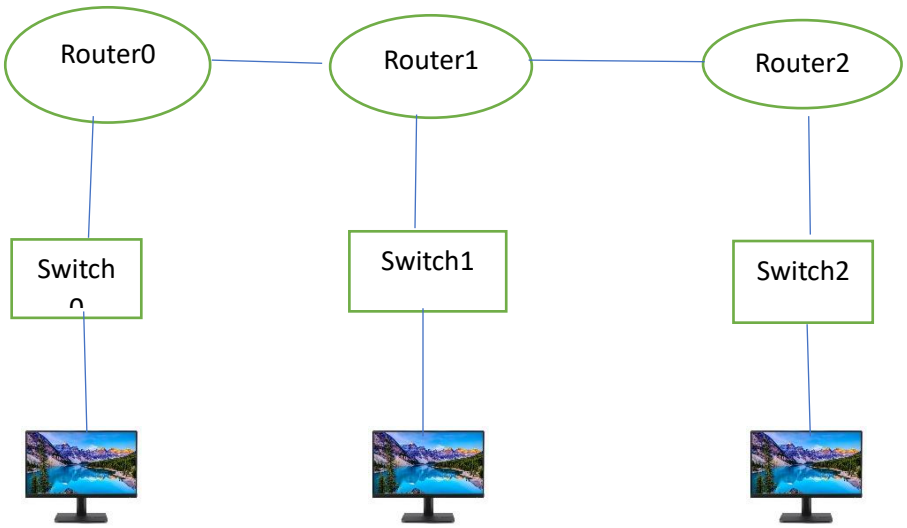
Register No:	**99220040530**
Name	**G. MADHU**
Class/Section	**8601 A/S06**
Ex. No:	**7b**
Name of the Experiment	**Distance Vector Routing**
Google Drive link of the packet tracer file (give view permission):	https://drive.google.com/drive/u/0/folders/1XZrkqvDDylKQNfm85OYbEEHSEWgYbc6O

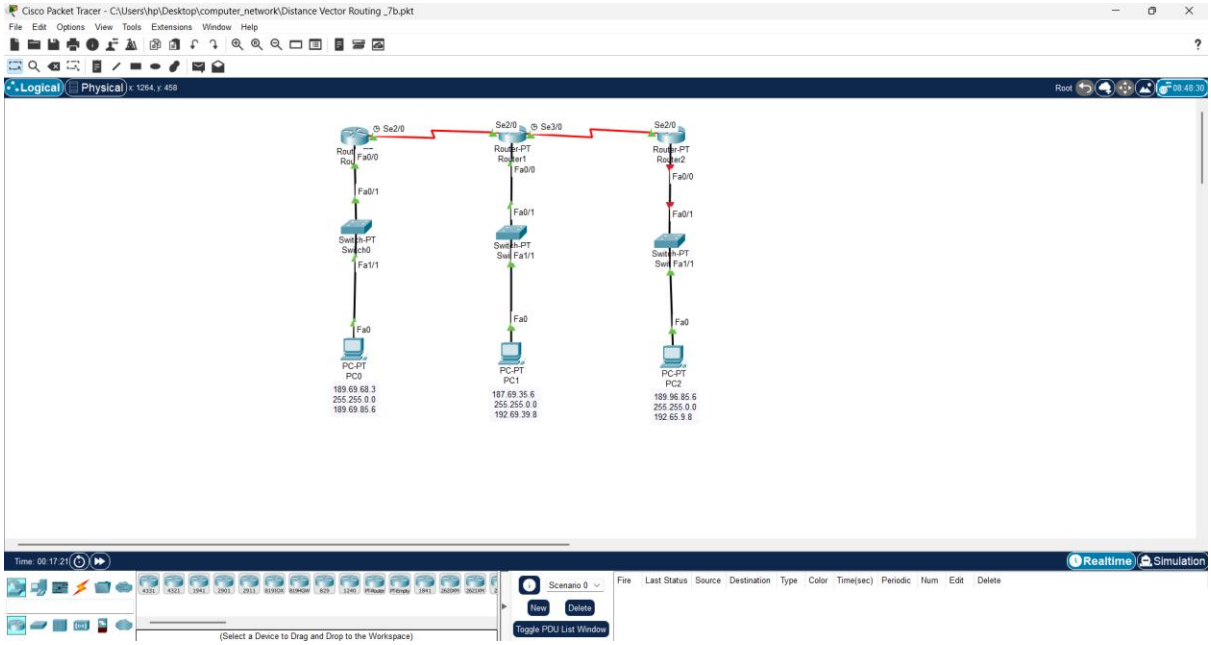
1. **Device Requirements:**

   1. Router0
   2. Router1
   3. Router2
   4. Switch0
   5. Switch1
   6. Switch2
   7. PC0
   8. PC1
   9. PC2

2. **Network Diagram for your experiment (draw the diagram either hand drawing/ms paint or any other drawing tools)**



3. Network Diagram (packet tracer diagram before configuration):



4. Configuration details:

Device Name	Interface Name	IP Address	Subnet mask
Router0	Fa0/0	189.69.85.6	255.255.0.0
Router1	Fa0/0	192.69.39.8	255.255.255.0
Router2	Fa0/0	192.65.9.8	255.255.255.0
Switch0	Fa1/1		
Switch1	Fa1/1		
Switch2	Fa1/1		
Pc0	Fa0	189.69.68.3	255.255.0.0
Pc1	Fa0	187.69.35.6	255.255.0.0
Pc2	Fa0	189.96.85.6	255.255.0.0

5. Describe step by step configuration steps properly (you may copy the commands used in the configuration tab and paste it.)

1. Ping
2. Configure Terminal
3. Router rip

ROUTER0

Router>enable

Router#

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface FastEthernet0/0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

ip address 189.69.85.6 255.255.0.0

Router(config-if)#ip address 189.69.85.6 255.255.0.0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#no shutdown

Router(config-if)#clock rate 64000

Router(config-if)#ip address 10.0.0.2 255.0.0.0

Router(config-if)#ip address 10.0.0.2 255.0.0.0

Router(config-if)#

%LINK-5-CHANGED: Interface Serial2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#exit

Router(config)#router rip

Router(config-router)#network 10.0.0.0

Router(config-router)#network 189.69.85.6

ROUTER1

Router>enable

Router#

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface FastEthernet0/0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

ip address 192.168.20.1 255.255.255.0

Router(config-if)#ip address 192.168.20.1 255.255.255.0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial2/0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface Serial2/0, changed state to up

ip address 10.0.0.3 255.0.0.0

Router(config-if)#

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

ip address 10.0.0.3 255.0.0.0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial3/0

Router(config-if)#no shutdown

Router(config-if)#clock rate 64000

Router(config-if)#ip address 20.0.0.2 255.0.0.0

Router(config-if)#ip address 20.0.0.2 255.0.0.0

Router(config-if)#

%LINK-5-CHANGED: Interface Serial3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up

Router(config-if)#exit
Router(config)#router rip
Router(config-router)#network 10.0.0.0
Router(config-router)#network 20.0.0.0
Router(config-router)#network 192.168.20.0

ROUTER2

Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

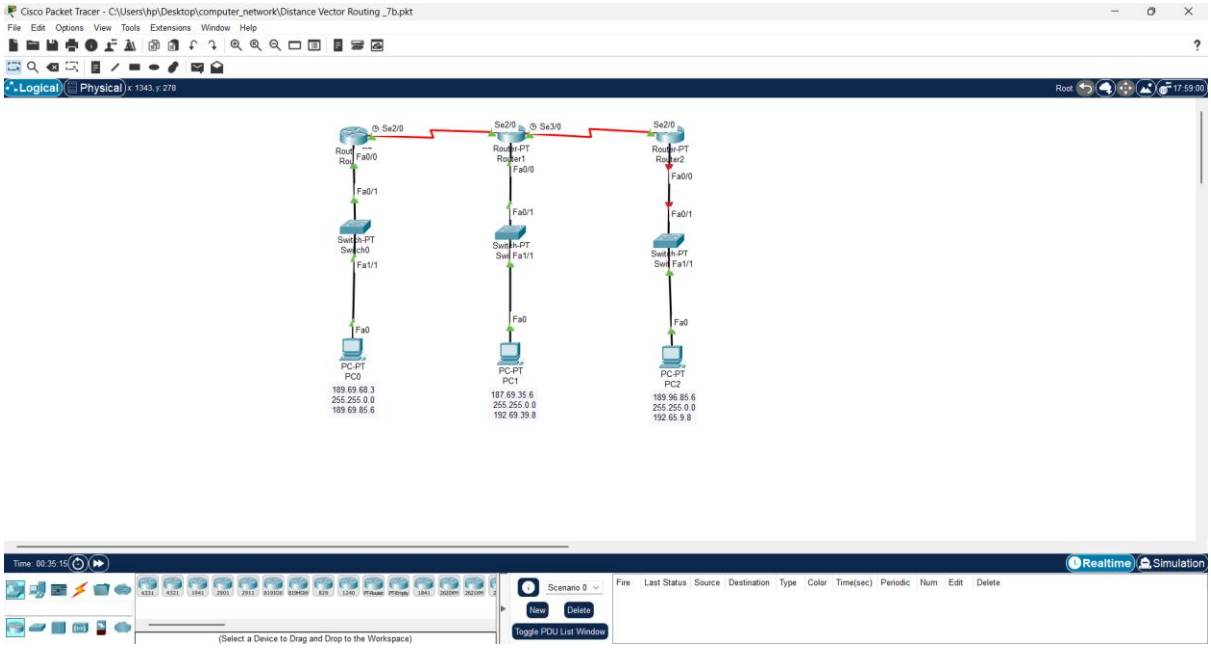
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
ip address 192.168.30.1 255.255.255.0
Router(config-if)#ip address 192.168.30.1 255.255.255.0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up
ip address 20.0.0.3 255.0.0.0
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up
ip address 20.0.0.3 255.0.0.0
Router(config-if)#
Router(config-if)#exit

Router(config)#router rip

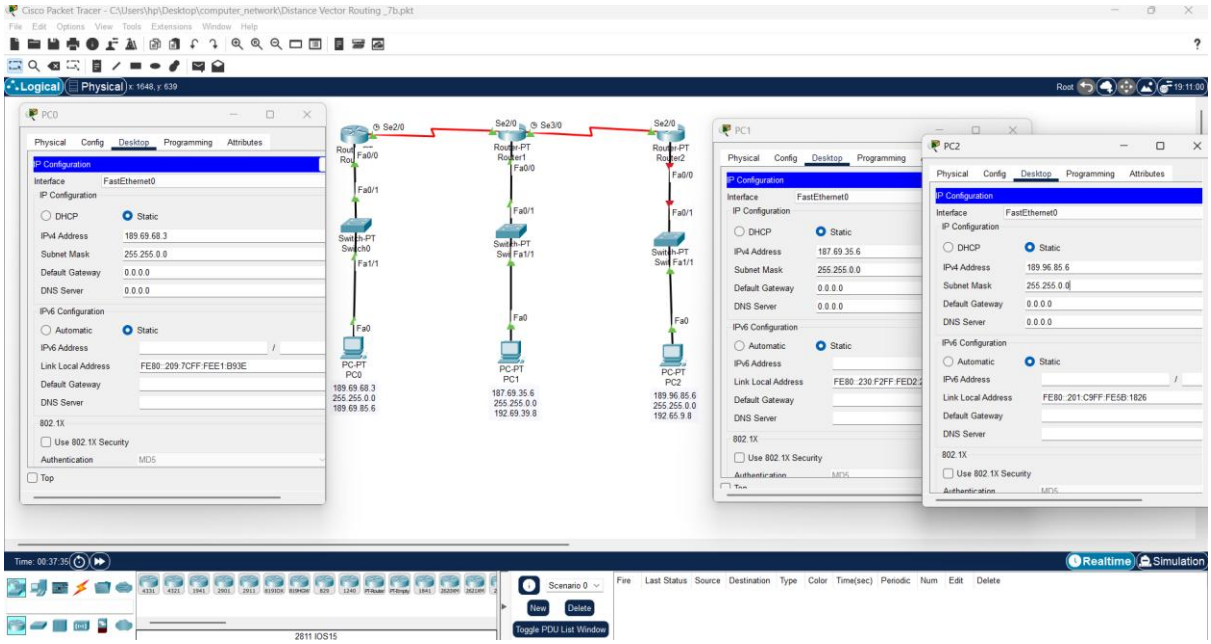
Router(config-router)#network 20.0.0.0

Router(config-router)#network 192.168.30

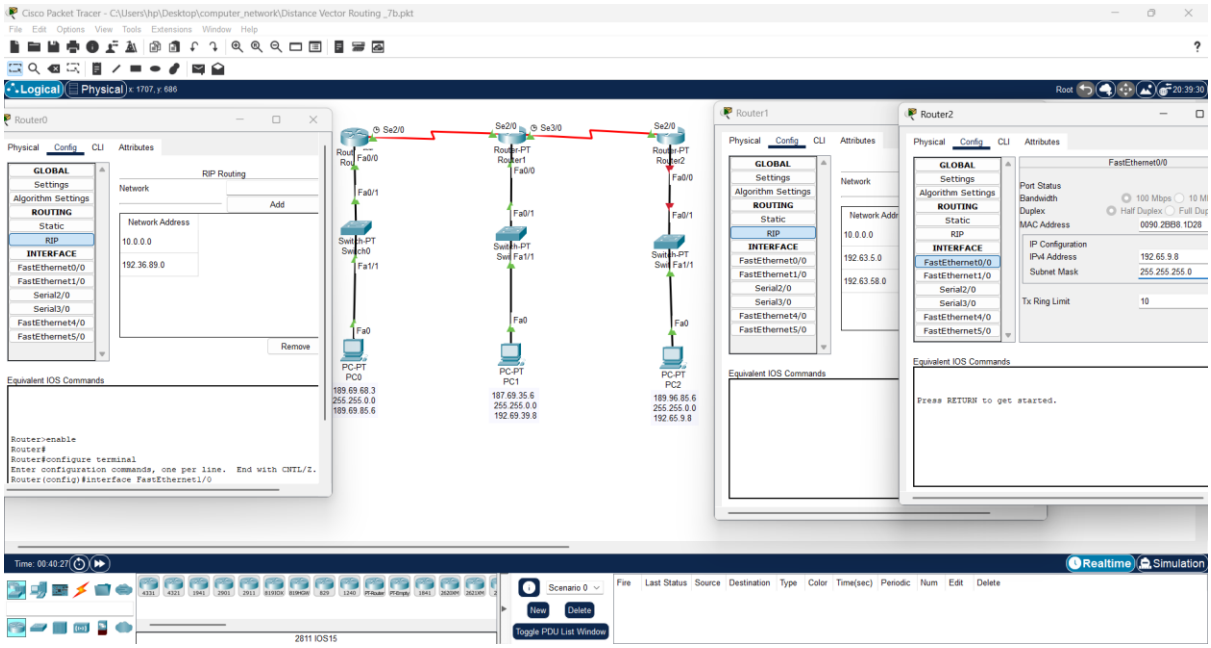
6. Output Diagram (Minimum 3 screenshot):



Network Diagram



Assigning IP Address



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Link: https://drive.google.com/drive/u/0/folders/1XZrkqvDDylKQNfm85OYbEEHSEWgYbc6O

CONCLUSION:

In this experiment, we configured **Distance Vector Routing**, which determines the best path based on **hop count** using protocols like **RIP (Routing Information Protocol)**. Routers exchange periodic updates with neighbors, making this method simple to implement but slower to converge. While effective for small networks, distance vector routing can suffer from routing loops and inefficiencies in larger networks.

Rubrics for Experiment Assessment:

Rubrics	Good	Normal	Poor	Marks
Creation of Topology (4)	Created the topology, Identify the proper devices and making the connections **(4)**	Created the topology, Identify the proper devices, making the connections But missing some features **(3)**	Created wrong topology, Failed to Identify the proper devices and making connections **(1)**	
Verify the connectivity (4)	Verified the connectivity in all the levels **(4)**	Verified the connectivity at some levels (only some nodes) **(2)**	Verified the connectivity is not done. **(1)**	
Timely Completion (2)	Completed the lab before the allotted time **(2)**	Completed the lab after the deadline **(1)**	Did not submitted before grading **(0)**	
Total				

Result: Thus Distance Vector Routing configuration using packet tracer has been done successfully.