22/6/15

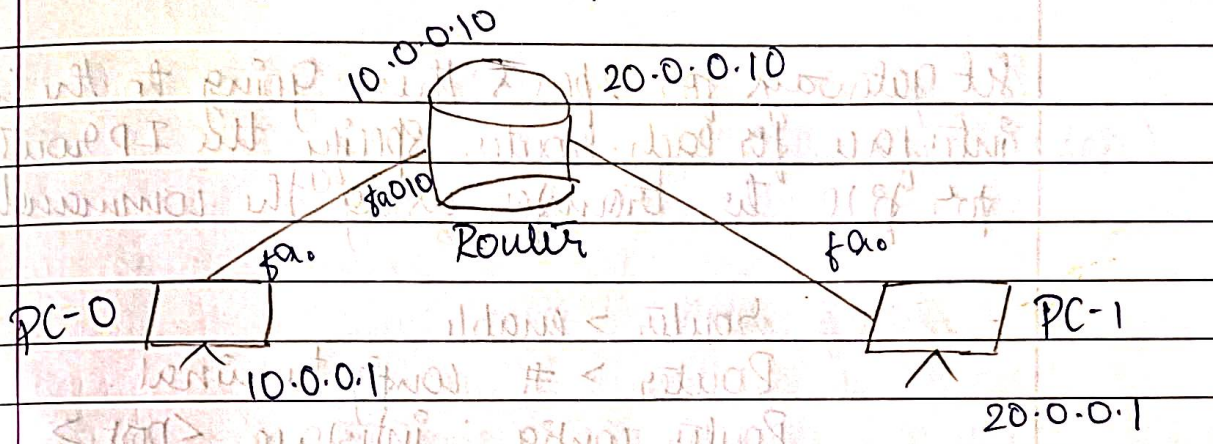
Experiment -2

Aim :

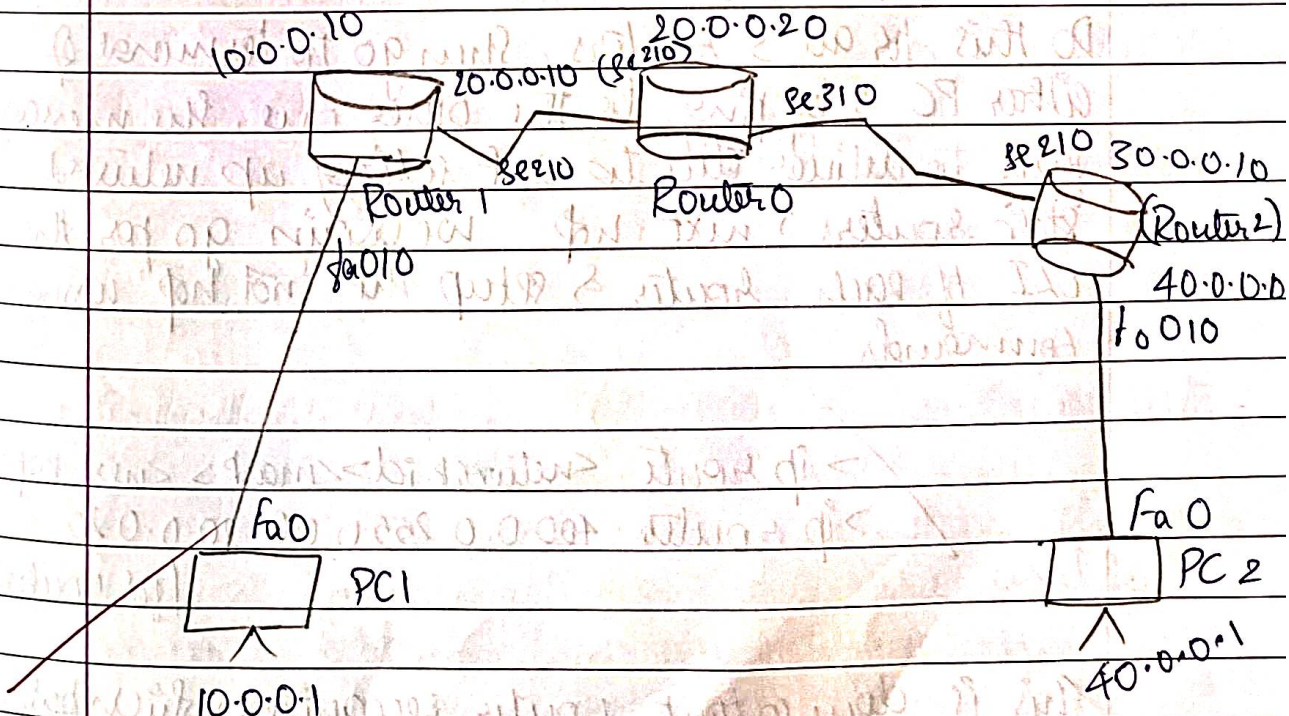
Configure IP address to routers in packet tracer explore the following messages ping responses destination unreachable, request timed out, reply.

Topology :

Experimental Setup :




3 Router Topology :



Date:

## Procedure :-

Take 2 PC & place them as shown in the topology, 2 different IP address (10.0.0.1 & 40.0.0.1) as they belong to 2 different networks. Place 2 routers belonging to their 2 networks (10.0.0.10 & 40.0.0.10) being their gateways & place the 3rd router in between to connect the networks

Set gateways for 2 pcs & then going to the CLI interface for each router specify the IP route for pc1 to transfer using the commands.

```
Router > enable
Router > # config terminal
Router config : interface <port>
Router config - if : IP address <ip> <submit mask>
Router (config): no shut
```

Do this for all 3 routers. Then go to terminal of either PC & by ping to the other one, the message fails to deliver due to not setting up network static routers & next hop. We again go for the CLI of each router & setup the "not hop" using the commands.

```
> ip route <network-id><mask> <next hop>
>ip routes 400.0.0 255.0.00 20.0.0.20
                                (for router1)
```

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

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## Result:-

(i) ping 40.0.0.1
pinging 40.0.0.1 with 32 bytes of data
Reply from 40.0.0.10 : Destination host unreachable
Reply from 40.0.0.10 : Destination host unreachable
Reply from 40.0.0.10 : Destination host unreachable
Reply from 40.0.0.10 : Destination host unreachable
Reply from 40.0.0.10 : Destination host unreachable

Ping statistics
Packets sent = 4 : Recieved = 10 : lost = 4 (100% Loss)

(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 40.0.0.10 bytes=32 time=2ms TTL

Ping statistics.
Packets sent = 4 : Recieved = 1. Loss = 1 (25% Loss)

## 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.

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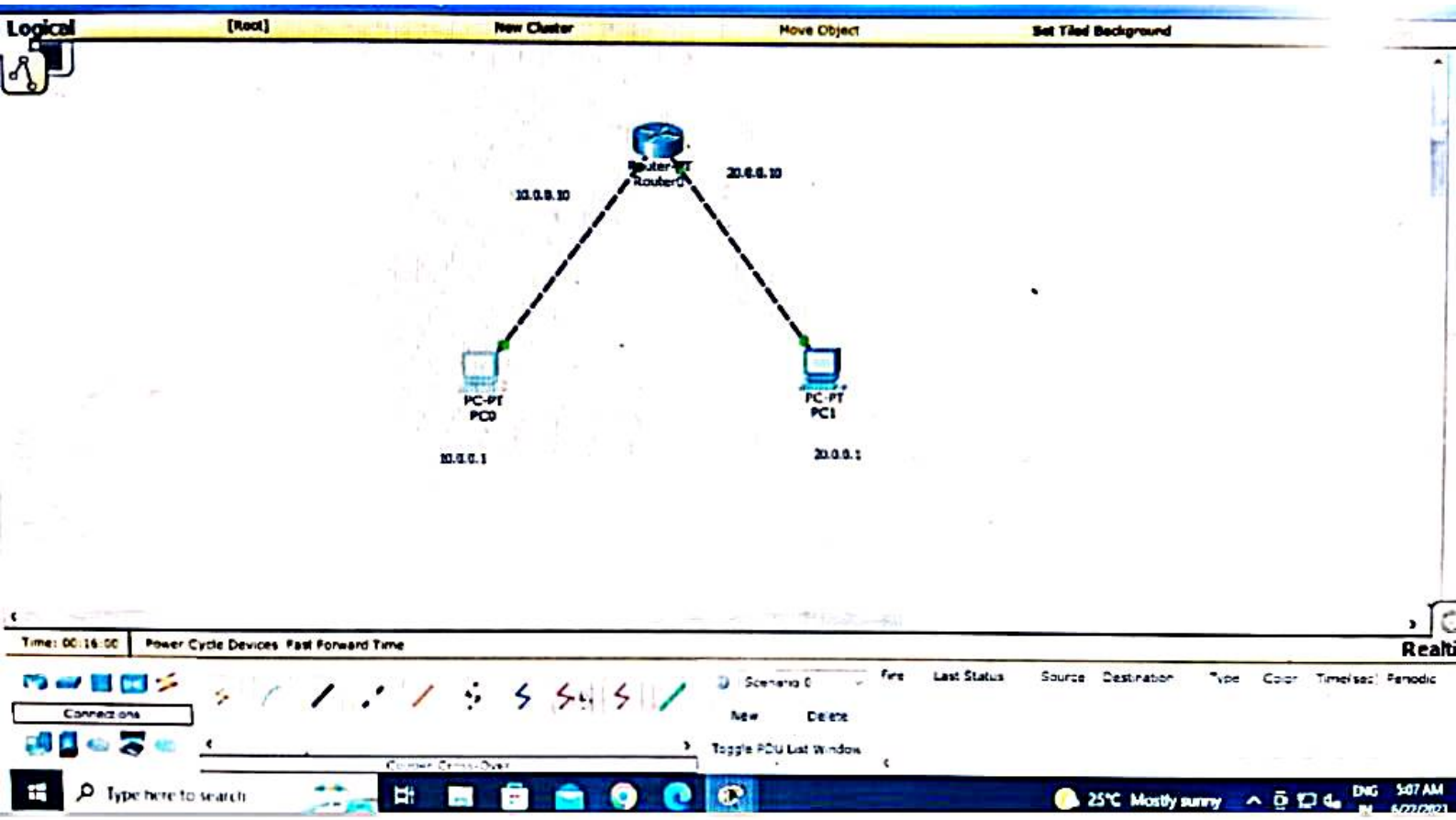
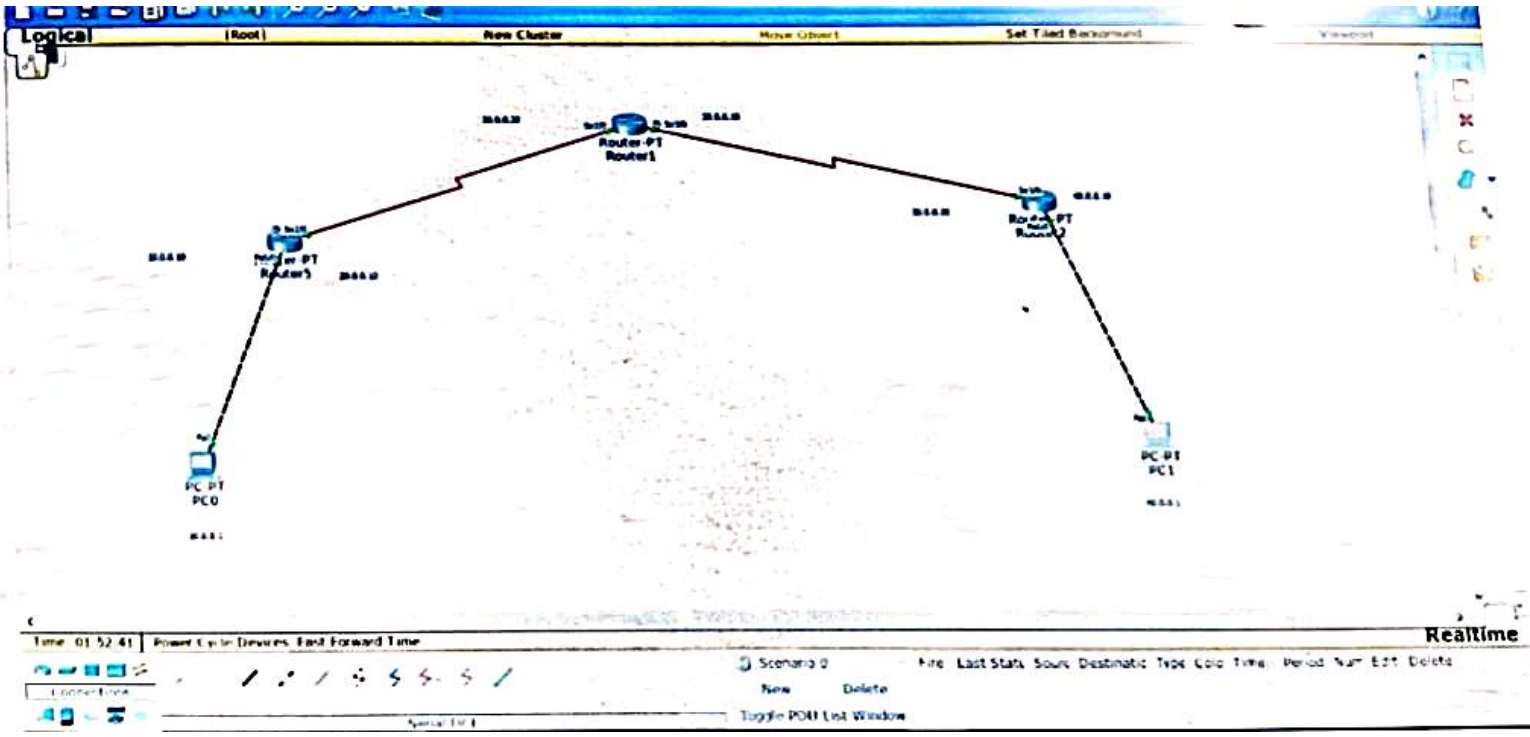
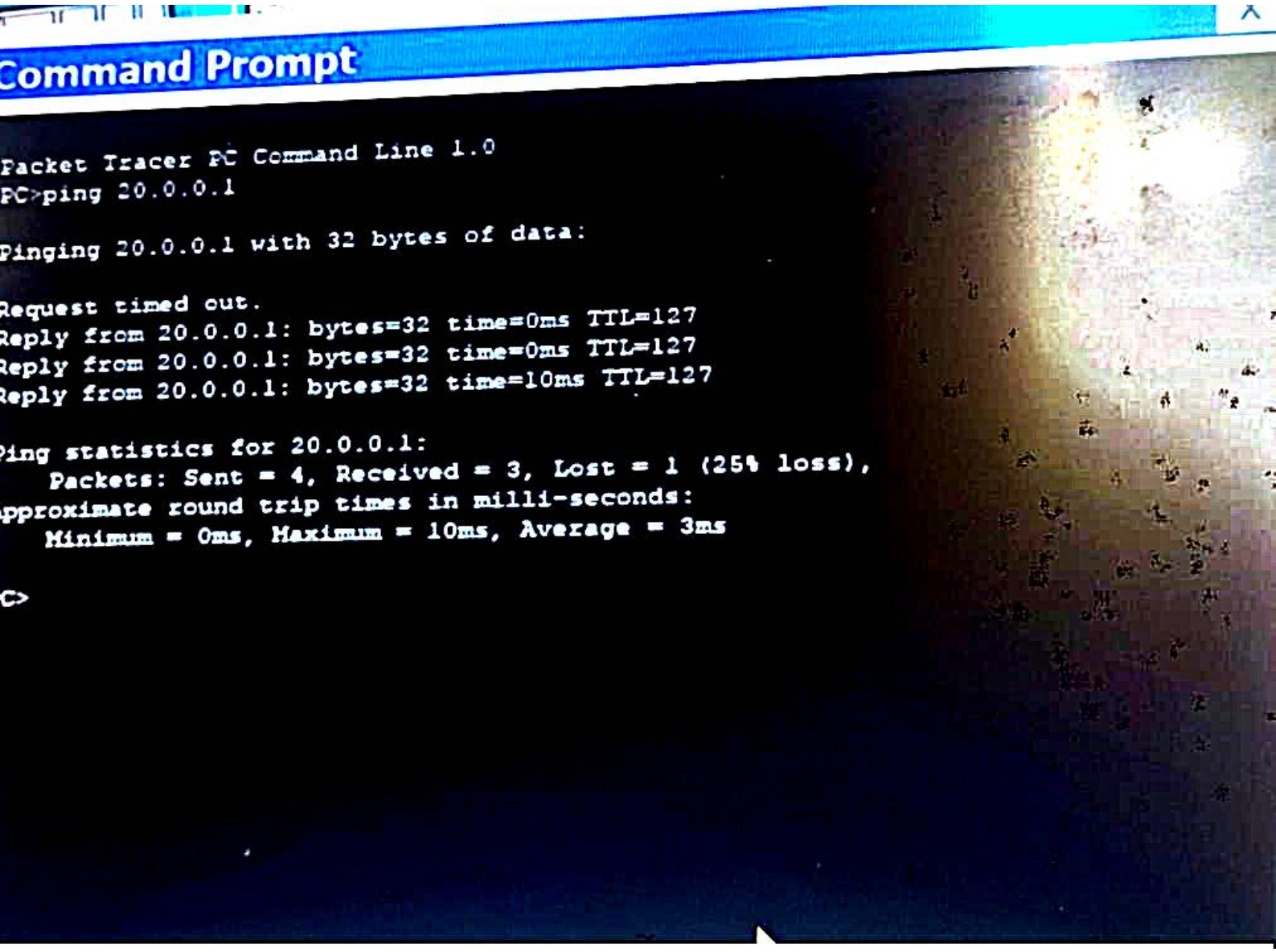
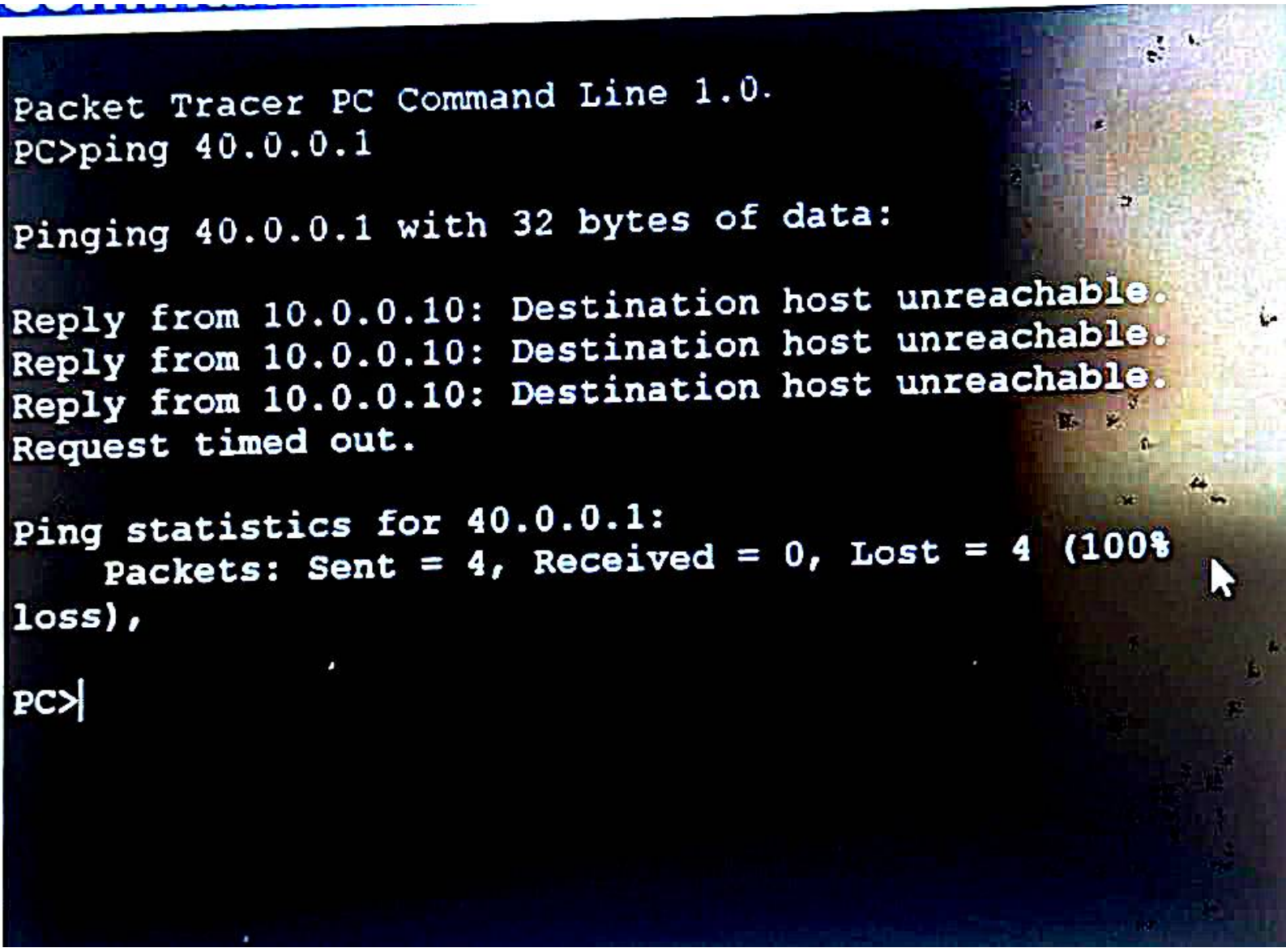

Logical
[Root]
New Cluster
Move Object
Set Tiled Background
10.0.0.10
20.0.0.10
PC-PT
PC0
PC-PT
PC1
10.0.0.1
20.0.0.1
Time: 00:16:00
Power Cycle Devices Fast Forward Time
Connections
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Type here to search
25°C Mostly sunny
ENG
5:07 AM


Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Router-PT
Router1
PC-PT
PC0
PC-PT
PC1
Realtime
Scenario 0
New
Delete
Toggle PDU List Window


Command Prompt
Packet Tracer PC Command Line 1.0
PC>ping 20.0.0.1
Pinging 20.0.0.1 with 32 bytes of data:
Request timed out.
Reply from 20.0.0.1: bytes=32 time=0ms TTL=127
Reply from 20.0.0.1: bytes=32 time=0ms TTL=127
Reply from 20.0.0.1: bytes=32 time=10ms TTL=127
Ping statistics for 20.0.0.1:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 10ms, Average = 3ms
C>


Packet Tracer PC Command Line 1.0.
PC>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.
Request timed out.
Ping statistics for 40.0.0.1:
Packets: Sent = 4, Received = 0, Lost = 4 (100%
loss),
PC>