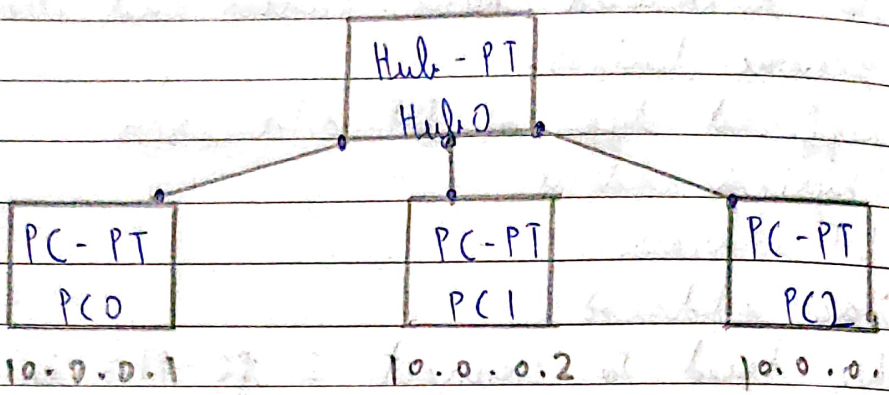
10/11/22

LAB - 1

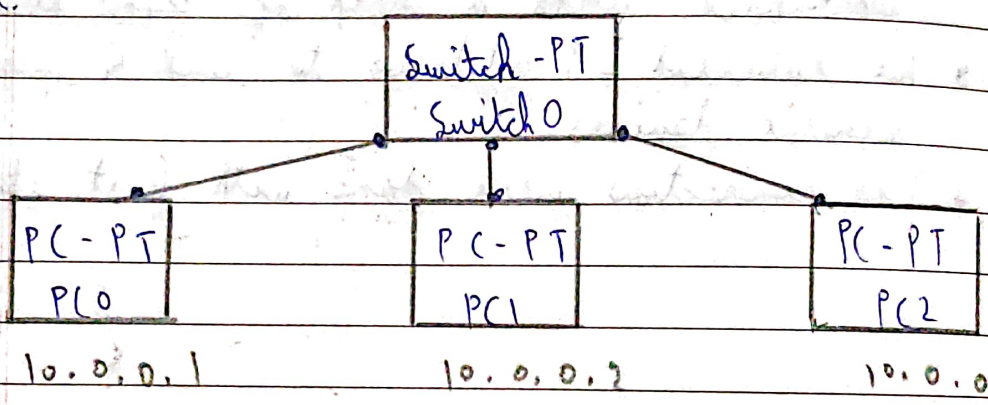
AIM: Creating a topology & simulate simple PDU from source to dest. using simple hub & switch

TOPOLOGY:

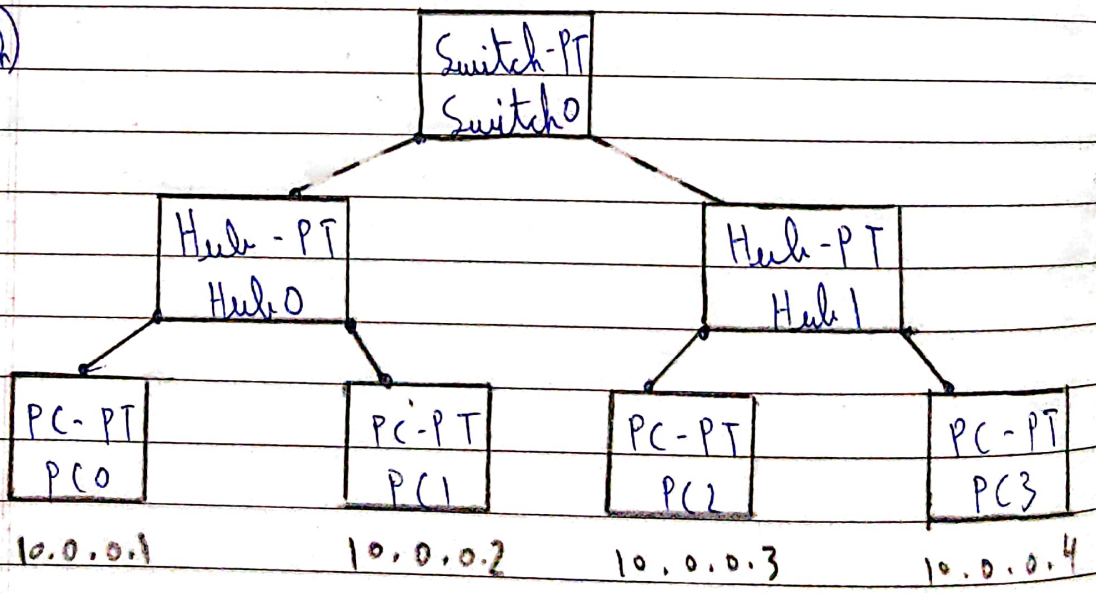
Using hub:



Using switch:



Hybrid: (Hub & Switch)



Procedure:

Using Hub:
- Add generic hub & the PC's to workspace.
- Configure IP address of each PC in configuration tab.
- Connect all PC's to hub using copper straight wire.
- Hub & PC is connected to each other's fast ethernet connection.

Real time: Select source PC & in desktop tab, select CMD and type ping <IP-address> to generate response.

Simulation time: Select simple PDU & select source & dest. computer, clicking on auto capture, to see how packets are transferred to & from device.

Using Switch: Same similar steps to hub.

Real time: Same as hub.

Simulation: Same as hub connection, but not all transfer are successful.

Hybrid: We connect 2 hubs from a switch & generic devices to hubs, similar as above steps config. IP address

Real time & Simulation: Similar steps as above.

Observation

→ Hub, Switch
- When source sends a packet in network the hub source the packet & ends broad cast over the network, it sends data to all the end devices in network & node where it matches with specified address accepts the packet & acknowledge it. Remaining nodes ignore message
- Connn b/w hub & end devices is established through Copper straight through wire as they belong to different layers.

Switch → * Similar as hub, but here it takes some time called learning time.

Result: PC > ping 10.0.0.3

pinging 10.0.0.3 with 32 bytes of data
Reply from 10.0.0.3: bytes = 32 time = 0 ms
Reply from 10.0.0.3: bytes = 32 time = 0 ms
Reply from 10.0.0.3: bytes = 32 time = 0 ms
Reply from 10.0.0.3: bytes = 32 time = 0 ms
ping statistics for 10.0.0.3
Packets: Sent = 4, Received = 4, lost = 0

Neeline
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We'll notice the packets sent successfully without any interruption.