Title: Understanding MATLAB Function Concepts

Objective: In this lab, you will learn and practice fundamental concepts related to MATLAB functions. You will create your own functions, understand function inputs and outputs, and explore common function features.

Prerequisites:

Basic knowledge of MATLAB.
MATLAB installed on your computer.

Lab Tasks:

Task 1: Creating a Simple Function

Create a new function in MATLAB called mySimpleFunction.
This function should take two input arguments (numbers) and return their sum.
Call this function with sample inputs and display the result.

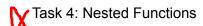
Task 2: Function Inputs and Outputs

Create a function named calculateCircleArea that takes the radius of a circle as input and returns the area of the circle.

Call the function with different radii and display the results.

Task 3: Function with Multiple Outputs

Create a function named computeStatistics that takes a vector of numbers as input. This function should return both the mean and the standard deviation of the input vector. Call the function with sample data and display the results.



Create a main function called outerFunction.

Inside outerFunction, define another function called innerFunction.

innerFunction should take two inputs, add them, and return the result.

Call innerFunction from outerFunction and display the result.

Task 5: Function Handles

Create a function named applyFunction that takes a function handle and a vector as inputs. The function should apply the provided function to every element in the vector and return the result.

Test this function with various function handles, like square, cube, etc.

Task 6: Anonymous Functions

Create an anonymous function that calculates the area of a triangle. The function should take base and height as inputs.

Call the anonymous function with different base and height values to calculate triangle areas.

Task 7: Using Built-in Functions

Use MATLAB's built-in functions like max, min, and sum in a script.

Create a vector of numbers and apply these functions to it.

Submission: Prepare a MATLAB script that includes your solutions to the tasks above. Save the script as a .m file and submit it. Be sure to include comments to explain your code.