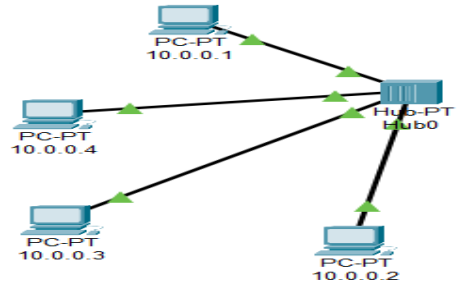
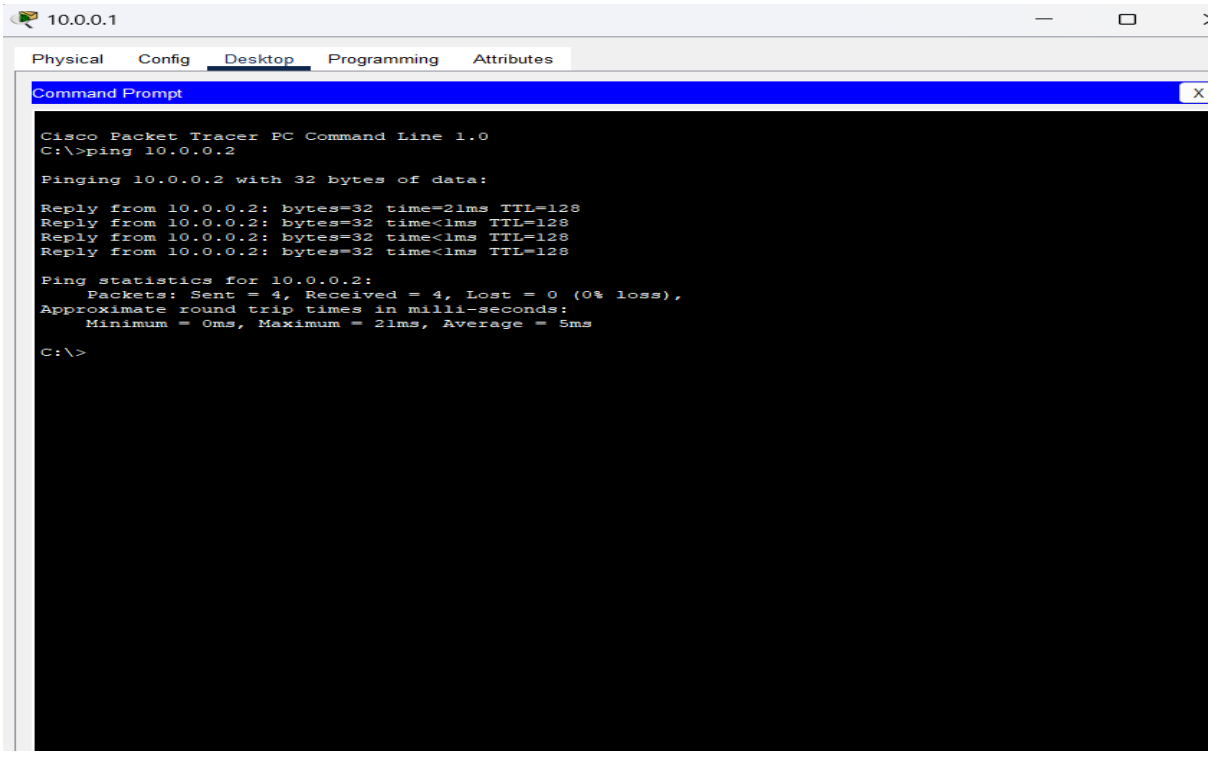
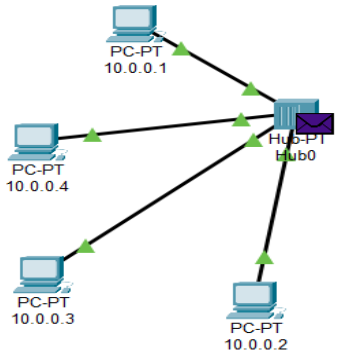
LAB PROGRAM-01

Create a topology consisting of three or more device connected with help of a hub and a switch



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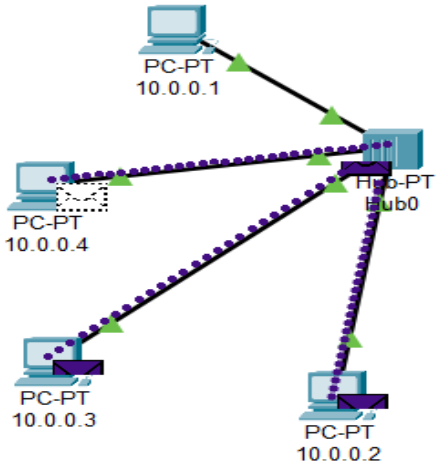
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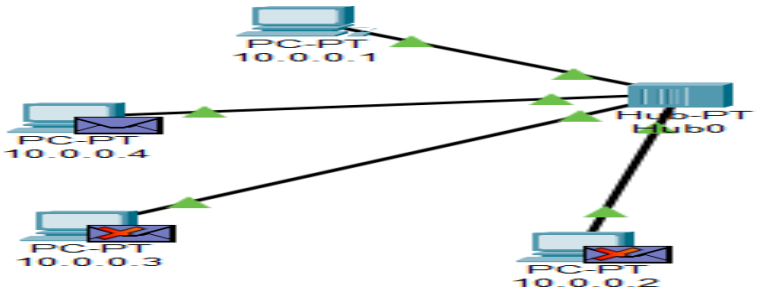
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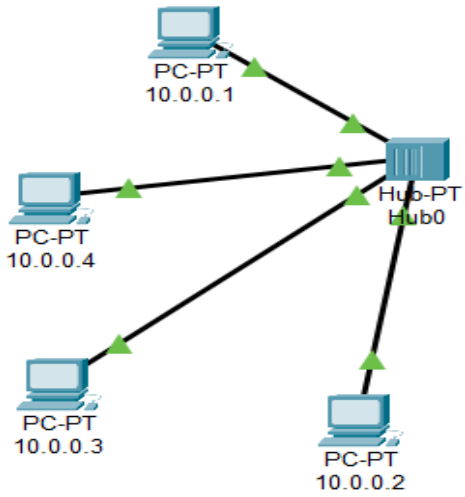
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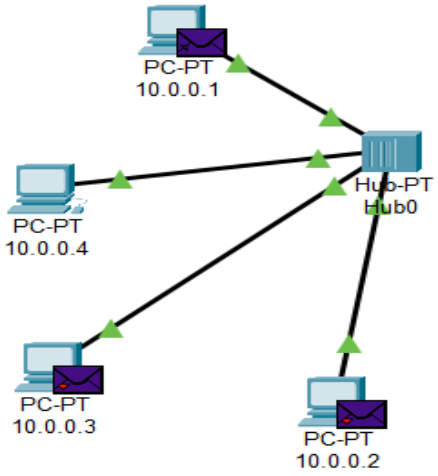
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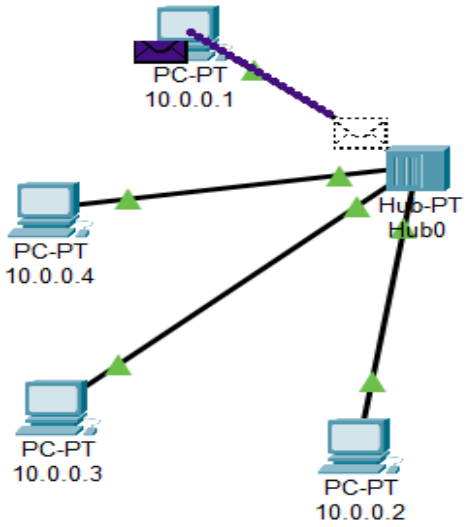
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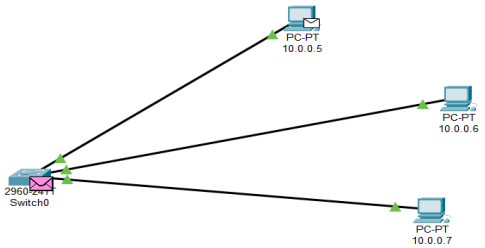
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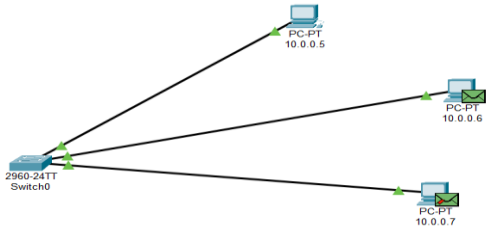
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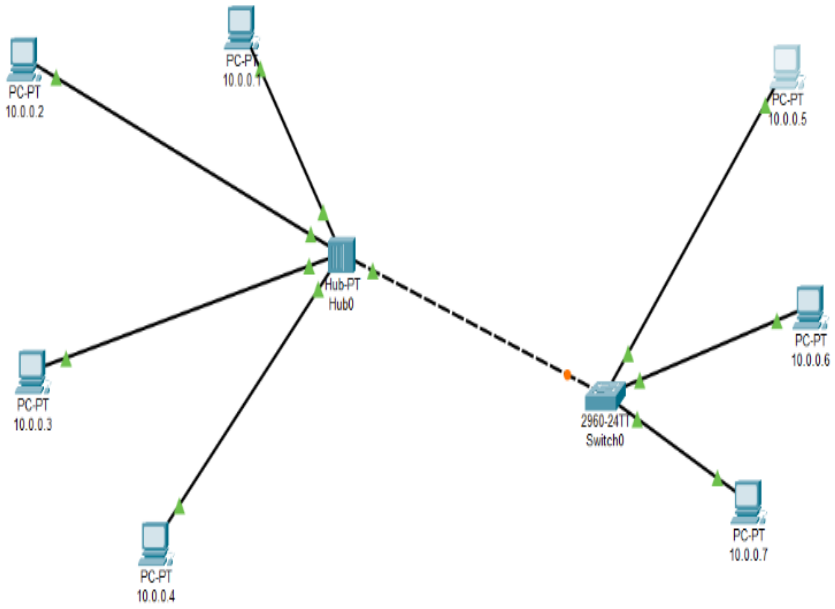
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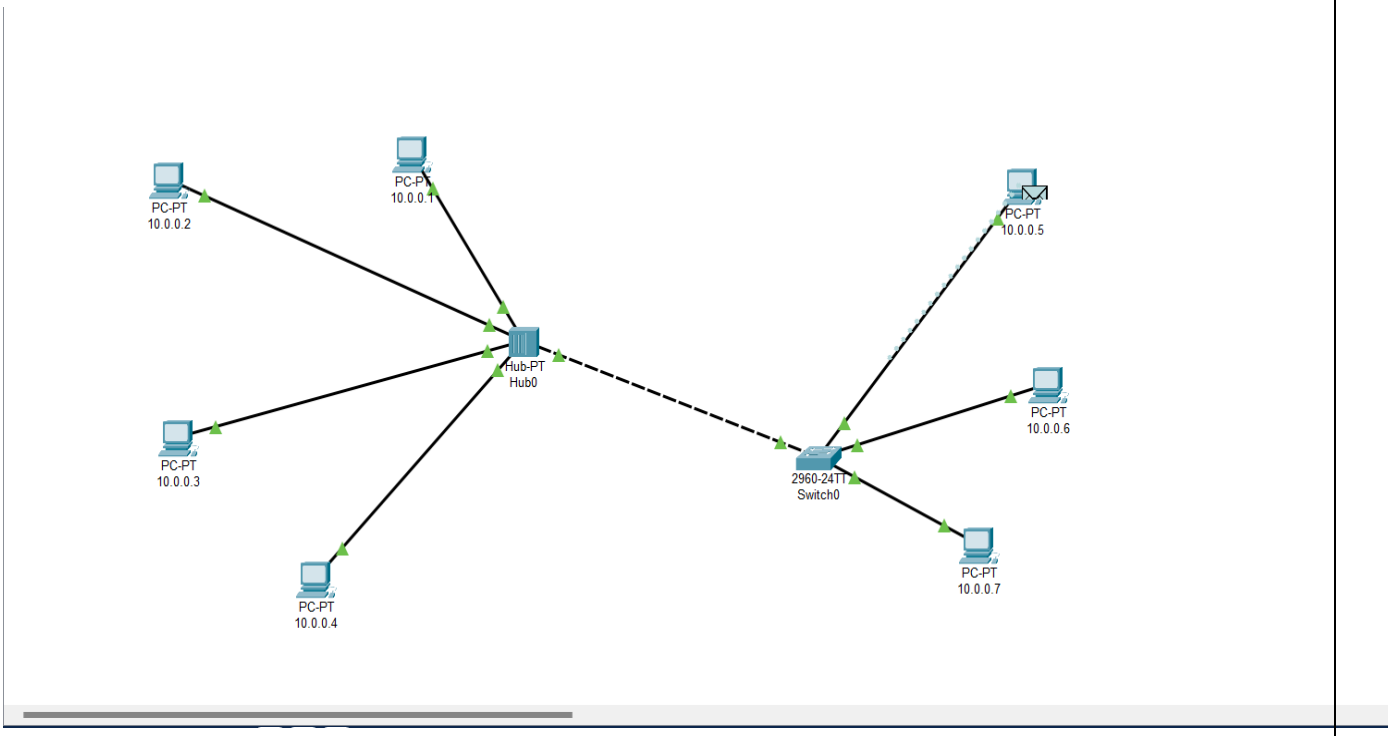
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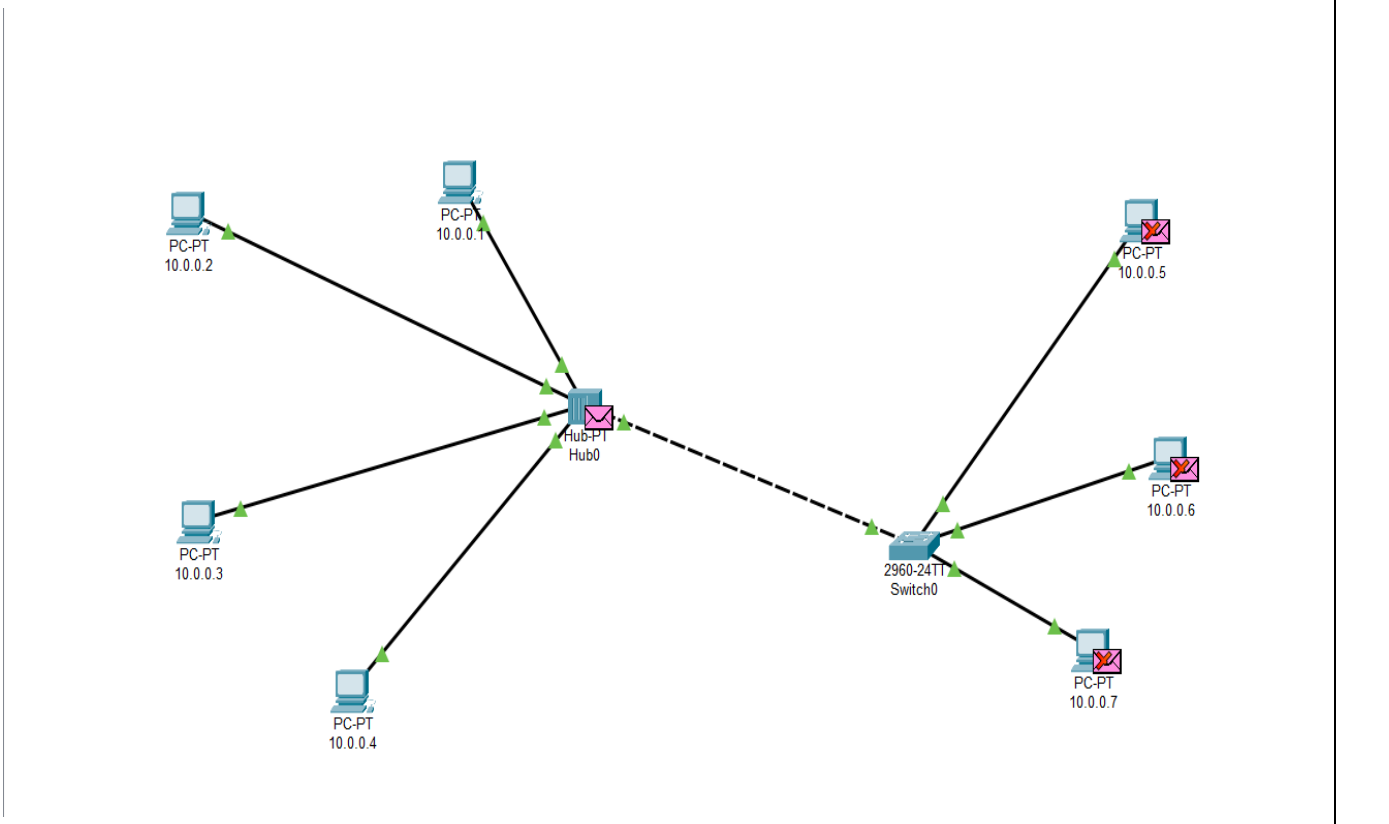
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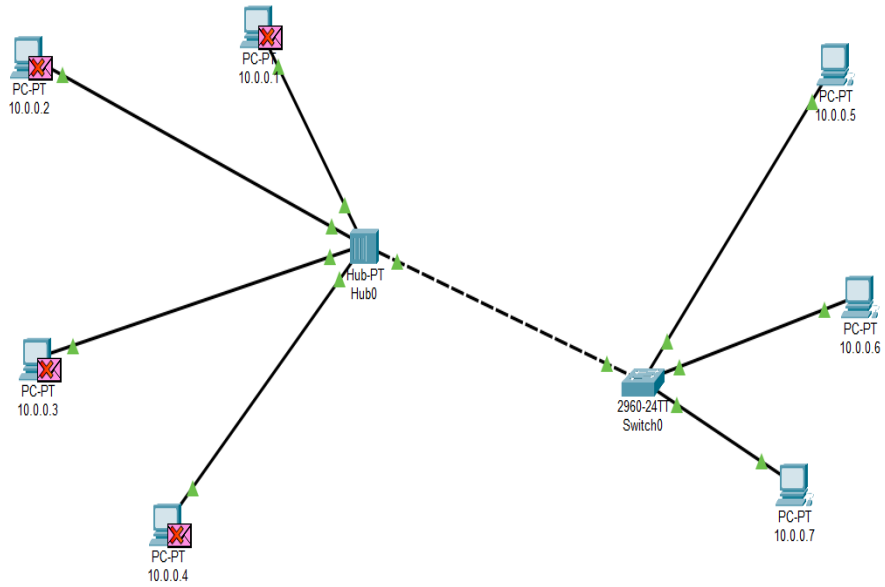
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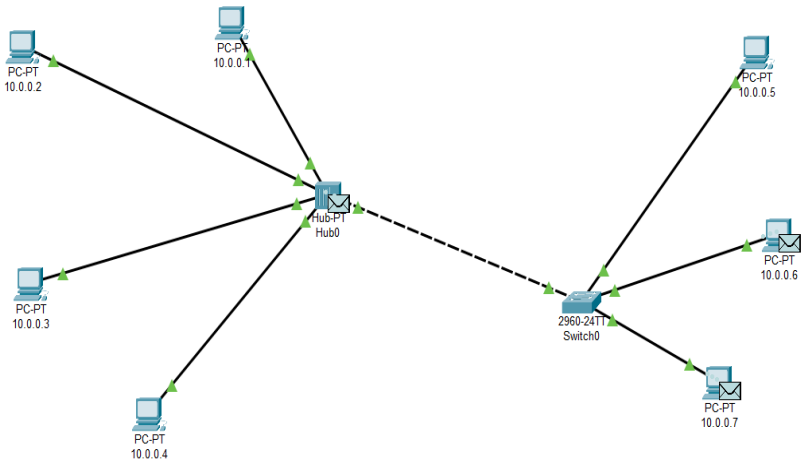
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10.0.0.3
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Switch0
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10.0.0.7
PC-PT
10.0.0.4

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LAB - 01

LAN :- A series of computers linked together to form a network is a circumscribed location.

WAN :- A computer network that connects smaller networks that is not tied to a single location

Ethernet :- A system for connecting a no of computers systems to form a LAN with protocols to control the passing of information b/w systems.

IP address :- A unique string of characters that identify each computer using the internet protocol to communicate over a network.

Hub :- Hub is a node that broadcasts data to every computer or Ethernet based device that is connected to it.

Switch :- It connects devices in a network to each other enabling them to talk by exchanging data packets

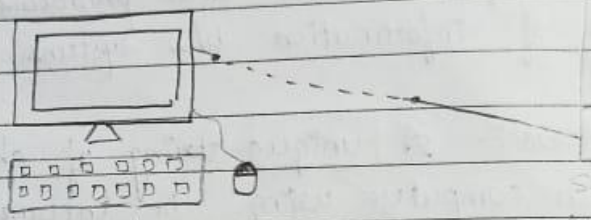
Server :- It connects is a computer program or device that provides a service to another computer program and its uses known as client.

End device :- Are either the source or destination of data transmitted over the network.

Node :- The connection point among network devices such as routers, printers or switches that can recieve and send data from one end point to another.

Packet tracer :-

1. Add PC and server from end devices
2. Connect them with copper cross over
3. Set PC ethernet IP address as 10.0.0.1 and DNS server address as 10.0.0.2
4. Set Server ethernet IP address as 10.0.0.2
5. Services → DNS → Name : WWW first.com
   Address : 10.0.0.2
   Add



Observation :-

Click on pc in real time → desktop → Command prompt command :

ping 10.0.0.2

pinging 10.0.0.2 with 32 bytes of data :

Reply from 10.0.0.2 : bytes = 32 time = 0ms TTL = 128
Reply from 10.0.0.2 : bytes = 32 time = 0ms TTL = 128
Reply from 10.0.0.2 : bytes = 32 time = 0ms TTL = 128
Reply from 10.0.0.2 : bytes = 32 time = 0ms TTL = 128

ping statistics for 10.0.0.2 :

packets : sent = 4. Recieved = 4, Loose = 0 (0% loss)
Approximate round trip times in milliseconds
Minimum = 0ms, Maximum = 0ms, Average = 0ms

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Lab - 01

Create a topology consisting of three or more device connected with help of a hub and help of a switch.

Steps involved :-

Step 1 : Drag and drop 3 generic PC's and a generic switch. Connect 3 pc's as peripherals to the switch after setting the IP address as 10.0.0.1 , 10.0.0.2 and 10.0.0.3 for PC1 , PC2, PC3 respectively and connect them.

Step 2 :- Drag and drop 3 more generic pc's and a generic hub. Set the IP address of PC4 , PC5 and PC6 as 10.0.0.4 , 10.0.0.5 and 10.0.0.6 respectively connect all the three 3 pc's to the hub.

Scenario 1 :

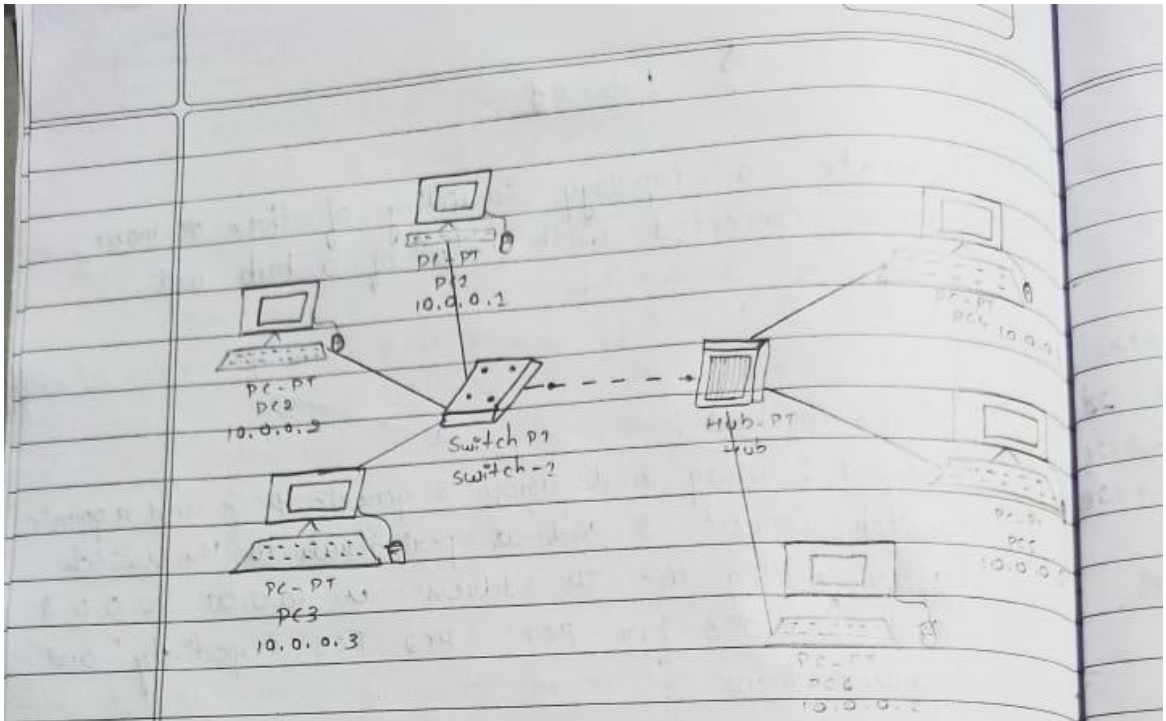
Step 3 : Turn on the switch and send a PDU from PC1 (10.0.0.1) to PC2 (10.0.0.2) via switch.

Scenario 2 :

Step 4 : Send a PDU from PC4 with ip address 10.0.0.4 to PC6 with IP address 10.0.0.6 via hub. Hub will send PDU to every pc connected to it. PC6 will acknowledge and receive it

Scenario 3 :

Step 5 :- Connect switch and hub. Send a PDU from PC1 with IP address 10.0.0.1 to PC6 with IP address 10.0.0.6 via switch and hub.



Command prompt

PC> ping 10.0.0.6

pinging 10.0.0.6 with 32 bytes of data:

Reply from 10.0.0.6 : bytes = 32 time = 6ms TTL = 128

Reply from 10.0.0.6 : bytes = 32 time = 6ms TTL = 128

Reply from 10.0.0.6 : bytes = 32 time = 6ms TTL = 128

Reply from 10.0.0.6 : bytes = 32 time = 6ms TTL = 128

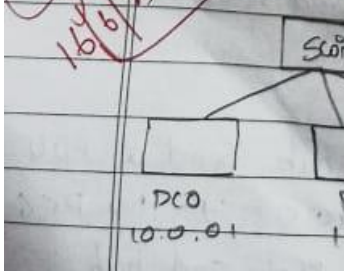
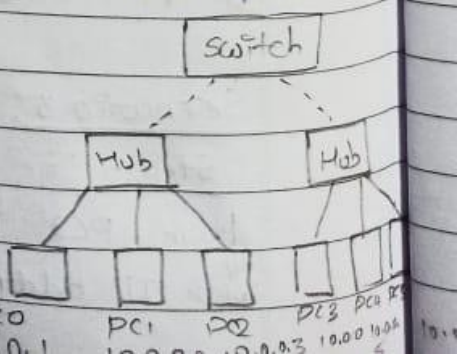
ping statistics for 10.0.0.6

packets : Sent = 4, Received = 4, lost = 0 (0% loss)

Approximate round trip times in milli seconds:

Minimum = 5ms, Maximum = 6ms, Average = 6ms

Topology with switch



Topology with Hub and switch