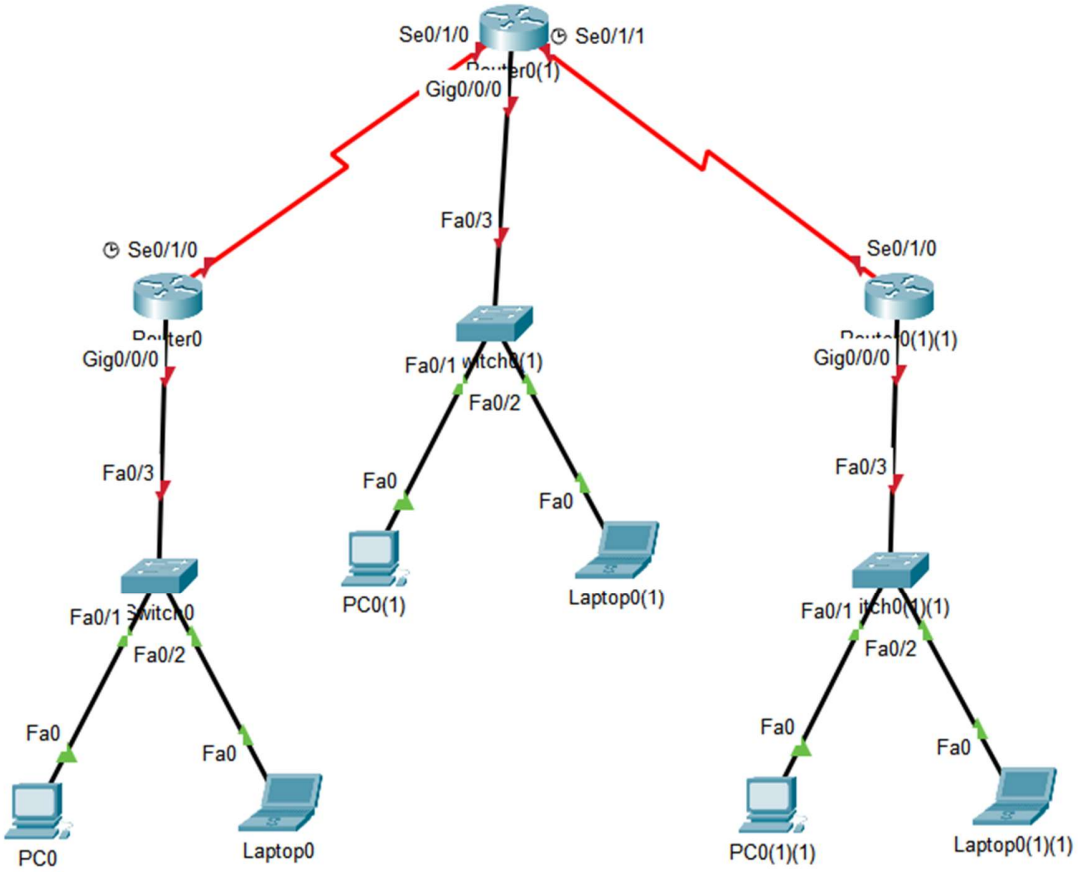
Marwadi University Marwadi Chandarana Group	**Marwadi University** **Faculty of Engineering and Technology** **Department of Information and Communication Technology**	
Subject: Computer Networks (01CT0503)	**Aim:** Perform dynamic routing protocol (RIP) and analyze the results.	
Experiment No: 06	**Date:** 13-09-2023	**Enrolment No:** 92210133006

Aim: Perform dynamic routing protocol (RIP) and analyze the results.

Step 1: Create a 3 small network with 1 router, 1 switch, and 2 devices.
Connect device to switch and switch to router using copper straight through cable and router to router using Serial DTE cable.



Step 2: Give IP address to all devices of different networks with different network address.
Also add default gateway in device like PC and Laptops.

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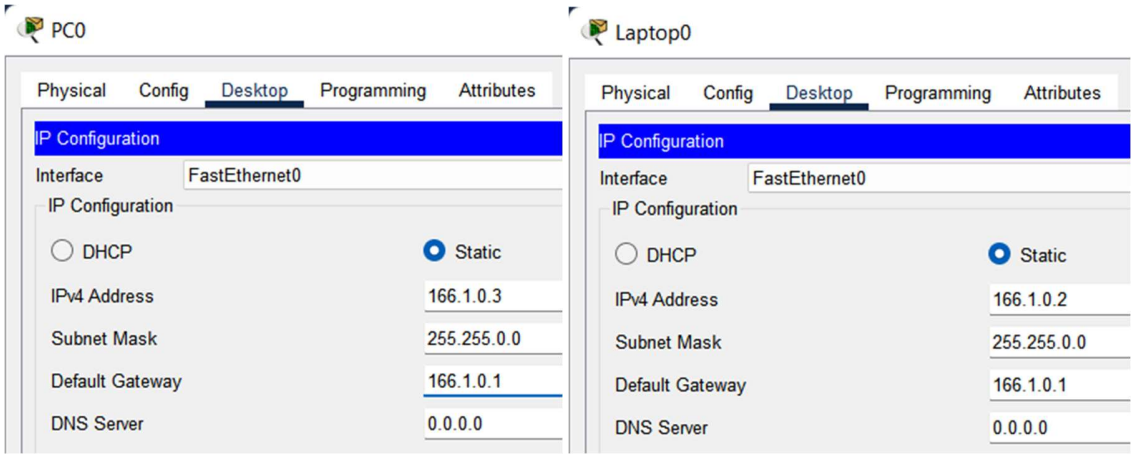
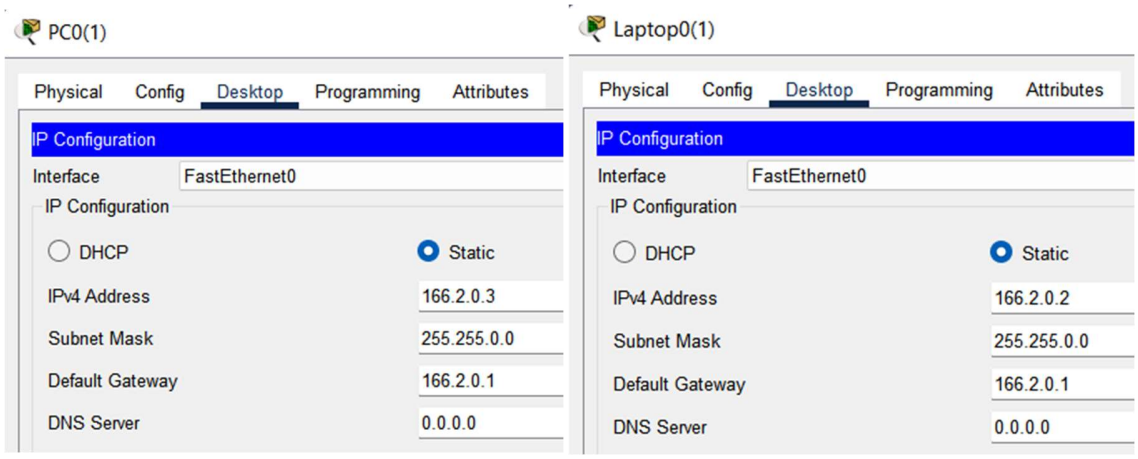
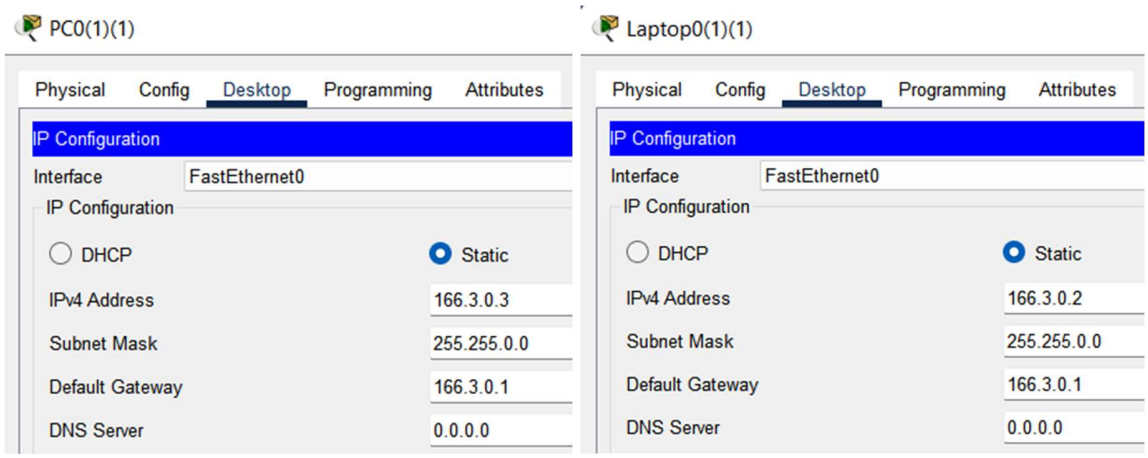
- Network 166.1.0.0



- Network 166.2.0.0



- Network 166.3.0.0



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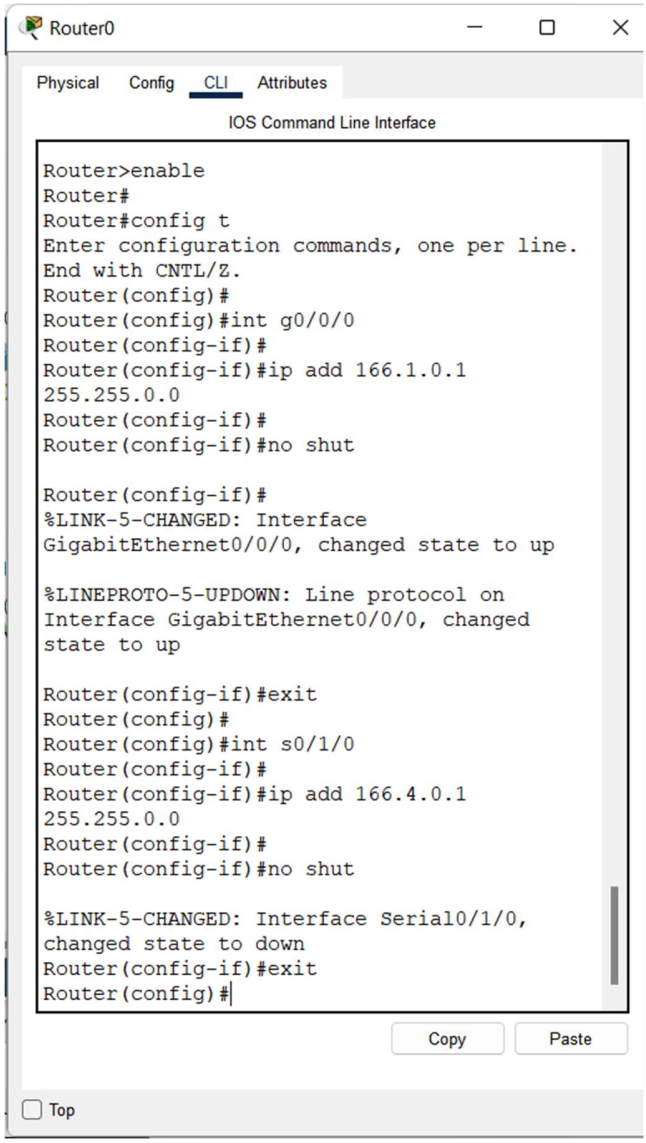
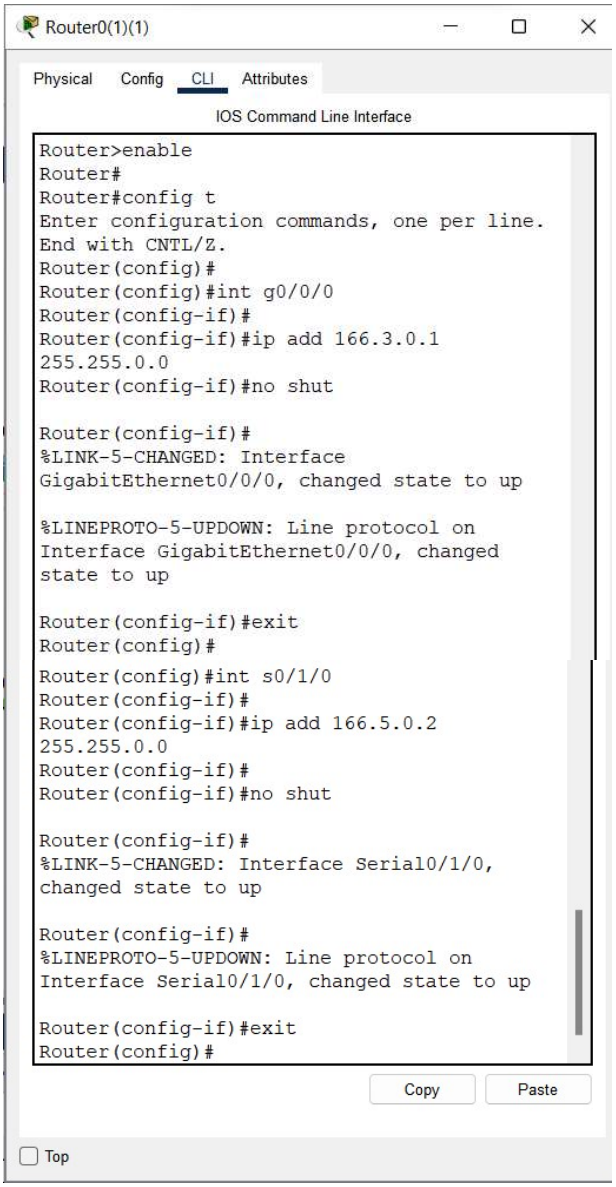
Step 3: Assign Ip addresses to Router.
Commands are "enable", "config t" or "configure terminal", "int interface_name" or "interface <interface_name>", "ip add <ipv4_address> <subnet_mask>", "no shut", "exit".





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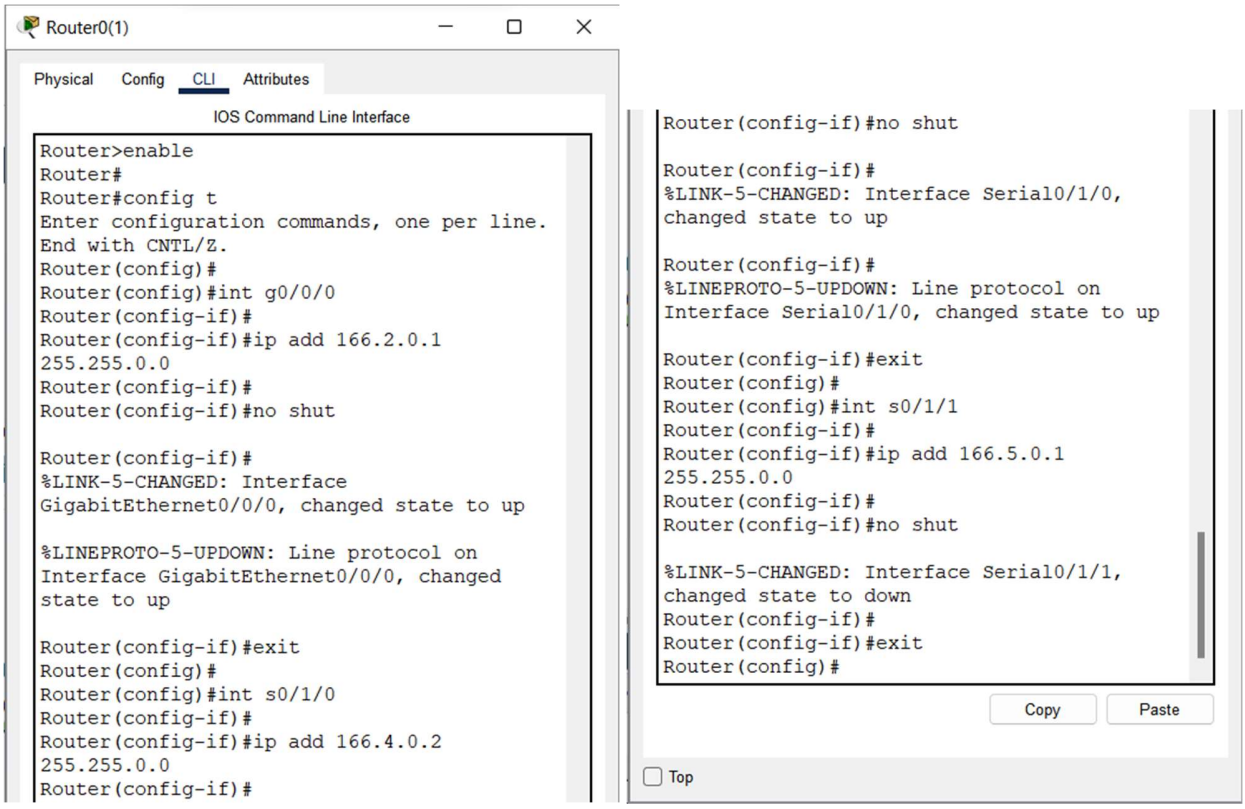
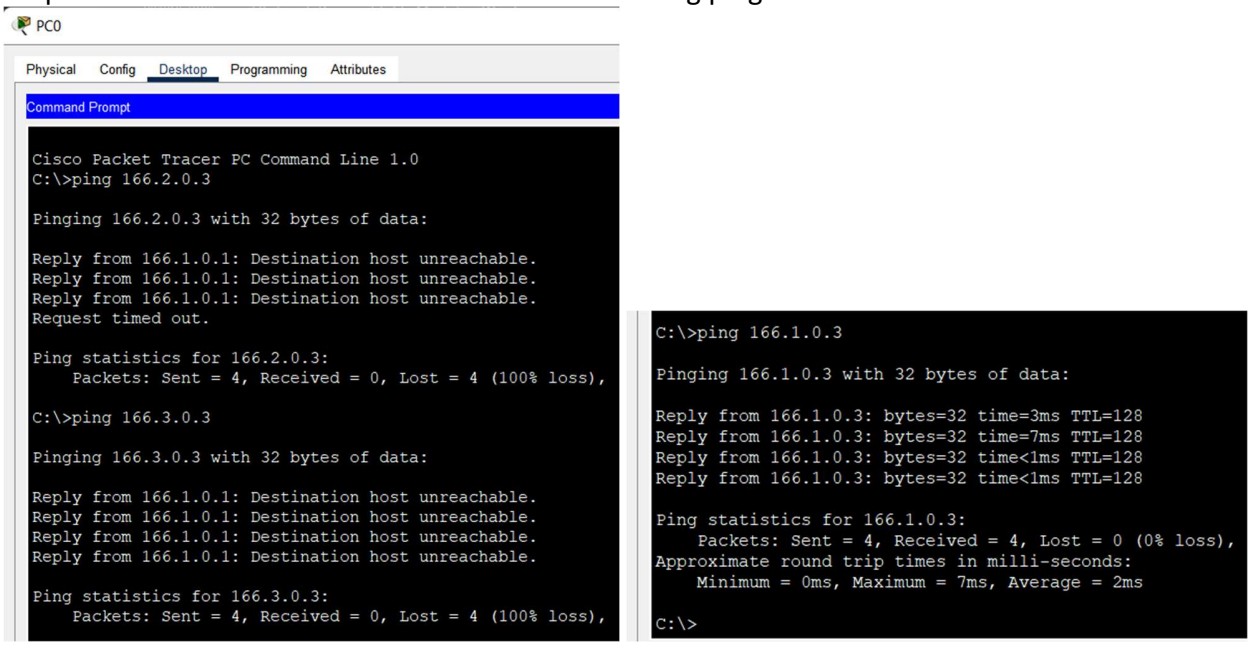


Step 4: Check connection between two network using ping command.



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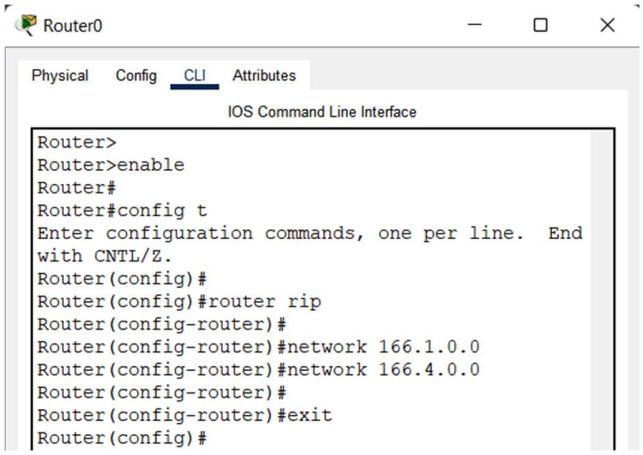
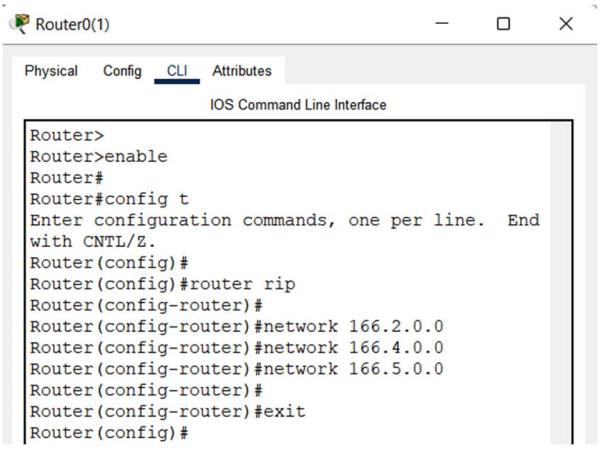
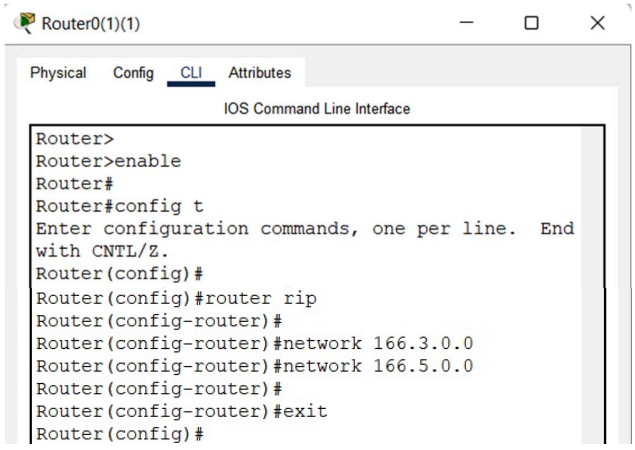
We can see that we only able to communicate with same network for other network destination host is unreachable because it not able to find route.

Step 5: We need to implement routing protocol onto routers so that router can find destination for another network, for that in dynamic routing protocol we have command “router rip” using that we entered in router-rip configuration mode and then we have command “network <network address>”.







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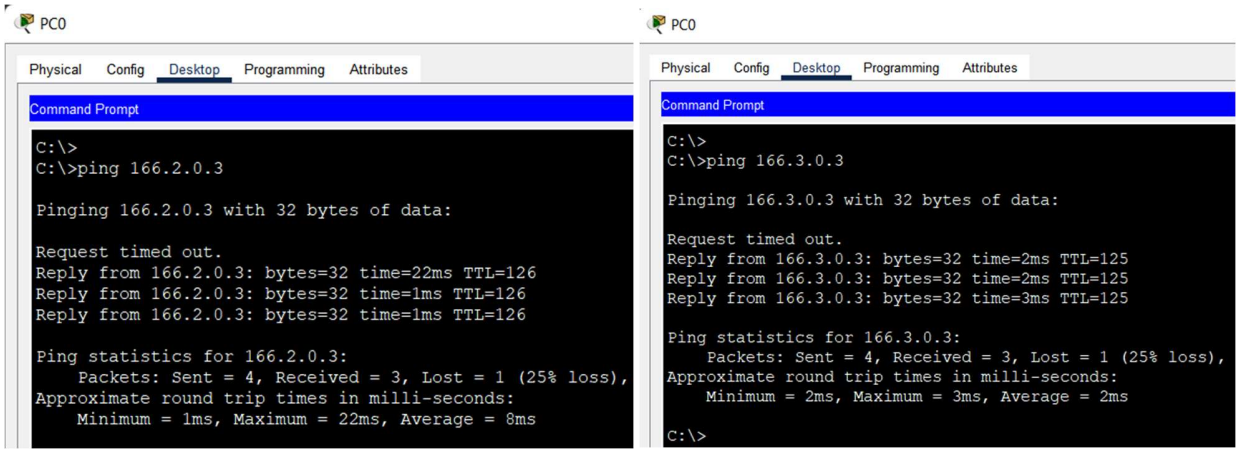
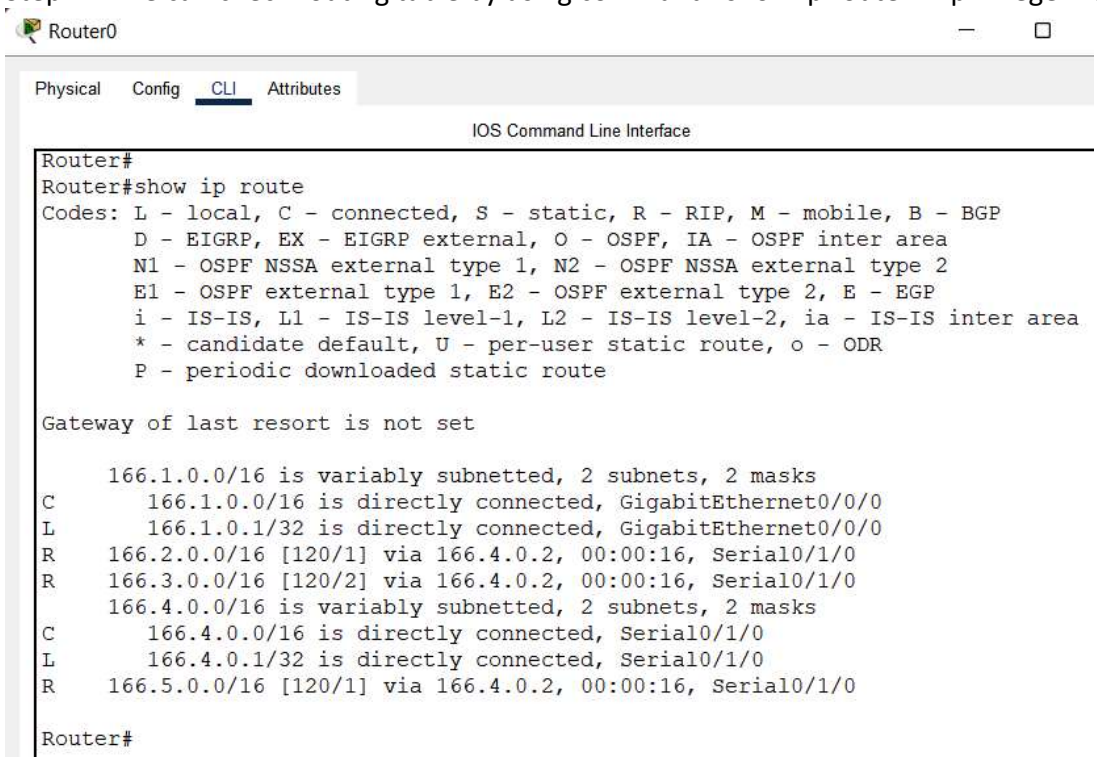
Step 6: Now again check that connection between two networks is established or not using ping command.



Now we can see that after giving route we able to communicate between different networks.

Step 7: We can check routing table by using command "show ip route" in privilege mode.



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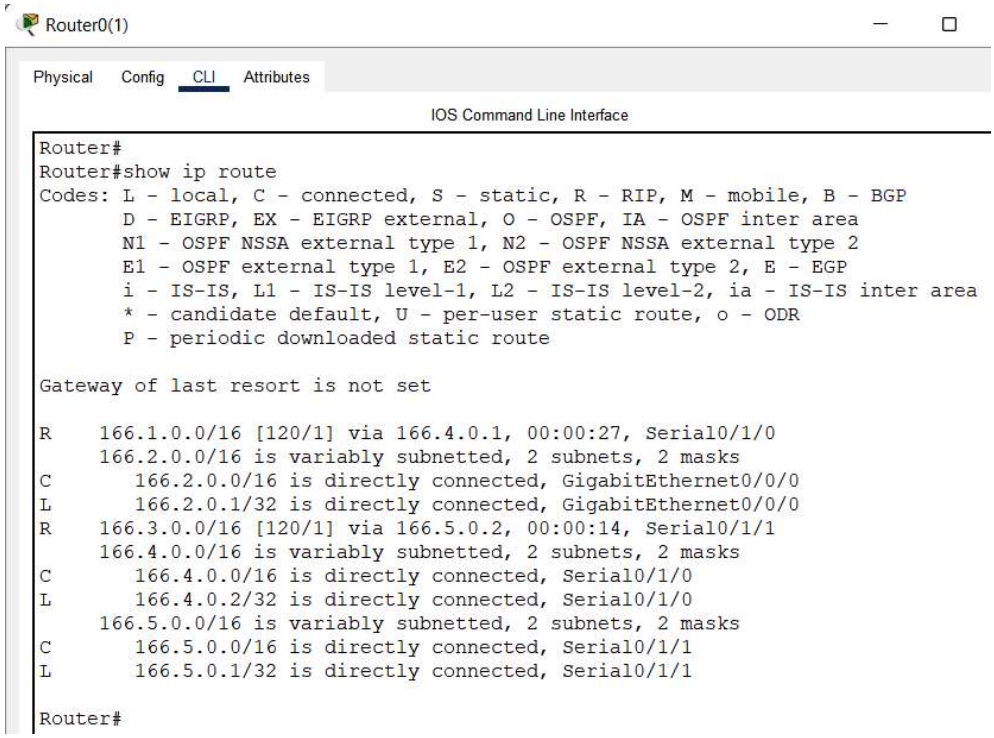

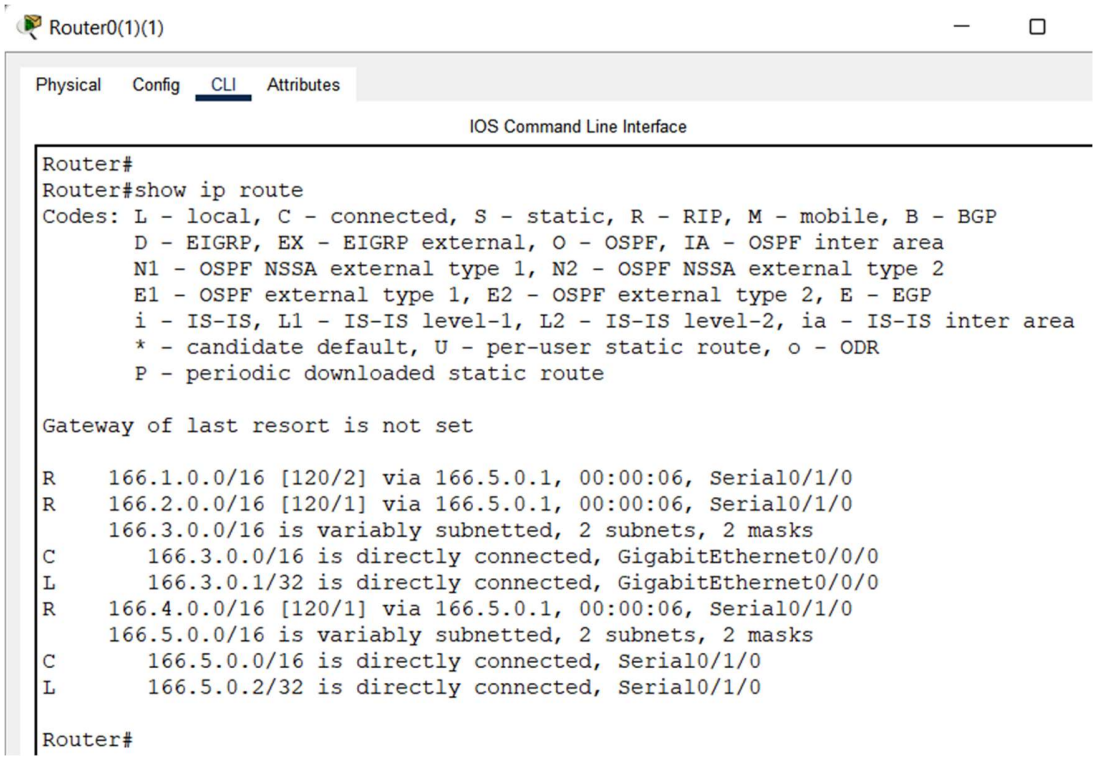

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Conclusion:

Through this experiment, I learned the importance of routing protocols in facilitating communication between different networks, specifically the Routing Information Protocol (RIP). By examining the output of the "show ip route" command, I analyzed the routing table and identified that:

"R" (RIP) indicates routes learned through the RIP routing protocol.

The routing table displays various network entries, denoting the destination networks and their associated next-hop routers.

"C" (Connected) signifies that the router is directly connected to the mentioned networks and IP addresses (e.g., 166.1.0.0/16, 166.2.0.0/16, 166.3.0.0/16, etc.).

"L" (Local) implies that the router is directly connected to specific IP addresses within those networks (e.g., 166.1.0.1/32, 166.2.0.1/32, 166.3.0.1/32, etc.).

"S" (Static) routes may still exist alongside RIP-learned routes, indicating manually configured routes (e.g., 166.4.0.0/16, 166.5.0.0/16).