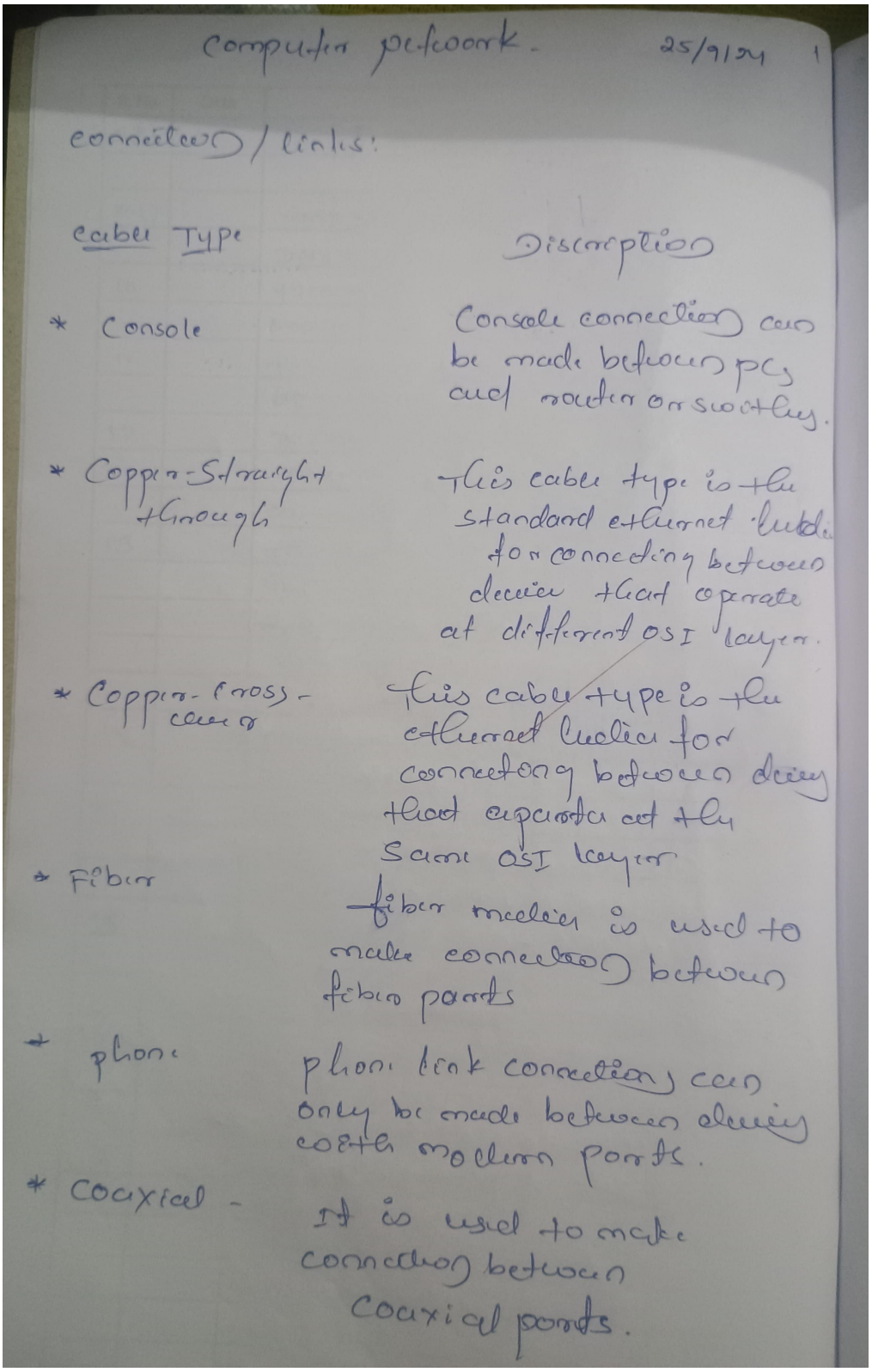
Observation Book:



Computer network. 25/9/24 1

connections / links:

Cable Type	Discription
* Console	Console connection can be made between PCs and router or switches.
* Copper-Straight Through	This cable type is the standard ethernet cable for connecting between devices that operate at different OSI layer.
* Copper-Cross-over	This cable type is the ethernet cable for connecting between devices that operate at the same OSI layer
* Fiber	fiber medium is used to make connection between fiber ports
* phone	phone link connection can only be made between devices with modem ports.
* Coaxial -	It is used to make connection between coaxial ports.

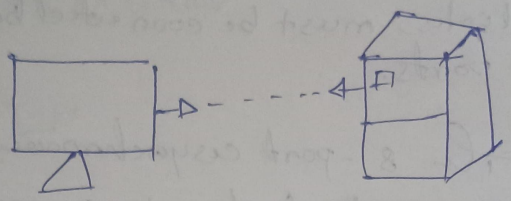
* Serial DCE and DTE:

Serial connections often used for WLAN links must be connected between Serial ports.

* Octal - the 8-port asynchronous cable provides the high density connection on one end and eight RJ-45 phase on the others.

Experiment-1 25/9/24

Q1) PC to Server.



PC-PT
Pc0
10.10.10.1

Server PT
Server0
10.10.10.2

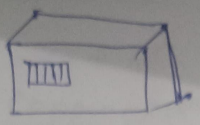
Aim: To setup a point-to-point network between a pc and a server for setting direct connection to observe data exchange.

Topology: A pc connected to server using a crossover ethernet cable.

Ip address of PC- 10.10.10.1,
Server - 10.10.10.2

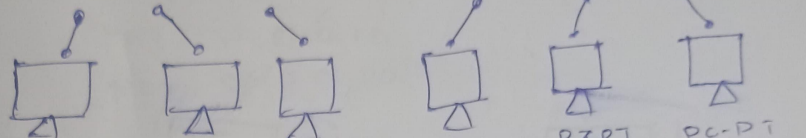
Observation: direct connection allows pc to communicate with server, which is typical in small network for tasks such as file sharing, service requests or testing server responses to client queries.

5) Hub to switch



Hub - PT
Hub0

switch - PT
switch0



PC-PT PC0 10.10.10.6
PC-PT PC1 10.10.10.7
PC-PT PC2 10.10.10.8
PC-PT PC3 10.10.10.9
PC-PT PC4 10.10.10.10
PC-PT PC5 10.10.10.11

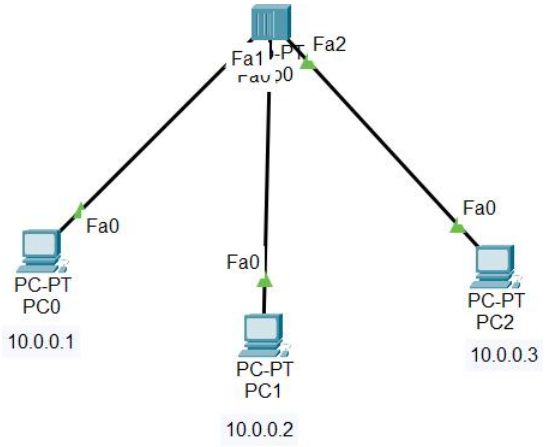
Aim: To create network consisting of 3 PCs connected to a switch, this connection we can observe the broadcasting of data transmission using hub and switching devices.

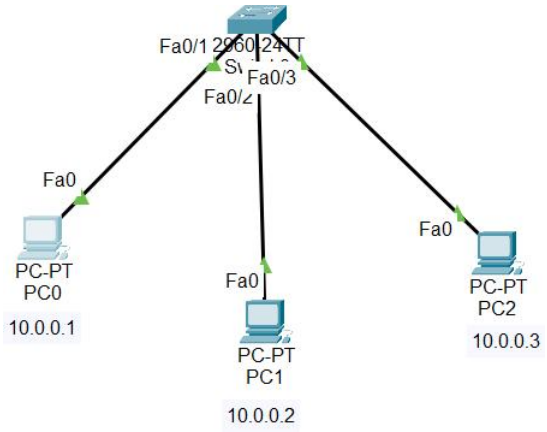
Topology:- 3 PCs are connected to a hub & switch using straight-through ethernet cable.

observation: Hub broadcasts packets to all devices which may cause unnecessary traffic.

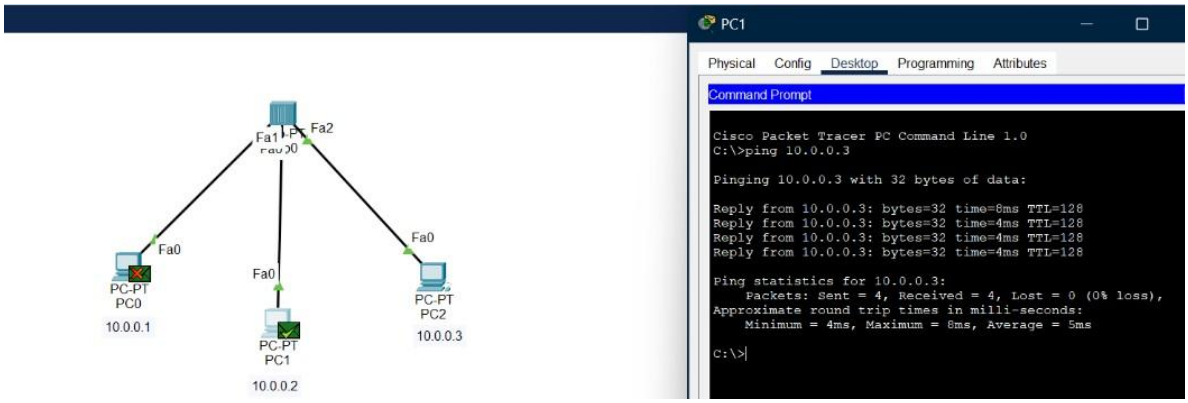
Switch forward packets only to appropriate device by learning MAC address making it more efficient in reducing traffic

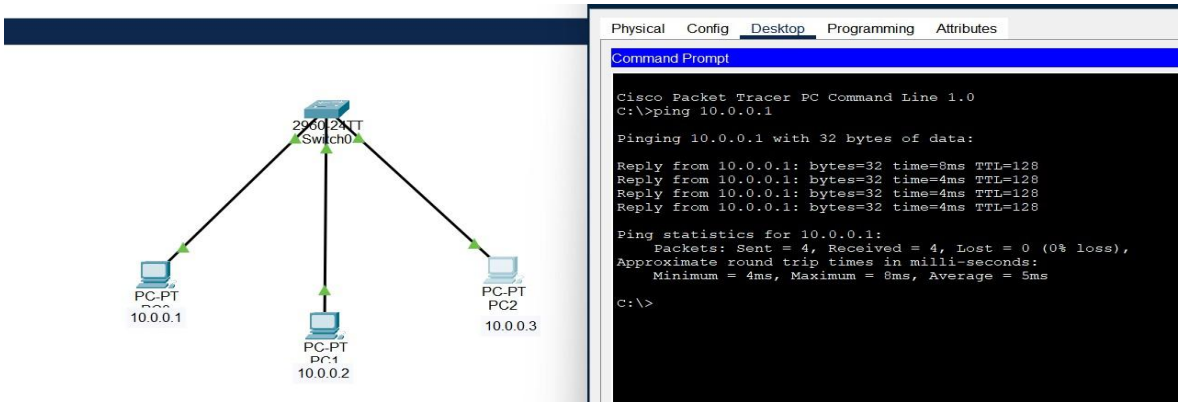
Topology:


Fa2
Fa0
PC-PT
PC0
10.0.0.1
Fa0
PC-PT
PC1
10.0.0.2
Fa0
PC-PT
PC2
10.0.0.3


Fa0/3
Fa0
PC-PT
PC0
10.0.0.1
Fa0
PC-PT
PC1
10.0.0.2
Fa0
PC-PT
PC2
10.0.0.3

Output:


Fa2
Fa0
Fa0
Fa0
PC-PT
PC0
10.0.0.1
PC-PT
PC1
10.0.0.2
PC-PT
PC2
10.0.0.3
PC1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.0.0.3
Pinging 10.0.0.3 with 32 bytes of data:
Reply from 10.0.0.3: bytes=32 time=8ms TTL=128
Reply from 10.0.0.3: bytes=32 time=4ms TTL=128
Reply from 10.0.0.3: bytes=32 time=4ms TTL=128
Reply from 10.0.0.3: bytes=32 time=4ms 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 = 4ms, Maximum = 8ms, Average = 5ms
C:\>


2960-24TT
Switch0
PC-PT
10.0.0.1
PC-PT
10.0.0.2
PC-PT
PC2
10.0.0.3
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.0.0.1
Pinging 10.0.0.1 with 32 bytes of data:
Reply from 10.0.0.1: bytes=32 time=8ms TTL=128
Reply from 10.0.0.1: bytes=32 time=4ms TTL=128
Reply from 10.0.0.1: bytes=32 time=4ms TTL=128
Reply from 10.0.0.1: bytes=32 time=4ms TTL=128
Ping statistics for 10.0.0.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 4ms, Maximum = 8ms, Average = 5ms
C:\>