Practical Lab 1: Simulink Control System Project with Simulation
Objective:

- To create a MATLAB script that generates a Simulink model for a simple control system.
- To understand the use of new_system, add_block, add_line, open_system.
- To explore parameter setting for Simulink blocks.
- To simulate the created control system model.

System Description:
We will create a control system with an input signal, a dynamic system, a PID controller, and an output display.

Instructions:
Create a New Simulink Model:

- Use the new_system function to create a new Simulink model named 'ControlSystemProject'.

- Open the newly created model using the open_system function.

Add Blocks to the Model:

- Add a Step block to represent the input signal.
- Add a Transfer Function block to model a simple dynamic system.
- Add a PID Controller block for control.
- Add a Scope block to visualize the output.

Connect Blocks with Lines:

- Use the add_line function to connect the output of the Step block to the input of the Transfer Function block.
- Connect the output of the Transfer Function block to the input of the PID Controller block.
- Connect the output of the PID Controller block to the input of the Scope block.

Set Block Parameters:

- Set the parameters of the Transfer Function block to model a desired dynamic system (e.g., numerator and denominator coefficients).
- Configure the parameters of the PID Controller block (e.g., Proportional, Integral, Derivative gains).

Simulate the Model:

- Use the sim function to simulate the created control system model.
- Display and analyze the simulation results.

Open the Model for Inspection:

- Use the open_system function to open 'ControlSystemProject' for inspection.

Save and Close the Model:

- Save the model.
- Close the model using the close_system function.