

## WEEK 2

Configure IP address to routers (one and three) in packet tracer. Explore the following messages: ping responses, destination unreachable, request timed out, reply.

OBSERVATION:

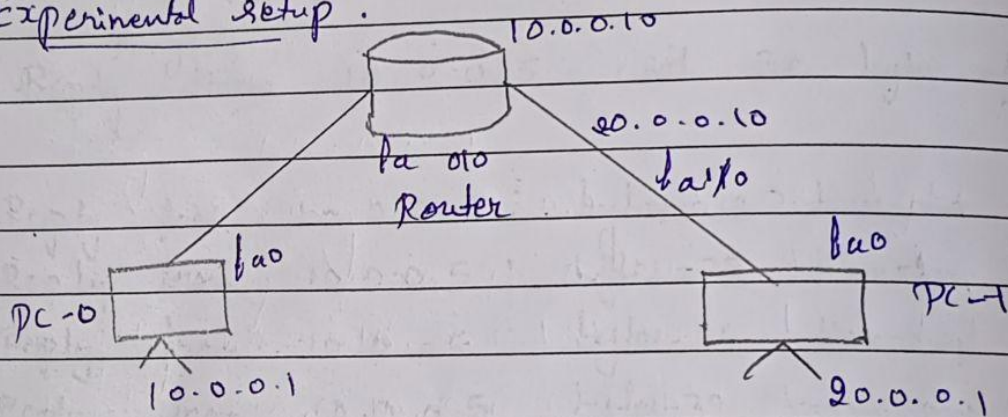
## Experiment 2

### Aim:

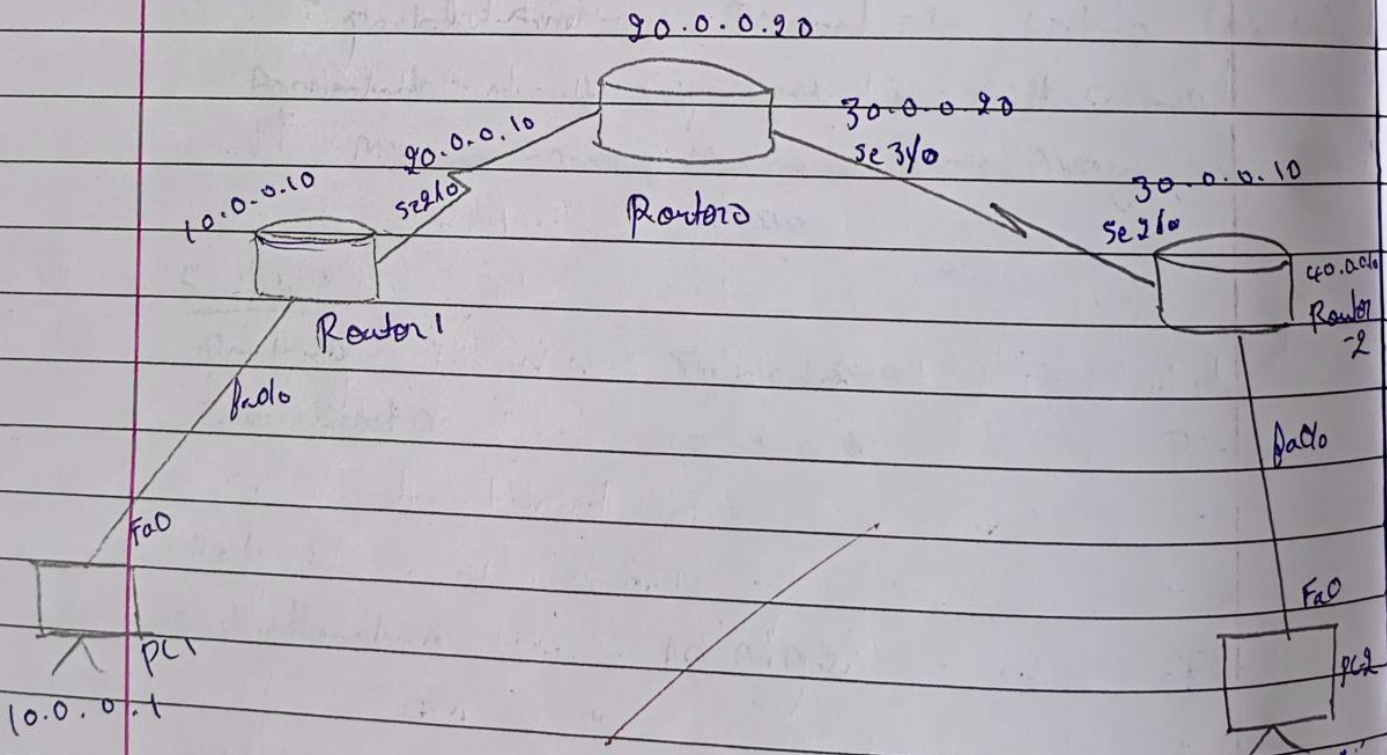
Configure IP address to routers in packet tracer  
Explore the following messages ping response  
destination unreachable, request timed out, reply

### Topology:

#### Experimental setup:



### Router Topology:





procedure

Take 2 pc and place them as shown in the topology, 2 different IP address (10.0.0.01 and 40.0.0.01) as they belong to 2 different networks

Place 2 routers belonging to these 2 networks (10.0.0.10 and 40.0.0.10) being their gateways and place the 3<sup>rd</sup> router in between to connect the 2 networks.

Set gateways for 2 pcs and then going to the CLI interface for each router specify the IP route for file to transfer using the commands

Router > enable

Router > # config terminal

Router config : interface <port>

Router config-if : IP address <ip> <subnet mask>

Router (config) : no shut

Do this for all three routers

Then go to terminal of either pc and try to ping to the other one. The message fails to deliver due to not setting up network static routes and next hop



> ip route < network - id > < mark > < cost > < hop >  
> ip route 40.0.0.0 < 55.0.0.0 < 0.0.0.0  
(for router)

This is done so that router recognizes best pathway to take when packet is received for particular destination.

### Result

(i) > Ping 40.0.0.1

pinging 40.0.0.1 with 32 bytes of data  
Reply from 10.0.0.10: Destination host unreachable  
Reply from 10.0.0.10: Destination host unreachable  
Reply from 10.0.0.10: Destination host unreachable  
Reply from 10.0.0.10: Destination host unreachable

Ping Statistics:

Packet sent = 4 : Received = 0 : loss = 100 (100%)

(ii) > Ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data.

Request timed out

Reply from 40.0.0.10 bytes = 32 time = 2ms TTL

Reply from 40.0.0.10 bytes = 32 time = 2ms TTL

Reply from 40.0.0.1



## Observation

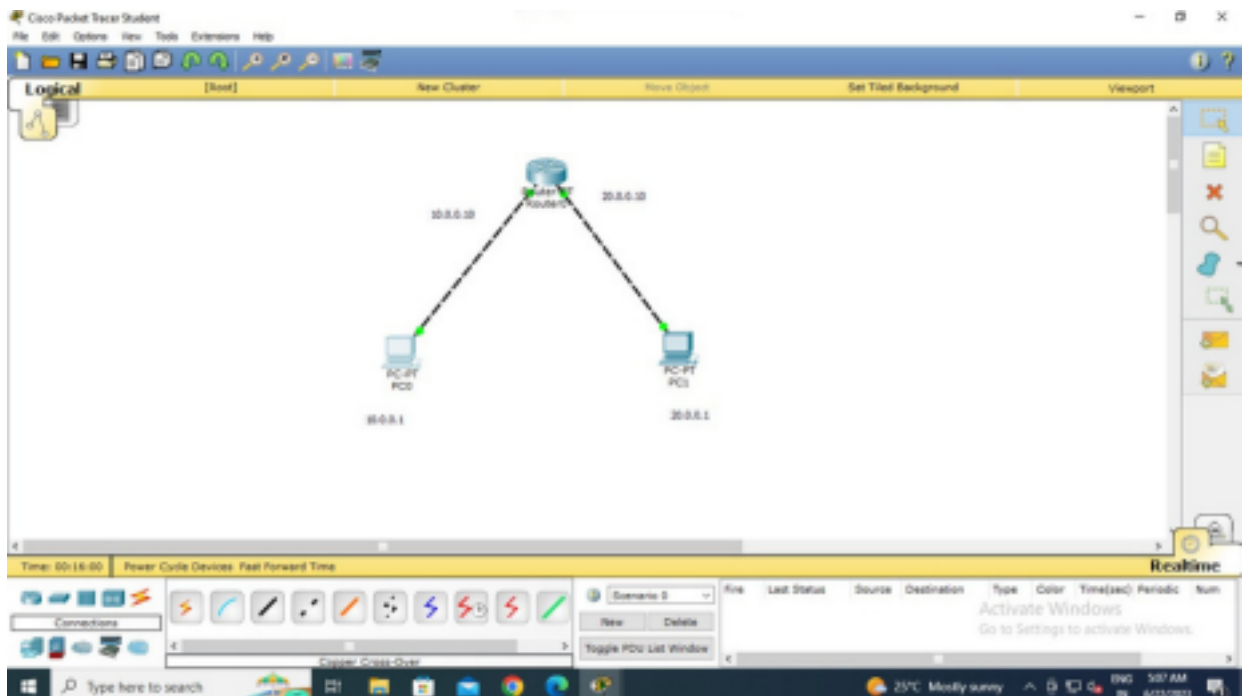
The router connects LAN to the internet. It connects "different networks" with different IDs.

Packets are forwarded to the destination through network hopping.

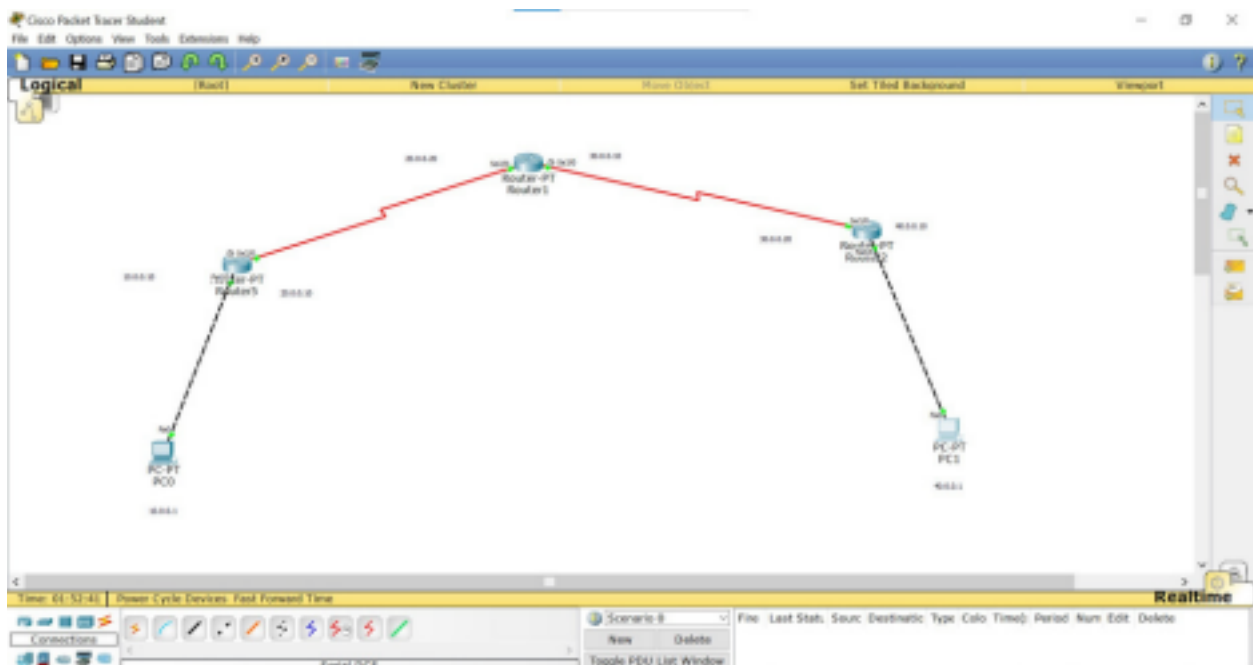
Serial ports are used to connect 2 routers, the connecting cables -

TOPOLOGY:

## PROGRAM 2.1

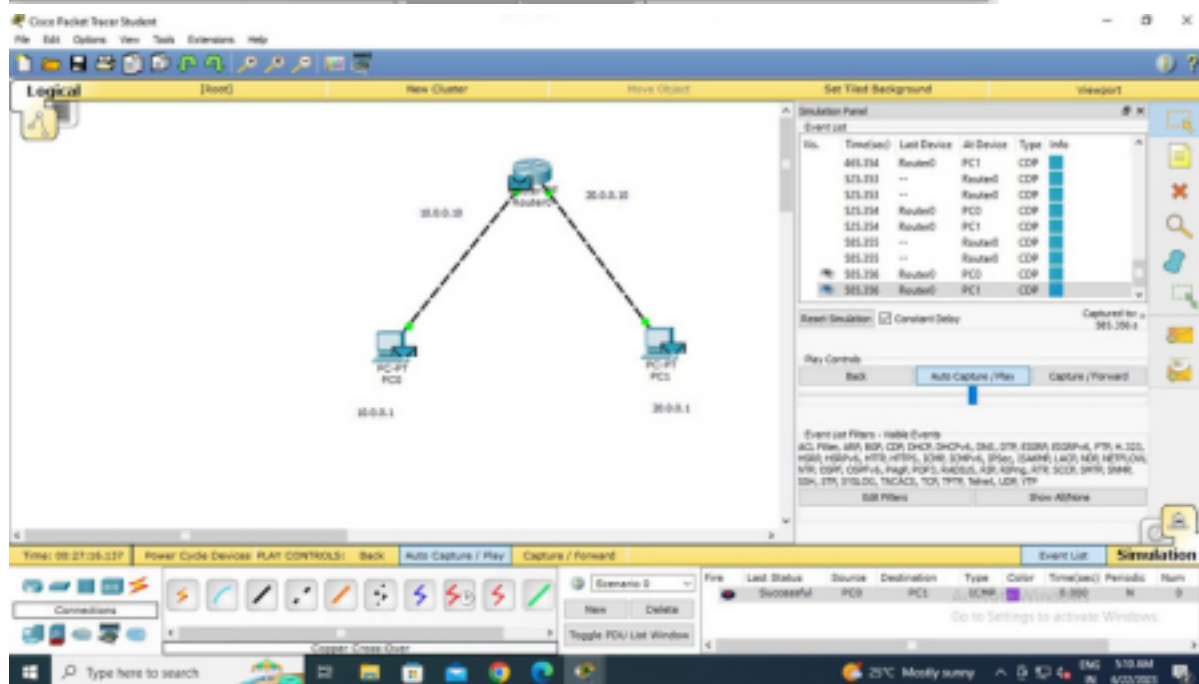
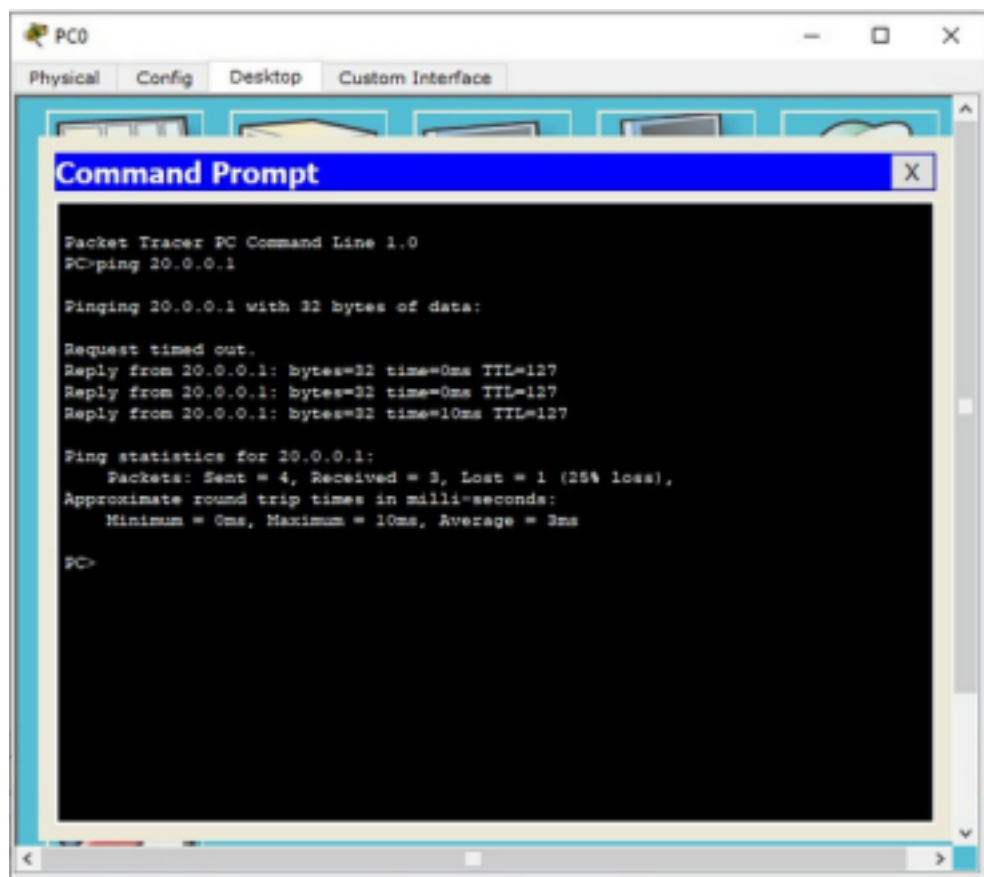


## PROGRAM 2.2

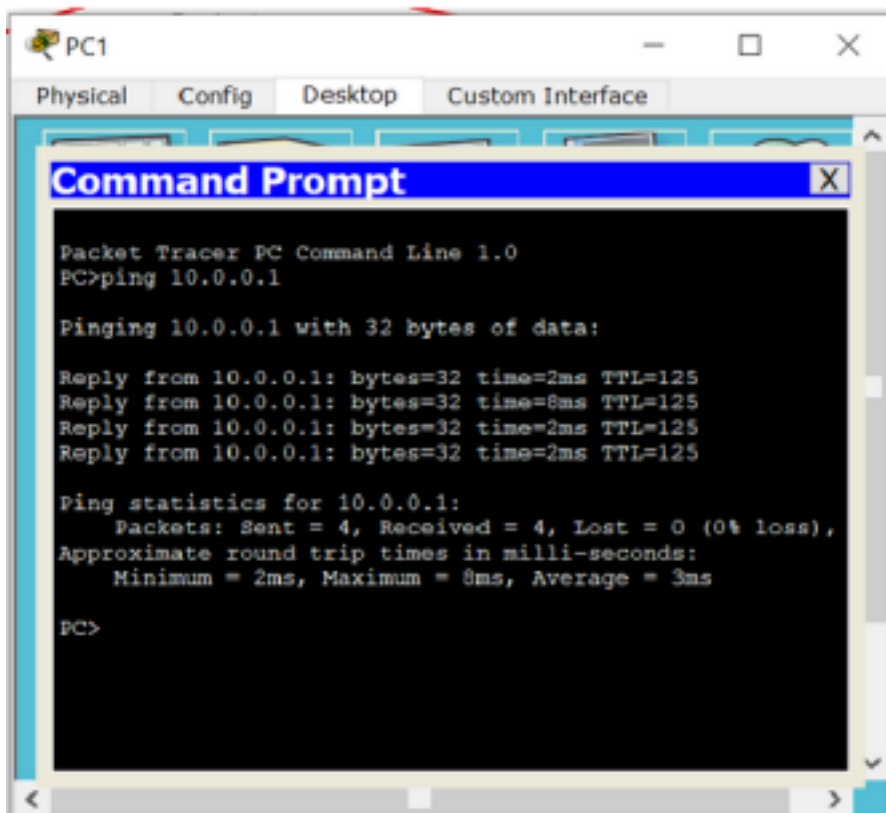
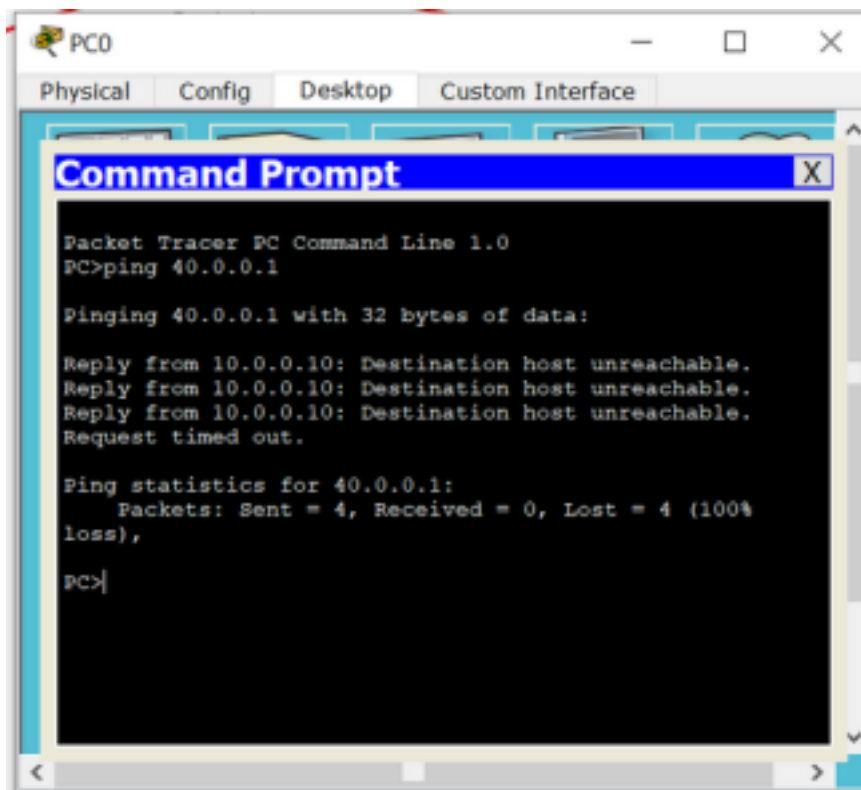


OUTPUT:

## PROGRAM 2.1



PROGRAM 2.2





Cisco Packet Tracer Student

File Edit Options View Tools Extensions Help

Logical (Rout) New Cluster Show Cluster Set Tiled Background Window

Simulation Panel

Event List

Vis	Timebase	Last De	At Dev	Type	Info
28.175	--	Root...	CDP		
28.176	Router5	PC	CDP		
28.176	Router5	Root...	CDP		
45.862	--	Root...	CDP		
45.862	--	Root...	CDP		

Reset Simulation ☒ Constant Delay Captured No 45.862 s

Play Controls

Back Auto Capture / Play Capture / Forward

Event List Filters - Visible Events

ACL, ARP, ARP, RDP, CDP, DHCP, DNS, FTP, HTTP, HTTPS, ICMP, IGMP, IPsec, ISAKMP, LACP, NTP, RSTP, SLL, STP, Syslog, TACACS, TFTP, Telnet, UDP, VTP

Sim Filters Show All/None

Time: 01:54:00.015 Power Cycle Devices Run Console Back Auto Capture / Play Capture / Forward Event List Simulation

Scenario 8

New Delete

Toggle PDU List Window

File Last Stats Source Destination Type Color Time Period Num Edit Delete

Successful PC1 PC2 0.000 M B [del] [delete]