

# Turtle Commands



The Turtle moves around a grid with the center point 0,0 at the center of the screen. By default the turtle draws a line as it moves.

Try these commands:

***forward(steps)*** | ***fd(steps)*** - moves the turtle ahead X steps.

Example: ***forward(100)*** or ***fd(100)*** move the turtle ahead 100 steps

***backward(steps)*** | ***bk(steps)*** - moves the turtle backward X steps.

Example: ***backward(100)*** or ***bk(100)*** move the turtle ahead 100 steps

***right(degrees)*** | ***rt(degrees)*** - changes the direction of the turtle.

Example: ***right(90)*** turns the turtle 90 degrees to the right

***left(degrees)*** | ***lt(degrees)*** - changes the direction of the turtle.

Example: ***left(90)*** turns the turtle 90 degrees to the left

***circle(radius, extent)*** - draws a circle based on the radius and extent defined.

*radius* - size of the circle

*extent* – an angle – determines which part of the circle is drawn.

Example: ***circle(40,180)*** draws a semi circle

***penup()*** - Pull the pen up to stop drawing when moving.

***pendown()*** - Put the pen down to draw when moving.

***goto(x, y)*** | ***setpos(x, y)*** - draws a line from the current position to the x,y coordinate.

Example: ***goto(-100,-100)*** moves to the grid coordinate -100, -100 from the current location

*Tip - use penup() to prevent the line from being drawn.*

***setheading(degrees)*** - Set the orientation of the turtle to *to\_angle*.

Example: ***setheading(90)*** points the turtle up.

Here are some common directions in degrees:

Directions
0 - east/ right
90 - north/up
180 - west/left
270 - south/down



***begin\_fill()*** - defines when shapes should be filled. Wraps the drawing commands.

***end\_fill()*** - defines the end of the shape to be filled. Causes the fill to occur.

***color(line, fill)*** - to change the line color and the fill color

Example: ***color(red,yellow)*** makes the lines red and fill yellow

***speed(1-10)*** - sets the speeds of movement. 1 is slow 10 is fastest.

Example: ***speed(5)*** - sets the speed of movement to 5.

## How to make a loop

Loops are useful to make it easier to repeat commands. There are several ways to create a loop. Using a for loop is easy in turtle. This loop draws a square.

One way to draw a square	Using a loop to draw a square
<pre>fd(200) left(90)  fd(200) left(90)  fd(200) left(90)  fd(200) left(90)</pre>	<pre>for x in range (4):     forward(200)     left(90)</pre>

To fill the square in with yellow:

```
from turtle import *
```

```
color('red', 'yellow')
```

```
begin_fill()
```

```
for x in range (4):
```

```
    forward(200)
```

```
    left(90)
```

```
end_fill()
```

