K. J. Somaiya College of Engineering, Mumbai-77

(Autonomous College Affiliated to University of Mumbai)

Batch: B1	**Roll No.: 1711072**
Experiment / assignment / tutorial No. 7	
Grade: AA / AB / BB / BC / CC / CD /DD	
Signature of the Staff In-charge with date	

Experiment No.:7

TITLE: Building of simple topology using Network tool (CISCO PACKET TRACER).

AIM: To build a simple network topology using CISCO Packet Tracer.

Packet Tracer is a network simulation program that allows students to experiment with network behaviour and ask "what if" questions. Packet Tracer provides simulation, visualization, and authoring, assessment, and collaboration capabilities and facilitates the teaching and learning of complex technology concepts.

Expected Outcome of Experiment:

CO2: Explain the fundamentals of the data communication networks, reference models,
topologies, physical media, devices, simulators and identify their use in day to day networks.

Books/ Journals/ Websites referred:

1. A. S. Tanenbaum, "Computer Networks", Pearson Education, Fourth Edition
2. B. A. Forouzan, "Data Communications and Networking", TMH, Fourth Edition
3. CISCO PACKET TRACER 6.0.1 (free download)

Pre Lab/ Prior Concepts: Simple Network flow

New Concepts to be learned: Purpose of this lab is to become familiar with building topologies in Packet Tracer.

Stepwise-Procedure:

Creating a simple LAN network using packet tracer:
Step 1: Select two PCs (PC0 and PC1) from the end devices and one fast ethernet switch (2950/24 ports)

Step 2: Connect PCs and switch via copper cable from the panel. Connection can be verified by appearance of all green dots on the links.

Step 3: For PCs to communicate click on PC0.

- Dialog box for PCO appears
- Click on desktop applications by packet tracer.
- Go to IP configuration.
- Enter IP address to identify host i.e. PC0 (for example: 192.168.1.1)
- Subnet mask-by default already set one can change it as per his/her specification.

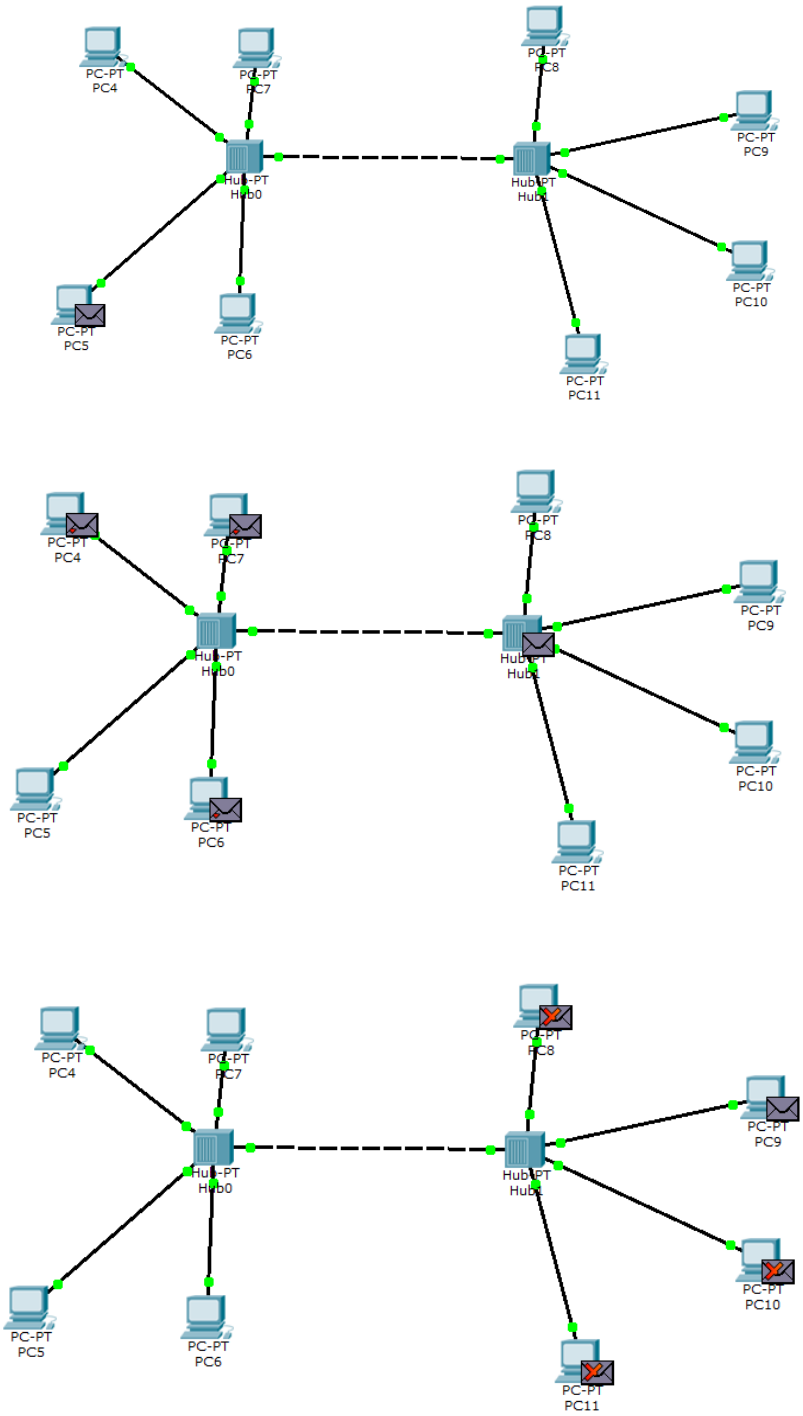
Step 4: Repeat step 3 for PC1

Step 5: Ping both the check their working status.

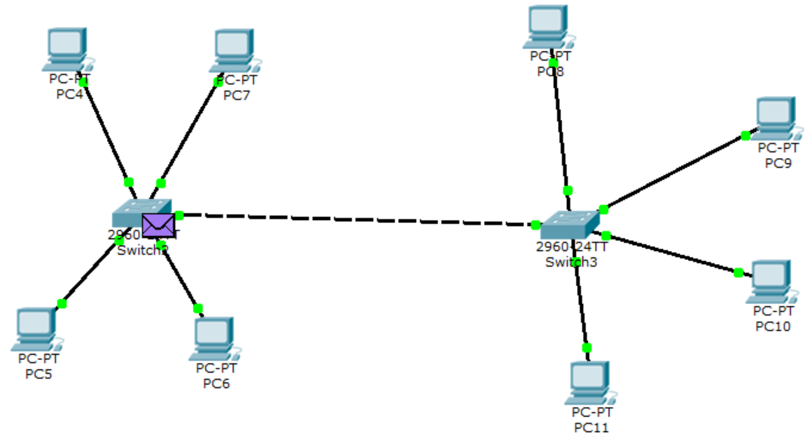
Step 6: Simple PDU (Protocol Data Unit) to simulate network traffic by sending ICMP PDU to assess the network traffic. View simulation in simulation mode.

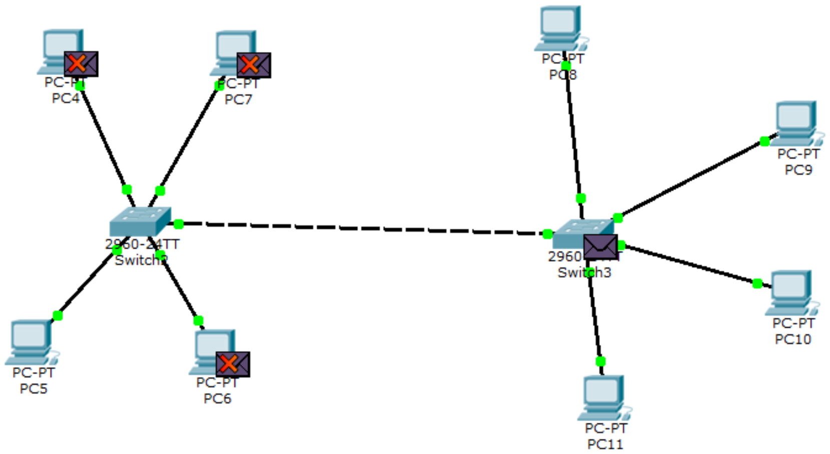
IMPLEMENTATION: (printout of simulation code)

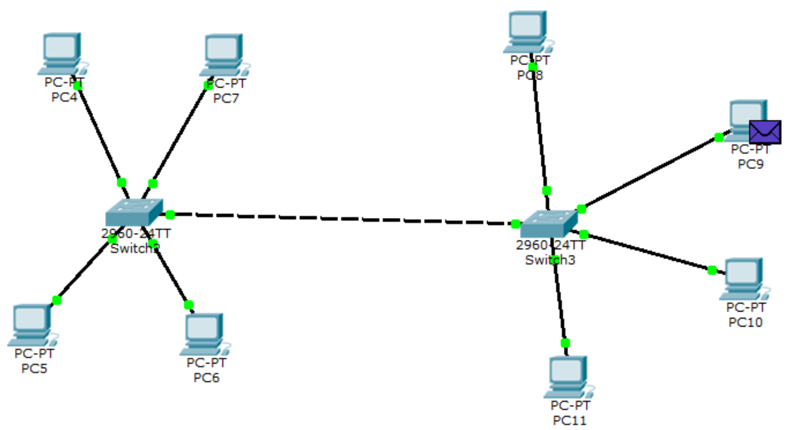
Connection of 8 PCs with 2 Hubs:



Connection of 8 PCs with 2 Switches:







CONCLUSION:

Star network topology was established with 8 PCs and simulated with Hub and Switch, on PacketTracer.

Post Lab Questions

1. **List features of CISCO packet tracer.**

Ans : Important features include:

- Cisco Packet Tracer has two workspaces—logical and physical.
- The logical workspace allows users to build logical network topologies by placing, connecting, and clustering virtual network devices.
- The physical workspace provides a graphical physical dimension of the logical network, giving a sense of scale and placement in how network devices such as routers, switches, and hosts would look in a real environment.
- The physical view also provides geographic representations of networks, including multiple cities, buildings, and wiring closets.
- Cisco Packet Tracer provides two operating modes to visualize the behaviour of a network—real-time mode and simulation mode.
- In real-time mode the network behaves as real devices do, with immediate real-time response for all network activities.
- The real-time mode gives students a viable alternative to real equipment and allows them to gain configuration practice before working with real equipment.
- Cisco Packet Tracer is a network-capable application, with a multiuser peer-to-peer mode that allows collaborative construction of virtual networks over a real network.