta\linewidth%
  \@tempcntb\noteLineDistance@kn%
  \cal@kn@internal%
  \noindent%
  \begin{tikzpicture}[xscale=\VDNT@xscaler]
    \VDNT@currentYPos\z@
    \coordinate (TopMarker) at (\VDNT@Xinterval*\VDNT@dotsNum/2, \VDNT@Yinterval+\noteTriangle@mag@kn*4pt);
    \fill[\VDNT@color] (TopMarker) -- ++(\noteTriangle@mag@kn*3pt, -\noteTriangle@mag@kn*4pt) -- ++(-\noteTriangle@mag@kn*6pt, 0) -- cycle;
    \foreach \i in {1, 2, ..., #1} {%
      \xdef\tempY{\the\dimexpr\VDNT@Yinterval*\i\relax}
    }
  \end{tikzpicture}
}

```

```

\coordinate (LineL) at (0, \tempY);
\coordinate (LineR) at (\linewidth, \tempY);
\ifVDNT@shownumber
  \pgfmathtruncatemacro{\VDNT@currentnum}{\#1 - \i + 1 }
  \pgfmathtruncatemacro{\rem@notefill}{mod(\VDNT@currentnum,\VDNT@step)}
  \ifnum\rem@notefill=0
    \node[anchor=east, font=\scriptsize, text=\VDNT@color, overlay] at ([xshift=-\f@size/2
      pt]LineL) {\VDNT@currentnum};
  \fi
\fi
\draw[\VDNT@color, line width=\noteLineWidth@kn] (LineL) -- (LineR);
\foreach \k in {0, 1, ..., \VDNT@dotsNum} {%
  \pgfmathtruncatemacro{\VDNT@halfNum}{\VDNT@dotsNum/2}%
  \def\skipdot{0}%
  \ifnum\i=1 \ifnum\k=\VDNT@halfNum \def\skipdot{1}\fi\fi
  \ifnum\i=\#1 \ifnum\k=\VDNT@halfNum \def\skipdot{1}\fi\fi
  \ifnum\skipdot=0
    \coordinate (DotPos) at (\the\dimexpr\VDNT@Xinterval*\k\relax, \tempY);
    \fill[\VDNT@color] (DotPos) circle [radius=\noteDotsRadius@kn];
  \fi
}%
\ifnum\i=\#1 \global\VDNT@currentYPos=\tempY\relax \fi
}%
\coordinate (BottomMarker) at (\VDNT@Xinterval*\VDNT@dotsNum/2, \VDNT@currentYPos-\
  noteTriangle@mag@kn*4pt);
\fill[\VDNT@color] (BottomMarker) -- ++(\noteTriangle@mag@kn*3pt, \noteTriangle@mag@kn*4pt)
  -- ++(-\noteTriangle@mag@kn*6pt, 0) -- cycle;
\end{tikzpicture}%
\egroup%
\par%
}

\NewDocumentCommand{\masume}{s m O{}}{%
  \par\bggroup%
  \pgfkeys{/VDNT, default, #3}%
  \@tempcnta\linewidth%
  \@tempcntb\noteLineDistance@kn%
  \cal@kn@internal%
  \noindent%
  \begin{tikzpicture}[xscale=\VDNT@xscaler]
    \VDNT@currentYPos\z@
    \coordinate (TopMarker) at (\VDNT@Xinterval*\VDNT@dotsNum/2, \VDNT@Yinterval+\
      noteTriangle@mag@kn*4pt);
    \fill[\VDNT@color] (TopMarker) -- ++(\noteTriangle@mag@kn*3pt, -\noteTriangle@mag@kn*4pt) --
      ++(-\noteTriangle@mag@kn*6pt, 0) -- cycle;
    \foreach \i in {1, 2, ..., #2} {%
      \xdef\tempY{\the\dimexpr\VDNT@Yinterval*\i\relax}
      \coordinate (LineL) at (0, \tempY);
      \coordinate (LineR) at (\linewidth, \tempY);
      \ifVDNT@shownumber

```

```

\pgfmathtruncatemacro{\VDNT@currentnum}{#2 - \i + 1 }
\pgfmathtruncatemacro{\rem@notefill}{mod(\VDNT@currentnum,\VDNT@step)}
\ifnum\rem@notefill=0
  \node[anchor=east, font=\scriptsize, text=\VDNT@color, overlay] at ([xshift=-\f@size/2
    pt]LineL) {\VDNT@currentnum};
\fi
\fi
\draw[\VDNT@color, line width=\noteLineWidth@kn] (LineL) -- (LineR);
\foreach \k in {0, 1, ..., \VDNT@dotsNum} {%
  \pgfmathtruncatemacro{\VDNT@halfNum}{\VDNT@dotsNum/2}%
  \def\skipdot{0}%
  \ifnum\i=1 \ifnum\k=\VDNT@halfNum \def\skipdot{1}\fi\fi
  \ifnum\i=#2 \ifnum\k=\VDNT@halfNum \def\skipdot{1}\fi\fi
  % -----
  \ifnum\i<#2\relax
    \draw[\VDNT@color, line width=\noteLineWidth@kn] (\the\dimexpr\VDNT@Xinterval*\k\relax,
      \tempY) -- ++(0, \VDNT@Yinterval);
  \fi
  % -----
  \ifnum\skipdot=0
    \coordinate (DotPos) at (\the\dimexpr\VDNT@Xinterval*\k\relax, \tempY);
    \fill[\VDNT@color] (DotPos) circle [radius=\noteDotsRadius@kn];
  \fi
}%
\ifnum\i=#2 \global\VDNT@currentYPos=\tempY\relax \fi
}%
\IfBooleanT{#1}{%
  \draw[\VDNT@color, line width=\noteLineWidth@kn*2.5] (0, \the\VDNT@Yinterval) rectangle (\
    linewidth, \VDNT@currentYPos);
}%
\coordinate (BottomMarker) at (\VDNT@Xinterval*\VDNT@dotsNum/2, \VDNT@currentYPos-\
  noteTriangle@mag@kn*4pt);
\fill[\VDNT@color] (BottomMarker) -- ++(\noteTriangle@mag@kn*3pt, \noteTriangle@mag@kn*4pt)
  -- ++(-\noteTriangle@mag@kn*6pt, 0) -- cycle;
\end{tikzpicture}%
\egroup%
\par%
}
%%
\endinput

```