Homework #3

Scientific Computing (501125-2)

Spring 2022

Due: Monday April 25, 2022, 11:59 pm via Blackboard

1) Using **built-in** function, write the Matlab command and show the result of each of the following
   - Find the square root of variable x where x = 9
   - Find the square root of variable y where y = [100, 4, 25]
   - Compute the remainder of the division of x / y where x = 16 and y = 6
   - Compute the remainder of the division of x / y where x = [11 12 13 8 10] and y = 5
   - Compute the remainder of the division of x / y where x = [10 8 15 18 13] and y = [6 3 4 7 2]
   - Compute the sum of variable x where x = [2 4 5]
   - Compute the sum of variable x where x = [3 6 10; 12 11 8]
   - Find the maximum of variable x where x = [1 23 50]
   - Find the maximum of variable x where x = [12 18 1; 17 20 0]

2) Given the following Matlab commands

x = [8 9 11; 7 10 5]

[a, b] = max(x)

   - What the result of the command [a, b] = max(x)?

- What is a?
- What is b?

3) What are the two kinds of M-files?
4) What is the main difference between **Scripts** and **Functions?**
5) Write a script named **script100** that does the following
   - Defines a magic vector named M
   - Finds the value of vector W where W is a row vector that contains the sum of each column
   - Finds the value of vector R where R is a column vector that contains the sum of each row
6) What command are you going to use to call the script you built in Question 5.
7) Write a user-defined function named NEWSUM.m that does the following
   - This function accepts two numbers namely a and b
   - Returns the sum of these two variables
   - Please name the output variable k
8) What command are you going to use to call the function you built in Question 7.