NETWORK TOPOLOGY IN PACKET TRACER

CSE1004(NETWORK AND COMMUNICATION)LAB:L53-L54

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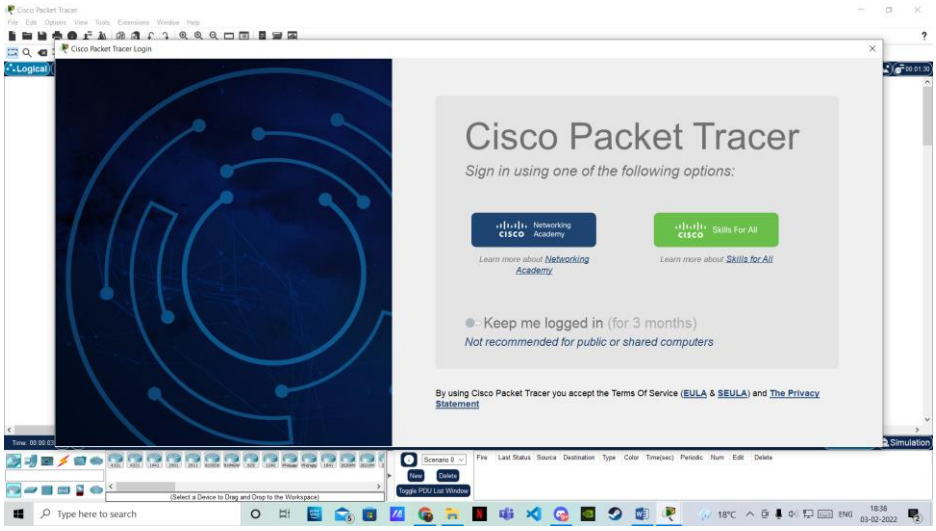
QUESTION:

Create different types of Network Topology in Cisco Packet Tracer.

DESCRIPTION:

Getting started:

- **Open your packet tracer and first login through your Netcad credentials:**



- **Adding Pcs in Cisco Packet Tracer:**

  To add PCs in Cisco Packet Tracer, you need to perform the following steps:

  1. In the Cisco Packet Tracer console, click on the PC icon, click Generic, and then click in the logical view area to add a Generic PC.
  2. Repeat the same step to add three more Generic PCs in the logical view area, as shown in the following figure.

- **Adding Swicthes in Cisco Packet Tracer:**
  1. To add a switch in Cisco Packet Tracer, click the Switch icon, select a switch type, such as 2960, and then add the selected switch in the logical view area.
  2. Repeat the same step to add one more switch.

- **Connection Types in Cisco Packet Tracer:**

To connect devices in Cisco Packet Tracer, first, you need to understand the various types of cables (connections) used to connect network devices. Some of the common types of cables are:

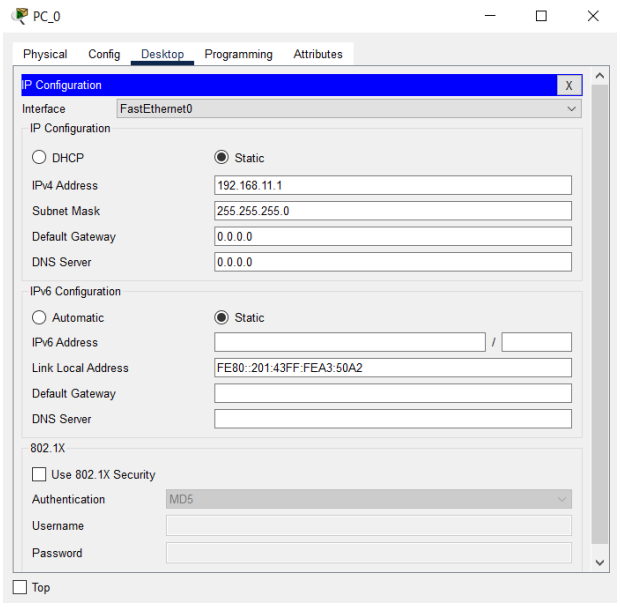
1. **Straight-through:** Used to connect different types of devices (devices that use different wiring standards), such as Router-to-Switch and Switch-to-PC.
2. **Cross-over:** Used to connect same types of devices, such as router-to-router, PC-to-PC, and switch-to-Switch.
3. **Serial DCE:** Used to connect router-to-router in a WAN network.
4. **Console:** Used to take console (using hyper terminal) of a router on a PC.

- **Connecting Devices in Cisco Packet Tracer:**
  - To connect devices in Cisco Packet Tracer, click the connection type icon, and select an appropriate cable. For example, to connect PC0 to Switch0, select the straight-through cable, click on PC0, select the FastEthernet0 interface.
  - Next, click on Switch0, and then select the FastEthernet0/1 interface. The following figure displays how to connect a PC to a switch in Cisco Packet Tracer.
  - Now, add PC1 to Switch0 using the FastEthernet0/2 interface. Also, add PC2 and PC3 to the FastEthernet0/1 and FastEthernet0/2 interfaces of Switch1, respectively.
  - If you have connected a wrong device to a wrong interface, you can use the Delete option to delete a connection or device. The following figure displays how to use the Delete option to delete a device or connection in Cisco Packet Tracer.
  - Connect switch to each other using cross-over connection.
  - Then after the connections are done, open a PC and configure the ip address and make sure no two ip addresses in a network is same.
  - Then to test the connection use “ping” in the console of the PC and use appropriate ip address.
  - If the ping message sending is successful it means that the connection is successful.

Configuration of a PC in Cisco Packet Tracer:

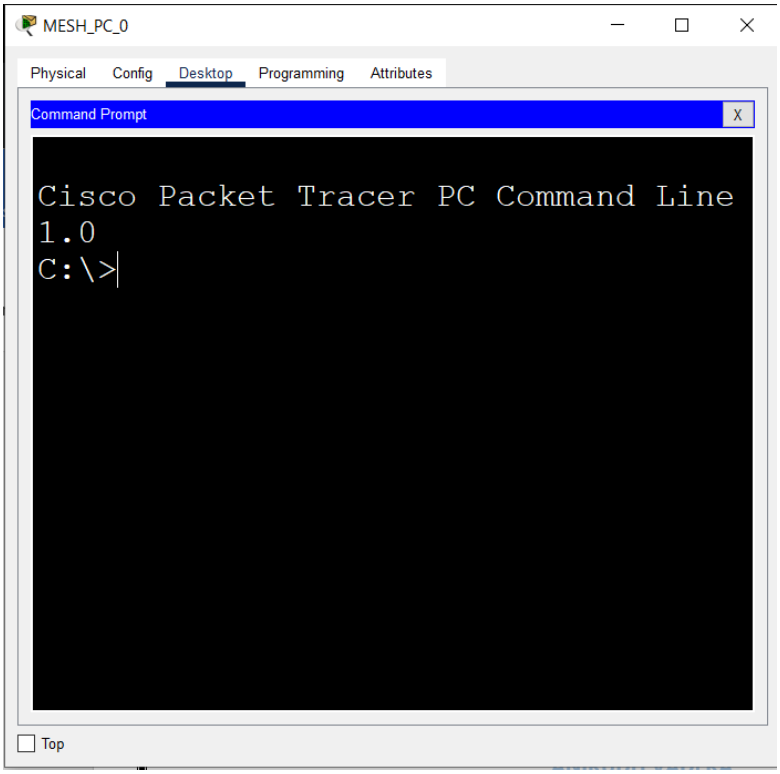
IP of a particular PC in a connection:

Double click on the pc -> Desktop -> IP Configuration



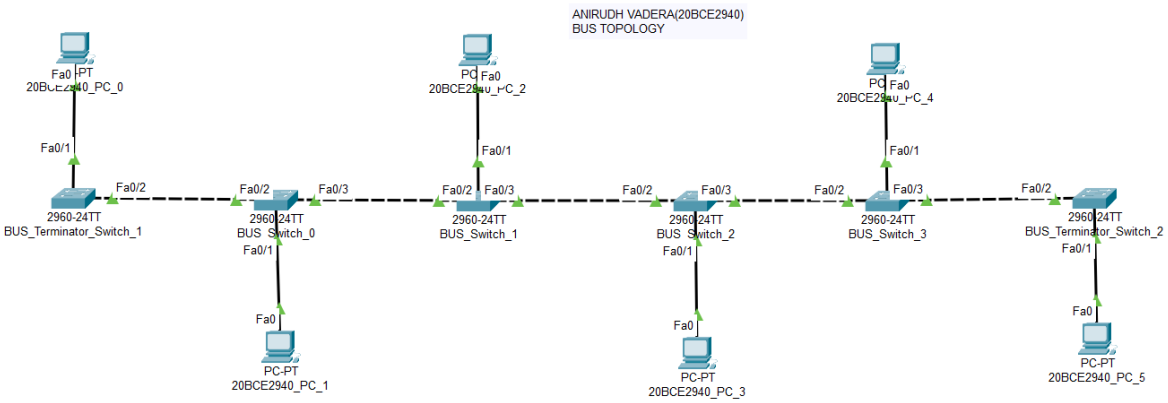
- **Ip chosen: 192.168.11.1**
- **For subsequent pc 192.168.11.2 and so on**
- **192.168.11.1: First PC of Bus Topology**
- **192.168.12.1: First PC of Ring Topology**
- **192.168.13.1: First PC of Star Topology**
- **192.168.14.1: First PC of Mesh Topology**

A Pc Terminal:



Connection Types:

Bus Topology:



IP OF PC0: 192.168.11.1

Name Format of a PC: 20BCE2940_PC_(PC_Number)

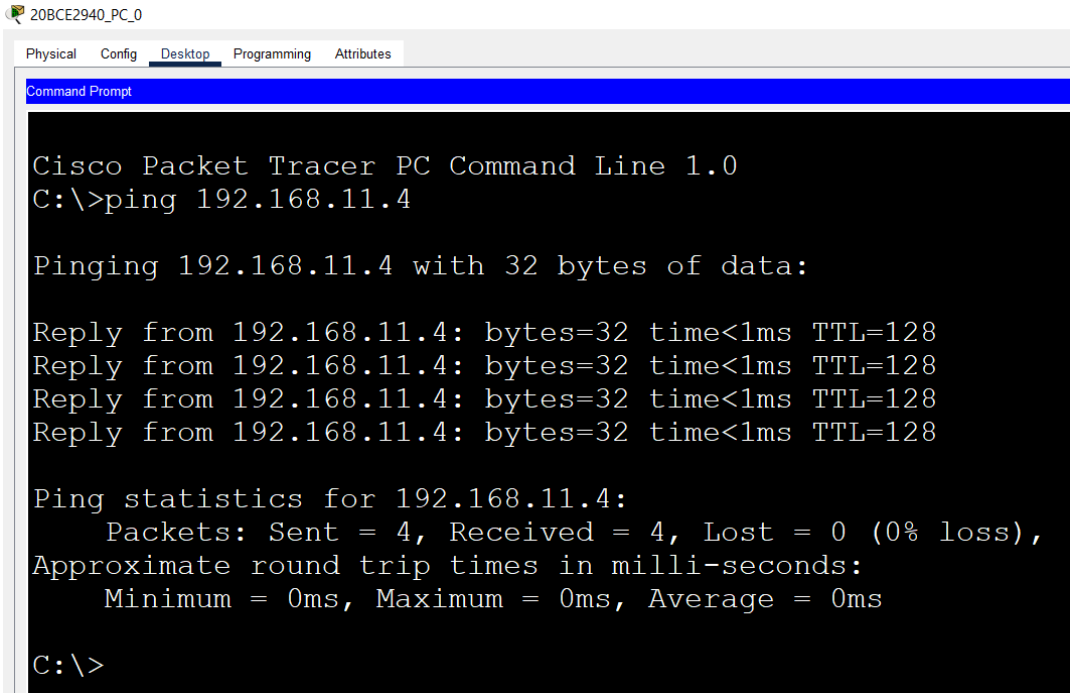
Name Format of a Switch: BUS_Terminal_Switch / BUS_Switch

SUBNETMASK OF PC0: 255.255.255.0

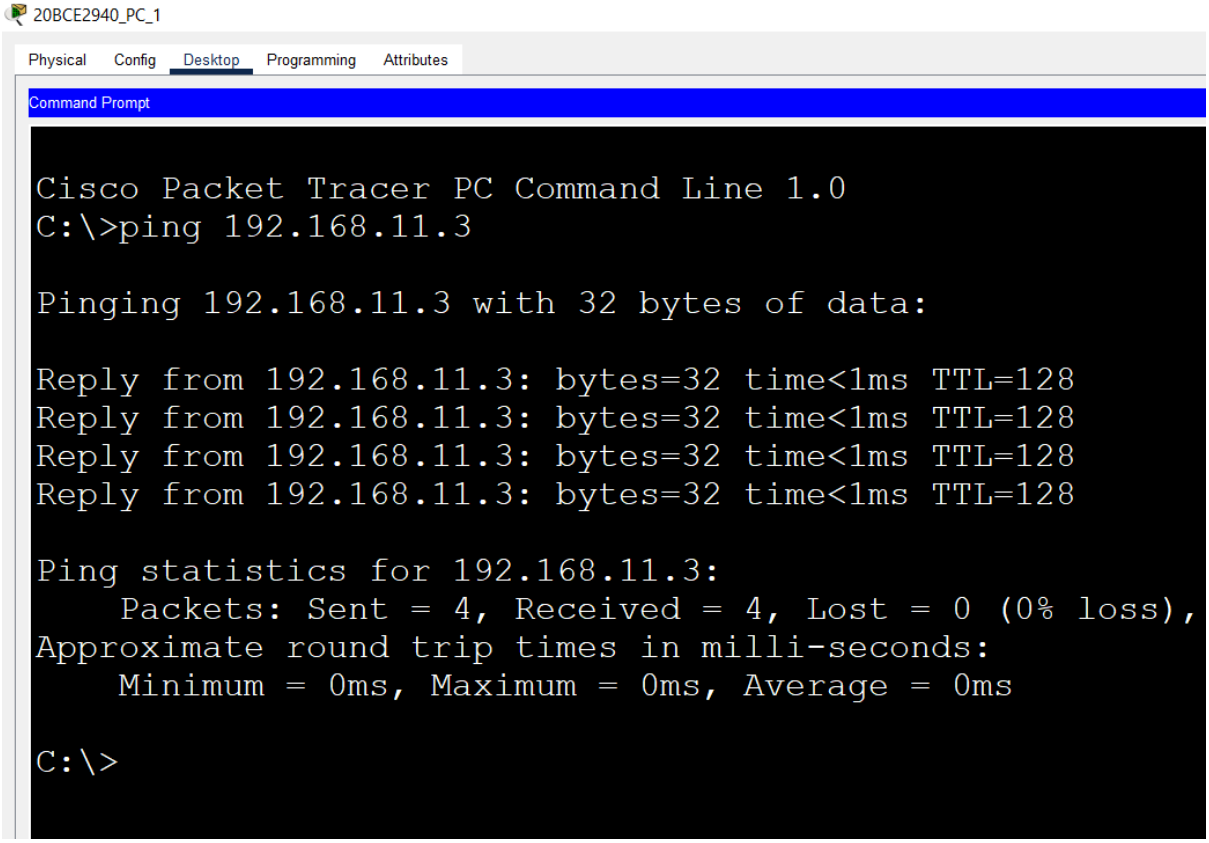
Number of PC's Connected in the topology: 6

OUTPUT:

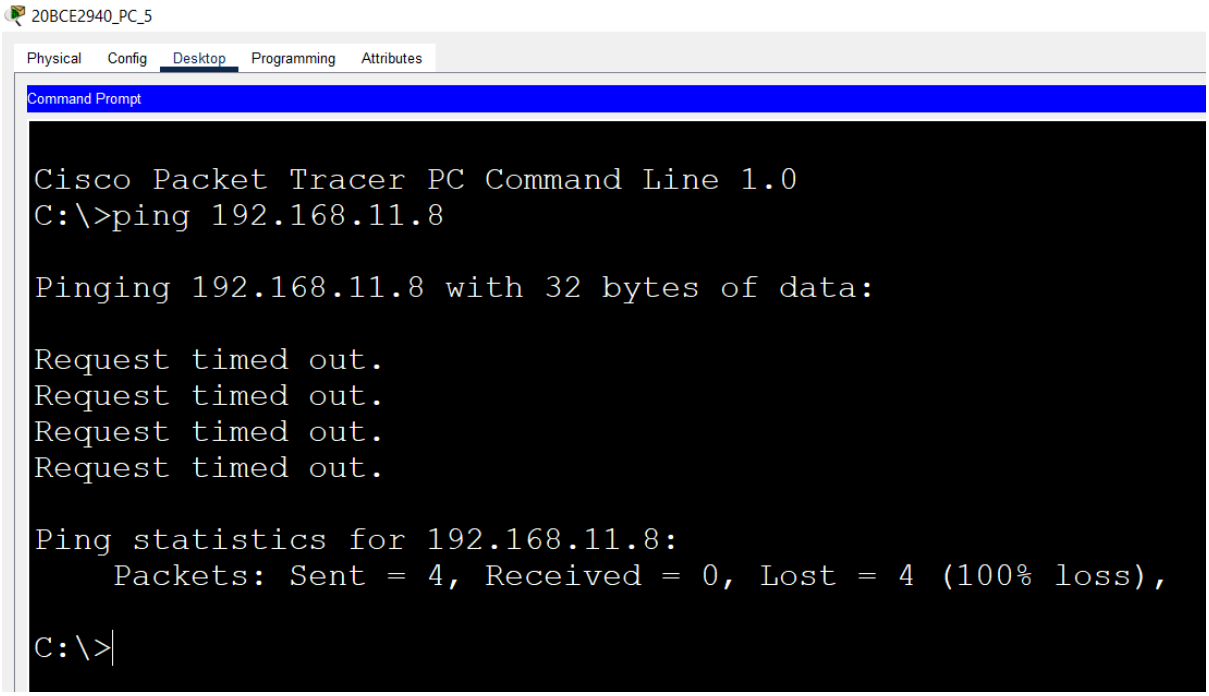
Pinging from PC0 to PC3:



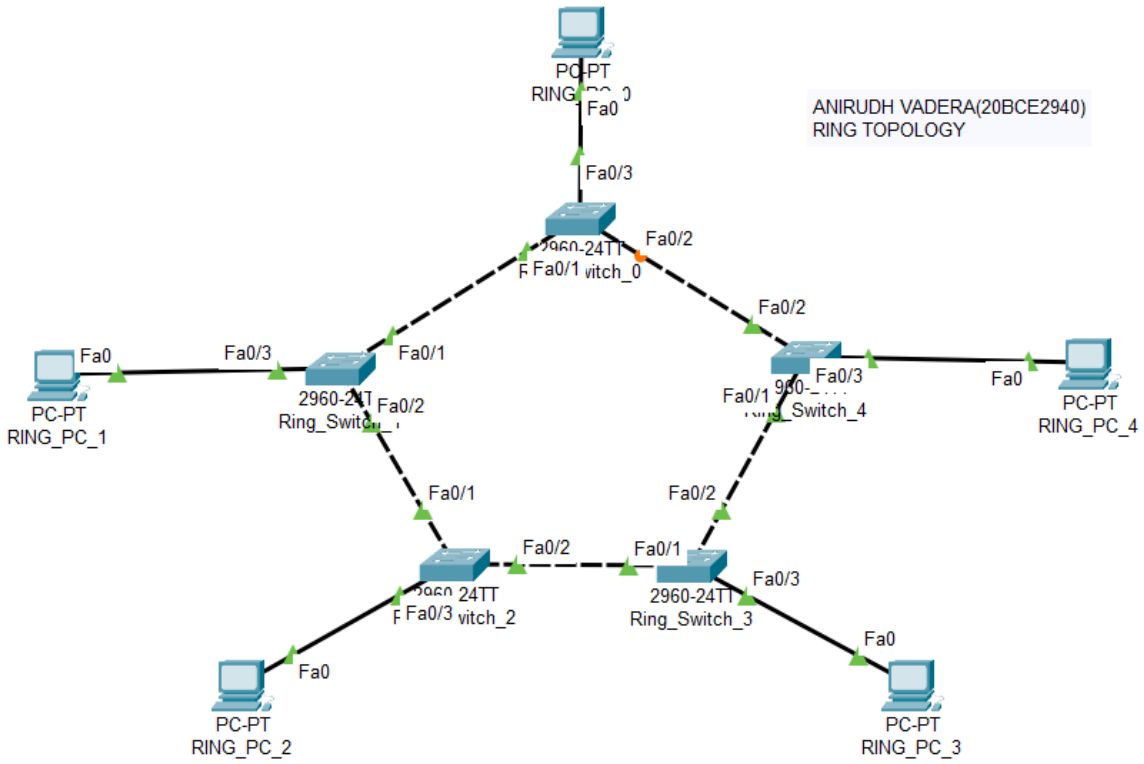
Pinging from PC1 to PC2:



Pinging from PC5 to PC7(This doesn't exist in server so Loss should be 100%):



Ring Topology:



IP OF PC0: 192.168.12.1

Name Format of a PC : RING_PC_(PC_Number)

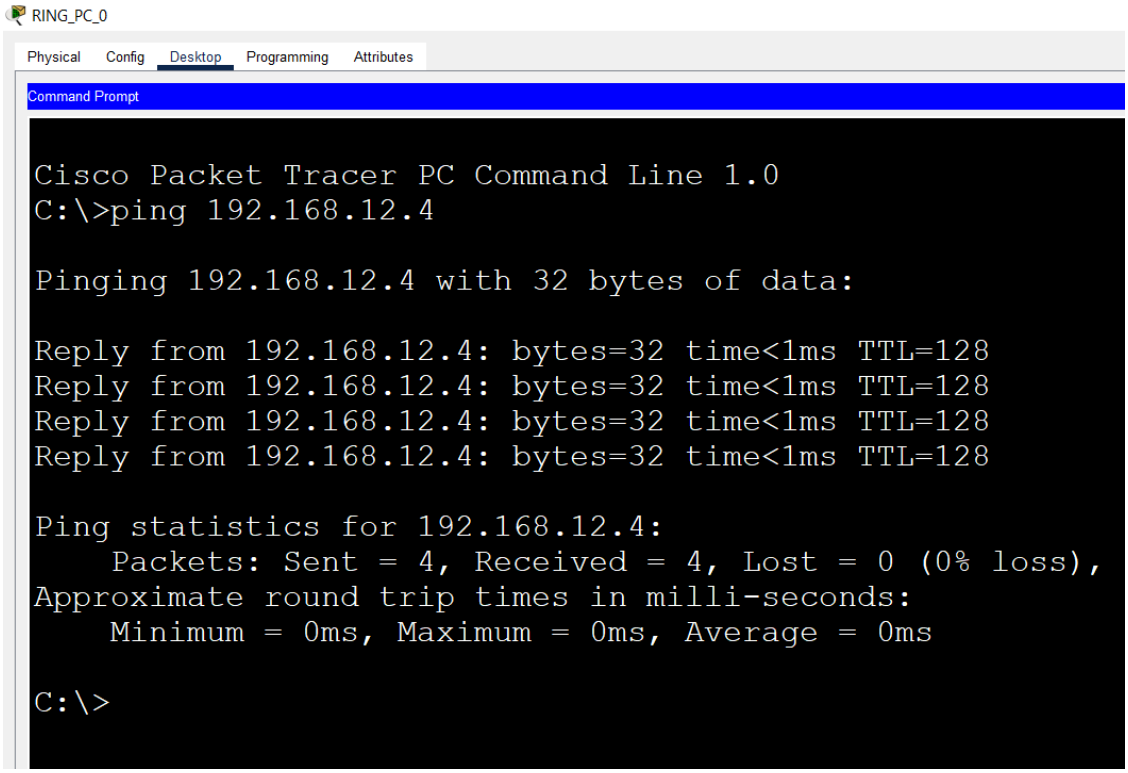
Name Format of a Switch : Ring_Switch_(Switch_Number)

SUBNETMASK OF PC0: 255.255.255.0

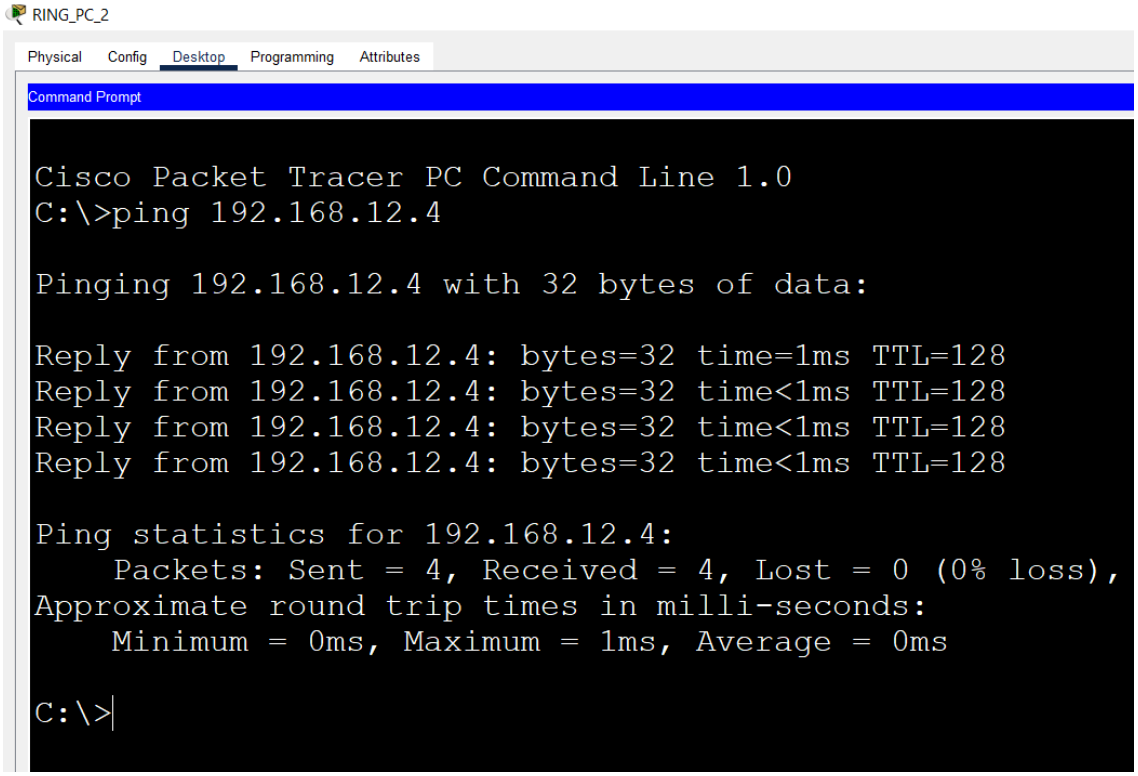
Number of PC's Connected in the topology: 5

OUTPUT:

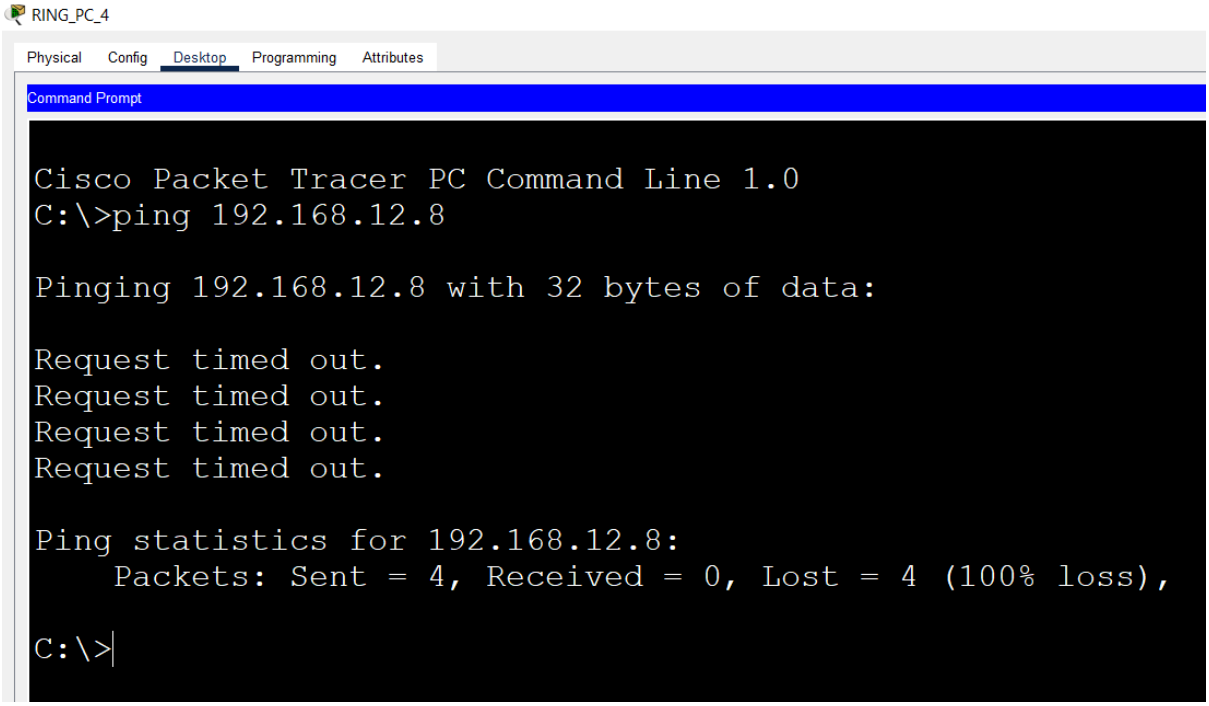
Pinging from PC0 to PC3:



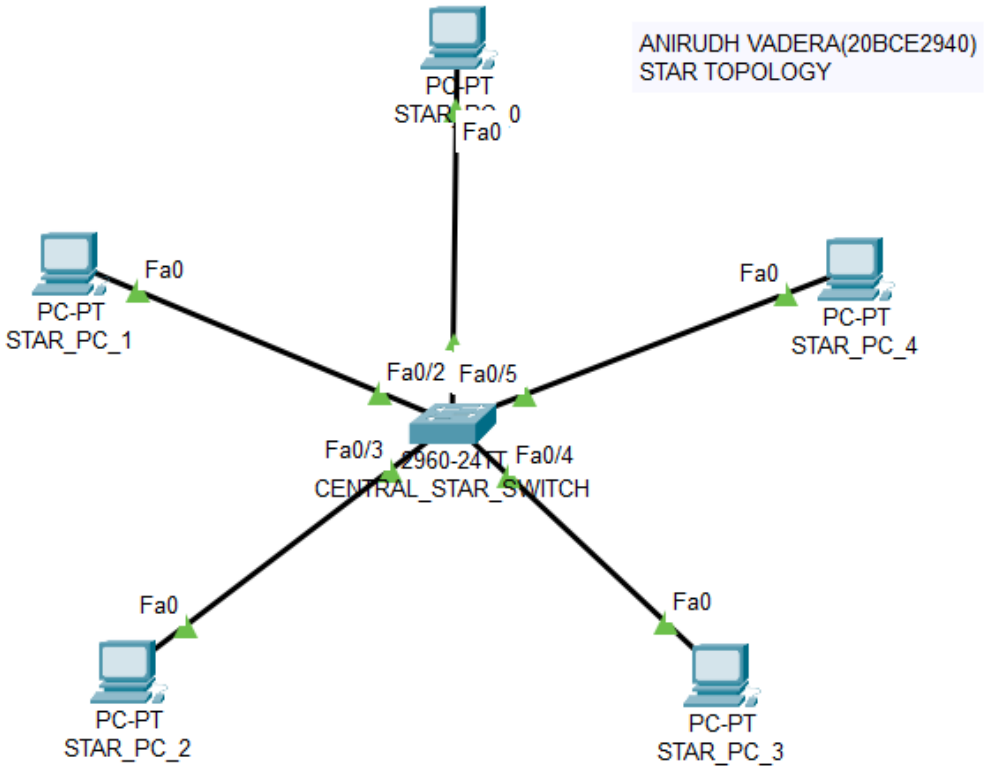
Pinging from PC2 to PC3:



Pinging from PC4 to PC7(This doesn't exist in server so Loss should be 100%):



Star Topology:



IP OF PC0: 192.168.13.1

Name Format of a PC : STAR_PC_(PC_Number)

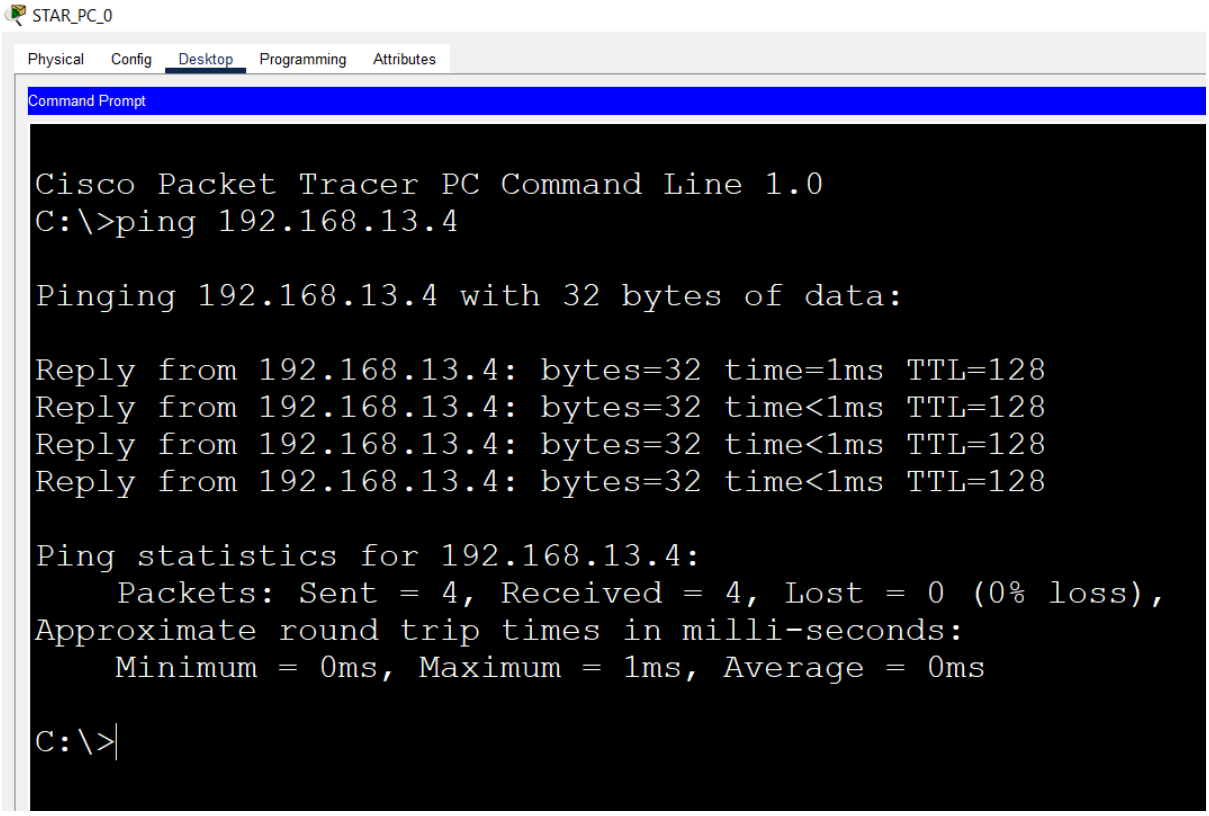
Name Format of a Switch : CENTRAL_STAR_SWITCH

SUBNETMASK OF PC0: 255.255.255.0

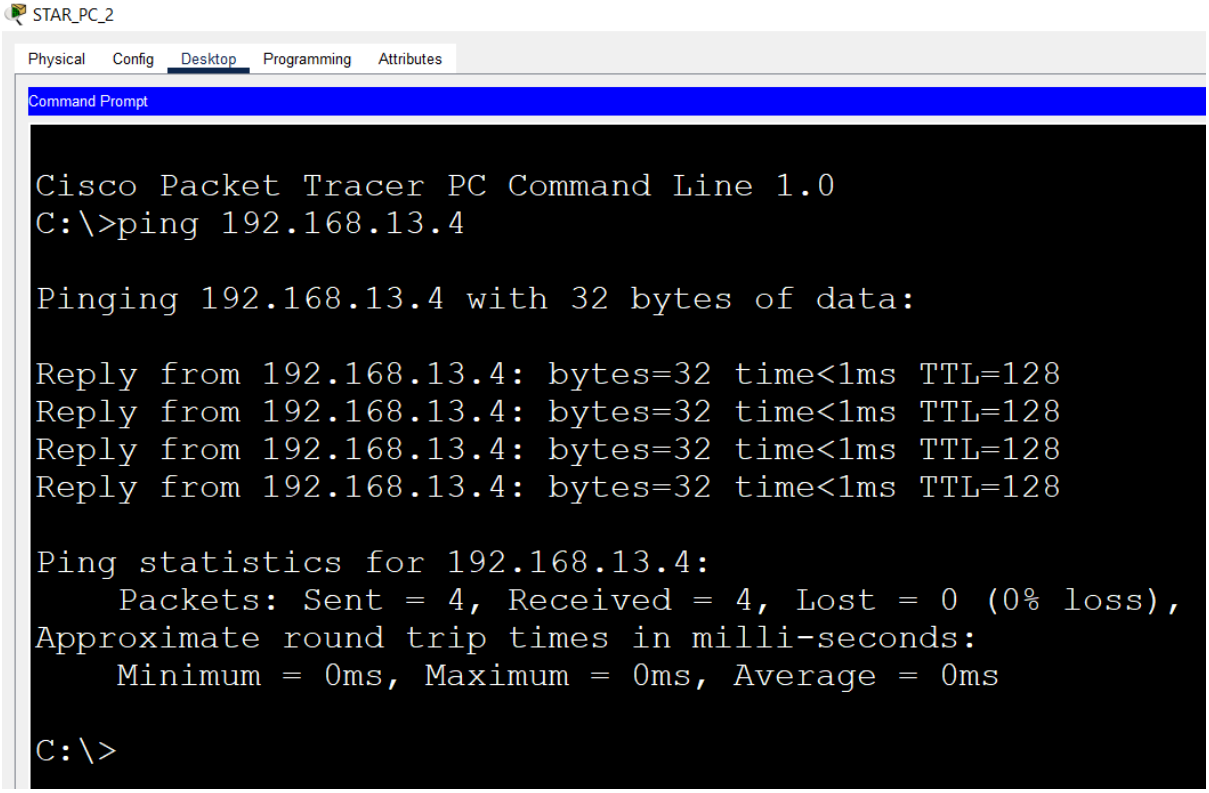
Number of PC's Connected in the topology: 5

OUTPUT:

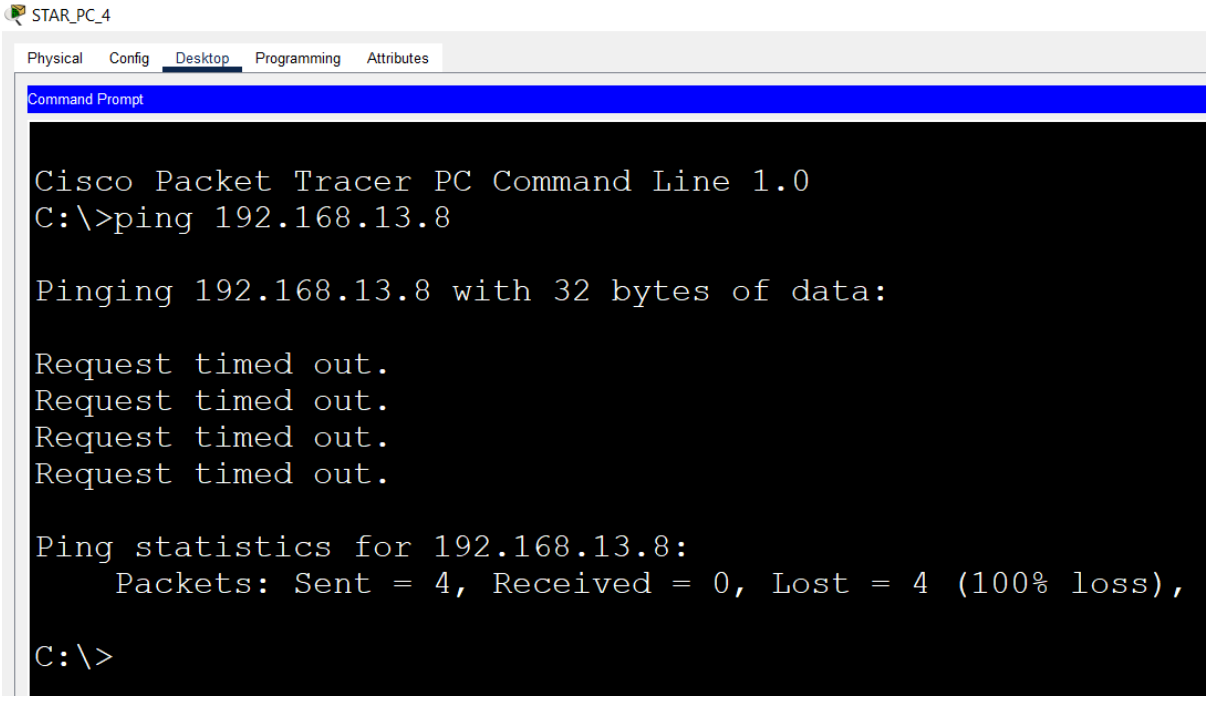
Pinging from PC0 to PC3:



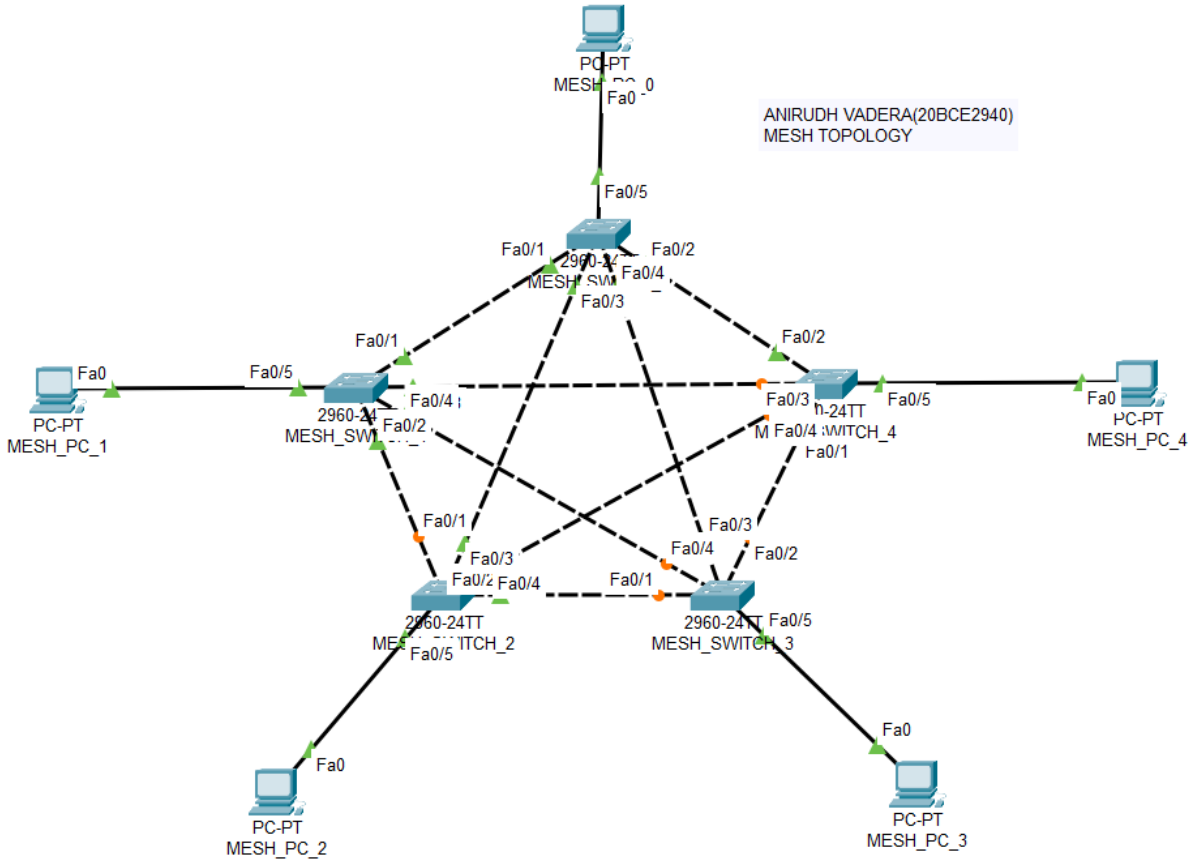
Pinging from PC2 to PC3:



Pinging from PC4 to PC7(This doesn't exist in server so Loss should be 100%):



Mesh Topology:



IP OF PC0: 192.168.14.1

Name Format of a PC : MESH_PC_(PC_Number)

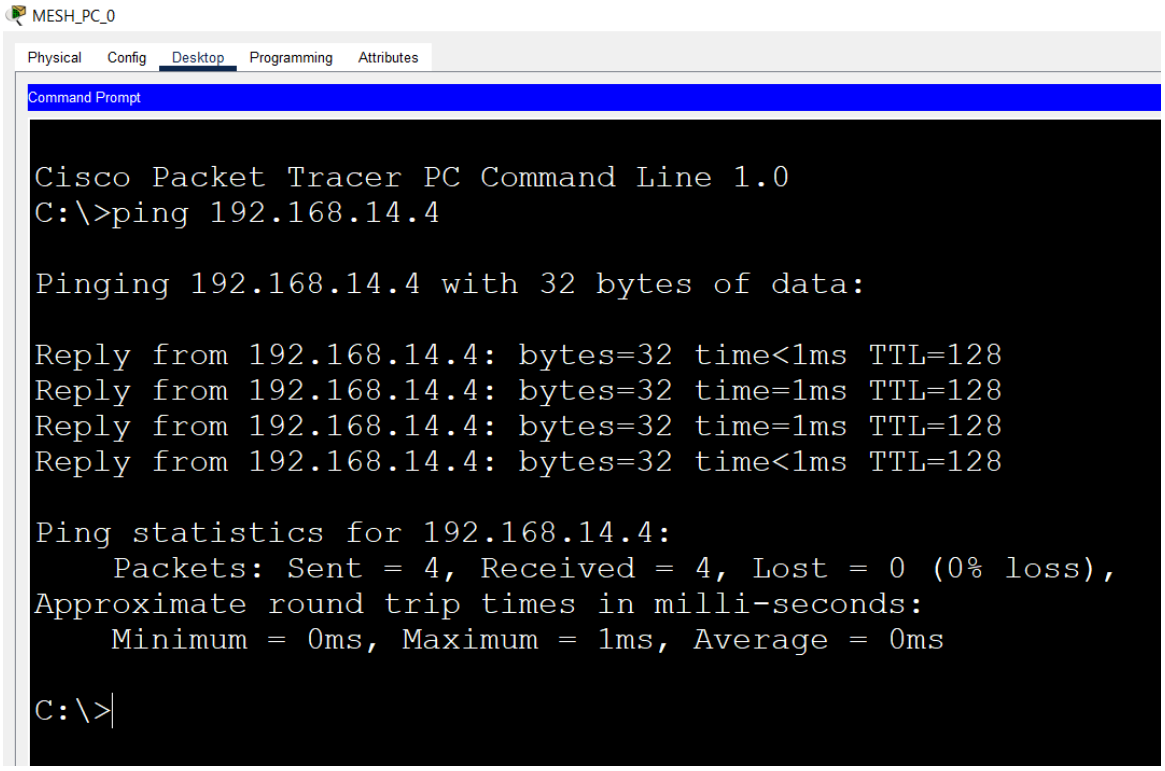
Name Format of a Switch : MESH_SWITCH_(Switch_Number)

SUBNETMASK OF PC0: 255.255.255.0

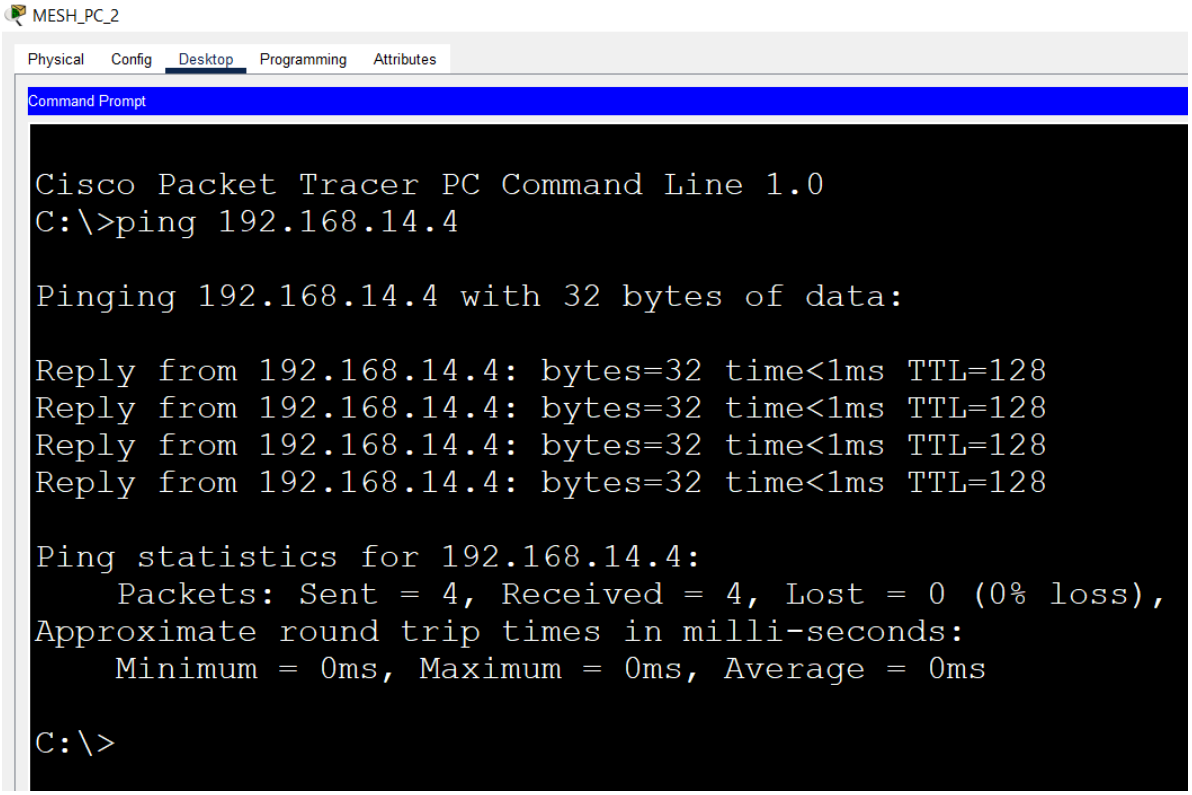
Number of PC's Connected in the topology: 5

OUTPUT:

Pinging from PC0 to PC3:



Pinging from PC2 to PC3:



Pinging from PC4 to PC7(This doesn't exist in server so Loss should be 100%):