

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 ketictctra, ..., ketpicctrj are defined.
- Package graphicx, color are required.

2 Envilonment

layer

Usage `\begin{layer}[Ho]{W}{H} ... \end{layer}`

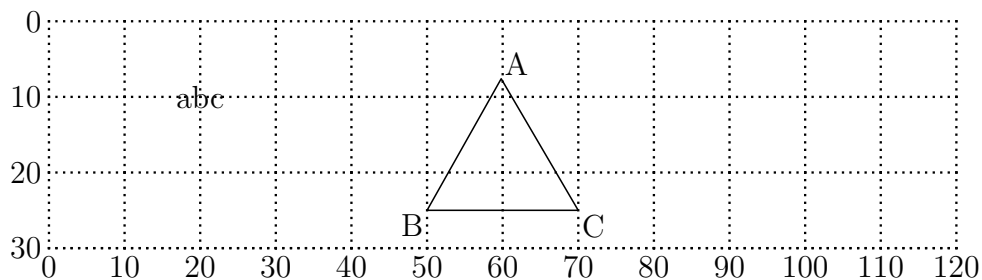
Description This enviroment draws grids and adds a note or a figure.

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 | <code>\ketpic</code> |
| Description | This macro displays the logo of \KTeX pic. |
| Examples | <code>\ketpic</code> |

[⇒Command List](#)

`\ketcindy`

| | |
|--------------------|---|
| Usage | <code>\ketcindy</code> |
| Description | This macro displays the logo of \KTeX Cindy. |
| Examples | <code>\ketcindy</code> |

[⇒Command List](#)

`\Ltab`, `\Rtab`, `\Ctab`

| | |
|--------------------|--|
| Usage | <code>\Ltab{W}{S}</code> , <code>\Rtab{W}{S}</code> , <code>\Ctab{W}{S}</code> |
| 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](#)

`\ketcalwidth`, `\ketcalheight`, `\ketcaldepth`

| | |
|--------------------|--|
| Usage | <code>\ketcalwidth[0]{C}</code> , <code>\ketcalheight[0]{C}</code> , <code>\ketcaldepth[0]{C}</code> |
| Description | These functions return the size of C using current unit to the counter <code>ketpicctr1</code> . If option is 1, it displays the value. |

`\ketcalwidth[0]{C}` returns the width of C .

`\ketcalheight[0]{C}` returns the height of C .

`\ketcaldepth[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](#)

`\circlesshade`

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

Description This function displays the solid circle.

Examples `\circlesshade[8]{1.2}{0.3}` —> 

[⇒Command List](#)

\backslash NEarrow, \backslash NELarrow, ...

Usage \backslash NEarrow[size], \backslash NELarrow[size], \backslash NERarrow[size],

Description These functions display the arrow of increase or decrease.

Examples

| | | | |
|-------------------------|-------------------------|-------------------------|-------------------------|
| \backslash NEarrow ↗ | \backslash SEarrow ↘ | \backslash NWarrow ↖ | \backslash SWarrow ↙ |
| \backslash NELarrow ↗ | \backslash SELarrow ↘ | \backslash NWLarrow ↖ | \backslash SWLarrow ↙ |
| \backslash NERarrow ↗ | \backslash SERarrow ↘ | \backslash NWRarrow ↖ | \backslash 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 K_ET_Cindy commands.

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

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

\backslash putnote+dir

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

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

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

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

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

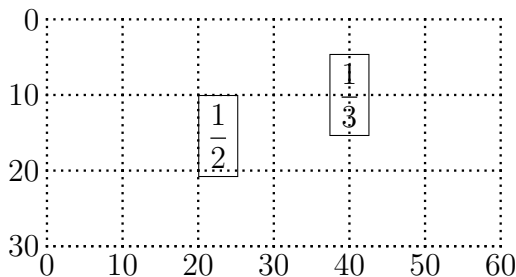
$\text{putnotes}\{x\}\{y\}\{\text{Char}\}$ puts Char under (x,y).

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

Example

\backslash putnotese{20}{10}{\fbox{\$\dfrac{1}{2}\$}}

\backslash putnotec{40}{10}{\fbox{\$\dfrac{1}{3}\$}}



[⇒Command List](#)

\backslash boxframe+dir

Usage \backslash 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.

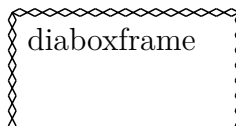
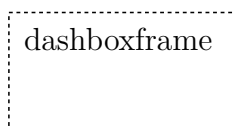
[⇒Command List](#)

\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 \leq 200 mm, height \leq 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 \leq 200 mm, height \leq 100 mm.

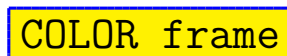
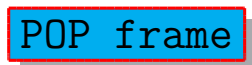
[⇒Command List](#)

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](#)

`\sciscoremark`

Usage `\sciscoremark[thickness]{size}`

Description This function draws a handwritten single circle.

[⇒Command List](#)

`\triscoremark`

Usage `\triscoremark[thickness]{size}`

Description This function draws a handwritten triangle.

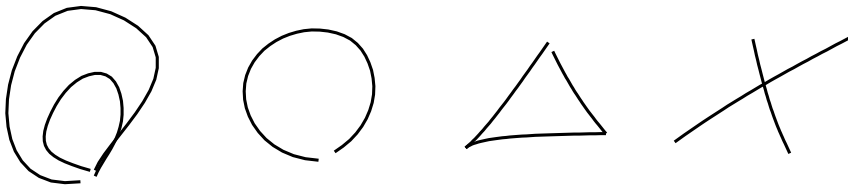
[⇒Command List](#)

`\crosscoremark`

Usage `\crosscoremark[thickness]{size}`

Description This function draws a handwritten cross mark.

[⇒Command List](#)



`\lineseg`

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

Description This function draws a 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]{135}{25}{30}{25}`



[⇒Command List](#)

\dashlineseg

Usage `\dashlineseg[thickness]{x}{y}{L}{\theta}`

Description This function 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.

[⇒Command List](#)

\arrowlineseg

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

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}{\theta}`

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](#)

\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}`

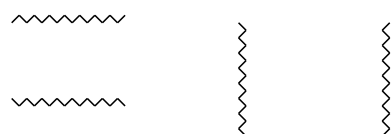
Description This function draws a jagged line of length W from the coordinates (x, y) to the right.

Details This function draws a reverse jagged line against “vjaggyline”.

[⇒Command List](#)

Examples.

```
\hjaggyline{40}{10}{15}  
\hjaggylineb{40}{20}{15}  
\vjaggyline{70}{10}{15}  
\vjaggylineb{90}{10}{15}
```



`\circleline`

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

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

[⇒Command List](#)

`\ballonr`

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](#)

`\balloonl`

Usage `\balloonl[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](#)

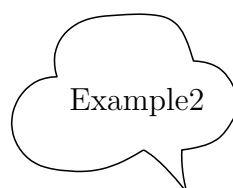
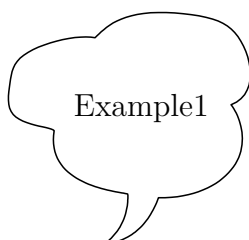
`\rightdwonhand`

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

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

[⇒Command List](#)

Examples.



4 Command List

Macros of ketpic

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

Macros of ketlayer

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