

EXPERIMENT – 9

AIM: - Implementation of SUBNETTING in CISCO PACKET TRACER simulator.

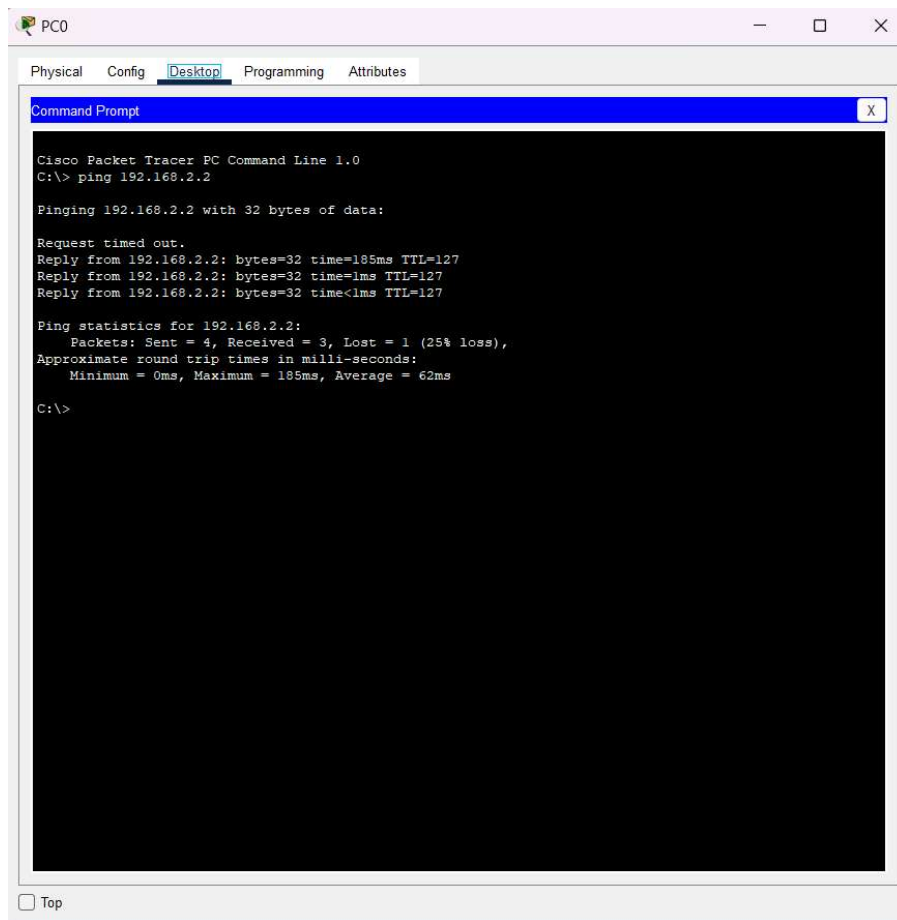
What is subnetting?

Classless IP subnetting is a technique that allows for more efficient use of IP addresses by allowing for subnet masks that are not just the default masks for each IP class. This means that we can divide our IP address space into smaller subnets, which can be useful when we have a limited number of IP addresses but need to create multiple networks.

OUTPUT:-

The diagram illustrates a network topology in Cisco Packet Tracer. It features two main sections: a yellow background on the left and a pink background on the right. The yellow section contains a 2811 Router0 connected to two 2960-24TT switches (Switch1 and Switch2). Switch1 is connected to four PCs (PC0-PC3) with IP addresses in the 192.168.1.0/24 and 192.168.2.0/24 ranges. Switch2 is connected to two PCs (PC4-PC5) with IP addresses in the 192.168.3.0/24 and 192.168.4.0/24 ranges. The pink section contains a 2811 Router1 connected to two 2960-24TT switches (Switch3 and Switch4). Switch3 is connected to two PCs (PC6-PC7) with IP addresses in the 192.168.5.0/24 and 192.168.6.0/24 ranges. Switch4 is connected to two PCs (PC8-PC9) with IP addresses in the 192.168.7.0/24 and 192.168.8.0/24 ranges. Static routes are configured on both routers to enable connectivity between the two sections. The bottom of the image shows the 'Realtime' simulation mode with a packet capture table.

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	PC1	ICMP	Orange	0.000	N	0	(edit)	(delete)
	Failed	PC0	PC4	ICMP	Purple	0.000	N	1	(edit)	(delete)
	Successful	PC0	PC4	ICMP	Green	0.000	N	2	(edit)	(delete)



The screenshot shows a Cisco Packet Tracer PC0 window with the 'Desktop' tab selected. Inside, a Command Prompt window is open, displaying the output of a ping command. The text in the Command Prompt is as follows:

```
Cisco Packet Tracer PC Command Line 1.0
C:\> ping 192.168.2.2

Pinging 192.168.2.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.2: bytes=32 time=185ms TTL=127
Reply from 192.168.2.2: bytes=32 time=1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 185ms, Average = 62ms

C:\>
```

At the bottom left of the Command Prompt window, there is a checkbox labeled 'Top' which is currently unchecked.

RESULT:-

Implementation of SUBNETTING in CISCO PACKET TRACER simulator have been done successfully