Macros of ketpic.sty and ketlayer.sty

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- ver.1.1 -

1 Outlines

• ketpic.sty, ketpic2e.sty (it is necessary in pict2e) are used for ketpic.
• ketlayer.sty, ketlayer2e.sty (it is necessary in pict2e) are used for ketlayer.
• \Width, \Height, \Depth are defined.
• Temporary counters ketpictctra, · · · , ketpicctrj are defined.
• Package graphicx, color are required.

2 Environment

layer

Usage \begin{layer}{W}{H} \end{layer}

Description This environment draws grids and adds a note or a figure.

Details

W Width of grids. The unit is mm.
H Height of grids. The unit is mm.
If H=0, grids don’t appear.
If H<0, grids appear on the upside.

Example

\begin{layer}{120}{30}
\putnotec{20}{10}{abc}
\putnotes{60}{0}{\input{Fig/FigE.tex}}
\end{layer}
Remark Set $H=0$ if placement of all components is proper.

⇒ Command List

3 Macros

3.1 Macros of ketpic

Macros of ketpic are used just like regular commands of \TeX.

\[ \text{\ketpic} \]

Usage \ketpic

Description This macro displays the logo of \text{KETpic}.

Examples \ketpic

⇒ Command List

\[ \text{\ketcindy} \]

Usage \ketcindy

Description This macro displays the logo of \text{KETCindy}.

Examples \ketcindy

⇒ Command List

\[ \text{\Ltab, \Rtab, \Ctab} \]

Usage \Ltab{W}{S}, \Rtab{W}{S}, \Ctab{W}{S}

Description This is tab macro.

\Ltab{W}{S} secures the width of W and writes S by left justifying it.
\Rtab{W}{S} secures the width of W and writes S by right justifying it.
\Ctab{W}{S} secures the width of W and writes S at the center.

⇒ Command List

\[ \text{\ketcalcwidth, \ketcalcheight, \ketcalcdepth} \]

Usage \ketcalcwidth[0]{C}, \ketcalcheight[0]{C}, \ketcalcdepth[0]{C}

Description These functions return the size of C using current unit to the counter \text{ketictr1}. If option is 1, it displays the value.

\ketcalcwidth[0]{C} returns the width of C.
\ketcalcheight[0]{C} returns the height of C.
\ketcalcdepth[0]{C} returns the depth of C.
Examples \ketcalcwidth[0]{abc}, \theketpicctra, \ketcalcwidth[1]{abc}
   It displays “, 18, 18”.

\ketcalcwh

Usage \ketcalcwh{C}

Description This function displays the width and height of C using mm in the form \{width\}\{height\}.

Examples \ketcalcwh{abc}
   It displays “\{6.4\}\{3.1\}”.

\dangerbendmark

Usage \dangerbendmark[size]

Description This function displays the symbol “Dangerous turning point” of Bulbaki.

Examples \dangerbendmark[1.2] \rightarrow \⢵

\cautionmark

Usage \cautionmark[size]

Description This function displays the caution mark.

Examples \cautionmark[1.2] \rightarrow \ textStyle

\circlemark

Usage \circlemark[thickness]{size}

Description This function displays the circle. If size=1, the diameter of the circle is 4mm.

Examples \circlemark[8]{1.2} \rightarrow \circletext

\circleshade

Usage \circleshade[thickness]{size}{density}

Description This function displays the solid circle.

Examples \circleshade[8]{1.2}{0.3} \rightarrow \circleshadetext

⇒Command List
\textbf{\textbackslash NEarrow, \textbackslash NELarrow, ...}

\textbf{Usage} \textbackslash NEarrow[size], \textbackslash NELarrow[size], \textbackslash NERarrow[size],

\textbf{Description} These functions display the arrow of increase or decrease.

\textbf{Examples}

<table>
<thead>
<tr>
<th>\textbackslash NEarrow</th>
<th>\textbackslash SEarrow</th>
<th>\textbackslash NWarrow</th>
<th>\textbackslash SWarrow</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textbackslash NELarrow</td>
<td>\textbackslash SELarrow</td>
<td>\textbackslash NWLarrow</td>
<td>\textbackslash SWLarrow</td>
</tr>
<tr>
<td>\textbackslash NERarrow</td>
<td>\textbackslash SERarrow</td>
<td>\textbackslash NWRarrow</td>
<td>\textbackslash SWRarrow</td>
</tr>
</tbody>
</table>

\textbf{3.2 Macros of ketlayer}

Macros of ketlayer are used in layer environment.

Some macros take the form of connected main part and direction ("c", "e", "w", "s", "n").

In the following we write them as "main part + dir". Direction can be combine like as options of K\textsc{et}Cindy commands.

For example, if main part is "\texttt{putnote}", "\texttt{putnote+dir}" are "\texttt{putnotec}”, “\texttt{putnotee}”, “\texttt{putnotew}”, “\texttt{putnotes}”, “\texttt{putnoten}”, “\texttt{putnotene}”, “\texttt{putnotenw}”, “\texttt{putnotese}”, “\texttt{putnotesw}”.

\textbf{\textbackslash putnote+dir}

\textbf{Usage} \textbackslash putnote+dir{x}{y}{Char}

\textbf{Description} These functions put Char in the direction of dir of coordinates (x, y).

\texttt{putnotec{x}{y}{Char}} puts Char with (x,y) as the center.

\texttt{putnotee{x}{y}{Char}} puts Char on the right of (x,y).

\texttt{putnotew{x}{y}{Char}} puts Char on the left of (x,y).

\texttt{putnotes{x}{y}{Char}} puts Char under (x,y).

\texttt{putnoten{x}{y}{Char}} puts Char above (x,y).

\textbf{Example}

\texttt{\textbackslash putnotese{20}{10}{\fbox{$\dfrac{1}{2}$}}}

\texttt{\textbackslash putnotec{40}{10}{\fbox{$\dfrac{1}{3}$}}}

\textbf{\textbackslash boxframe+dir}

\textbf{Usage} \textbackslash boxframe+dir[thickness]{x}{y}{W}{H}{Strings}

\textbf{Command List}

\section*{Command List}

\textbf{\textbackslash boxframe+dir}

\textbf{Usage} \textbackslash boxframe+dir[thickness]{x}{y}{W}{H}{Strings}
Description  These functions draw a rectangle with width W and height H in the direction of dir of coordinates (x, y), and put the strings inside.

\dashboxframe+dir

Usage \dashboxframe+dir[thickness]{x}{y}{W}{H}{Strings}

Description  These functions draw a dashed rectangle with width W and height H in the direction of dir of coordinates (x, y), and put the strings inside.

\jaggyboxframe+dir

Usage \jaggyboxframe+dir[thickness]{x}{y}{W}{H}{Strings}

Description  These functions draw a jaggy rectangle with width W and height H in the direction of dir of coordinates (x, y), and put the strings inside.

\diaboxframe+dir

Usage \diaboxframe+dir[thickness]{x}{y}{W}{H}{Strings}

Description  These functions draw a rectangle with width W, height H, connecting diamond shapes, in the direction of dir of coordinates (x, y), and put the strings inside.

\eraser+dir

Usage \eraser+dir[F]{x}{y}{W}{H}

Description  These functions erase the interior of rectangle with width W and height H in the direction of dir of coordinates (x, y). If F=0, it don’t draw border lines. By default, F=1.

\shadebox+dir

Usage \shadebox+dir[F]{x}{y}{W}{H}{C1}{C2}

Description  These functions draw a rectangle with width W and height H in the direction of dir of coordinates (x, y), paint inside with color C1, and draw a border with color C2. If F=0, they don’t draw border lines. By default, F=0.
\popframe

Usage \popframe[thickness]{x}{y}{Dummy}{Cs}{Dummy}{Cp}{Cf}{Strings}

Description This function draws a rectangle on the lower right (se) of the coordinates (x, y), put strings inside and add a shadow of the color Cs.

Details Cp is background color. Cf is border color.
Note. Dummy(color name) are currently ignored.
The size of the rectangle is determined automatically from strings.
The line thickness is 8 by default.
Strings must be width ≤ 200 mm, height ≤ 100 mm.

⇒ Command List

\colorframe

Usage \colorframe[thickness]{x}{y}{Cp}{Cs}{Cf}{Strings}

Description This function draws a rectangle on the lower right (se) of the coordinates (x, y), put strings inside.

Details Cp is background color. Cf is border color.
Note. Dummy(color name) is ignored.
The size of the rectangle is determined automatically from strings.
The line thickness is 8 by default.
Strings must be width ≤ 200 mm, height ≤ 100 mm.

⇒ Command List

Examples.
\definecolor{shade}{cmyk}{0,0,0,0.4} ← color name “shade” defined.
\popframe[16]{40}{5}{white}{shade}{white}{cyan}{red}{\Large\tt POP frame}
\colorframe[16]{90}{5}{yellow}{white}{blue}{\Large\tt COLOR frame}

POP frame
COLOR frame

\cirscoremrk

Usage \cirscoremrk[thickness]{size}

Description This function draws a handwritten double circle.

⇒ Command List
\textbf{\textsc{scirscoremark}}

\textbf{Usage} \quad \texttt{\textbackslash scirscoremark[thickness]{size}}

\textbf{Description} \quad \text{This function draws a handwritten single circle.}

\rightarrow \textbf{Command List}

\textbf{\textsc{triscoremark}}

\textbf{Usage} \quad \texttt{\textbackslash triscoremark[thickness]{size}}

\textbf{Description} \quad \text{This function draws a handwritten triangle.}

\rightarrow \textbf{Command List}

\textbf{\textsc{crosscoremark}}

\textbf{Usage} \quad \texttt{\textbackslash crosscoremark[thickness]{size}}

\textbf{Description} \quad \text{This function draws a handwritten cross mark.}

\rightarrow \textbf{Command List}

\textbf{\textbackslash lineseg}

\textbf{Usage} \quad \texttt{\textbackslash lineseg[thickness]{x}{y}{L}{\theta}}

\textbf{Description} \quad \text{This function draws a line segment of length L from the coordinates (x, y) in the direction of $\theta^\circ$ degrees.}

\textbf{Details} \quad \text{Unit of length L is mm.}
\quad \text{The line thickness is 12 by default. Unit is milli inch}
\quad \text{x, y, $\theta$ may be decimal.}

\textbf{Example} \quad \texttt{\textbackslash lineseg[16]{135}{25}{30}{25}}

\rightarrow \textbf{Command List}
\textbf{\texttt{\textbackslash{dashlineseg}}}

\textbf{Usage} \quad \texttt{\textbackslash{dashlineseg}[thickness]{x}{y}{L}{\theta}}

\textbf{Description} \quad This function draws a dash line segment of length L from the coordinates (x, y) in the direction of $\theta^\circ$ degrees.

\textbf{Details} \quad Unit of length L is mm.
\quad The line thickness is 12 by default. Unit is milli inch.
\quad x, y, \theta \ may \ be \ decimal.

\textbf{\texttt{\textbackslash{arrowlineseg}}}

\textbf{Usage} \quad \texttt{\textbackslash{arrowlineseg}[thickness]{x}{y}{L}{\theta}}

\textbf{Description} \quad This function draws a arrow line segment of length L from the coordinates (x, y) in the direction of $\theta^\circ$ degrees.

\textbf{Details} \quad The arrowhead is drawn at the starting point.
\quad The line thickness is 12 by default. Unit is milli inch.
\quad x, y, \theta \ may \ be \ decimal.

\textbf{Example} \quad \texttt{\textbackslash{arrowlineseg}[16]{60}{20}{10}{45}}

\textbf{\texttt{\textbackslash{arrowhead}}}

\textbf{Usage} \quad \texttt{\textbackslash{arrowhead}[size]{x}{y}{\theta}}

\textbf{Description} \quad This function draws a arrowhead on the coordinates (x, y) in the direction of $\theta^\circ$ degrees.

\textbf{Details} \quad The line thickness is 12 by default. Unit is milli inch.
\quad x, y, \theta \ may \ be \ decimal.

\textbf{\texttt{\textbackslash{hjaggyline}}}

\textbf{Usage} \quad \texttt{\textbackslash{hjaggyline}[thickness]{x}{y}{W}}

\textbf{Description} \quad This function draws a jagged line of length W from the coordinates (x, y) to the right.
\textbf{\hjaggylineb}

\textbf{Usage} \hjaggylineb[thickness]{x}{y}{W}

\textbf{Description} This function draws a jagged line of length \(W\) from the coordinates \((x, y)\) to the right.

\textbf{Details} This function draws a reverse jagged line against "\hjaggyline".

\textbf{\vjaggyline}

\textbf{Usage} \vjaggyline[thickness]{x}{y}{W}

\textbf{Description} This function draws a jagged line of length \(W\) from the coordinates \((x, y)\) to the right.

\textbf{\vjaggylineb}

\textbf{Usage} \vjaggylineb[thickness]{x}{y}{W}

\textbf{Description} This function draws a jagged line of length \(W\) from the coordinates \((x, y)\) to the right.

\textbf{Details} This function draws a reverse jagged line against "\vjaggyline".

\textbf{Examples.}
\begin{verbatim}
\hjaggyline{40}{10}{15}
\hjaggylineb{40}{20}{15}
\vjaggyline{70}{10}{15}
\vjaggylineb{90}{10}{15}
\end{verbatim}

\textbf{\circleline}

\textbf{Usage} \circleline{x}{y}{size}

\textbf{Description} This function draws a circle with \((x, y)\) as the center.

\textbf{\ballonr}

\textbf{Usage} \ballonr[thickness]{x}{y}{size}{Char}
**Description**  This function draws a balloon in the upper right side from (x, y) and, puts Char inside.

> Command List

\ballonl

**Usage** \ballonl[thickness]{x}{y}{size}{Char}

**Description**  This function draws a balloon in the upper left side from (x, y) and, puts Char inside.

> Command List

\lefthand

**Usage** \lefthand[thickness]{x}{y}

**Description**  This function draws a fingertip on (x, y).

> Command List

\righthand

**Usage** \righthand[thickness]{x}{y}

**Description**  This function draws a fingertip on (x, y).

> Command List

\leftdownhand

**Usage** \leftdownhand[thickness]{x}{y}

**Description**  This function draws a fingertip on (x, y).

> Command List

\rightdownhand

**Usage** \rightdownhand[thickness]{x}{y}

**Description**  This function draws a fingertip on (x, y).

> Command List

**Examples.**

![Example1](image1.png)  ![Example2](image2.png)
4 Command List

Macros of ketpic

\ketpic \quad \text{logo of KETpic}
\ketcindy \quad \text{logo of KETCindy}
\Ltab \quad \text{left tab}
\Rtab \quad \text{right tab}
\Ctab \quad \text{center tab}
\ketcalclength \quad \text{returns the width of strings}
\ketcalcheight \quad \text{returns the height of strings}
\ketcalcden \quad \text{returns the depth of strings}
\dangerbendmark \quad \text{symbol “Dangerous turning point” of Bulbaki}
\cautionmark \quad \text{caution mark}
\circlemark \quad \text{circle}
\circleshade \quad \text{solid circle}
\NEarrow \quad \text{arrow of increase or decrease}

Macros of ketlayer

\putnote+dir \quad \text{puts Char}
\boxframe+dir \quad \text{draws a rectangle and puts strings}
\dashboxframe+dir \quad \text{draws a dashed rectangle and puts strings}
\jaggyboxframe+dir \quad \text{draws a jaggy rectangle and puts strings}
\diaboxframe+dir \quad \text{draws a diamond chaining rectangle and puts strings}
\eraser+dir \quad \text{erases the interior of a rectangle}
\shadebox+dir \quad \text{draws a shaded rectangle and puts strings}
\popframe \quad \text{draws a rectangle and shade with the specified color and puts strings}
\colorframe \quad \text{draws a rectangle with the specified color and puts strings}
\cirscoremark \quad \text{draws a handwritten double circle}
\scirscoremark \quad \text{draws a handwritten single circle}
\triscoremark \quad \text{draws a handwritten triangle}
\crosscoremark \quad \text{draws a handwritten cross mark}
\lineseg \quad \text{draws a line segment specified angle}
\dashlineseg \quad \text{draws a dashed line segment specified angle}
\arrowlineseg \quad \text{draws a arrow line segment specified angle}
\arrowhead \quad \text{draws a arrowhead specified angle}
\hjaggyline \quad \text{draws a horizontal jaggy line segment}
\hjaggylineb \quad \text{draws a horizontal jaggy line segment against \hjaggyline}
\vjaggyline \quad \text{draws a vertical jaggy line segment}
\vjaggylineb \quad \text{draws a vertical jaggy line segment against \vjaggyline}
\circleline \quad \text{draws a circle}
\ballonl \quad \text{draws a ballon and puts strings inside}
\ballonr \quad \text{draws a ballon and puts strings inside}
\leftfingertip \quad \text{draws fingertip}
\rightfingertip \quad \text{draws fingertip}
\leftdownfingertip \quad \text{draws fingertip}
\rightdownfingertip \quad \text{draws fingertip}