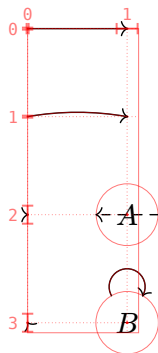
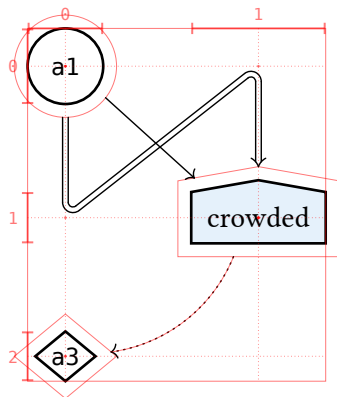
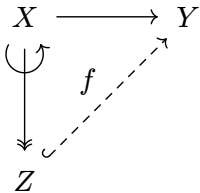


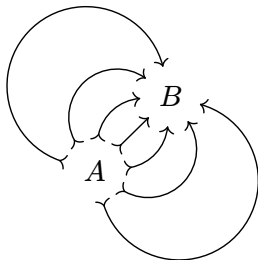
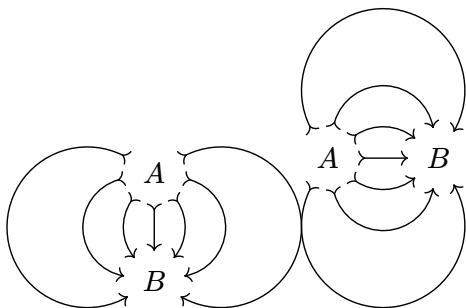
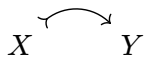
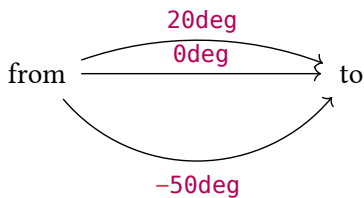
The CeTZ Way



Connectors



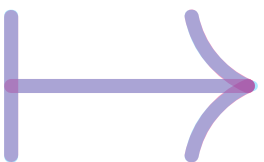
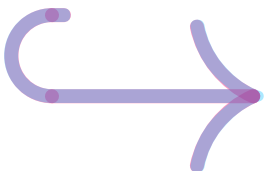
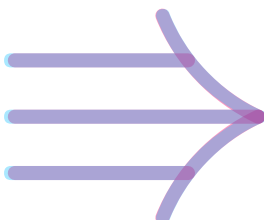
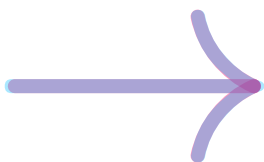
Arc connectors



Matching math arrows

Compare to \rightarrow , \Rightarrow , \implies , \twoheadrightarrow , \hookrightarrow , \mapsto .

Compare **our output** to the **reference symbol** in default math font.




Double and triple lines


Diagram $A \xrightarrow{f} B$ and equation $A \rightarrow B$.


Diagram $A \xRightarrow{f} B$ and equation $A \Rightarrow B$.


Diagram $A \xRightarrow{\quad f \quad} B$ and equation $A \equiv B$.


Arrow head shorthands


"->" = 


"<-" = 


">-<" = 


"<->" = 


"<=>" = 


"<==>" = 


"|->" = 


"|=>" = 


">->" = 


"<<->>" = 


">>-<<" = 


">>>-}>" = 


"hook->" = 


"hook' - - hook" = 


"|=|" = 


"|||-||" = 


"||| - |||" = 

"/- - \\" = 

"\\ = \\" = 

"/=/" = 


"x-X" = 


">>-<<" = 


"harpoon-harpoon'" = 


"harpoon' -<<" = 


"<- - hook'" = 


"|. . |" = 


"hooks - - hooks" = 


"o-0" = 


"0-o" = 


"*-@" = 


"o==0" = 


"||->>" = 

"<| - |>" = 

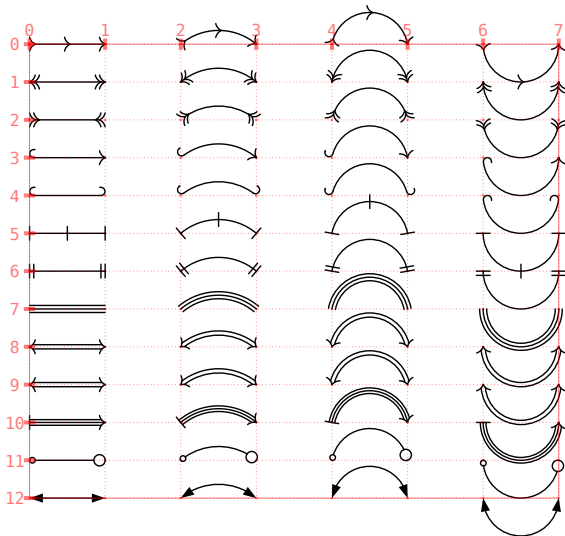
"|>-<|" = 

"-|- " = 

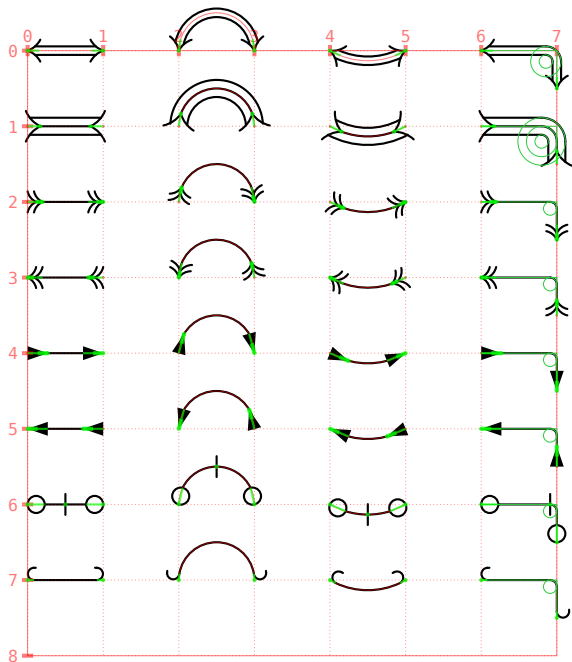
"hook-/->" = 

"<{-}>" = 

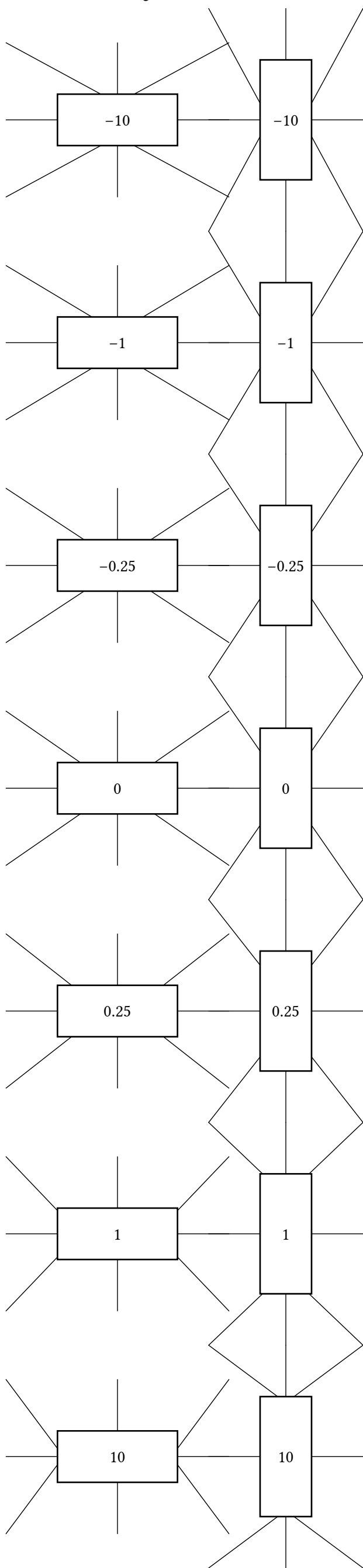
Bending arrows



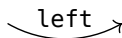
Fine mark angle corrections



Defocus adjustment



Label side


left 

\center>


right

left


-center>


right

left


/center>

/right>

left 

left 

left 



center



center



center

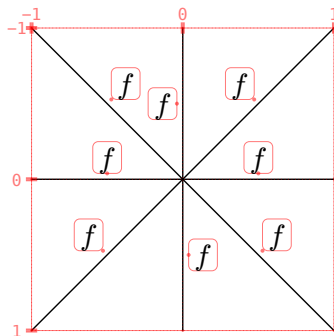


right


right

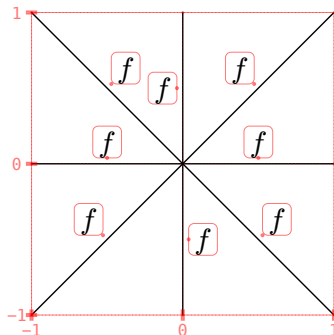

right

Automatic label placement

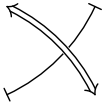
Default placement above the line.



Reversed y -axis:



Crossing connectors



edge() argument shorthands

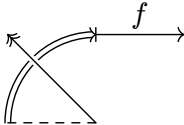
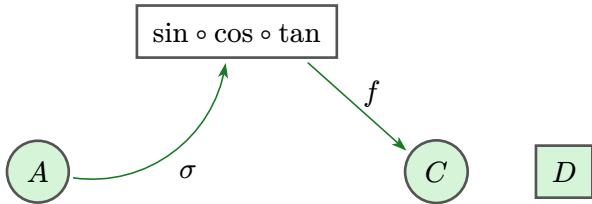
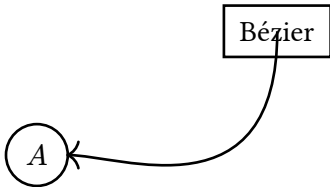


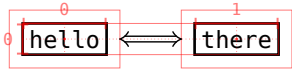
Diagram-level options



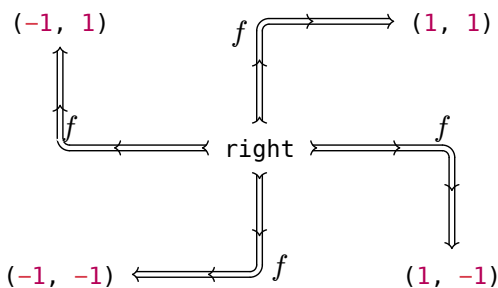
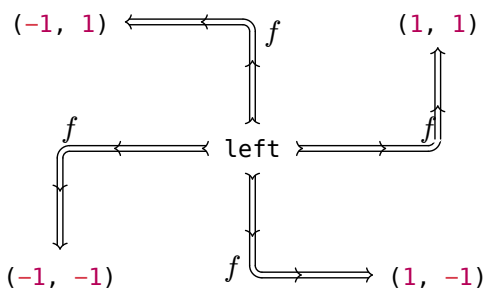
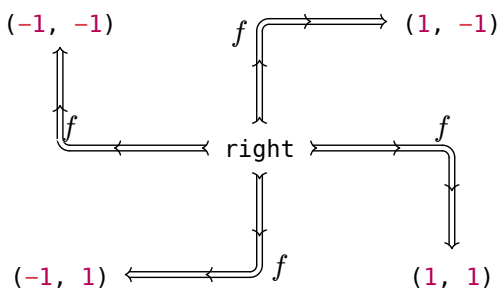
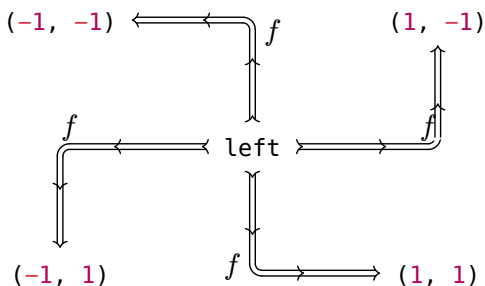
CeTZ integration



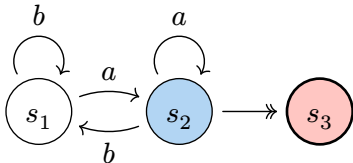
Node bounds, inset, and outset



Corner edges



Double node strokes



outer

inner

middle

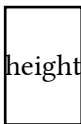
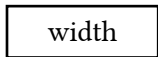
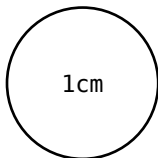
Relative and absolute extrusion lengths

outer

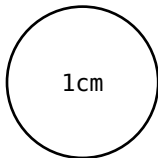
inner

Custom node sizes

Make sure provided dimensions are exact, not affected by node inset.

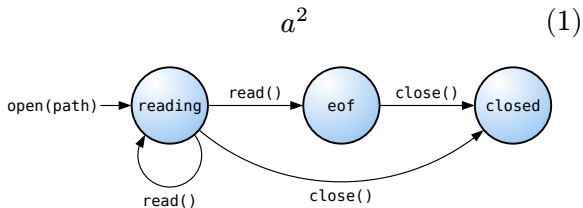


both



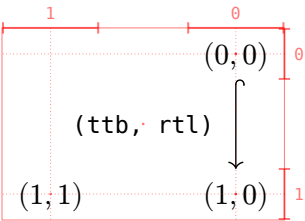
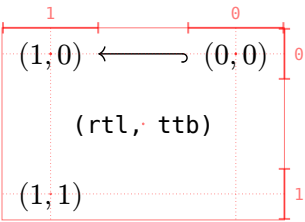
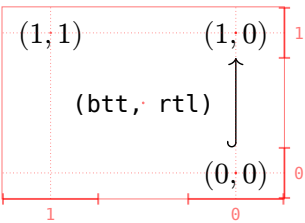
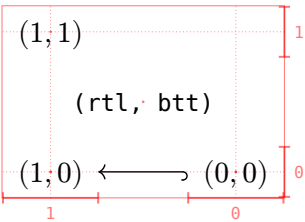
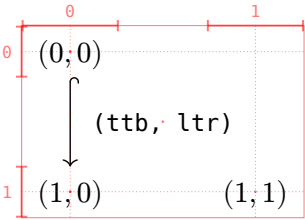
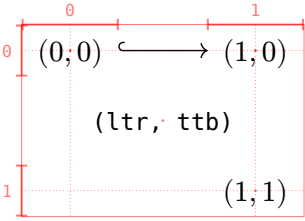
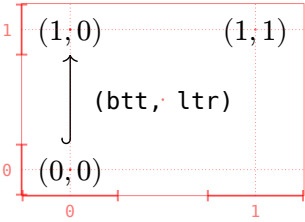
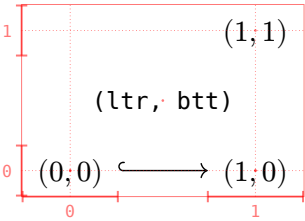
Example

Make sure node or edge labels don't pick up equation numbers!

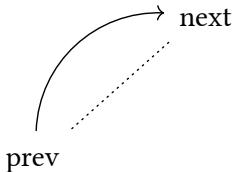
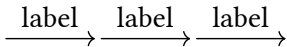


b^2 (2)

Axes configuration



Implicit from and to points

































Edge positional arguments

Explicit named arguments versus implicit positional arguments.

Each row should be the same thing repeated.

$A \longrightarrow B$	$A \longrightarrow B$	$A \longrightarrow B$
$A \xrightarrow{\pi} B$	$A \xrightarrow{\pi} B$	$A \xrightarrow{\pi} B$
$A \xrightarrow{\tau} B$	$A \xrightarrow{\tau} B$	$A \xrightarrow{\tau} B$
$A \xrightarrow{+} B$	$A \xrightarrow{+} B$	$A \xrightarrow{+} B$

Symbol arrow aliases

Math	Unicode	Mark	Diagram
\rightarrow	\rightarrow	->	
\longrightarrow		->	
\leftarrow	\leftarrow	<-	
\leftrightarrow	\leftrightarrow	<->	
\longleftrightarrow		<->	
\Rightarrow		->>	
\Leftarrow		<<-	
\rightharpoonup		>->	
\leftharpoonup		<-<	
\Rightarrow	\Rightarrow	=>	
\Longrightarrow		=>	
\Leftarrow		<=	
\Leftrightarrow	\Leftrightarrow	<=>	
\Leftrightarrow		<=>	
\mapsto	\mapsto	->	
\Rrightarrow		=>	
\rightsquigarrow		none!	none!
\leftrightsquigarrow		none!	none!
\hookrightarrow		hook->	
\hookleftarrow		<-hook'	

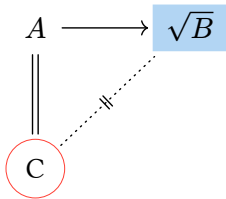
Math-mode diagrams

The following diagrams should be identical:

$$\begin{array}{ccc} G & \xrightarrow{f} & \operatorname{im}(f) \\ \pi \downarrow & \nearrow \tilde{f} & \\ G/\ker(f) & & \end{array}$$

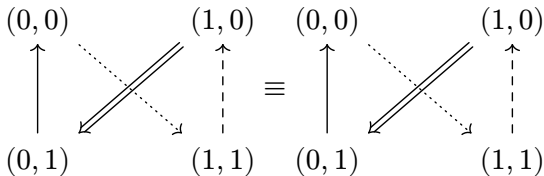
$$\begin{array}{ccc} G & \xrightarrow{f} & \operatorname{im}(f) \\ \pi \downarrow & \nearrow \tilde{f} & \\ G/\ker(f) & & \end{array}$$

Nodes in math-mode



Relative node coordinates

$$\begin{array}{ccc}
 G & \xrightarrow{f} & \text{im}(f) \\
 \pi \downarrow & \nearrow \tilde{f} & \\
 G/\ker(f) & &
 \end{array}$$



Edge paths

