Some Useful Settings and Methods for Turtle

These tables show some of the values for various methods used in the Python turtle package.

Speed

The methods that require a speed with which to move the cursor (turtle) take an integer argument. The integer is between 0 and 10, with 0 meaning no animated motion and 10 meaning the fastest animated motion. So if you have the speed set to 0, the turtle will jump around as you move it; there will be no animation.

Turtle Commands

- *tur*.speed(*n*) sets the speed of the turtle *tur* to *n*, where *n* is as above.

Color

The methods that require a color use a color specification string. The more common ones are:

black	cyan	green	pink	violet
blue	gold	magenta	purple	white
brown	gray	orange	red	yellow

A full list can be found at `http://www.tcl.tk/man/tcl8.5/TkCmd/colors.htm`. You can also specify colors as mixtures or red, green, and blue as *#rrggbb*, where *rr*, *gg*, and *bb* are two hexadecimal digits each indicating the intensity of the color (with "00" meaning the color isn't present and "FF" meaning it is as intense as possible).

Turtle Commands

- *win*.bgcolor(*col*) sets the background color of window *win* to *col*, where *col* is as above.
- *tur*gcolor(*col*) sets the color of the turtle *tur*, and any lines or other shapes drawn with it subsequently, to *col*, where *col* is as above.

Shapes

The methods that require a shape for the cursor (turtle) know the following shapes:

arrow   turtle   circle   square   triangle   classic

Turtle Commands

- *tur*.shape(*img*) sets the shape of the turtle *tur* to *img*, where *img* is as above.

Drawing Things

A "pen" is associated with each turtle. The pen can be in the "up" state or the "down" state. When you move the cursor (turtle), if the pen is down, the turtle draws a line from the current position to the new one. If the pen is up, the position of the turtle changes to the new one, but no line is drawn.

You can draw a dot or a circle of a given size, too.

You can also write text at the current location of the mouse.

Turtle Commands

- *tur*.goto(*x*, *y*) moves the turtle *tur* from the current co-ordinates to (*x*, *y*).
- *tur*.penup() raises the pen (puts it into the "up" state) associated with the turtle *tur*. When you move the turtle, the co-ordinates change but no line is drawn.
- *tur*.pendown() lowers the pen (puts it into the "down" state) associated with the turtle *tur*. When you move the turtle, the co-ordinates change and a line is drawn from the current co-ordinates to the given co-ordinates.
- *tur*.dot(*n*) draws a dot at the current position of the turtle *tur*. If *n* is present, the dot has diameter *n* pixels. If *n* is not present, the dot has a default size (the maximum of *pensize* + 4 and 2×*pensize*, where *pensize* is the width used to draw a line, if you must know).

- *tur*.circle(*n*) draws a circle of radius *n* pixels, with the center *n* pixels left of the current position of the turtle *tur*.
- *tur*.write(*string, move, align, (fontname, fontsize, fonttype)*) writes the given *string* at the current position of the turtle *tur*. It is positioned as indicated by *align*, which may take the (string) values "left", "center", or "right". The text is printed in the named *fontname*, with point size *fontsize*, in the type *fonttype*. Then, if *move* is True, the position of the turtle *tur* changes to the bottom right corner of the text. If *move* is omitted, it defaults to False; if *align* is omitted, it defaults to "left"; and if the font triplet is omitted, the font Ariel, with point size 8, in normal type, is used.

Coloring in Shapes (Filling Shapes)

You can color in, or "fill", a shape such as a rectangle or circle (or, really, anything). To do this, say you want to begin filling the shape then draw the shape, then say you are done. Filling is associated with a turtle, so if you have several active turtles, the filling is done only for the one(s) you indicate.

By default, the fill color is the color of the turtle. You can change it to another color as described in the section **Color**, above.

Turtle Commands

- *tur*.begin_fill() says to begin filling the shape subsequently drawn using turtle *tur*.
- *tur*.end_fill() says to stop filling the shape drawn using turtle *tur*.
- *tur*.fillcolor(*col*) sets the fill color associated with the turtle *tur* to *col*, where *col* is as in the **Color** section above.

More About Turtle

The reference document for turtle is Chapter 24.1, "Turtle Graphics", of *Python Setup and Usage*, available at https://docs.python.org/3.4/library/turtle.html.