

Lab Title: Understanding Basic Simulink Blocks

Objective: In this lab, you will gain hands-on experience with fundamental Simulink blocks and learn how to create a simple simulation model.

Requirements: MATLAB and Simulink installed on your computer.

Lab Tasks:

Part 1: Setting Up the Model

1. Launch MATLAB and open Simulink.
2. Create a new Simulink model.
3. Save the model with an appropriate name.

Part 2: The Product Block

4. Drag and drop a Product Block from the Simulink library to your model.
5. Connect two Constant Blocks (with values 3 and 4) to the Product Block's inputs.
6. Add a Display Block to view the output.
7. Run the simulation to see the result.

Part 3: The Gain Block

8. Remove the Product Block.
9. Drag and drop a Gain Block to your model.
10. Connect one of the Constant Blocks (value: 5) to the Gain Block's input.
11. Add a Display Block to visualize the output.
12. Run the simulation.

Part 4: The Sum Block

13. Remove the Gain Block.
14. Add a Sum Block to the model.
15. Connect two Constant Blocks (values: 7 and 2) to the Sum Block's inputs.
16. Add a Display Block to see the sum.
17. Run the simulation.

Part 5: The Constant Block

18. Remove the Sum Block.
19. Drag and drop a Constant Block to the model.
20. Set the value to 10.
21. Connect the Constant Block to a Display Block.

22.Run the simulation.

Part 6: The Display Block

23. Remove the Constant Block.

24.Add a Display Block to the model.

25.Connect a Constant Block (value: 8) to the Display Block's input.

26.Run the simulation to observe the displayed result.

Part 7: Summary

27. Save your Simulink model.

28.Write a brief summary of what you've learned about each block in a text document.

29.Include any observations or difficulties you encountered during the lab.

Conclusion:

This lab has introduced you to basic Simulink blocks, such as the Product Block, Gain Block, Sum Block, Constant Block, and Display Block. You've learned how to use these blocks and build a simple simulation model. Understanding these fundamental blocks is crucial for more complex simulations and control system designs.