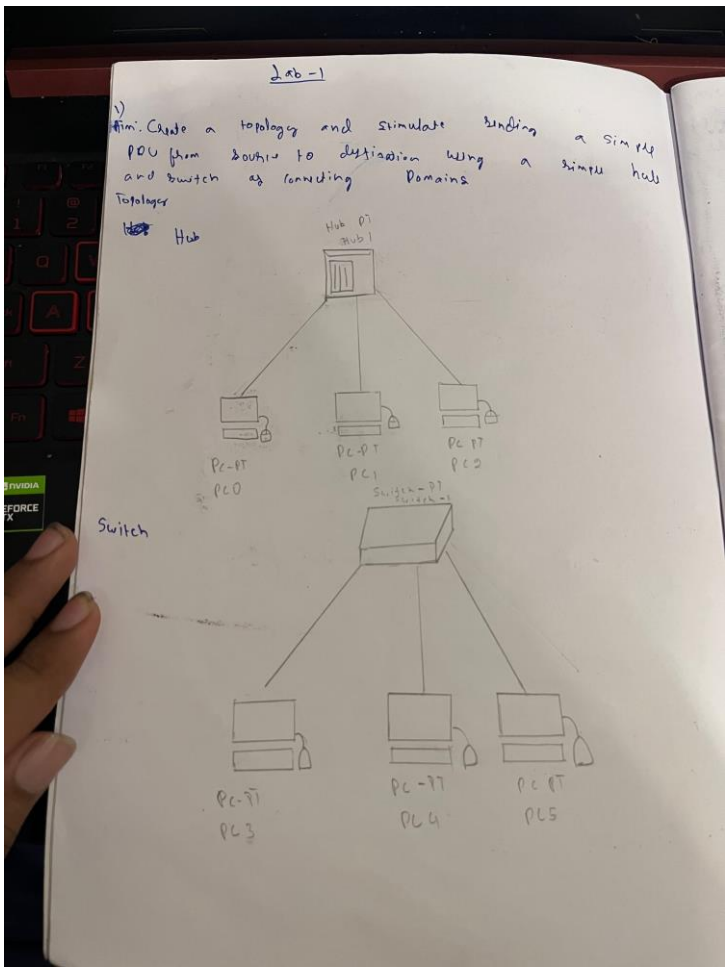
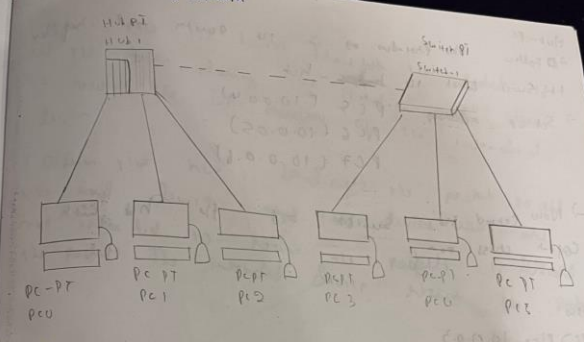
WEEK 1

Create a topology and simulate sending a simple PDU from source to destination using hub and switch as connecting devices and demonstrate ping messages.

OBSERVATION :



mirror network



Procedure

Switch-PC

→ Place 3 generic PC's (PC2, PC3, PC-4) and generic Switch switch PT - Switch - 1

→ Connect the switch port with all PC using copper straight through wire

→ Configure the IP address of the PC's

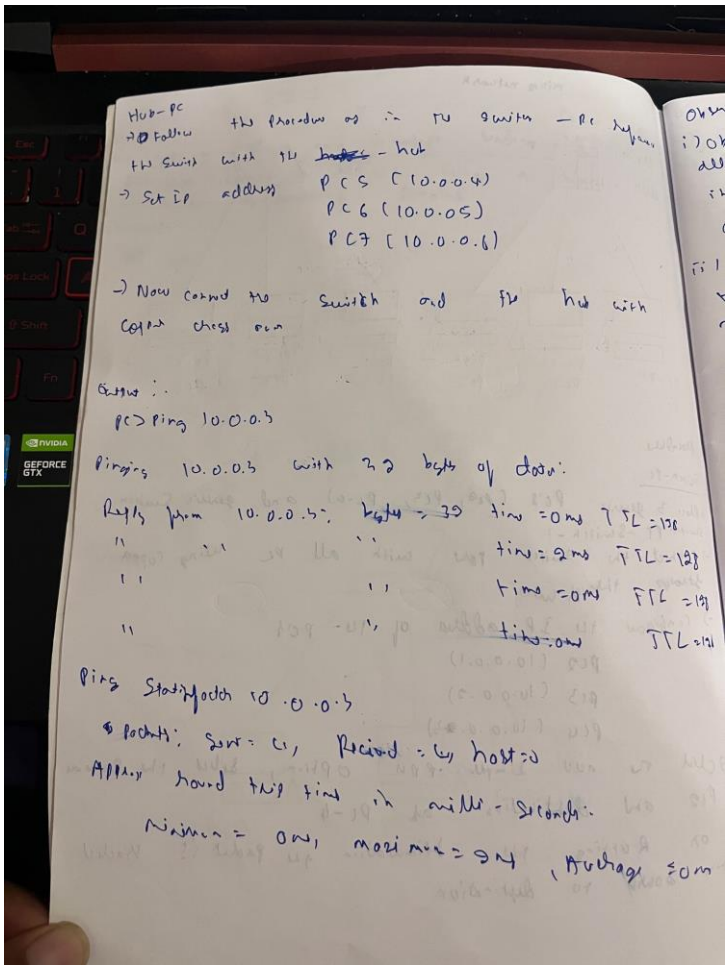
PC2 (10.0.0.1)

PC3 (10.0.0.2)

PC4 (10.0.0.3)

→ Click the add simple PDU option, select the Source PC2 and destination as PC-4

→ On Running the simulation the packet is tracked from source to destination



Hub-PC
→ Follow the procedure as in the switch - PC reference
the switch with the ~~hubs~~ - hub
→ Set IP address PC5 (10.0.0.4)
PC6 (10.0.0.5)
PC7 (10.0.0.6)

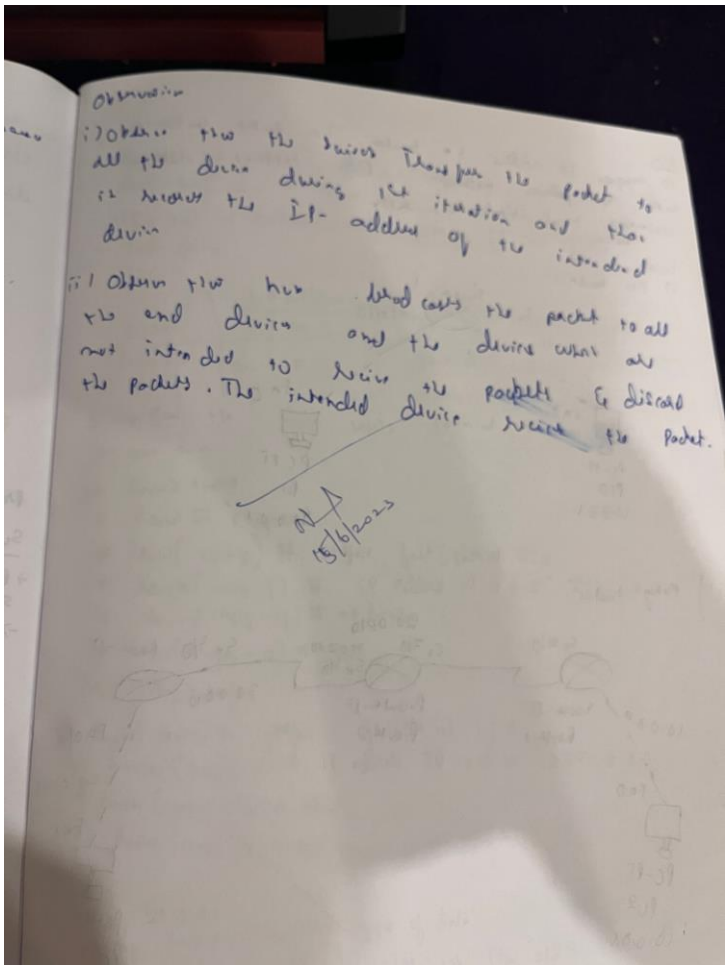
→ Now connect the switch and the hub with copper cross over

Output :-
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
" " " time = 2ms TTL = 128
" " time = 0ms TTL = 128
" " time = 0ms TTL = 128

Ping Statistics 10.0.0.3
Packets: Sent = 4, Recived = 4, host = 0
Approx round trip time in milli-seconds:
Minimum = 0ms, maximum = 2ms, Average = 0ms



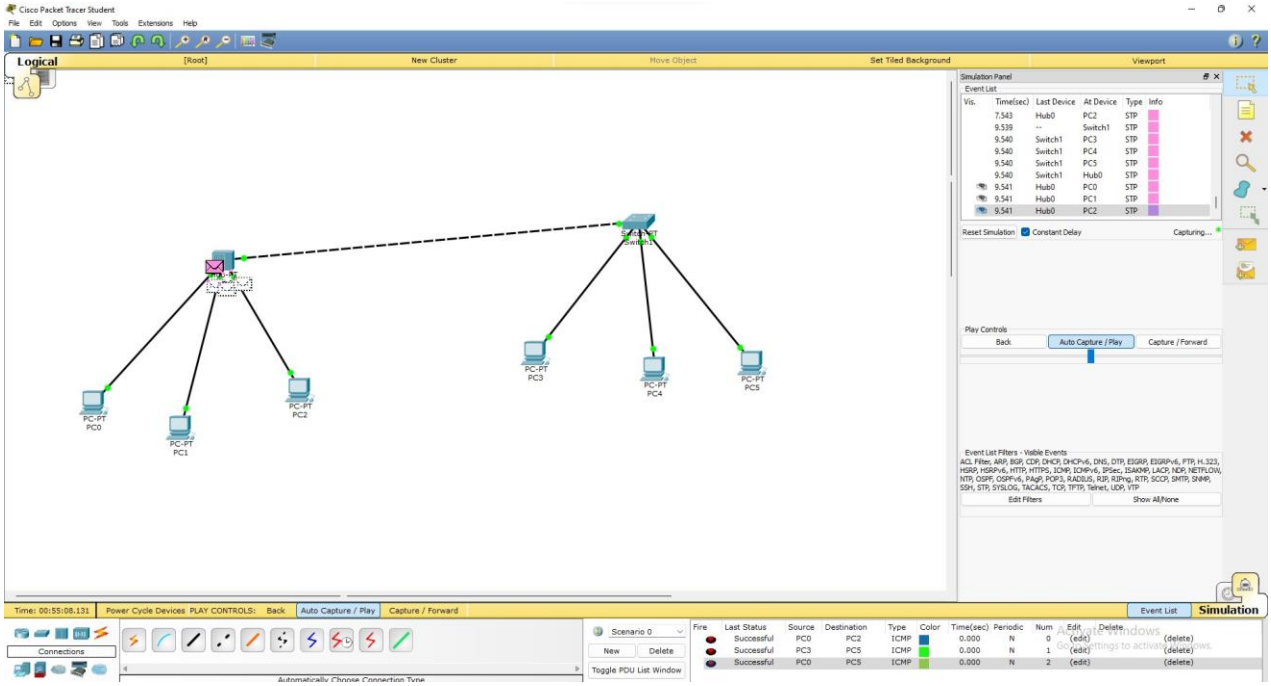
Observation

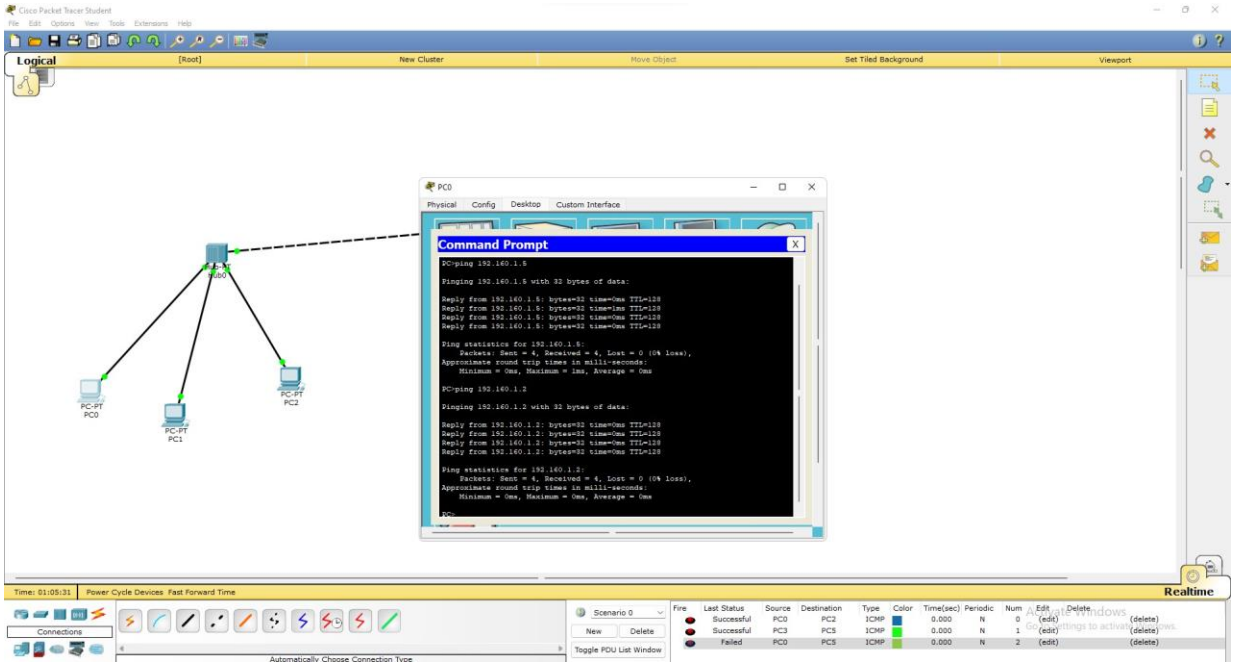
i) Observe that the devices transfer the packet to all the device during 1st iteration and then it receives the IP- address of the intended device

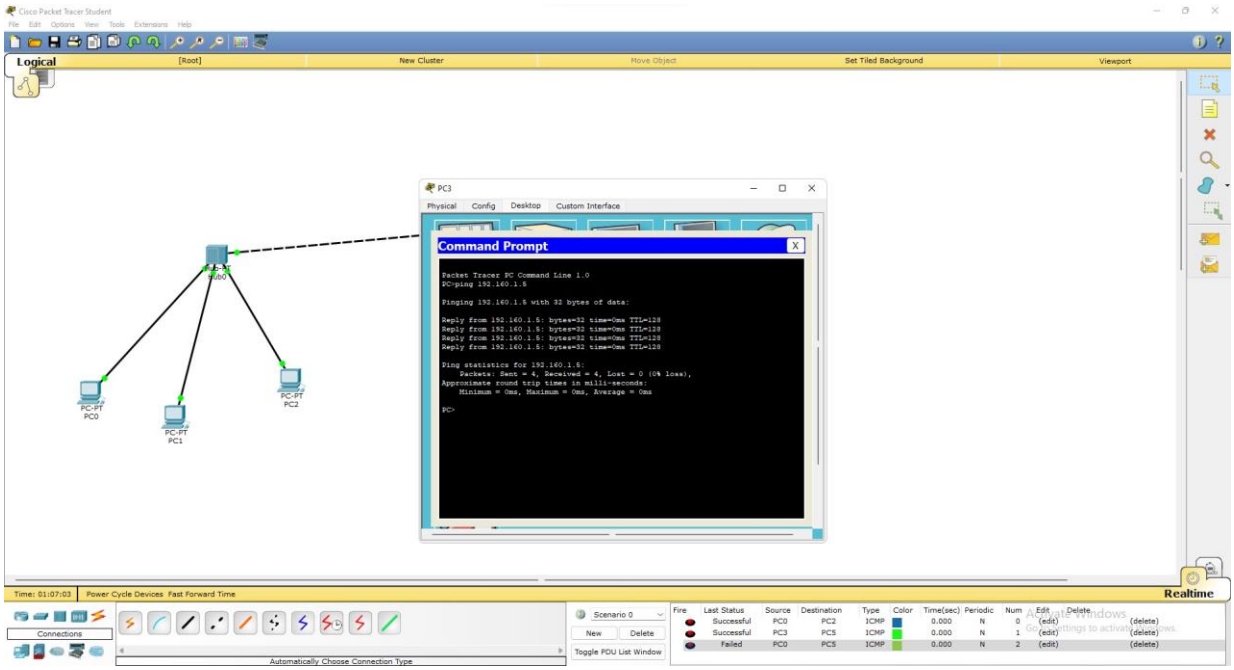
ii) Observe that hub broadcasts the packet to all the end devices and the devices which are not intended to receive the packets & discard the packets. The intended device receives the packet.

15/6/2023

OUTPUT:


Cisco Packet Tracer Student
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Simulation Panel
Event List
Vis. Time(sec) Last Device At Device Type Info
7.543 Hub0 PC2 STP
9.539 -- Switch1 STP
9.540 Switch1 PC3 STP
9.540 Switch1 PC4 STP
9.540 Switch1 PC5 STP
9.540 Switch1 Hub0 STP
9.541 Hub0 PC0 STP
9.541 Hub0 PC1 STP
9.541 Hub0 PC2 STP
Reset Simulation
Constant Delay
Capturing...
Play Controls
Back
Auto Capture / Play
Capture / Forward
Event List Filters - Visible Events
Edit Filters
Show All/None
PC-PT PC0
PC-PT PC1
PC-PT PC2
PC-PT PC3
PC-PT PC4
PC-PT PC5
Time: 00:55:08.131
Power Cycle Devices
PLAY CONTROLS:
Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Connections
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Successful PC0 PC2 ICMP 0.000 N 0 (edit) (delete)
Successful PC3 PC5 ICMP 0.000 N 1 (edit) (delete)
Successful PC0 PC5 ICMP 0.000 N 2 (edit) (delete)
Activate Windows
Go to Settings to activate Windows.


Cisco Packet Tracer Student
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
PC>ping 192.160.1.5
Pinging 192.160.1.5 with 32 bytes of data:
Reply from 192.160.1.5: bytes=32 time=0ms TTL=128
Reply from 192.160.1.5: bytes=32 time=1ms TTL=128
Reply from 192.160.1.5: bytes=32 time=0ms TTL=128
Reply from 192.160.1.5: bytes=32 time=0ms TTL=128
Ping statistics for 192.160.1.5:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
PC>ping 192.160.1.2
Pinging 192.160.1.2 with 32 bytes of data:
Reply from 192.160.1.2: bytes=32 time=0ms TTL=128
Reply from 192.160.1.2: bytes=32 time=0ms TTL=128
Reply from 192.160.1.2: bytes=32 time=0ms TTL=128
Reply from 192.160.1.2: bytes=32 time=0ms TTL=128
Ping statistics for 192.160.1.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>
PC-PT PC0
PC-PT PC1
PC-PT PC2
Time: 01:05:31
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Successful PC0 PC2 ICMP 0.000 N 0 (edit) (delete)
Successful PC3 PC5 ICMP 0.000 N 1 (edit) (delete)
Failed PC0 PC5 ICMP 0.000 N 2 (edit) (delete)
Activate Windows
Go to Settings to activate Windows.


Cisco Packet Tracer Student
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
PC3
Physical
Config
Desktop
Custom Interface
Command Prompt
Packet Tracer PC Command Line 1.0
PC>ping 192.160.1.5
Pinging 192.160.1.5 with 32 bytes of data:
Reply from 192.160.1.5: bytes=32 time=0ms TTL=128
Reply from 192.160.1.5: bytes=32 time=0ms TTL=128
Reply from 192.160.1.5: bytes=32 time=0ms TTL=128
Reply from 192.160.1.5: bytes=32 time=0ms TTL=128
Ping statistics for 192.160.1.5:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>
PC-PT PC0
PC-PT PC1
PC-PT PC2
Time: 01:07:03
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Successful PC0 PC2 ICMP 0.000 N 0 (edit) (delete)
Successful PC3 PC5 ICMP 0.000 N 1 (edit) (delete)
Failed PC0 PC5 ICMP 0.000 N 2 (edit) (delete)