Title: Introduction to MATLAB Basics for Beginners

Objective: In this practical lab, beginners will learn and practice fundamental MATLAB concepts, including cell arrays, structures, character data, conditional statements (if), for loops, and basic plotting.

Prerequisites:

MATLAB installed on your computer.
Basic understanding of MATLAB's user interface.

Duration: Approximately 90 minutes.

Lab Tasks:

1. Cell Arrays:

Create a cell array containing various data types (numbers, text, and variables).
Access and display specific elements within the cell array.

2. Structures:

Create a simple structure to store information about a person (name, age, city).
Access and display the structure fields.

3. Character Data:

Create a character array with your name.
Concatenate your name with another character array.
Display the results.

4. Conditional Statements (If):

Write an if statement that checks if a number is even or odd.
Display a message based on the result of the if statement.

5. For Loops:

Create a for loop to generate a sequence of numbers (e.g., 1 to 10).
Display the numbers within the loop.

6. Basic Plotting:

Generate data for a simple plot (e.g., a sine wave).
Plot the data with proper labels and a legend.

Lab Instructions:

Open MATLAB on your computer.

Perform each task listed above by writing MATLAB code in the Script.

Verify the results and understand how each concept works.

Experiment with different values and variations of the tasks.

Tips:

Feel free to use MATLAB's built-in help feature (help) if you encounter any issues.
Practice is key. Try different examples and scenarios to deepen your understanding.
By the end of this practical lab, beginners should have a solid grasp of these
fundamental MATLAB concepts and be ready to explore more advanced topics.