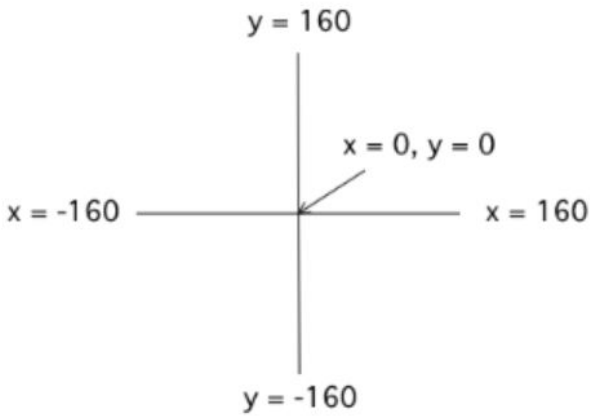
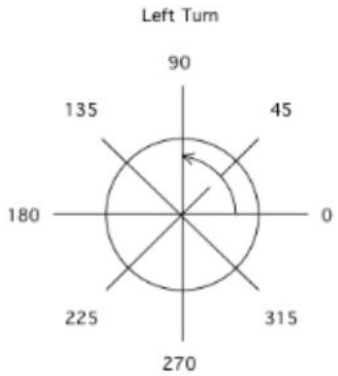
SI 206 Discussion #2

Turtle Library in Python

- Turtle library in Python enables you to draw many interesting shapes and designs
- Starts drawing at the middle of the screen (0, 0)
- Almost like drawing with your own pen, just give ‘directions’ to your turtle object using Python!

The space that the turtle draws in is 320 by 320 pixels. The center of the space is at x=0, y=0.





Turtle methods

- **forward(x) and backward(x)** - move x pixels
- **color('red')** - set pen color to red (or any other color y specifying it)
- **goto(x,y)** - move to location
- **pendown()** - put the pen down to draw with
- **penup()** - pick up the pen (don't draw)
- **pensize(width)** - set the width of the pen
- **left(angle)** and **right(angle)** (angle in degrees) - turn by amount
- **setheading(angle)** - set the direction the turtle faces, i.e. the direction in which you want your turtle to move next (angle 0: east, angle 90: north, angle 180: west, angle 270: south)
- **fillcolor('color')** - set the fill color of a shape
- **color('color') -** sets line and fill color of a shape
- **begin_fill(),** and **end_fill()** - all instructions between begin_fill() and end_fill() are filled with the fill color

Python documentation: https://docs.python.org/3/library/turtle.html

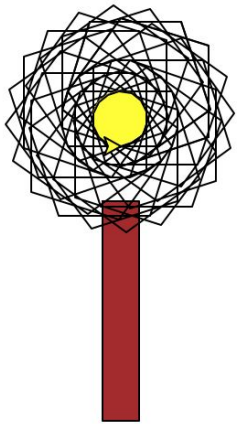
Screen Methods

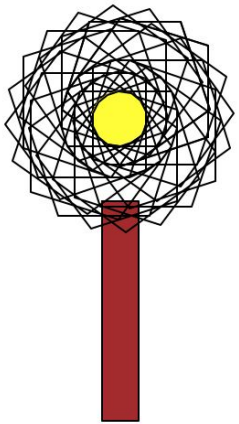
- Change the screensize
  E.g. **screen.screensize(1000,600)**
- Change the background colors
  E.g. **screen.bgcolor('orange')**
- Get a picture of the screen
  E.g. **screen.bgpic('art.gif')**
- Don't exit the program till the window is closed:
  exitonclick()

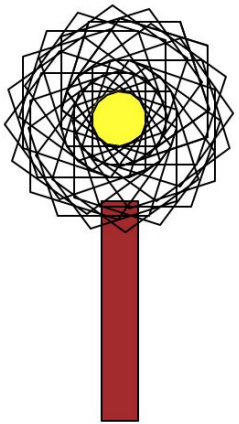
Let's get started!

- Draw a flower using a spirograph like pattern.
  - Write a function to draw a square or triangle as your flower petal
  - Write another function to repeat this shape while turning to create the flower head
  - Call these functions to draw a flower
- Draw multiple flowers adjacent to one another in Python.
- Try adding more functions to your code to draw a stem and leaves to your flowers using any polygons of your choice!
- Try coloring each of these shapes with different colors of your choice!

Example Output







Starter Code

Go to Canvas > Files > Discussions > Discussion2