

## Symbols recognized by the interpreter of modules

### Orientation symbols

The turtle's local reference is defined by three orthogonal vectors:  $H$ ,  $L$  and  $U$ , which point, respectively to head, left and up directions of the turtle. Angles are always measured with sexagesimal degrees.

Symbol	Name	Action
+(a)	<b>Turn left</b>	Turns $a$ degrees to the left around $U$ axis. If angle $a$ is omitted, default angle is used.
-(a)	<b>Turn right</b>	Turns $a$ degrees to the right around $U$ axis. If angle $a$ is omitted, default angle is used.
	<b>Turn around</b>	Turns $180^\circ$ degrees around $U$ axis.
^(a)	<b>Pitch up</b>	Turns $a$ degrees up around $L$ axis. If angle $a$ is omitted, default angle is used.
&(a)	<b>Pitch down</b>	Turns $a$ degrees down around $L$ axis. If angle $a$ is omitted, default angle is used.
/(a)	<b>Roll left</b>	Turns $a$ degrees to the left around $H$ axis. If angle $a$ is omitted, default angle is used.
\(a)	<b>Roll right</b>	Turns $a$ degrees to the right around $H$ axis. If angle $a$ is omitted, default angle is used.

### Moving and drawing symbols

Symbol	Name	Action
f(d)	<b>Jump forward</b>	Shifts forward distance $d$ . If distance $d$ is omitted, default distance is used.
F(d)	<b>Draw</b>	Shifts forward while drawing a base element of length $d$ . If distance $d$ is omitted, default distance is used.

### Branching

Symbol	Name	Action
[	<b>Begin branch</b>	Starts a new branch, i. e., saves the current state of the turtle.
]	<b>End branch</b>	Ends the current branch, restoring the last state of the turtle recorded.
%	<b>Cut</b>	Cuts the remainder of the current branch, i. e., removes all the modules that follow until the next end branch symbol.

## Drawing attributes

Symbol	Name	Action
`(g)	<b>Width increment</b>	Sets width to the value given by <i>g</i> . If it is omitted, increments width with default width increment.
^(g)	<b>Width decrement</b>	Sets width to the value given by <i>g</i> . If it is omitted, decrements width with default width increment.
#(n)	<b>Color increment</b>	Sets color index to the value given by <i>n</i> . If it is omitted, increments current color index by one.
!(n)	<b>Color decrement</b>	Sets color index to the value given by <i>n</i> . If it is omitted, decrements current color index by one.
@(a,b,c)	<b>Set color</b>	Sets color as defined by values <i>a</i> , <i>b</i> and <i>c</i> (RGB or HSB color components depending on the color space used). If no value is given, uses color defined by current color index.

## Default values during interpretation of modules

Following are the values assumed by default during interpretation of modules. Use the given reserved words to set them initially to different values.

	Distance	Angle	Color index	Width	Width incr./decr.
<b>Default value</b>	1	90°	1	1	0.1
<b>Reserved word</b>	<i>step</i>	<i>angle</i>	<i>color</i>	<i>width</i>	<i>widthincrement</i>