Fr. Conceicao Rodrigues College of Engineering

Department of Computer Engineering

Academic Term: July-Nov 2023-24

Class: T.E. (Computer B)
Subject Name: Computer Network Lab
Subject Code: CSL 502

Experiment No:	**2**
Date of Performance:	**03/08/2023**
Roll No:	**9614**
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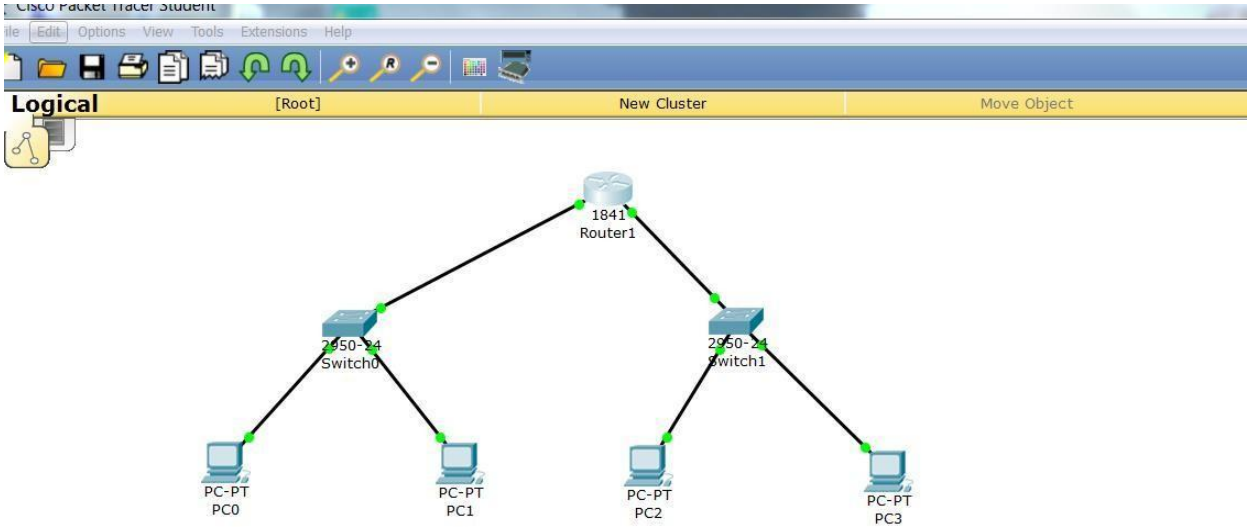
AIM: Build a simple network topology and configure it for static routing protocol using a packet tracer. Set up a network and configure IP addressing, subnetting, and masking.

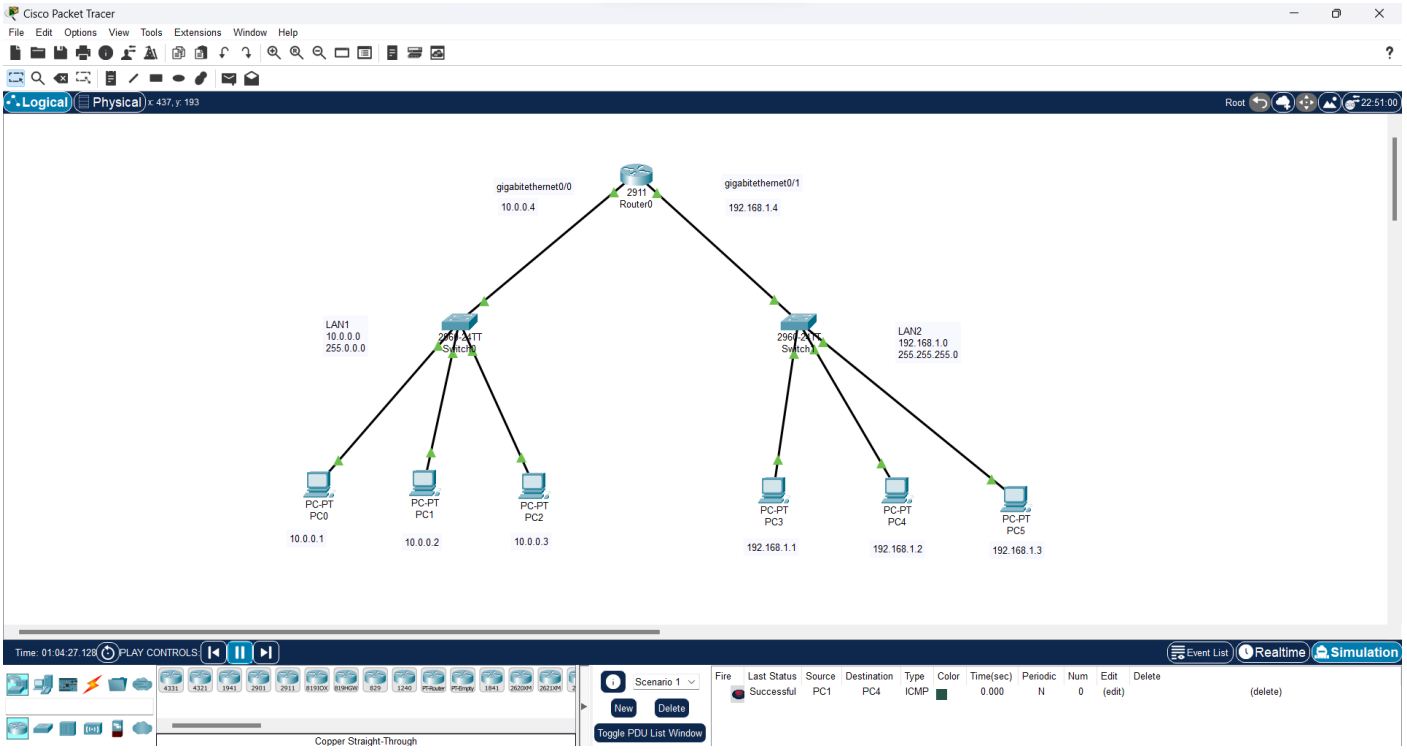
THEORY: Cisco Packet Tracer is a cross-platform visual simulation tool designed by Cisco Systems that allows users to create network topologies and imitate modern computer networks. The software allows users to simulate the configuration of Cisco routers and switches using a simulated command line interface. Packet Tracer uses a drag-and-drop user interface, allowing users to add and remove simulated network devices as they see fit. The software mainly focuses on Certified Cisco Network Associate Academy students as an educational tool for helping them learn fundamental CCNA concepts.

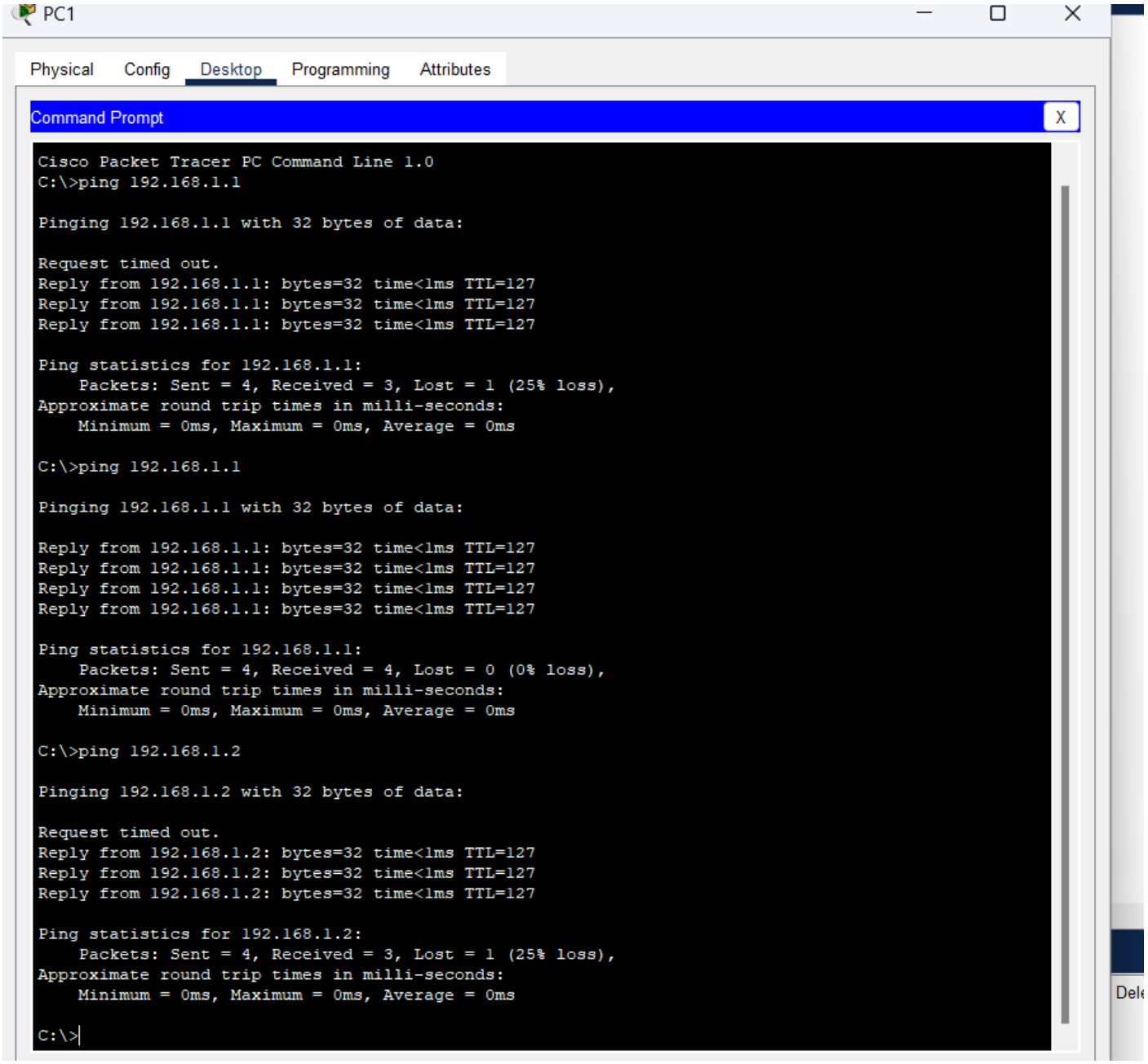
Steps:
1. Pick a total of 4 pcs in the packet tracer application.
2. We need 2 switches and a single router
3. Give the appropriate IP addresses to the pcs accordingly.
4. Test the network with the help of packets.

Connect the devices as shown below:



Output: (Attach a screenshot of the op)





CONCLUSION: Hence, we successfully created and tested a simple network using CISCO PACKET TRACER.

Post Lab Assignments:

1. Explain the different Network Devices in brief.

Ans:

1. Router: Routers connect multiple networks together, such as a local network to the Internet. They forward data packets between networks based on IP addresses and make decisions about the best path for data to travel. They often include firewall features for network security.

2. Switch: Switches operate within a local network and are used to connect devices like computers, printers, and servers. They use MAC addresses to forward data only to the specific device it's intended for, reducing unnecessary network traffic.

3. Hub: Hubs are older devices that are less commonly used now. They are basic devices that connect multiple devices in a network, but unlike switches, they broadcast data to all connected devices, causing more network congestion.

4. Access Point (AP): APs are used in wireless networks to provide connectivity for Wi-Fi-enabled devices. They allow these devices to connect to a wired network, typically through a router, and extend the network's reach.

5. Proxy Server: Proxy servers act as intermediaries between clients (users' devices) and the destination server. They can provide anonymity, content filtering, caching, and load balancing.

2. **Differentiate between Hubs and switches.**

Ans:

Aspect	Hubs	Switches
Function	Operate at Layer 1	Operate at Layer 2
Broadcast	Broadcasts data to all	Forwards data to specific
	devices in the network	devices based on MAC
Network Efficiency	Causes more collisions	Reduces collisions,

	and network congestion	improves network efficiency
Security	Offers no security	Offers better security,
	features, data sent in	data sent only to intended
	plain text	recipients
Usage	Rarely used in modern	Standard choice for
	networks due to	connecting devices in
	limitations	modern networks