**CTI 110**

**P4T1 - Turtle Lab**

**Lab Assignment: Write two(or more) turtle graphics programs.**

**P4T1a: Shapes**

Using turtle graphics, and either a **while** or **for** loop, write a program that draws both a square and a triangle. (In this case, it's okay if they overlap - just make sure both shapes are visible.)

This tutorial will explain the process: <https://opentechschool.github.io/python-beginners/en/simple_drawing.html>

**However, your code should use a while loop or a for loop to draw both the square and the triangle.**

**If you get stuck, look at the code in this example**(from "Think Like A Computer Scientist":) <http://openbookproject.net/thinkcs/python/english3e/hello_little_turtles.html>

Save your work in the file (P4t1a\_lastname.py)

**P4T1b: Initials**

Using turtle graphics, write a program that displays your first and last initials. Choose a color and penSize of your choice.

You will want to draw your first initial, raise the turtle's pen with penUp, then move to the right and lower the pen to draw your second initial.

Do this in a separate file (P4t1b\_lastname.py)

**BONUS LAB: P4T1c: Snowflake**

For extra credit, you may attempt the following:

Using turtle graphics and the range() function, draw a multi-sided snowflake. (See the pages in the Study Guide, "Turtle Tutorial" 1 and 2 for ideas.)

Start by creating a N-sided polygon (range(N) ) and then add code to add "flakes" to the sides of the polygon.

For more ideas, look here: <https://github.com/raspberrypilearning/turtle-snowflakes/blob/master/worksheet.md>

The bonus file should be saved in P4t1c\_lastname.py if you attempt it.

**Submitting P4T1**

Name your files M4LAB1\_lastname, M4LAB2\_lastname, etc. and submit them below.