WEEK 7

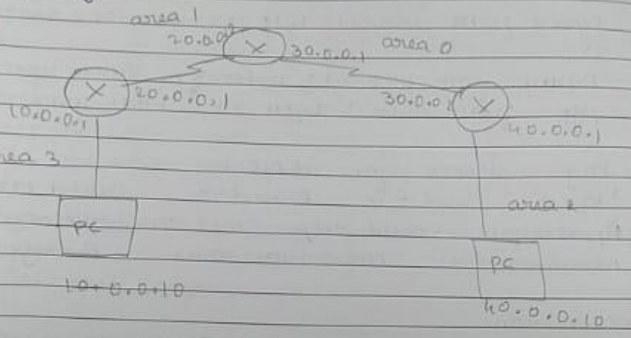
Configure OSPF routing protocol.

OBSERVATION:

DATE 27/7/2023

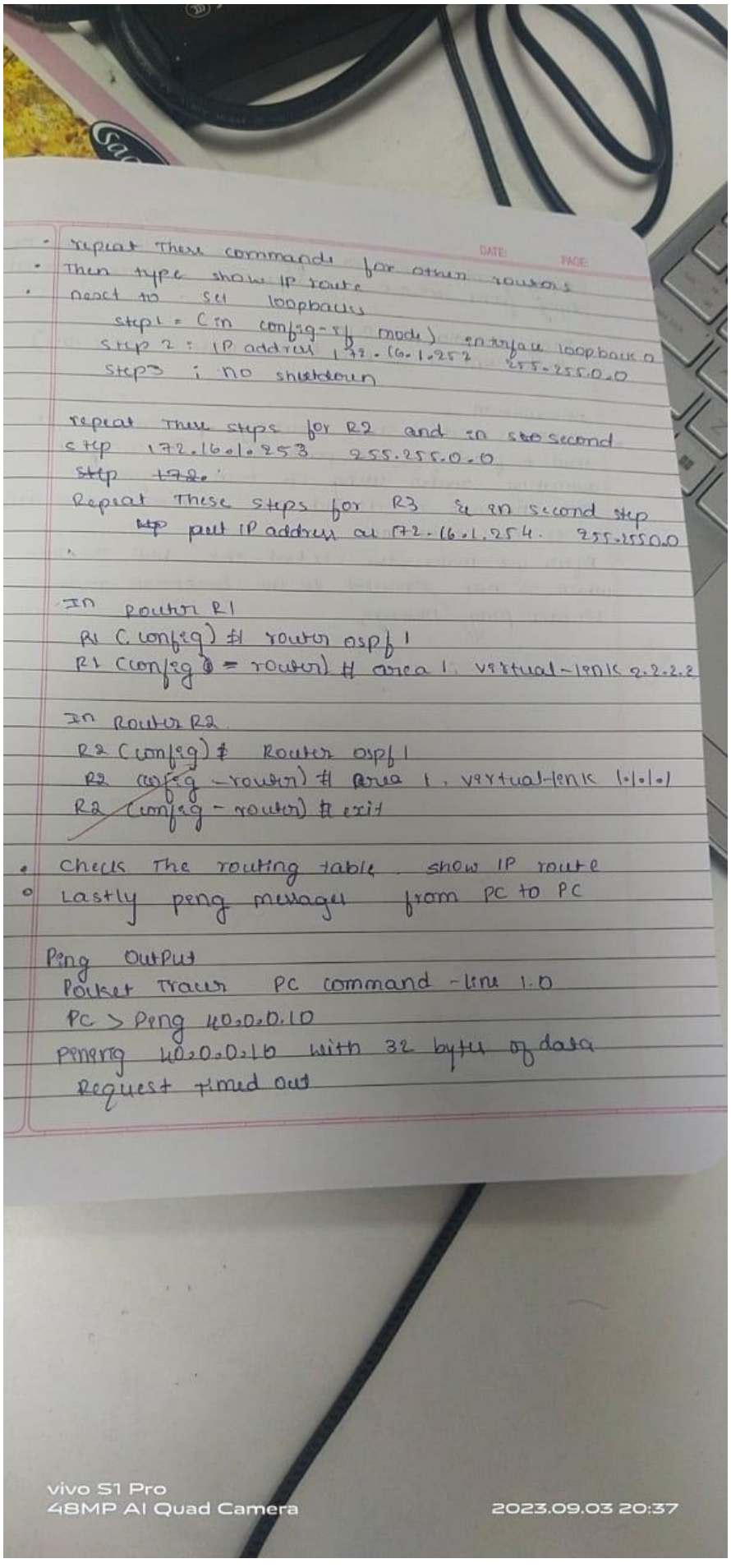
Aim :-
Configure OSPF routing protocal

Topology



Procedure
- Create the topology using 3 routers & 2 PC's
- configure the PC's with IPaddress and gateway
- Configure each of the routers acc to IP address given
- During configuration, encapsulation PPP and clock rate should be set as done on RIP protocal
- execute the following commands

Step 1 : router ospf 1 // R1(config)# router ospf 1
Step 2 : router-id 1.1.1.1
Step 3 : network 10.0.0.0 0.255.255.255 area 3
Step 4 : network 20.0.0.0 0.255.255.255 area 1
Step 5 : exit



- Repeat These commands for other routers
- Then type show IP route
- next to set loopback
  - step 1 = C in config-if mode) enter loopback 0
  - step 2 : IP address 172.16.1.252 255.255.0.0
  - step 3 : no shutdown

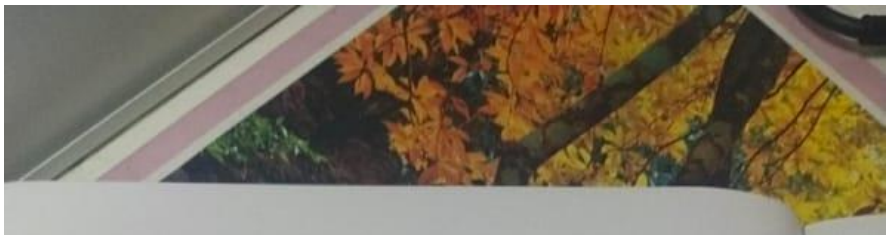
repeat These steps for R2 and in second step 172.16.1.253 255.255.0.0
step ~~172~~.
Repeat These steps for R3 & in second step put IP address as 172.16.1.254. 255.255.0.0

In Router R1
R1 (config) # router ospf 1
R1 (config) = router) # area 1. virtual-links 2.2.2.2

In Router R2.
R2 (config) # Router ospf 1
R2 (config - router) # area 1. virtual-links 1.1.1.1
R2 (config - router) # exit

- Checks The routing table. show IP route
- Lastly peng message from PC to PC

Ping OutPut
Packet Tracer PC command - line 1.0
PC > Ping 40.0.0.10
Pinging 40.0.0.10 with 32 bytes of data
Request timed out



DATE: PAGE:

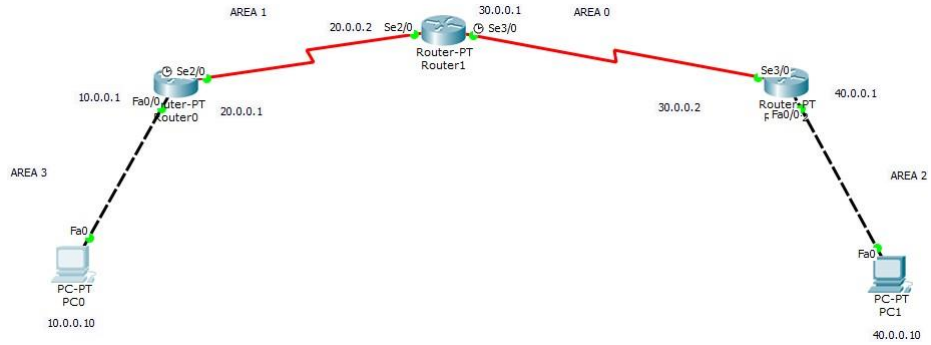
Reply from 40.0.0.10 bytes=32 time=11ms TTL=
Reply from 40.0.0.10 bytes=32 time=8ms TTL=

Ping statistics 40.0.0.10
Packet sent = 4 Recived = 3 lost = 1 (25% loss)

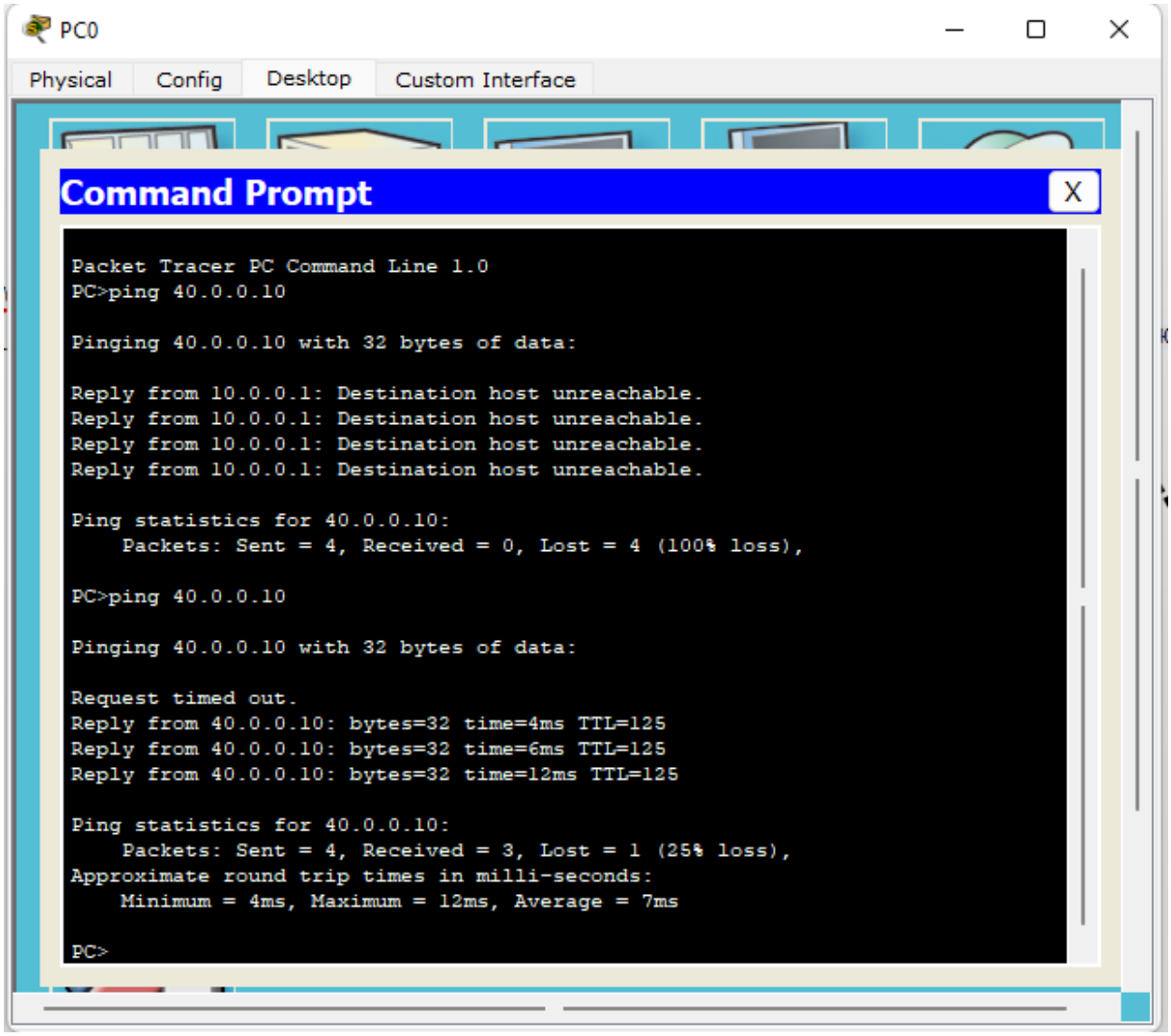
Observation

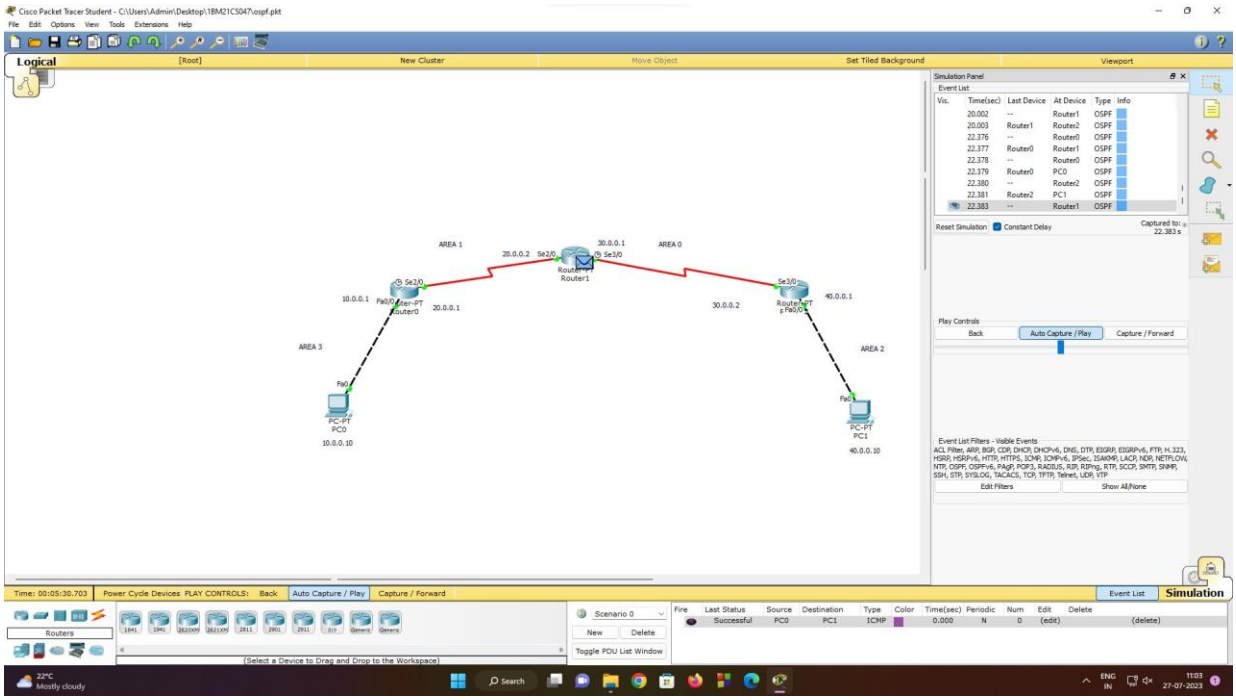
- OSPF is a link state routing protocal that is used to find the best path btw source & destination router using its own Algorithm
- This network is divided into 4 area where area 0 is the backbone
- After we make the virtual-link btw the area which is not connected to the backbone area, we can ping messages.

TOPOLOGY:



OUTPUT:




Cisco Packet Tracer Student - C:\Users\Admin\Desktop\1BM21CS047\ospf.pkt
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
AREA 1
AREA 0
AREA 3
AREA 2
20.0.0.2
Se2/0
30.0.0.1
Se3/0
Router1
10.0.0.1
Fa0/0
Router0
20.0.0.1
30.0.0.2
Se3/0
Router
Fa0/0
40.0.0.1
Fa0
PC-PT
PC0
10.0.0.10
Fa0
PC-PT
PC1
40.0.0.10
Simulation Panel
Event List
Vis. Time(sec) Last Device At Device Type Info
20.002 -- Router1 OSPF
20.003 Router1 Router2 OSPF
22.376 -- Router0 OSPF
22.377 Router0 Router1 OSPF
22.378 -- Router3 OSPF
22.379 Router0 PC0 OSPF
22.380 -- Router2 OSPF
22.381 Router2 PC1 OSPF
22.383 -- Router1 OSPF
Reset Simulation
Constant Delay
Captured to: 22.383 s
Play Controls
Back
Auto Capture / Play
Capture / Forward
Event List Filters - Visible Events
Edit Filters
Show All/None
Time: 00:05:30.703
Power Cycle Devices PLAY CONTROLS: Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Routers
(Select a Device to Drag and Drop to the Workspace)
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Successful PC0 PC1 ICMP 0.000 N 0 (edit) (delete)
22°C
Mostly cloudy
Search
ENG
IN
11:03
27-07-2023