HOMEWORK 2
CS 125
due at 11:45am (classtime) on Tuesday, September 1

Write a Python program to solve each of the following problems. You may either compose and test your solutions in the ActiveCode boxes on the Runestone site, or using Python installed locally on your computer.

When you have finished your solutions, copy and paste all of them into a single Python file (or text document). Use comments (lines that begin with a # symbol) to clearly state the problem number for each solution in your file. Save your file and upload it to the Homework 2 assignment on Moodle.

1. **Looping over a list:** Suppose you have a list of numbers [3, 12, 8, 23, 47, 32, 50, 9, 15].

   a. Write a loop that prints each of the numbers on a new line.

   b. Write a loop that prints each number and its square on a new line.

2. **Polygons:** Write a program that asks the user for a number of sides, a side length, a line color, and a fill color. Then use turtle graphics to draw a polygon according to the user-specified parameters.

3. **Stars:** Write a program that asks the user for a number n, and then draws an n-pointed star. Here are some examples for $n = 5$, 7, and 16:

4. **Zig-zags:** Write a program that asks the user for a number n, and then draws a zig-zag shape similar to the ones below. The number of bends is determined by n as in the examples below.

$n = 3$ $n = 4$ $n = 6$