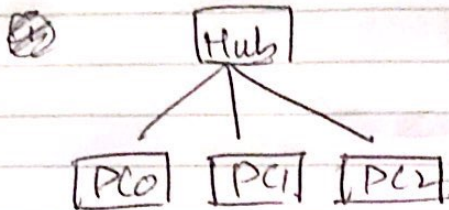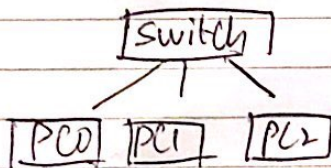CN-IAB   Anshul Shetty
IBMI8CS129

(I) TOPOLOGY
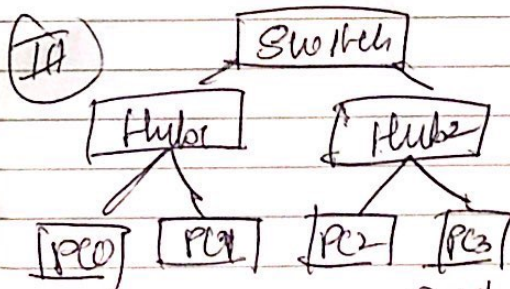

Procedure: 1) Place hub and 3 end devices
2) Use cables to connect them.
3) Set IP address for each device, along with subnet mask
4) Select a simple PC and a source and destination

Observation: Whenever a source node sends data in network, hub, receives the data and broadcast it over the network. It sends data to all remaining nodes in the network and the node destination address matches with the data will accept that data and acknowledge it and rest of the nodes ignore it.

(II) SWITCH

Observation: End-devices are connected to a single device are connect to the single device when a source code sends data and sends only to the node whose destination address match.
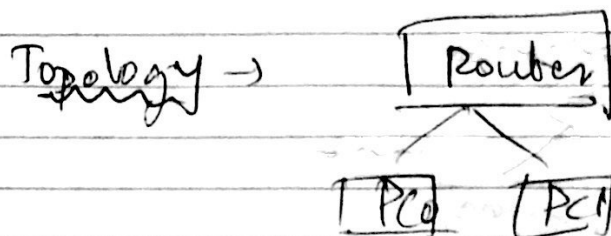

(II)

PROCEDURE: 1) Plan network and and devices nodes conn. appropriately
2) send message from PC0 to PC2

→ PC0 sends msg, Hub1 receives msg and transmits to PC1 & switch rejects the msg as the destination address doesn't match. Switch transmits message to Hub2 and Hub2 sends to PC2 and PC3.

simultaneously. PC_2 accepts msg and acknowledges back.
PC_3 rejects it.

LAB-2   Anshul Shetty
          IBM18CB29

Topology →

```
              ┌──────────┐
              │  Router  │
              └──────────┘
                 ↗      ↖
           ┌──────┐   ┌──────┐
           │ PC0  │   │ PC1  │
           └──────┘   └──────┘
```

Procedure → 1) Place one Router PT ~~and two~~ end devices.
2) Connect them appropriately.
3) Set IP address and default gateway
   to each end device.
4) Configure the router using CLI put
   IP address same as respective
   gateway address of the desktop.

5) Select PC0 and open command prompt
   and ping PC1 using it's IP address.

Observation → PC1 replies from 10.0.0.20 bytes:32
              time = 10 x 4.
              Number of packets sent = 4
              Number of packets recieved = 4.
              Loss = 0 %.

Each data packet sent across the network
     containing address info that a router can
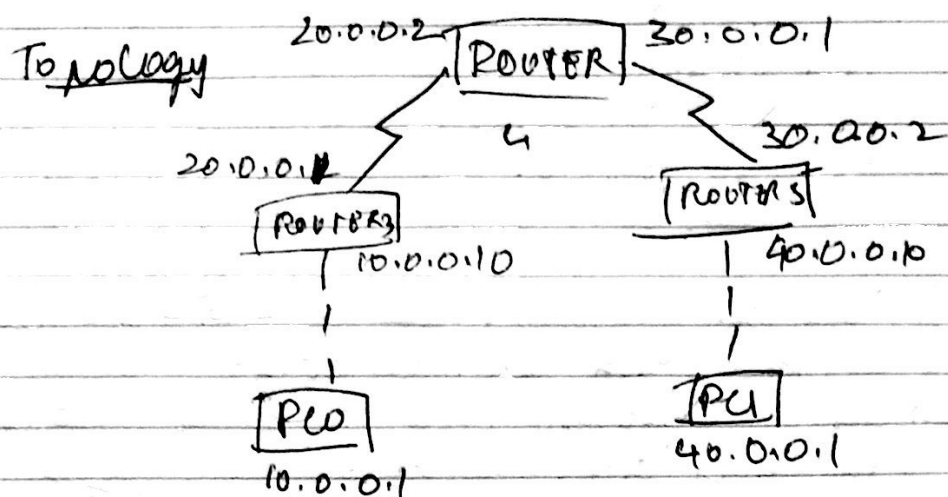use to destination one in the same network

CLI Comands → Enable
              Configure terminal
              Interface fa 0/0
              IP address 10.0.0.10 255.0.0.0
              No shut down

LAB3   Anshul Shetty   1BM18CS124

Topology

20.0.0.2 — [ROUTER] — 30.0.0.1
20.0.0.1
[ROUTER3]
10.0.0.10
30.0.0.2
[ROUTER5]
40.0.0.10

[PC0]
10.0.0.1

[PC1]
40.0.0.1

Observation

→ Once all the connections are done try doing the
  ping. But we get a message that says host
  unreachable, which means that the host
  is not connected. To fix this we need to do
  static routing on all the routers. After that
  we will be able to send data packets b/w
  PC without any loss.

CLI Commands

To router configuration,
   → Enable
  Configure terminal
  Interface (fast Ethernet)
  IP address 10.0.0.10 255.0.0.0
  No shut
  Exit

(ii) For Static routing router 5
→ Enable
~~## routi config terminal~~
IP route 10.0.0.0 255.0.0.0 30.0.0.2
~~config ter~~
IP route 40.0.0.0 255.0.0.0 30.0.0.2

(v) To Stati.

(iii) Router 4
→ enable
show ip route
config t
ip route 40.0.0.0 255.0.0.0 30.0.0.2
ip route shut 10.0.0.0 255.0.0.0 20.0.0.1
exit
show ip route

(iv) Router 5
→ enable
show ip route
config t
ip route 20.0.0.0 255.0.0.0 30.0.0.1
ip route 40.0.0.0 255.0.0.0 30.0.0.1
no shut
exit
show ip route