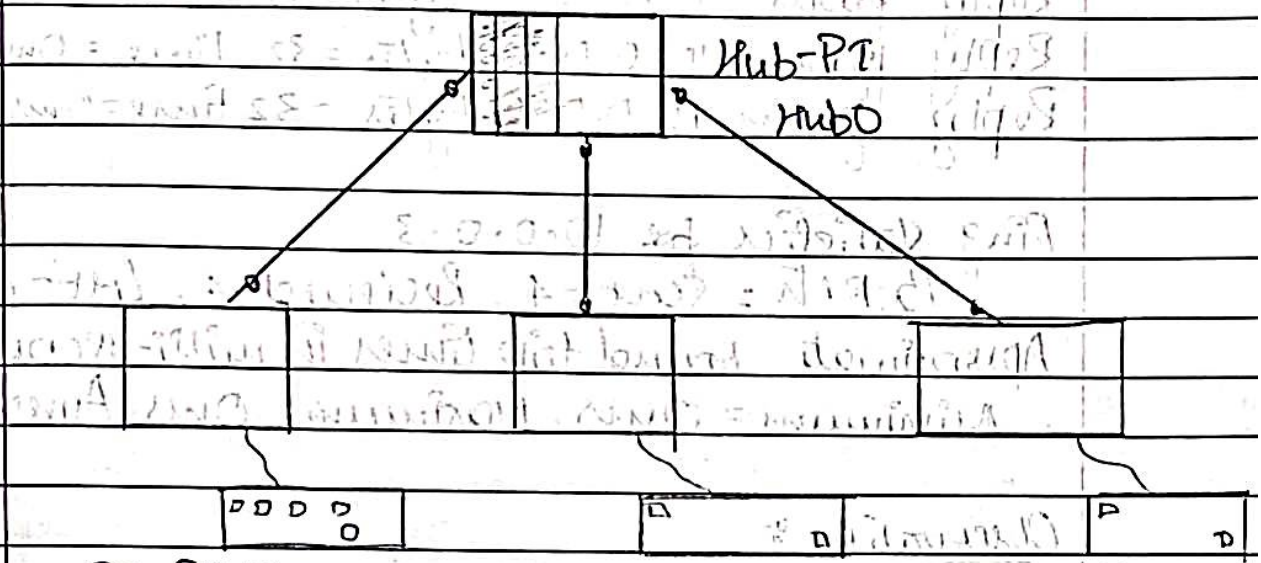
15/6/23 **Experiment-1 :-**

**Aim :** Create a topology & simulate sending a simple PDU from source to destination using Hub & switch as connecting devices & demonstrate ping message.

**Topology :**




**Procedure :-**

- Select end devices & opt on the PC and place it in the workspace given.
- Set the IP address for all the PC's selected by clicking on the PC.
- Connect PC & the hub by copper-straight wire which is in the connections mode.
- Start the Stimulation by selecting the sender PC & giving the IP address of the destination PC.
- Select the command prompt in the PC & write ping + IP address of destination PC to get the output.

## Result :-

Packet Tracer PC Command Line 1.0
PC > ping 10.0.0.3
Pinging 10.0.0.3 with 32 bytes of data.

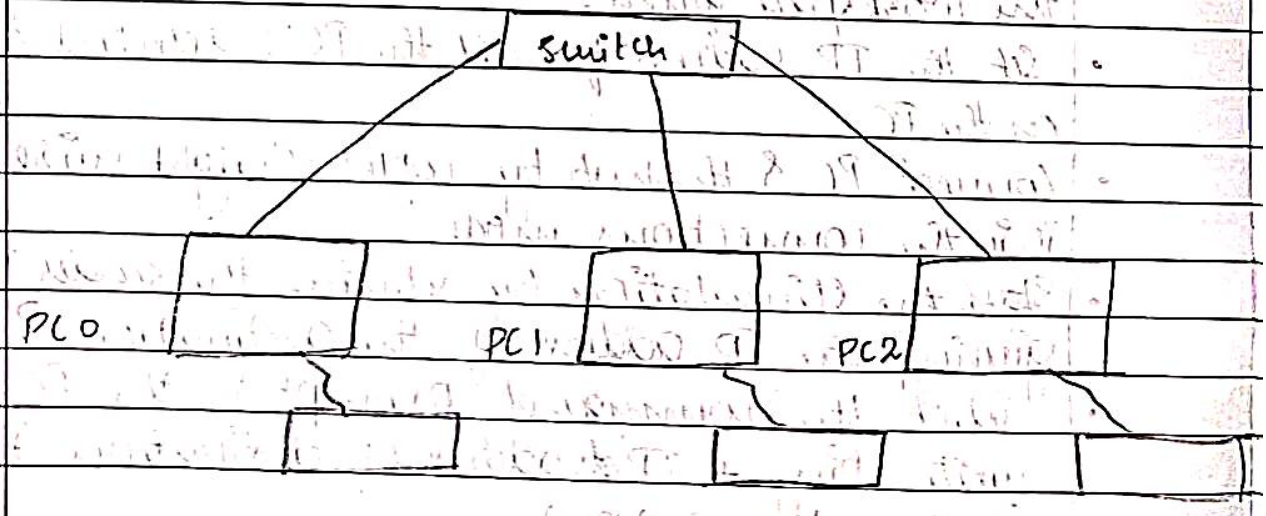
Reply from 10.0.0.3 bytes=32 time=0ms TTL=128
Reply from 10.0.0.3 bytes=32 time=0ms TTL=128
Reply from 10.0.0.3 bytes=32 time=0ms TTL=128
Reply from 10.0.0.3 bytes=32 time=0ms TTL=128

Ping statistics for 10.0.0.3:
Packets: Sent=4, Recieved=4, Lost=0 (0% Loss)
Approximate round trip times in milli-seconds:
Minimum=0ms, Maximum=0ms, Average=0ms

## Observation :-

Packet travelled from PC1 to hub & acknowledgement recieved by both PC's. Packet travelled from reciever to sender PC via a hub.

## Topology 2 :-



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## Procedure:-

Select the PC's from the end devices and set their respective IP addresses. Connect PC's to the switch by connecting wire (copper straight). Start the realtime & simulation & note the observations.

## Result:-

Packet Tracer PC command Line 1.0
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=0ms TTL=128
Reply from 10.0.0.3 bytes=32 time=0ms TTL=128
Reply from 10.0.0.3 bytes=32 time=0ms TTL=128
Reply from 10.0.0.3 bytes=32 time=0ms TTL=128

Ping statistics for 10.0.0.3
Packets: Sent = 4, Recieved = 4, Lost = 0 (0% Loss)
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms

## Observation:-

Packet travelled from source to destination without being broadcasted to all the end devices.

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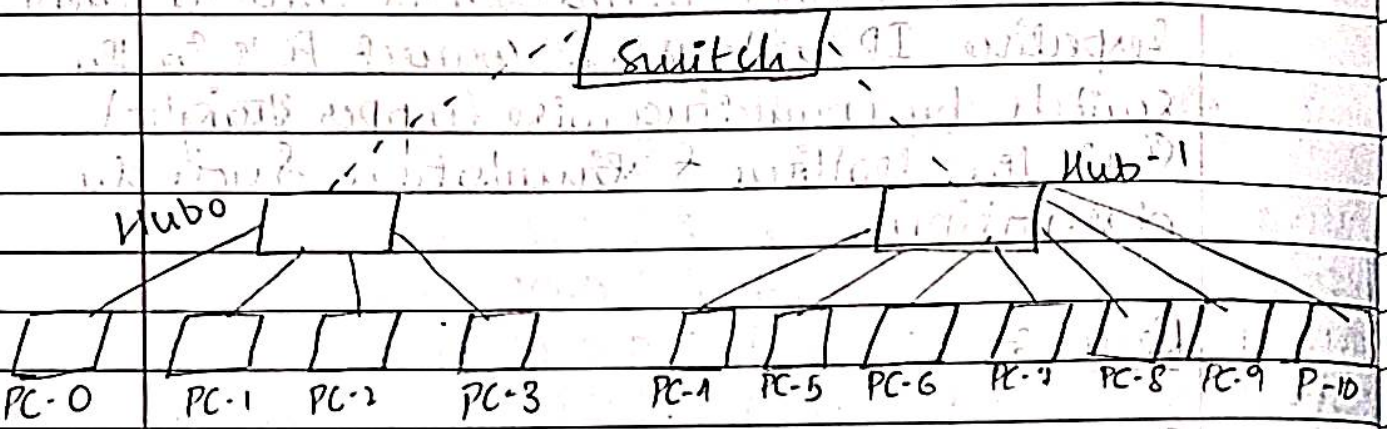
## Topology 3:-




### Procedure :-

Select PC's from the end devices & connect to Hubs respectively. Connect the Hubs to the switches.

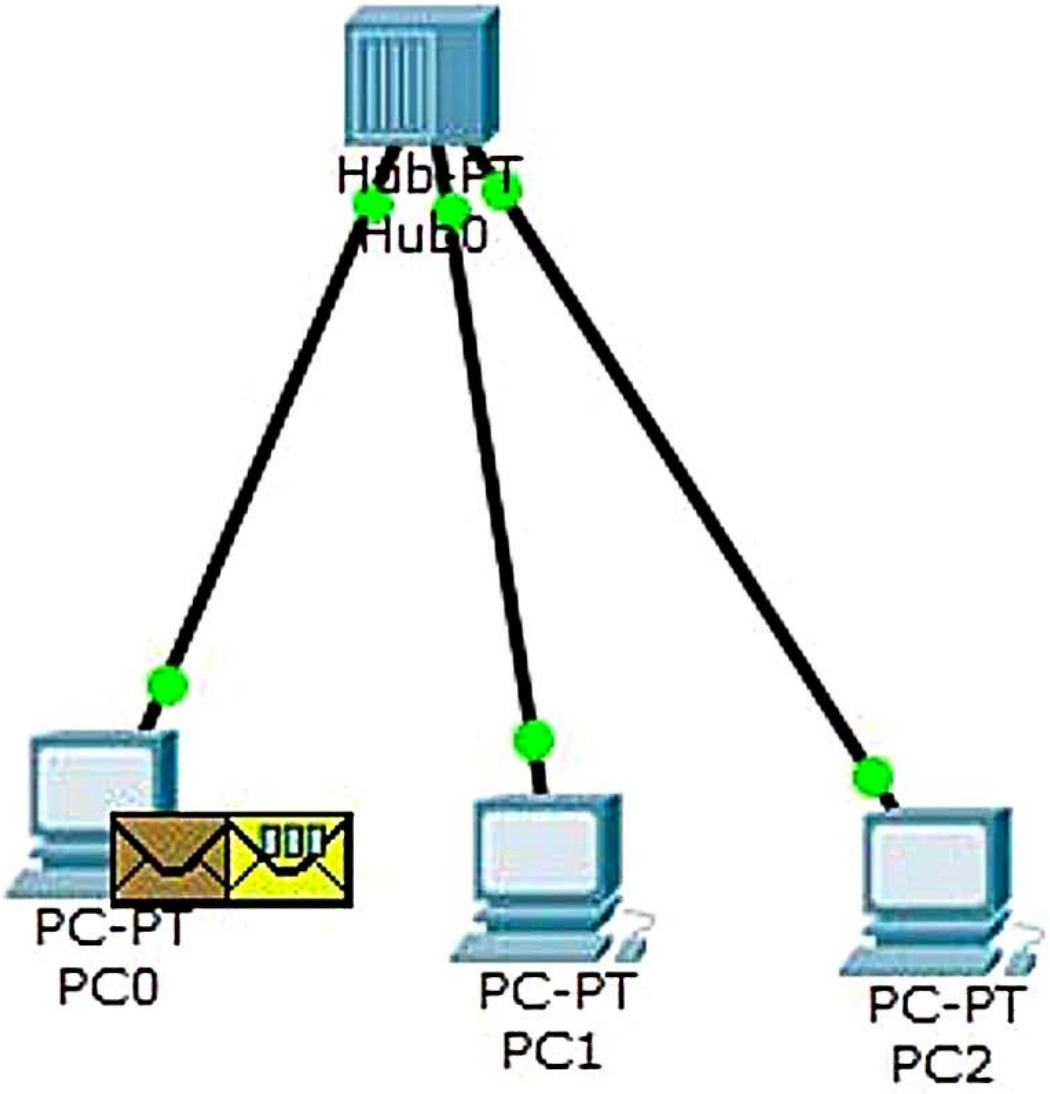
### Result :-

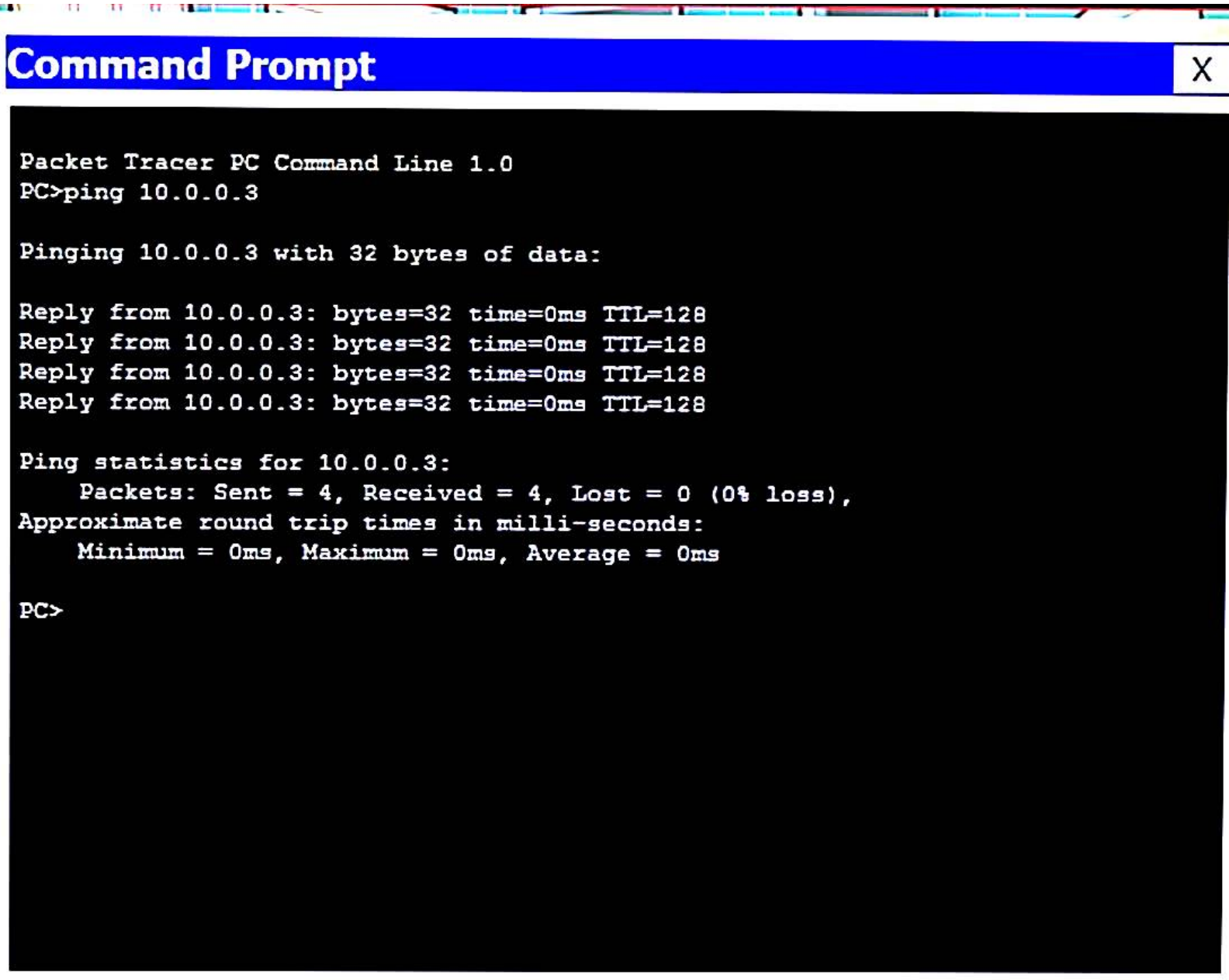
Packet Tracer PC command Line 1.0
PC > ping 10.0.0.11
Pinging 10.0.0.11 with 32 bytes of data:

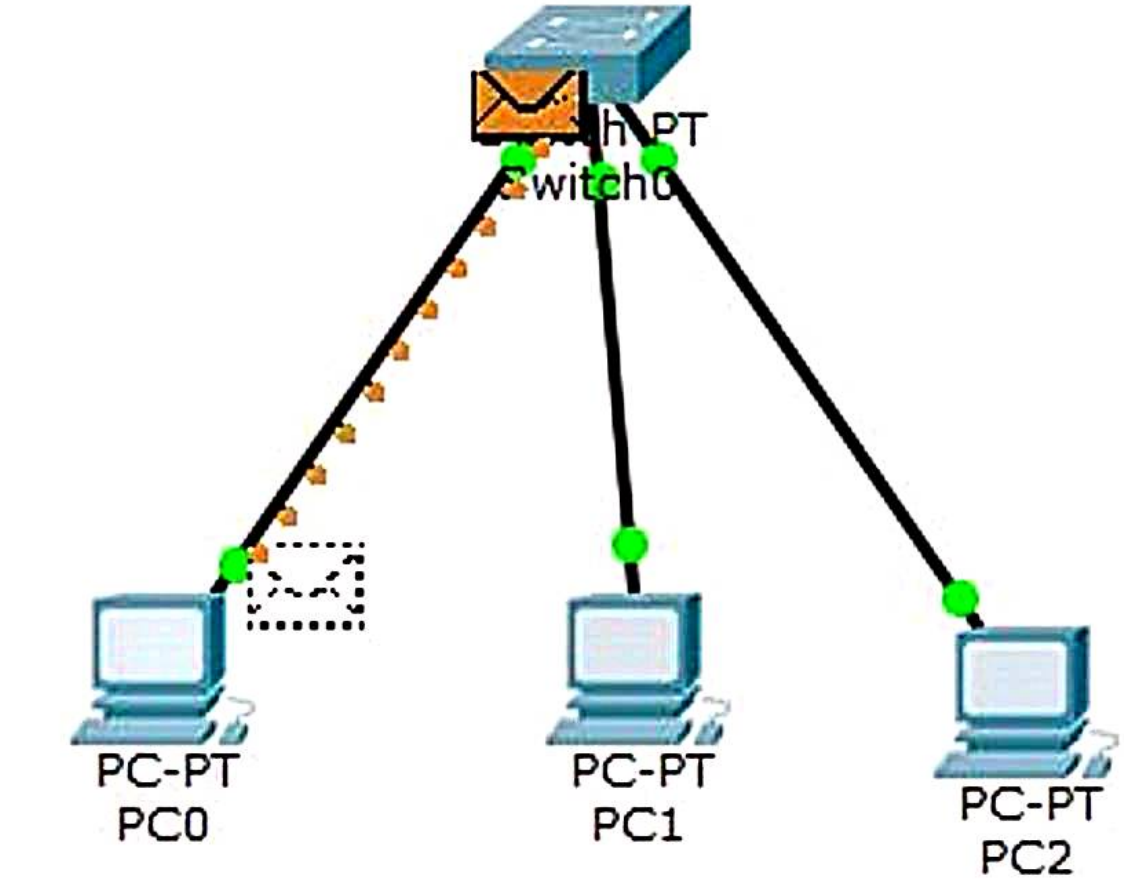
Reply from 10.0.0.11 bytes=32 time=3ms TTL=128
Reply from 10.0.0.11 bytes=32 time=3ms TTL=128
Reply from 10.0.0.11 bytes=32 time=3ms TTL=128
Reply from 10.0.0.11 bytes=32 time=3ms TTL=128

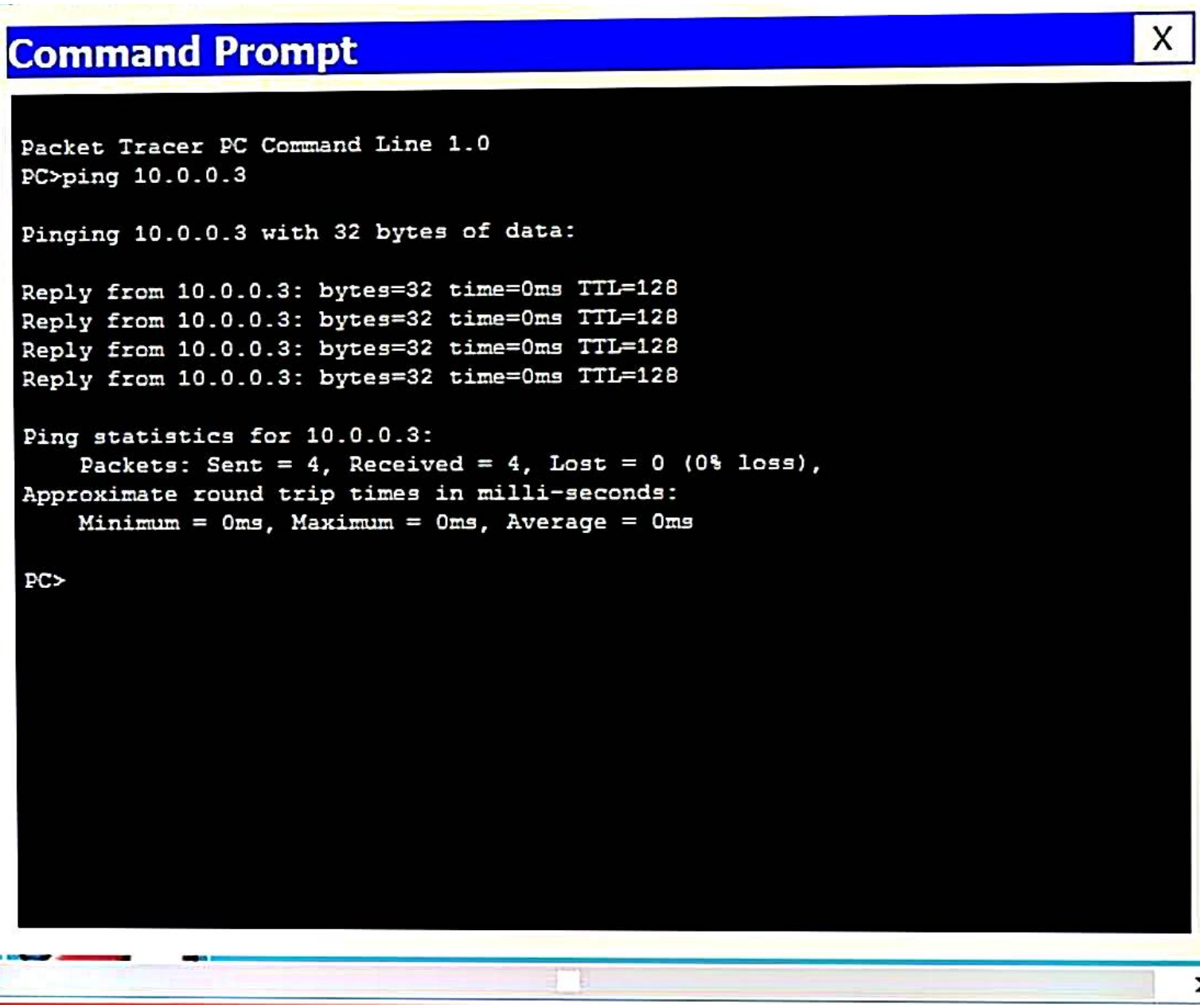
Ping statistics for 10.0.0.11
Packets: Sent=4, Received=4, Lost=0(0% loss)
Approximate round trip times in milli-seconds
Minimum=0ms, Maximum=3ms, Average=1ms.

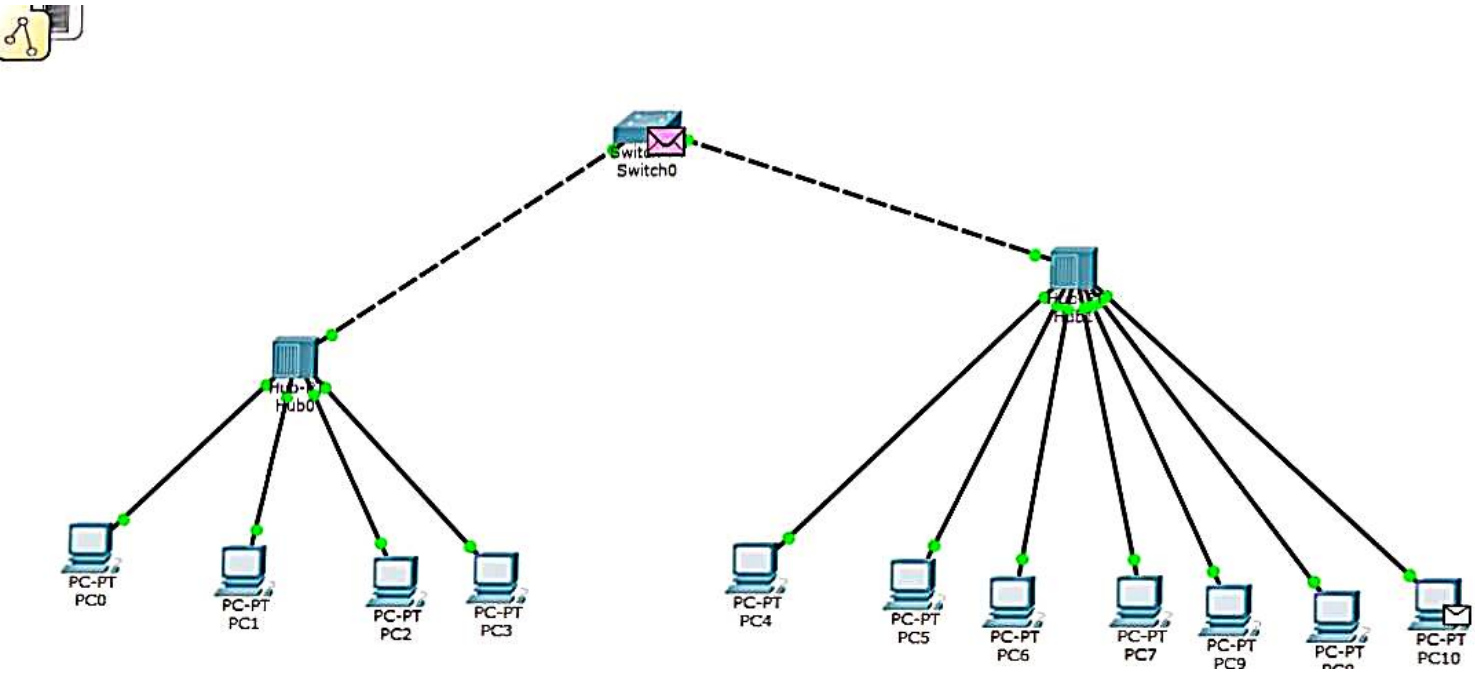
Observation: Packets travels from receiver to the destination by the hub in both of the hubs. And in turn travels to the switch & broadcasts to all other devices

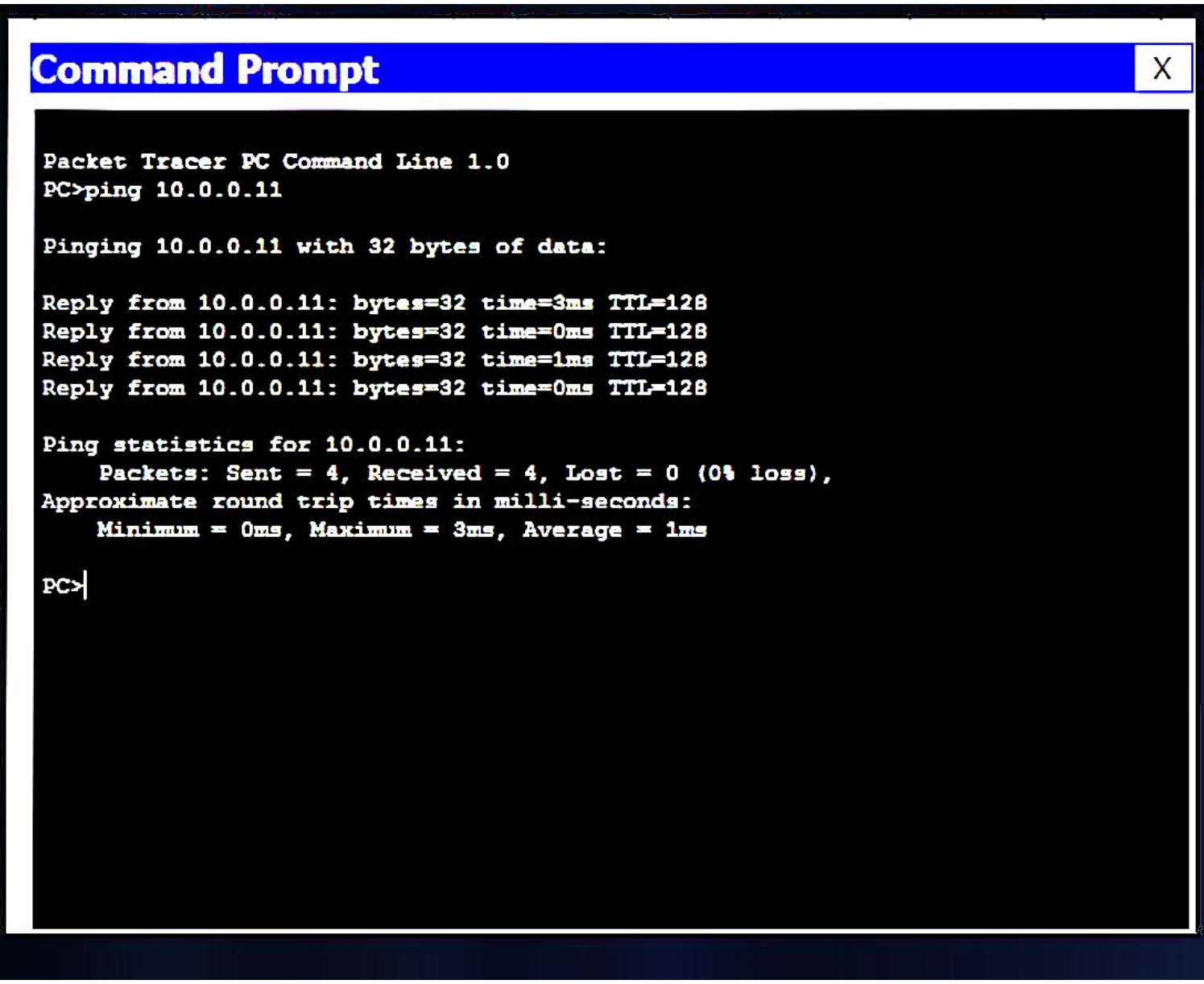

Hub-PT
Hub0
PC-PT
PC0
PC-PT
PC1
PC-PT
PC2
10.0.0.1
10.0.0.2
10.0.0.3


Command Prompt
X
Packet Tracer PC Command Line 1.0
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=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Ping statistics for 10.0.0.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>


Switch0
PC-PT
PC0
PC-PT
PC1
PC-PT
PC2
10.0.0.1
10.0.0.2
10.0.0.3


Command Prompt
X
Packet Tracer PC Command Line 1.0
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=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Ping statistics for 10.0.0.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>


Switch0
PC-PT
PC0
PC-PT
PC1
PC-PT
PC2
PC-PT
PC3
PC-PT
PC4
PC-PT
PC5
PC-PT
PC6
PC-PT
PC7
PC-PT
PC9
PC-PT
PC10


Command Prompt
X
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.11
Pinging 10.0.0.11 with 32 bytes of data:
Reply from 10.0.0.11: bytes=32 time=3ms TTL=128
Reply from 10.0.0.11: bytes=32 time=0ms TTL=128
Reply from 10.0.0.11: bytes=32 time=1ms TTL=128
Reply from 10.0.0.11: bytes=32 time=0ms TTL=128
Ping statistics for 10.0.0.11:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 3ms, Average = 1ms
PC>