

EXPERIMENT-5

Configure RIP routing Protocol in Routers.

Experiment - 5

Aim:
Configure RIP routing protocol in routers

Topology:

```
graph LR
    R1[Router 1] --- R2[Router 2]
    R2 --- R3[Router 3]
    ED1[End device 1] --- R1
    ED2[End device 2] --- R3
```

Router 1: 20.0.0.10, 10.0.0.10
Router 2: 10.0.0.20, 30.0.0.10
Router 3: 30.0.0.20, 40.0.0.10
End device 1: 10.0.0.1
End device 2: 40.0.0.1

Procedure:

- 1 Connect 3 routers and 2 end devices.
- 2 Assign IP addresses to both end devices.
- 3 Assign IP addresses to all routers. Use the following commands:
Router>enable
Router# config t
Router (config)# interface <port>
Router (config-if)# ip address <ip address> <subnet mask>
Router (config-if)# no shut
Router (config-if)# exit
- 4 Set gateways to end devices.
End device 1: 10.0.0.10
End device 2: 40.0.0.10
- 5 Assign routes to all routers. Move to configure mode of router and use the following commands.

```
Router (config)# router rip
Router (config-router)# network <network address>
Router (config-router)# network <network address>
```

For router 1,

```
Router (config)# router rip
Router (config-router)# network 10.0.0.0
Router (config-router)# network 20.0.0.0
```

⑥ Ping and devices to test connection.

Result:

> ping 10.0.0.1

Pinging 10.0.0.1 with 32 bytes of data:

Request timed out.

Reply from 10.0.0.1: bytes=32 time=5ms TTL=125

Reply from 10.0.0.1: bytes=32 time=21ms TTL=125

Reply from 10.0.0.1: bytes=32 time=2ms TTL=125

Ping statistics for 10.0.0.1:

Packets: Sent=4 Received=3 Lost=1 (25% loss)

Approximate round trip times in milli-seconds:

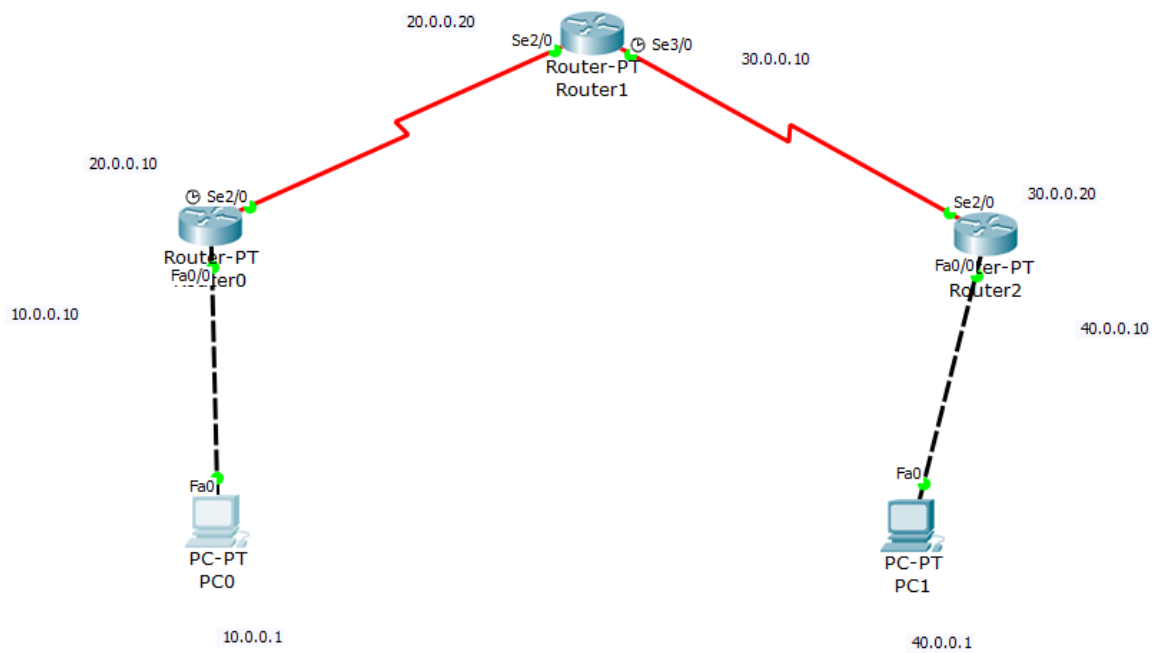
Minimum=2ms, Maximum=21ms, Average=10ms.

Observation:

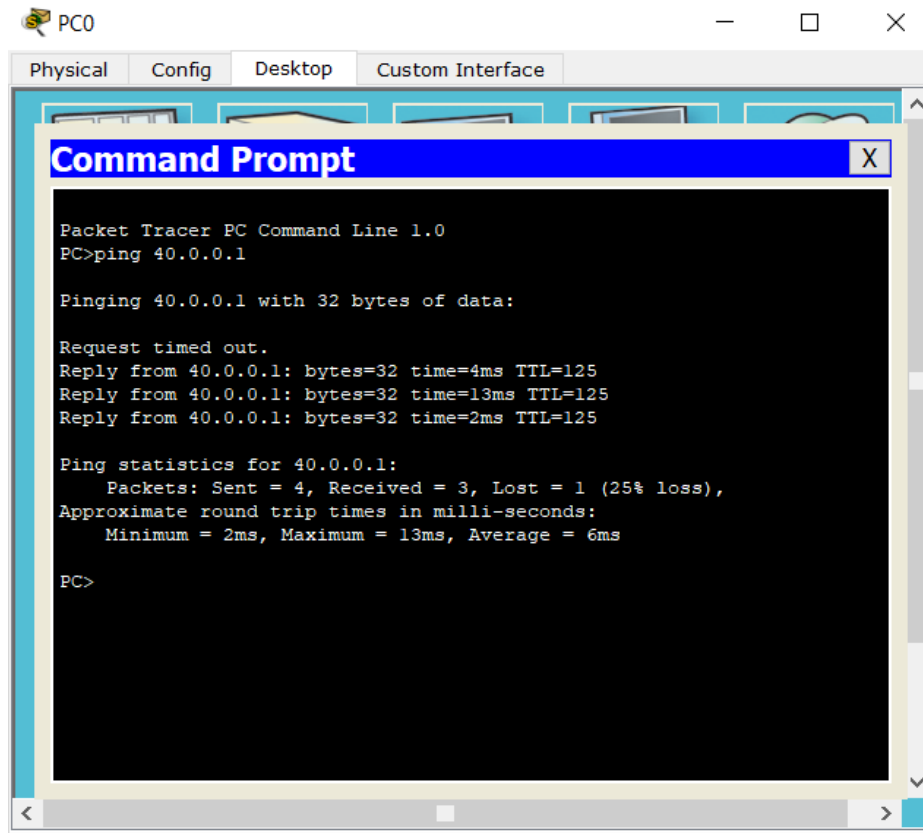
Routing Information Protocol (RIP) is a dynamic routing protocol that uses hop count as routing metric to find best path between source and destination networks. Hop count is the number of routers occurring in

between source and destination networks.

Topology:



Result:



The image shows a screenshot of a Packet Tracer PC Command Prompt window. The window has a title bar with a yellow icon and the text 'PC0'. Below the title bar are four tabs: 'Physical', 'Config', 'Desktop', and 'Custom Interface'. The 'Desktop' tab is selected. The main area of the window is a black terminal with white text. The text shows the execution of a 'ping' command from a PC to the IP address 40.0.0.1. The output indicates that the first packet was lost, resulting in a 25% loss rate. The round trip times for the three successful packets are 4ms, 13ms, and 2ms, with an average of 6ms.

```
Packet Tracer PC Command Line 1.0
PC>ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data:

Request timed out.
Reply from 40.0.0.1: bytes=32 time=4ms TTL=125
Reply from 40.0.0.1: bytes=32 time=13ms TTL=125
Reply from 40.0.0.1: bytes=32 time=2ms TTL=125

Ping statistics for 40.0.0.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 13ms, Average = 6ms

PC>
```