HW8: Function Practice

This homework gives us practice in writing code that contains functions, *for* loops, and *if* statements. To get the most amount of practice in with the least amount of effort there is no hardware component to build.

The code functionPracticeTemplate.ino automatically computes the XP you've earned on the homework. When you run the unmodified code you will see that you already have 10XP. As you get functions working you will get more and more XP. The maximum XP is 120.

You are to write the following functions:

- `float add(float list[], int length)`
  This function, which is already written for you, returns the sum of the numbers in the array called list.

- `float findLargest(float list[], int length)`
  list is an array of numbers and length is the length of that list.
  This function will return the largest number in that list. For example, findLargest({72, 99, 87, 90}, 4) should return 99

- `float average(float list[], int length){`
  This function will return the average of the numbers in the array.
  For example, average({10, 20, 30}, 3) should return 20

- `float computeBill(float bill, int tip, int people)`
  This function takes as input the total amount of a restaurant bill, the percent tip we want to leave (for ex., 20) and how many people in our party. It then computes what each person should pay. For example, computeBill(100, 20, 6) should return 20

- `float computePay(float hours, float wage)`
  This function takes 2 arguments: the hours worked this week and the hourly wage. It will compute the pay for the week assuming time and a half for overtime.
  For example computePay(50, 10) should return 550.

- `int factorial(int num)`
  This function returns the factorial of the number num.

- `int countE(String someText)`
  This function returns the number of 'e's in the string someText
  For example. countE("eeeeeeeeeeks!!!!!") should return 10.
  HINT: you can find the length of the string someText by using someText.length()