

## CS 100

### Homework 04

**Do** all of the items below and **submit** a text file created with the IDLE editor (or other editor) with the extension `.py` via Canvas. If you run into a problem, post to Canvas describing where you ran into trouble or email your instructor or classroom assistant, or ask your question during recitation hours. If you know the answer to someone's question on Canvas, post a response. You get course credit for asking and answering questions in Canvas.

- Read Chapter 5 (Conditionals and Recursion) in the textbook. You may skip the following sections: Recursion, Stack Diagrams for Recursive Functions, and Infinite Recursion.
- In the Python editor IDLE, create and save a Python file that is named, if your name is Harry Houdini, for example, `HW04_HarryHoudini.py` and begins with a comment containing your name, class and section, the posting date and number of the homework assignment.

1. Write Python code that does the following:
  - a. Assigns the values 3, 4 and 5 to the variables `a`, `b` and `c`, respectively.
  - b. Write an if statement that prints "OK" if `a` is less than `b`
  - c. Write an if statement that prints "OK" if `c` is less than `b`
  - d. Write an if statement that prints "OK" if the sum of `a` and `b` is equal to `c`
  - e. Write an if statement that prints "OK" if the sum of `a` squared and `b` squared equals `c` squared.
2. Amend your answer to the previous problem, with the additional requirement that "NOT OK" is printed if the condition is false.
3. Write a program that asks the user for a color, a line width, a line length and a shape. Assume that the user will enter either `line`, `triangle`, or `square`. Use turtle graphics to draw the shape that the user requests of the size, color, line width and line length that the user requests. For example, if these are the user choices for color, width, line length and shape, the blue triangle below would be correct graphical output

```
what color? blue
what line width? 25
what line length? 100
line, triangle or square? triangle
```

