The ncccropbox package*

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1 User Interface

`\cropbox` The package implements the command

`\cropbox[`⟨*width*⟩`][`⟨*height*⟩`]{`⟨*content*⟩`}`

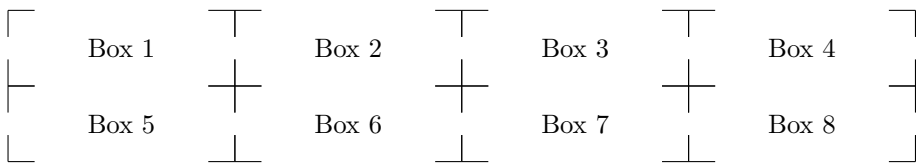
preparing a horizontal box with crop-marks at its corners looking like angles. The crop-box is aligned at the bottom and is lowered at the `\lineskip` value. The optional ⟨*width*⟩ and ⟨*height*⟩ parameters specify the width and height of the crop-box respectively. If some of them is omitted or is empty, the width or height of the crop-box ⟨*content*⟩ is used for calculation the omitted dimension. In this case, the doubled value of the *crop-box separation* parameter is added to the natural dimension of the box's ⟨*content*⟩. The ⟨*content*⟩ is centered inside the crop-box.

`\cropboxsep` The `\cropboxsep{`⟨*length*⟩`}` command specifies the separation value to be used in calculation of crop-box dimensions when any of optional parameters is omitted or empty. The default is `\cropboxsep{5pt}`.

`\croplinewidth` The `\croplinewidth{`⟨*length*⟩`}` command specifies a width of crop-lines. The default is `\croplinewidth{.4pt}`.

`\croplinelength` The `\croplinelength{`⟨*length*⟩`}` command specifies a length and direction of crop-lines: the absolute value of ⟨*length*⟩ specifies a length of crop-lines and the sign of ⟨*length*⟩ specifies a direction. If the ⟨*length*⟩ is negative, the angles look outside the crop-box. Otherwise, they look inside the crop-box.

The following example shows how crop-boxes are docked together:



It was prepared as follows:

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```
\begin{center}
\cropbox[30mm][10mm]{Box 1}\cropbox[30mm][10mm]{Box 2}%
\cropbox[30mm][10mm]{Box 3}\cropbox[30mm][10mm]{Box 4}\\
\cropbox[30mm][10mm]{Box 5}\cropbox[30mm][10mm]{Box 6}%
\cropbox[30mm][10mm]{Box 7}\cropbox[30mm][10mm]{Box 8}
\end{center}
```

You can see that crop-lines of neighbour boxes exactly coincide.

2 The Implementation

\croplinelength \croplinewidth \cropboxsep

Styling macros:

```
⟨*package⟩
\newcommand*{\croplinelength}[1]{\def\CRB@length{#1}}
\newcommand*{\croplinewidth}[1]{\def\CRB@width{#1}}
\newcommand*{\cropboxsep}[1]{\def\CRB@sep{#1}}
```

\cropbox

The \cropbox command:

```
\newcommand*{\cropbox}[1][]{\@ifnextchar[{\CRB@box[#1]}{\CRB@box[#1][]}}
\def\CRB@box[#1][#2]#3{%
```

Calculate crop-box dimensions in \@tempdima and \@tempdimb:

```
  \@begin@tempboxa\hbox{#3}%
    \def\@tempa{#1}\ifx\@tempa\@empty
      \@tempdima\width \advance\@tempdima 2\CRB@sep\relax
    \else
      \setlength\@tempdima{#1}%
    \fi
    \def\@tempa{#2}\ifx\@tempa\@empty
      \@tempdimb\totalheight \advance\@tempdimb 2\CRB@sep\relax
    \else
      \setlength\@tempdimb{#2}%
    \fi
```

Prepare crop-marks in 0th box of zero width:

```
    \setbox\z@\hb@xt@\z@{%
      \linethickness{\CRB@width}%
      \setlength\unitlength{\CRB@length}%
      \ifdim\unitlength=\z@ \else
        \ifdim\unitlength>\z@
          \CRB@hcross\z@\z@\@ne\@ne
          \CRB@hcross\@tempdima\z@\m@ne\@ne
          \CRB@hcross\z@\@tempdimb\@ne\m@ne
          \CRB@hcross\@tempdima\@tempdimb\m@ne\m@ne
        \else \unitlength -\unitlength
          \CRB@hcross\z@\z@\m@ne\m@ne
          \CRB@hcross\@tempdima\z@\@ne\m@ne
          \CRB@hcross\z@\@tempdimb\m@ne\@ne
          \CRB@hcross\@tempdima\@tempdimb\@ne\@ne
```

```
        \fi
      \fi
    }%
```

Put crop-marks as a background for vertical box containing the crop-box content. We decrease the height of vertical box on the `\lineskip` to make the exact docking of vertically neighbour crop-boxes.

```
    \leavevmode \ht\z@\z@ \dp\z@\z@ \box\z@
    \advance\@tempdimb -\lineskip
    \vbox to\@tempdimb{\vss\vskip -\lineskip
      \hb@xt@\@tempdima{\hss\unhbox\@tempboxa\hss}\vss\kern\z@
    }%
  \@end@tempboxa
}
```

`\CRB@hcross` This command prepares a crop-mark.

```
\def\CRB@hcross#1#2#3#4{%
  \@killglue\raise#2\hb@xt@\z@{\kern#1\line(#3,0)\@ne\hss}\hss
  \@killglue\raise#2\hb@xt@\z@{\kern#1\line(0,#4)\@ne\hss}\hss
}
```

Initial settings:

```
\croplinelength{10pt}
\croplinewidth{.4pt}
\cropboxsep{5pt}
```

⟨/package⟩