Experiment 3

Student Name: **UID:**

Branch: CSE **Section/Group:**

Semester: 5 **Date of Performance:**

Subject Name: CN LAB **Subject Code: 22CHS-312**

1. Aim:

Implement Bus, Ring, Mesh, and Hybrid topology. Assign IP address and subnet mask to each computer and run the ping command to check the reachability of the systems. Send message between source and destination and observe the flow of the messages.

2. Objective:

To simulate and observe different network topologies, configure networking parameters, verify connectivity using ping commands, and understand message routing in various topological structures.

3. Requirements Hardware/Software:

Cisco Packet Tracer: Cisco Packet Tracer as the name suggests, is a tool built by Cisco. This tool provides a network simulation to practice simple and complex networks. The main purpose of Cisco Packet Tracer is to help students learn the principles of networking with hands-on experience as well as develop Cisco technology specific skills.

4. Procedure:

Step 1: start Cisco Packet Tracer on your computer

Step 2: Create Network Topologies:

Bus Topology:

- Drag and drop devices from the "Network Devices" pane
- Connect all PCs in a linear fashion using a single straight cable .

Mesh Topology:

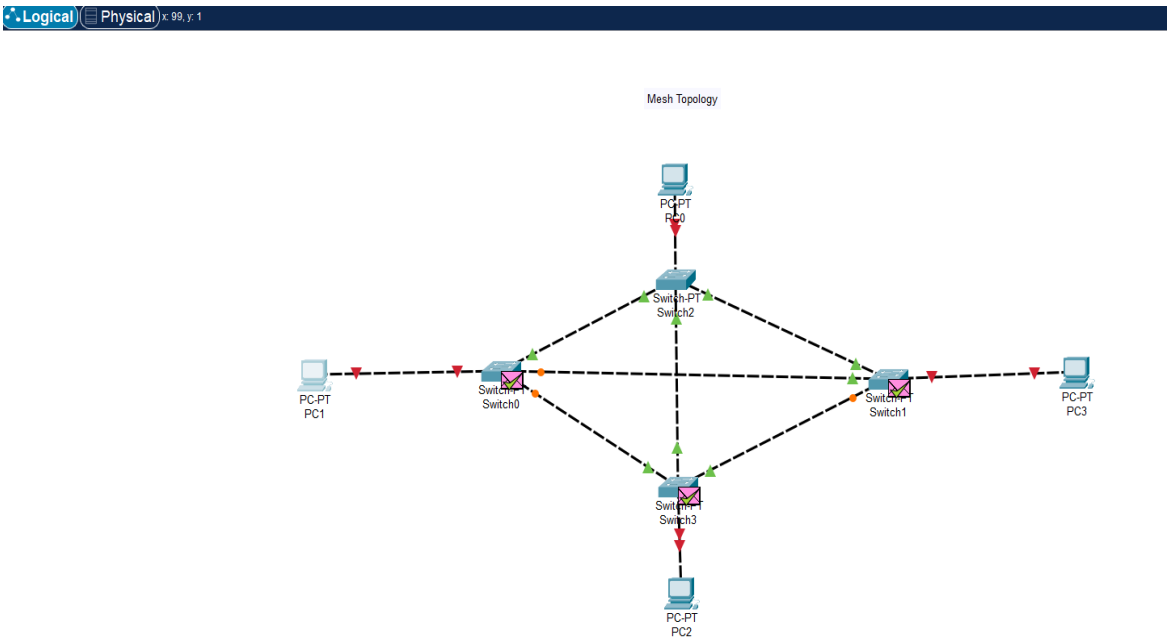
- Fully connect all PCs with individual connections.
- Create point-to-point connections between every pair of PCs.

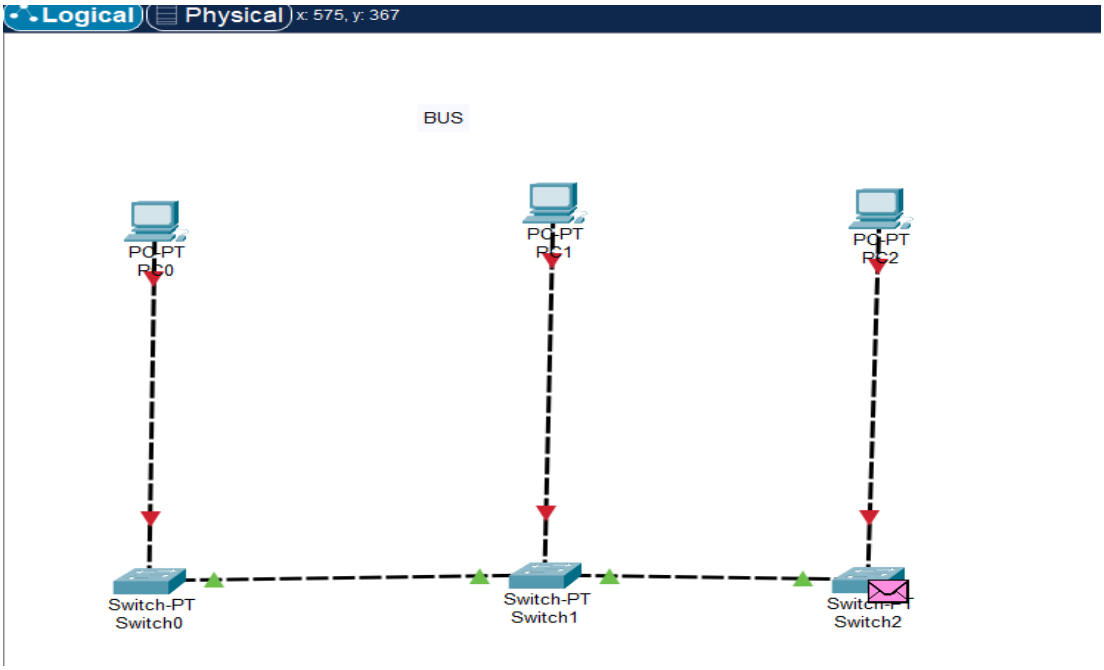
Step 3: click on pc0 and select desktop and click on ipconfig and Assign a static IP address to the interface with ip address 192.168.10.1.

Step 4: Assign IP addresses to each workstation statically.

Step 5: Use applications like Packet Tracer's built-in "Simulation" mode to send messages or packets between PCs.

5. Output:





6. Learning Outcome:

- Understand the setup and configuration of Star, Bus, and Mesh network topologies.
- Learn to use Cisco Packet Tracer to simulate different network designs.