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**Experiment No.: 2**

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**Branch:** ECE

**Semester:** 6th

**UID:** 20BEC1073

**Section/Group:** 1-A

**Date of Performance:** 27/02/2023

**Subject Name:** Computer Networks Lab

**Subject Code:** 20ECP-374

**1. Aim/Overview of the practical:** To design networks using different topologies and study their working.

**2. Apparatus/Tool Used:** Cisco Packet Tracer.

**3. Theory:** Topology refers to the layout of connected devices on a network. The layout pattern and connectivity scheme between the devices in a network is called network topology. Some logical layout of topology are as follows:-

**Mesh Topology:** – In this every device has a point to point link to every other device.

**Star Topology:** – In this each device has a dedicated point-to-point link to the central controller called “Hub (Act as an Exchange)”. There is no direct traffic between devices. The transmission are occurred only through the central hub.

**Bus Topology:** – A bus topology is multipoint. Here one long cable act as a backbone to link all the devices which are connected to the backbone by drop lines and taps.

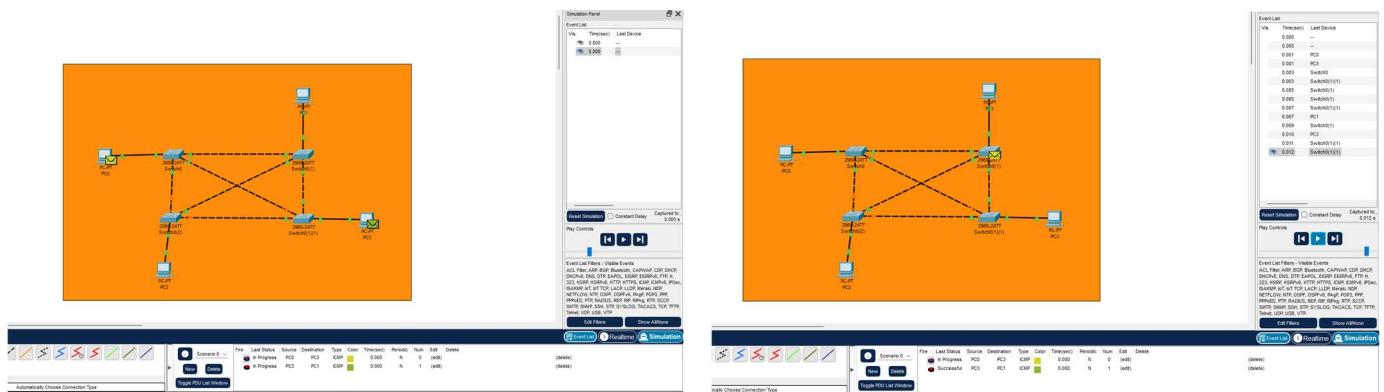
**Ring Topology:** – In this each device has a dedicated connection with two devices on either side. The signal is passed in one direction from device to device until it reaches the destination and each device have repeater

**Tree Topology:** – A tree topology is a special type of structure where many connected elements are arranged like the branches of a tree

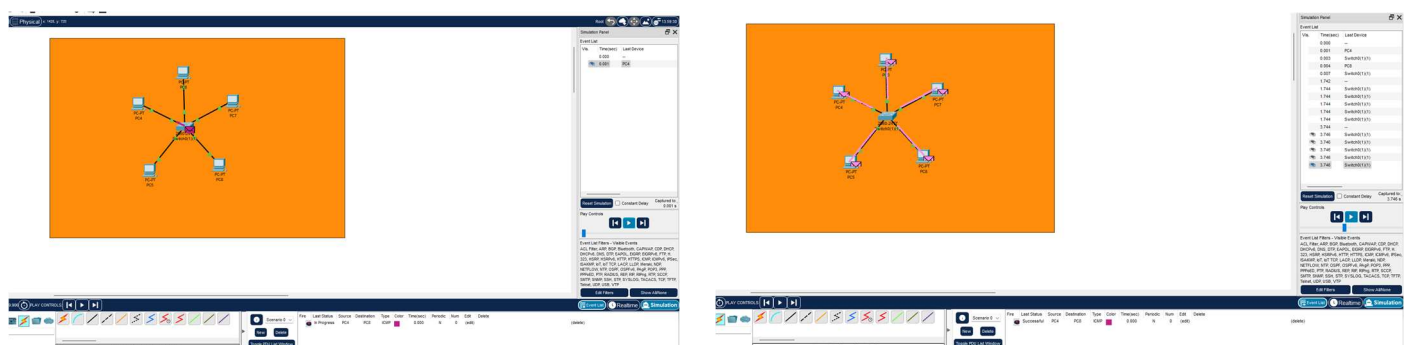
**Hybrid Topology:** -It is a network which contain multiple type of physical structure and connected under a single backbone channel.

### CIRCUIT DIAGRAM & SIMULATION:

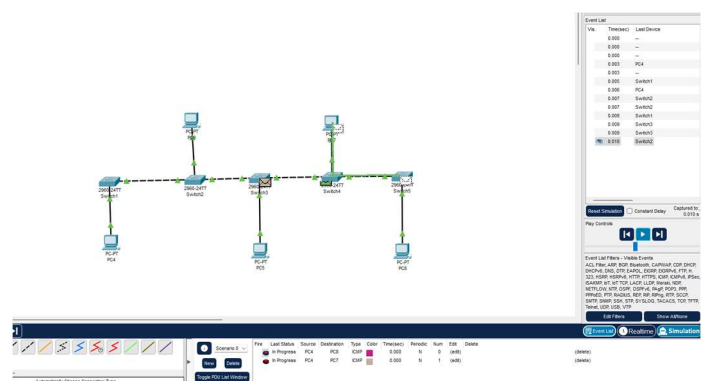
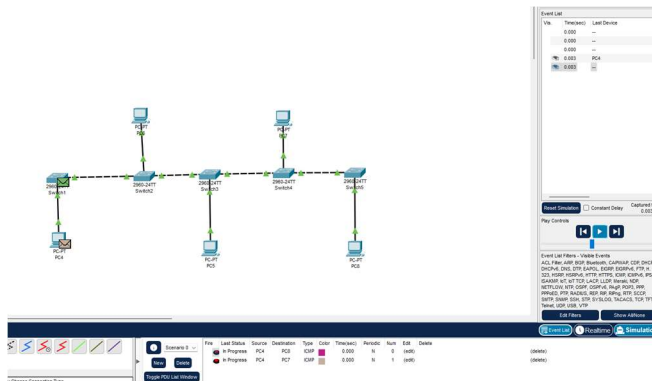
### Mesh Topology:-



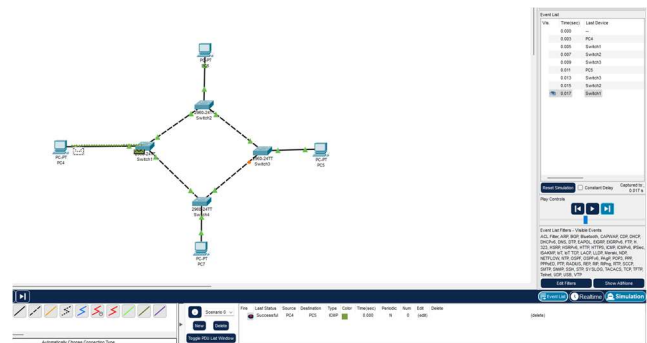
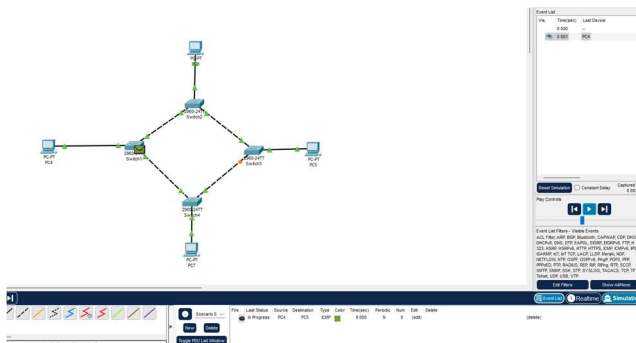
### Star Topology :-



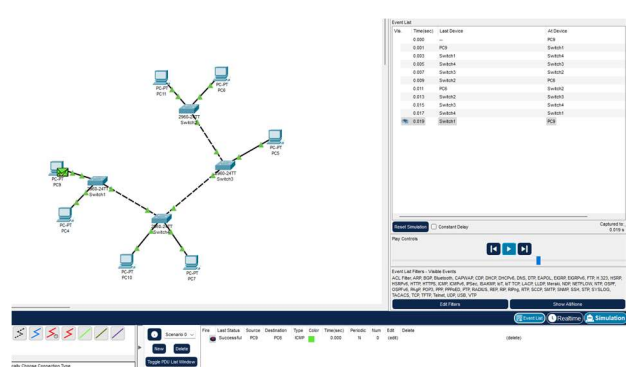
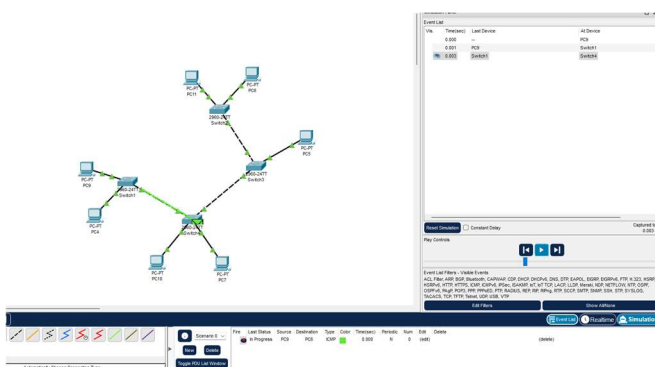
## Bus Topology :-



## Ring Topology :-



## Tree Topology :-



## Hybrid Topology :-



### 4. Steps for experiment/practical:

1. Open Cisco Packet
2. Then click on end devices and select the PC and place it in the window.
3. Similarly place required PC's to make topologies.
4. Then click on connection and make the required connection
5. Enter the IP addresses of each and every PC.
6. In simulation window we can run the network.
7. Check for errors

### 5.Result and Summary:

- We have learned about CISCO packet racer.
- We have also learned about the components in CISCO packet tracer.

### Learning outcomes (What I have learnt):

1. Learnt to make different network topologies using PC's and switches.
2. Learnt about different topologies involved in network topology.

**Evaluation Grid (To be filled by Faculty):**

<b>Sr. No.</b>	<b>Parameters</b>	<b>Marks Obtained</b>	<b>Maximum Marks</b>
1.	Worksheet completion including writing learning objectives/Outcomes. (To submit at the end of the day)		
2.	Student Engagement in Simulation/Demonstration/Performance and Controls/Pre-Lab Questions.		
	<b>Signature of Faculty (with Date):</b>	<b>Total Marks Obtained:</b>	