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Experiment - 1

CONFIGURATION OF NETWORK COMPONENTS

AIM:
To study the following Network devices in Detail.

* PC
* Server
* Repeater
* Hub
* Switch
* Bridge
* Router
* Gate way
* Transmission Medium.

Apparatus (software): CISCO packet tracer

1. Node: In a communications network, a network node is a connection point that can receive, create, store or send data along distributed network routes.

2. Repeater: Functioning a physical layer.
A repeater is an electronic device that receives a signal and retransmits it at a higher level and/or higher power, or onto the other side of an obstruction, so that the signal can cover longer distances.

3. Hub: Ethernet hub, active hub, network hub, repeater hub.

Hub or concentrator is a device for connecting multiple twisted pair or optic fibre Ethernet devices together and making them act as a single network segment. Hubs work at the physical layer (layer 1) of the OSI model.

4. Switch: A network switch or switching hub is a computer networking device that connects network segments. The term commonly refers to a network bridge that process and routes data at the data link layer (layer 2) of the OSI Model. Switches that additionally process data at the network layer (layer 3 and above).

5, Bridge: A network bridge connects multiple network segments at the data link layer (layer 2) of the OSI model. In Ethernet networks, the term bridge formally means a devices that behaves according to the IEEE 802.1D standard.

6. Router:
A router is an electronic device that interconnects two or more computer network, and selectively interchanges packets of data b/w them. Each data packet contain address information that a router can use to determine if the source and distination are on the same network.

7. Gate way: In a communication network, a network node equipped for interfacing with another network that uses different protocols. A gateway may contain devices such as protocol, translators, impedence matching device, rate converters, fault isolators, or signal translators as necessary to provide system interoperability

8. Server: A server type of computer or device on a network that manages network resources. Servers are often dedicated, meaning that they perform no other tasks besides their server tasks.

9. Transmission Media: The medium through which the signals travel from one device to another.

Result: Thus the network components are studied in detail.

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Experiment - 2

IMPLEMENTATION OF STAR TOPOLOGY USING PACKET TRACER

Aim: To document or implement star topology using packet tracer and hence to transmit data b/w the devices connected using star topology.

Software / Apparatus Required:
packet tracer / End devices, bridge, connectors

Steps for building topology:

Step 1: Start packet tracer

Step 2: Choosing devices and connections.

Step 3: Building the topology - Adding Hosts

Step 4: Building the topology - connecting the Host to switches.

Step 5: connect PCs to switch by first choosing connections.

Step 6: Configuring IP Address and Subnet Marks on the Hosts

Step 7: To confirm Data transfer b/w the devices

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Experiment - 3

IMPLEMENTATION OF BUS TOPOLOGY USING PACKET TRACER.

Aim: To implement a Bus topology using packet tracer and hence to transmit data between the devices connected using Bus topology.

Software/Apparatus required: packet tracer, End devices, Hubs, connectors.

Steps for building topology:

Step 1: Start packet tracer.

Step 2: Choosing Devices and connections

Step 3: Building the topology - Adding Hosts

Step 4: Building the topology - connecting the Hosts to switches.

Step 5: Connect pcs to which by first choosing connections.

Step -6: Configuring IP Address and subnet Masks on the Hosts.

Step 7: To confirm Data transfer b/w the devices.

Result: Thus the Bus topology is implemented with packet tracer simulation tool.

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Experiment-4

IMPLEMENTATION OF RING TOPOLOGY USING PACKET TRACER

Aim: To implement a Ring topology using packet tracer and hence to transmit data between the devices connected using Ring topology.

Software / Apparatus Required: packet tracer, End devices, Hubs, connectors

Steps for building topology:

Step 1: Start packet tracer

Step 2: Choosing Devices and connections

Step 3: Building the topology - Adding Hosts

Step 4: Building the topology - connecting the Hosts to switches.

Step 5: connect PCs to switch by first choosing connections.

Step 6: configuring IP Address and subnet masks on the Hosts

Step 7: To confirm data transfer between the devices

Result: Thus the Ring topology is implemented with packet tracer simulation tool.

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Experiment-5

IMPLEMENTATION OF MESH TOPOLOGY PACKET TRACER

Aim: To implement a Mesh topology using packet tracer and write to transmit data between the devices connected using Mesh topology

Software / Apparatus Required:

Packet tracer / End devices, Hubs, connects

Step for building topology:

Step 1: Start packet tracer

Step 2: Choosing Devices and connections

Step 3: Building the topology - Adding Host

Step 4: Building the topology - connecting the Hosts to switches.

Step 5: connect PCs to by first choosing connections

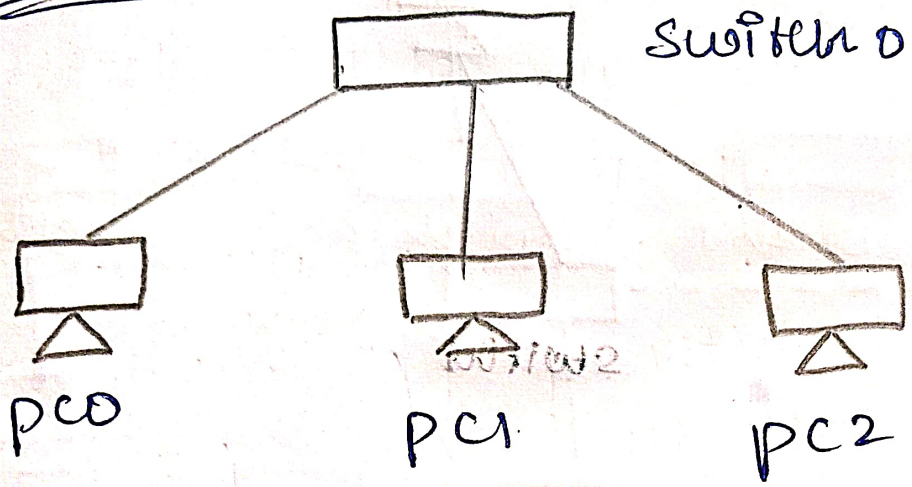
Step 6: configuring IP Address and subnet masks on the Hosts

Step 7: To confirm Data transfer between the Devices.

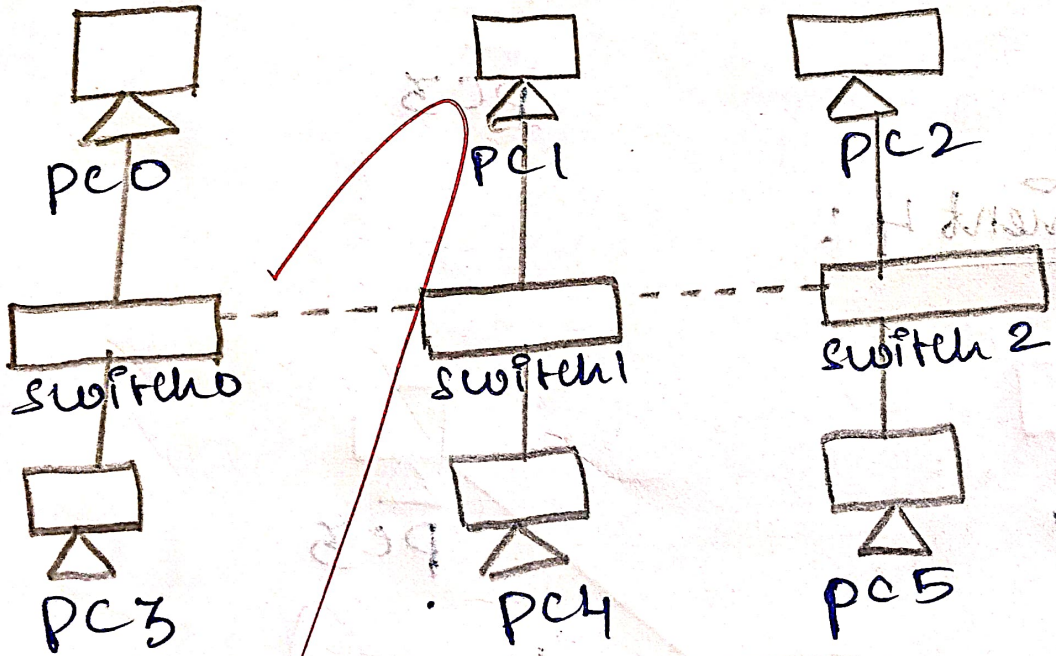
Result: Thus the Mesh topology is implemented with packet tracer simulation tool.

Diagrams

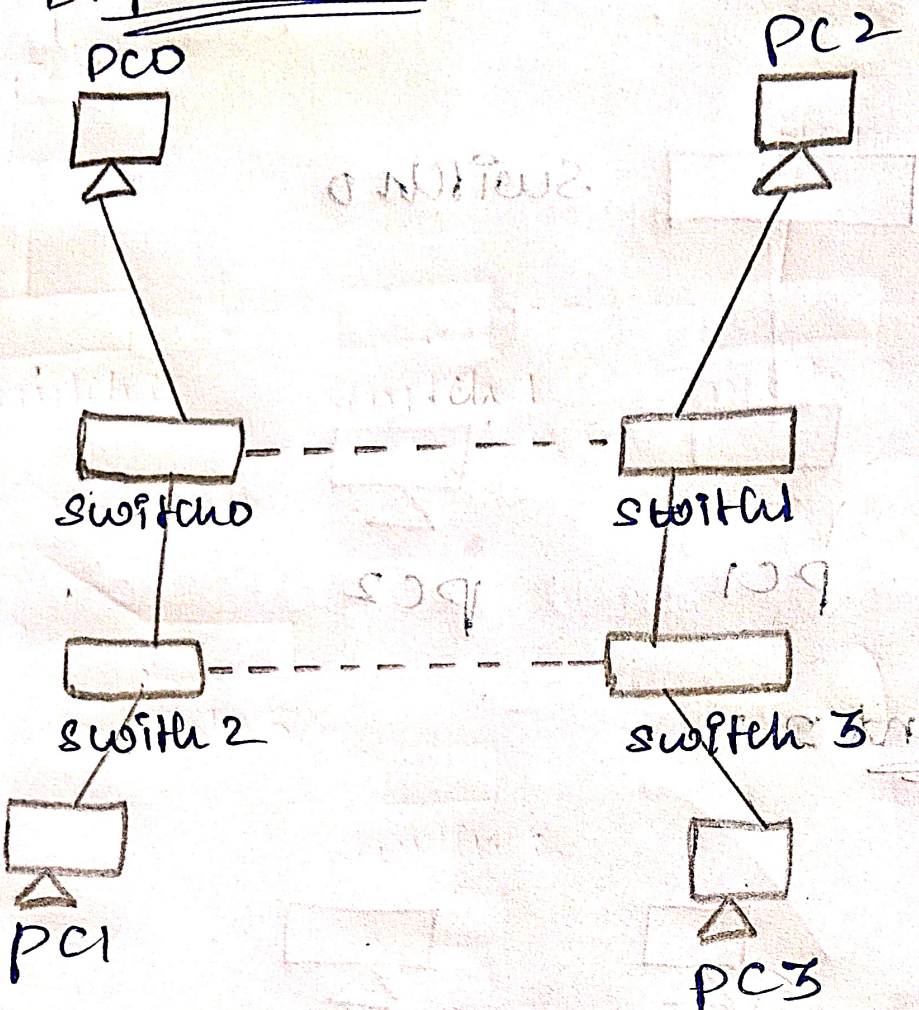
Exp 1 :



Experiment 2 :



Experiment 3 :



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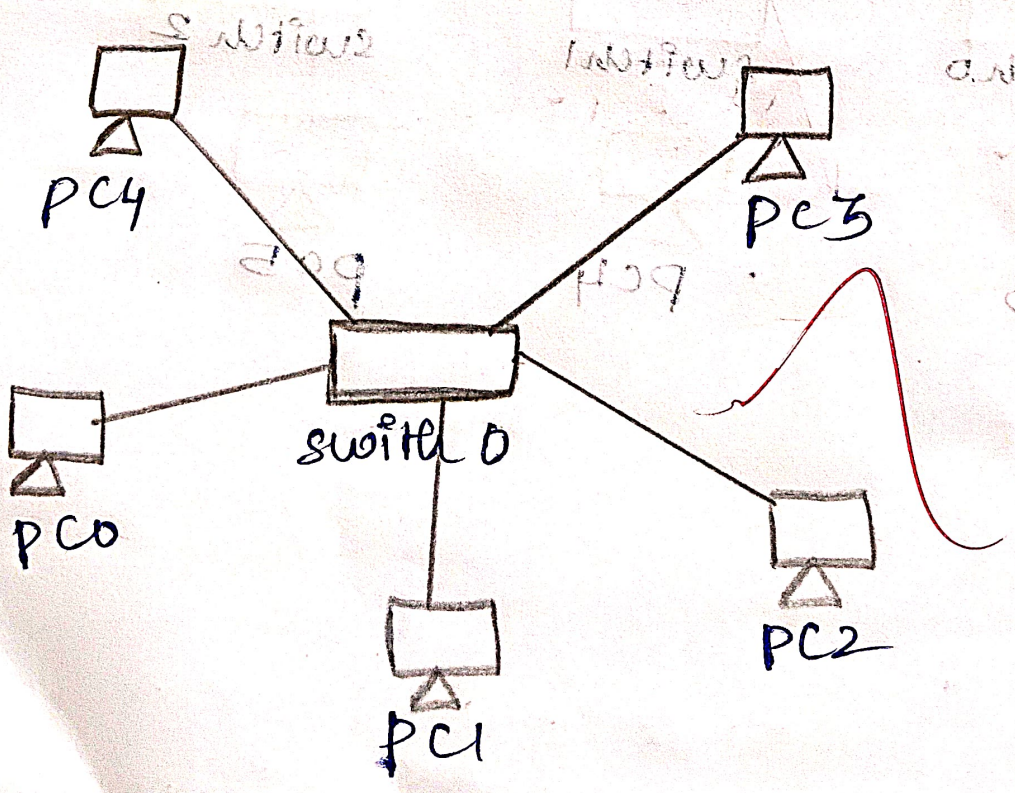
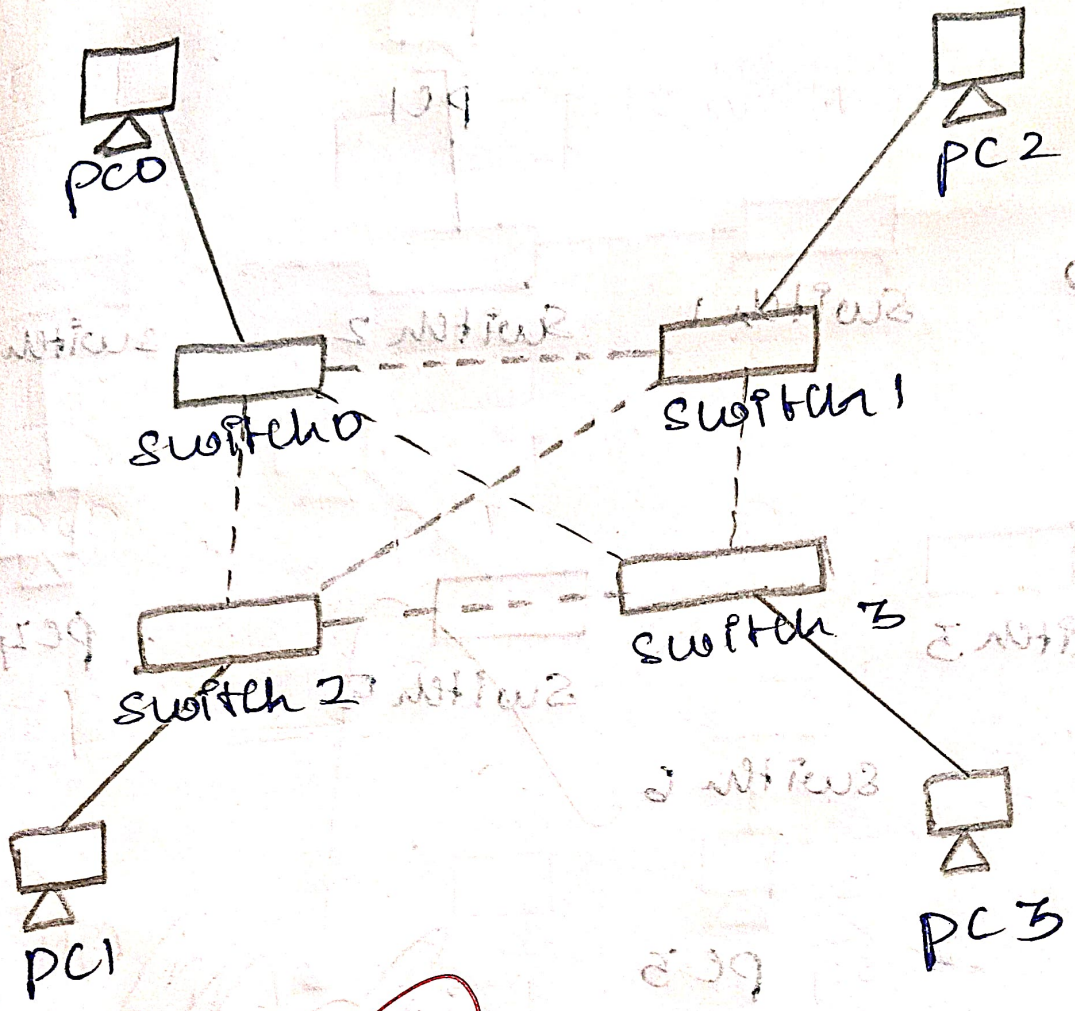


Experiment 5:



Experiment 6: