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|                       |                                  |                      |                                 |
|-----------------------|----------------------------------|----------------------|---------------------------------|
| $\leftarrow$          | <code>\leftarrow</code>          | $\leftharpoonup$     | <code>\leftharpoonup</code>     |
| $\leftarrow$          | <code>\gets</code>               | $\rightarrow$        | <code>\rightarrow</code>        |
| $\Leftarrow$          | <code>\Leftarrow</code>          | $\leftarrow$         | <code>\leftarrow</code>         |
| $\rightarrow$         | <code>\rightarrow</code>         | $\rightarrow$        | <code>\rightarrow</code>        |
| $\rightarrow$         | <code>\to</code>                 | $\rightleftharpoons$ | <code>\rightleftharpoons</code> |
| $\Rightarrow$         | <code>\Rightarrow</code>         | $\mapsto$            | <code>\mapsto</code>            |
| $\leftrightarrow$     | <code>\leftrightarrow</code>     | $\longmapsto$        | <code>\longmapsto</code>        |
| $\Leftrightarrow$     | <code>\Leftrightarrow</code>     | $\downarrow$         | <code>\downarrow</code>         |
| $\longleftarrow$      | <code>\longleftarrow</code>      | $\Downarrow$         | <code>\Downarrow</code>         |
| $\Longleftarrow$      | <code>\Longleftarrow</code>      | $\uparrow$           | <code>\uparrow</code>           |
| $\longrightarrow$     | <code>\longrightarrow</code>     | $\Uparrow$           | <code>\Uparrow</code>           |
| $\Longrightarrow$     | <code>\Longrightarrow</code>     | $\updownarrow$       | <code>\updownarrow</code>       |
| $\longleftrightarrow$ | <code>\longleftrightarrow</code> | $\Updownarrow$       | <code>\Updownarrow</code>       |
| $\Longleftrightarrow$ | <code>\Longleftrightarrow</code> | $\nearrow$           | <code>\nearrow</code>           |
| $\iff$                | <code>\iff</code>                | $\searrow$           | <code>\searrow</code>           |
| $\hookleftarrow$      | <code>\hookleftarrow</code>      | $\nwarrow$           | <code>\nwarrow</code>           |
| $\hookrightarrow$     | <code>\hookrightarrow</code>     | $\swarrow$           | <code>\swarrow</code>           |

These commands provide arrows of different kinds. They are classified as relations (p. ‘relations’). The vertical arrows in the list are also delimiters, so you can make them larger by using `\big` et al. (p. ‘big’).

The command `\iff` differs from `\Longleftrightarrow` in that it produces extra space to the left and right of the arrow.

You can place symbols or other legends on top of a left or right arrow with `\buildrel` (p. ‘\buildrel’).

*Example:*

`$$f(x)\mapsto f(y)\iff x\mapsto y$$`

*produces:*

$$f(x) \mapsto f(y) \iff x \mapsto y$$