Python Turtle Quick Reference

Turtle motion

	Name	Description

Relative	forward(*distance*)
	fd(*distance*)
		Move the turtle forward by the specified *distance*, in the direction the turtle is headed.

	back(*distance*)
	bk(*distance*)
	backward(*distance*)
		Move the turtle backward by *distance*, opposite to the direction the turtle is headed. Do not change the turtle's heading.

	ritght(*angle*)
	rt(*angle*)
		Turn turtle right by *angle* units. (Units are by default degrees, but can be set via the degrees() and radians() functions.)

	left(*angle*)
	lt(*angle*)
		Turn turtle left by angle units.

Absolute	goto(*x*, *y*)
	setpos(*x*, *y*)
	setposition(*x*, *y*)
		Move turtle to an absolute position. If the pen is down, draw line. Do not change the turtle's orientation.

	setx(*x*)	Set the turtle's first coordinate to *x*.
	sety(*y*)	Set the turtle's second coordinate to *y*.

	setheading(*angle*)
	seth(*angle*)
		Set the orientation of the turtle to *angle*.

	home()	Move turtle to the origin – coordinates (0,0) – and set its heading to its start-orientation.

Turtle state

Name	Description
pos(), position()	Return the turtle's current location (x,y).
xcor()	Return the turtle's x coordinate.
ycor()	Return the turtle's y coordinate.
heading()	Return the turtle's current heading.
hideturtle(), ht()	Make the turtle invisible.
showturtle(), st()	Make the turtle visible.

Pen state

Name	Description
pendown(), pd(), down()	Pull the pen down – drawing when moving.
penup(), pu(), up()	Pull the pen up – no drawing when moving.

Color control

Name	Description
pencolor()	Return the current pencolor as color specification string or as a tuple.
pencolor(*color*)	Set pencolor to *color.* The color definition argument can be either a string or a tuple with RGB values. If a string is used, it represents a Tk color specification string, such as "red", "yellow", or “#33cc8c”. The RGB values must be in the range 0..colormode, where colormode is either 1.0 or 255 (see colormode()).
fillcolor()	Return the current fillcolor as color specification string, possibly in tuple format.
fillcolor(*color*)	Set the fillcolor to *color.* (see pencolor() above for argument specification).
colormode(*cmode=None*)	Return the colormode or set it to 1.0 or 255. Subsequently r, g, b values of color triples have to be in the range 0..cmode.
filling()	Return fillstate (True if filling, False else).
begin_fill()	To be called just before drawing a shape to be filled.
end_fill()	Fill the shape drawn after the last call to begin_fill().

Fill Example:

```
>>> turtle.begin_fill()
>>> for i in range(4):
    ... turtle.forward(100)
    ... turtle.right(90)
    ...
>>> turtle.end_fill()
>>>
```

Miscellaneous

Name	Description
exitonclick()	Pull the pen down – drawing when moving.
degrees(*fullcircle=360.0*)	Set angle measurement units, i.e. set number of “degrees” for a full circle. Default value is 360 degrees.
radians()	Set the angle measurement units to radians.
circle(*radius, extent=None, steps=None*)	Draw a circle with a given *radius*. If *extent* is given, only draws an arc with *extent* degrees. The *steps* parameter allows the control of how many segments are used to draw the circle.