The **ncccropbox** package[*]

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1   User Interface

\cropbox   The package implements the command

$$\texttt{\textbackslash cropbox[}\langle width\rangle\texttt{][}\langle height\rangle\texttt{]\{}\langle content\rangle\texttt{\}}$$
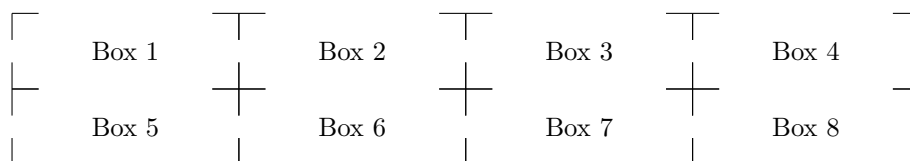
preparing a horizontal box with crop-marks at its corners looking like angles. The crop-box is aligned at the bottom and is lowered at the `\lineskip` value. The optional $\langle width\rangle$ and $\langle height\rangle$ parameters specify the width and height of the crop-box respectively. If some of them is omitted or is empty, the width or height of the crop-box $\langle content\rangle$ 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 $\langle content\rangle$. The $\langle content\rangle$ is centered inside the crop-box.

\cropboxsep   The `\cropboxsep{`$\langle length\rangle$`}` 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{`$\langle length\rangle$`}` command specifies a width of crop-lines. The default is `\croplinewidth{.4pt}`.

\croplinelength   The `\croplinelength{`$\langle length\rangle$`}` command specifies a length and direction of crop-lines: the absolute value of $\langle length\rangle$ specifies a length of crop-lines and the sign of $\langle length\rangle$ specifies a direction. If the $\langle length\rangle$ 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:

| Box 1 | Box 2 | Box 3 | Box 4 |
| Box 5 | Box 6 | Box 7 | Box 8 |

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:

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

\cropbox   The \cropbox command:

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

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

```
7     \@begin@tempboxa\hbox{#3}%
8       \def\@tempa{#1}\ifx\@tempa\@empty
9         \@tempdima\width \advance\@tempdima 2\CRB@sep\relax
10      \else
11        \setlength\@tempdima{#1}%
12      \fi
13      \def\@tempa{#2}\ifx\@tempa\@empty
14        \@tempdimb\totalheight \advance\@tempdimb 2\CRB@sep\relax
15      \else
16        \setlength\@tempdimb{#2}%
17      \fi
```

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

```
18      \setbox\z@\hb@xt@\z@{%
19        \linethickness{\CRB@width}%
20        \setlength\unitlength{\CRB@length}%
21        \ifdim\unitlength=\z@ \else
22          \ifdim\unitlength>\z@
23            \CRB@hcross\z@\z@\@ne\@ne
24            \CRB@hcross\@tempdima\z@\m@ne\@ne
25            \CRB@hcross\z@\@tempdimb\@ne\m@ne
26            \CRB@hcross\@tempdima\@tempdimb\m@ne\m@ne
27          \else \unitlength -\unitlength
28            \CRB@hcross\z@\z@\m@ne\m@ne
29            \CRB@hcross\@tempdima\z@\@ne\m@ne
30            \CRB@hcross\z@\@tempdimb\m@ne\@ne
31            \CRB@hcross\@tempdima\@tempdimb\@ne\@ne
```

```
32        \fi
33      \fi
34    }%
```

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.

```
35      \leavevmode \ht\z@\z@ \dp\z@\z@ \box\z@
36      \advance\@tempdimb -\lineskip
37      \vbox to\@tempdimb{\vss\vskip -\lineskip
38        \hb@xt@\@tempdima{\hss\unhbox\@tempboxa\hss}\vss\kern\z@
39      }%
40    \@end@tempboxa
41 }
```

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

```
42 \def\CRB@hcross#1#2#3#4{%
43   \@killglue\raise#2\hb@xt@\z@{\kern#1\line(#3,0)\@ne\hss}\hss
44   \@killglue\raise#2\hb@xt@\z@{\kern#1\line(0,#4)\@ne\hss}\hss
45 }
```

   Initial settings:

```
46 \croplinelength{10pt}
47 \croplinewidth{.4pt}
48 \cropboxsep{5pt}
49 ⟨/package⟩
```