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, $\cdots$, ketpicctrj are defined.
- Package graphicx, color are required.

2 Envilonment

layer

Usage \begin{layer}[Ho]{W}{H} $\cdots$ \end{layer}

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

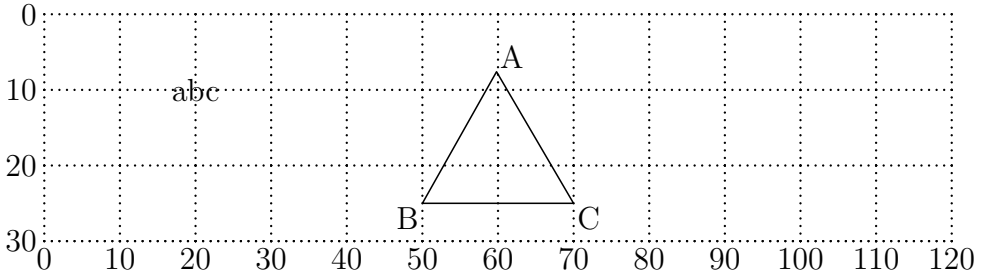
Details

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.

\ketpic

Usage `\ketpic`

Description This macro displays the logo of KETpic.

Examples `\ketpic`

⇒Command List

\ketcindy

Usage `\ketcindy`

Description This macro displays the logo of KETCindy.

Examples `\ketcindy`

⇒Command List

\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

\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 `ketpicctr1`. 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”.

⇒Command List

\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}”.

⇒Command List

\dangerbendmark

Usage `\dangerbendmark[size]`

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

Examples `\dangerbendmark[1.2]` —> 

⇒Command List

\cautionmark

Usage `\cautionmark[size]`

Description This function displays the caution mark.

Examples `\cautionmark[1.2]` —> 

⇒Command List

\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}` —>

⇒Command List

\circleshade

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

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

Examples `\circleshade[8]{1.2}{0.7}` —>

⇒Command List

\NEarrow, \NELarrow, ...

Usage `\NEarrow[size]`, `\NELarrow[size}`, `\NERarrow[size]`,

Description These functions display the arrow of increase or decrease.

Examples

\NEarrow ↗	\SEarrow ↘	\NWarrow ↖	\SWarrow ↙
\NELarrow ↗	\SELarrow ↘	\NWLarrow ↖	\SWLarrow ↙
\NERarrow ↗	\SERarrow ↘	\NWRarrow ↖	\SWRarrow ↙

⇒Command List

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 KETCindy commands.

For example, if main part is “putnote”, “putnote+dir” are

“putnotec”, “putnotee”, “putnotew”, “putnotes”, “putnoten”, “putnotene”, “putnotenw”, “putnotese”, “putnotesw”.

\putnote+dir

Usage `\putnote+dir{x}{y}{Char}`

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

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

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

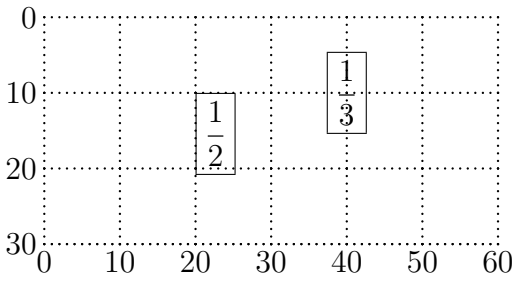
`putnotew{x}{y}{Char}` puts Char on the left of (x,y).

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

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

Example

```
\putnotese{20}{10}{\fbox{$\dfrac{1}{2}$}}
\putnotec{40}{10}{\fbox{$\dfrac{1}{3}$}}
```



⇒Command List

\boxframe+dir

Usage `\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.

⇒Command List

\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.

⇒Command List

\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.

⇒Command List

\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.

⇒Command List

\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.

⇒Command List

\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.

⇒Command List

\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}
```

\cirscoremark

Usage `\cirscoremark[thickness]{size}`

Description This function draws a handwritten double circle.

⇒Command List

\scirscoremark

Usage `\scirscoremark[thickness]{size}`

Description This function draws a handwritten single circle.

⇒Command List

\triscoremark

Usage `\triscoremark[thickness]{size}`

Description This function draws a handwritten triangle.

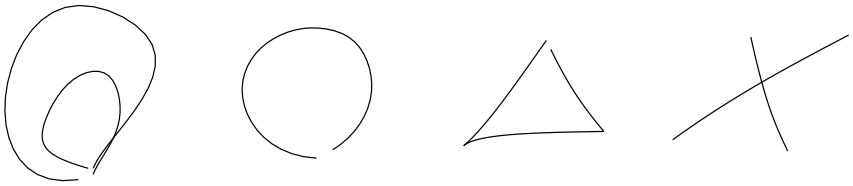
⇒Command List

\crosscoremark

Usage `\crosscoremark[thickness]{size}`

Description This function draws a handwritten cross mark.

⇒Command List



\lineseg, \dashlineseg

Usage `\lineseg[thickness]{x}{y}{L}{`θ`}`

`\dashlineseg[thickness]{x}{y}{L}{`θ`}`

Description The function `\lineseg` draws a line segment of length L from the coordinates (x, y) in the direction of θ° degrees. The function `\dashlineseg` draws a dash line segment of length L from the coordinates (x, y) in the direction of θ° degrees.

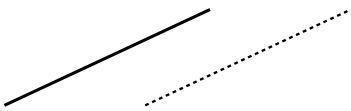
Details Unit of length L is mm.

The line thickness is 12 by default. Unit is milli inch

x, y, θ may be decimal.

Example

```
\lineseg[16]{60}{15}{30}{25}
\dashlineseg[16]{80}{15}{30}{25}
```



⇒Command List

\arrowlineseg

Usage `\arrowlineseg[thickness]{x}{y}{L}{`θ`}`

Description This function draws a arrow line segment of length L from the coordinates (x, y) in the direction of θ° degrees.

Details The arrowhead is drawn at the starting point.

The line thickness is 12 by default. Unit is milli inch.

x, y, θ may be decimal.

Example `\arrowlineseg[16]{60}{20}{10}{45}`

⇒Command List

\arrowhead

Usage `\arrowhead[size]{x}{y}{`θ`}`

Description This function draws a arrowhead on the coordinates (x, y) in the direction of θ° degrees.

Details The line thickness is 12 by default. Unit is milli inch.

x, y, θ may be decimal.

⇒Command List

\qarrowline, \qarrowlinesize

Usage `\qarrowline[thickness]{x}{y}{L}{`θ`}{ctr}`
`\qarrowlinesize[thickness]{x}{y}{L}{`θ`}{ctr}{size}`

Description The function `\qarrowline` draws a bended arrow. The function \qarrowlinesize has an argument for the size of the arrow. (both are for pict2e).

Example `\qarrowline[16]{60}{20}{10}{45}{30}`

⇒Command List

\hjaggyline

Usage `\hjaggyline[thickness]{x}{y}{W}`

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

⇒Command List

\hjaggylineb

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

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

Details This function draws a reverse jagged line against "hjaggyline".

⇒Command List

\vjaggyline

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

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

⇒Command List

\vjaggylineb

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

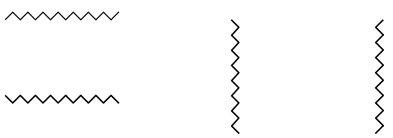
Description This function draws a jagged line of length W from the coordinates (x, y) to the right.

Details This function draws a reverse jagged line against "vjaggyline".

⇒Command List

Examples.

```
\hjaggyline[6]{90}{10}{15}
\hjaggylineb{90}{20}{15}
\vjaggyline{120}{10}{15}
\vjaggylineb{140}{10}{15}
```



\circleline

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

Description This function draws a circle with (x, y) as the center. If size=1, the diameter of the circle is 4mm.

⇒Command List

\ballonr, \ballonl

Usage `\ballonr[thickness]{x}{y}{size}{Char}`

Description The function `\ballonr` draws a balloon in the upper right side from (x, y) and, puts Char inside. The function `\ballonl` 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

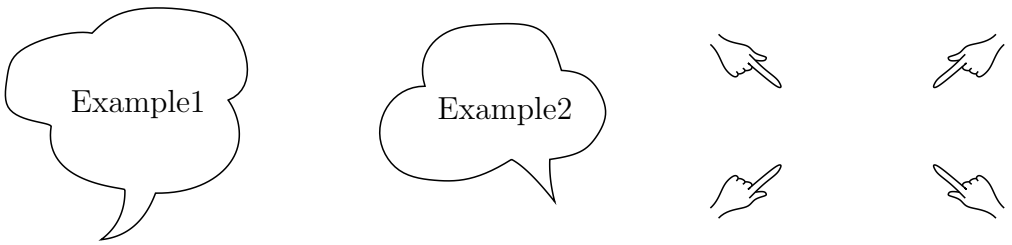
\rightdwonhand

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

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

⇒Command List

Examples.



4 Command List

Macros of ketpic

\ketpic	logo of KETpic
\ketcindy	logo of KETCindy
\Ltab	left tab
\Rtab	right tab
\Ctab	center tab
\ketcalcwidth	returns the width of strings
\ketcalcheight	returns the height of strings
\ketcalcdepth	returns the depth of strings
\ketcalcwh	returns the width and height of strings
\dangerbendmark	symbol “Dangerous turning point” of Bulbaki
\cautionmark	caution mark
\circlemark	circle
\circleshade	solid circle
\NEarrow, ...	arrow of increase or decrease

Macros of ketlayer

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