Assignment 3: Functions

Your task is to create several functions using the following criteria. Pay attention to inputs and outputs. Make sure you are documenting your functions well and using appropriate naming conventions. Submit all 10 functions to github in your Assignment 3 folder.

1. Write a function that takes a number as input and returns a value that is 2 times the number as output.

2. Write a function that takes 2 numbers as input and returns values for the sum, difference, product and max of the two numbers as outputs.

3. Write a function that takes 2 numbers as inputs and returns Woo if their sum is even and Hah if their sum is odd.

4. Write a function that takes in a number of quarters, dimes, nickels, and pennies as inputs and returns the total amount as output.

5. Write a function that accepts a single 3-element array (e.g. [3 4 5]), and returns a logical value (0 or 1) indicating if the 3 elements of the array represent the sides of a valid triangle.

   For those who can't remember...in a valid triangle the sum of the lengths of the 2 shorter sides are greater than the length of the longest side.

6. Write a function that takes a number as input and returns true if the number is a prime number and false if the number is not prime.

7. Write a function that takes two vectors and plots their values on a figure. This function should set up the figure with titles for the chart and each axis (can be generic names).

8. Write a function that takes 2 numbers as input and displays a counter from the lower number to the higher number.

   If Inputs = (a, b)

   Expected output:
   a
   a+1
   a+2
   …
   b

9. Write a function that takes a string value as input and returns the length of the string and the first and last character as outputs.

   If input = 'Halloween'

   Expected Output:
   9
   H
   n

10. Write a function that does not take any input and displays "Thank goodness this assignment is over" when called.