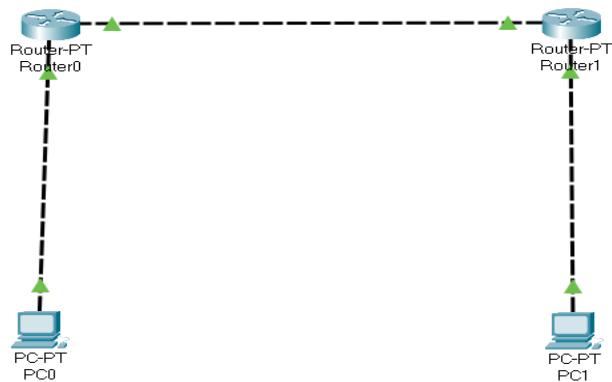


Practical No. 1

Study of Networking

Aim :- To study the IP address.

Circuit Diagram :-



Program :-

Router 0 > cli :-

```

enable
configure terminal
interface fastethernet 0/0
ip address 10.0.0.1 255.0.0.0
no shutdown
exit
interface fastethernet 0/1
ip address 20.0.0.1 255.0.0.0
no shutdown
exit
  
```

Router 1 > cli :-

```

enable
configure terminal
interface fastethernet 0/0
ip address 40.0.0.1 255.0.0.0
no shutdown
exit
interface fastethernet 0/1
ip address 20.0.0.2 255.0.0.0
no shutdown
exit
  
```

Pc 0 > Desktop > Ip configuration :-

ipv4 : 10.0.0.2

subnet mask : 255.0.0.0

Default gateway: 10.0.0.1

Pc 1 > Desktop > Ip configuration :-

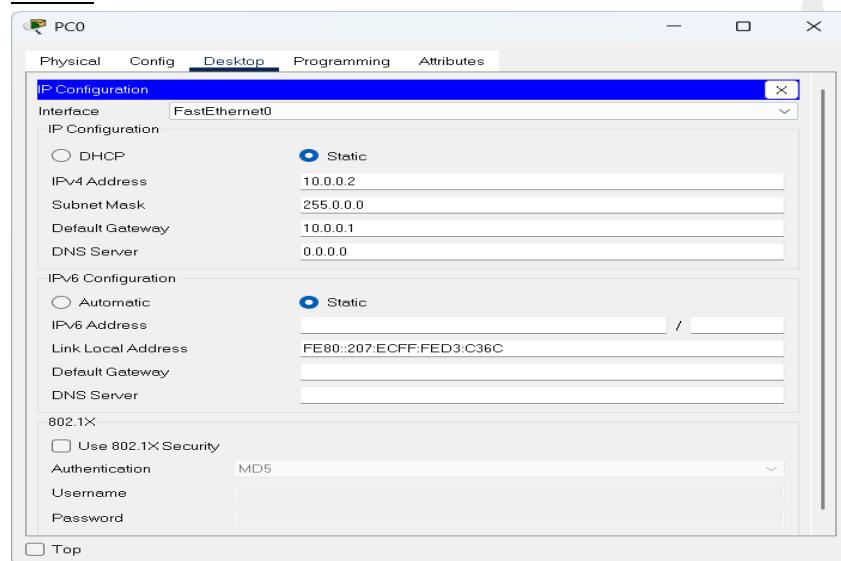
ipv4 : 40.0.0.2

subnet mask : 255.0.0.0

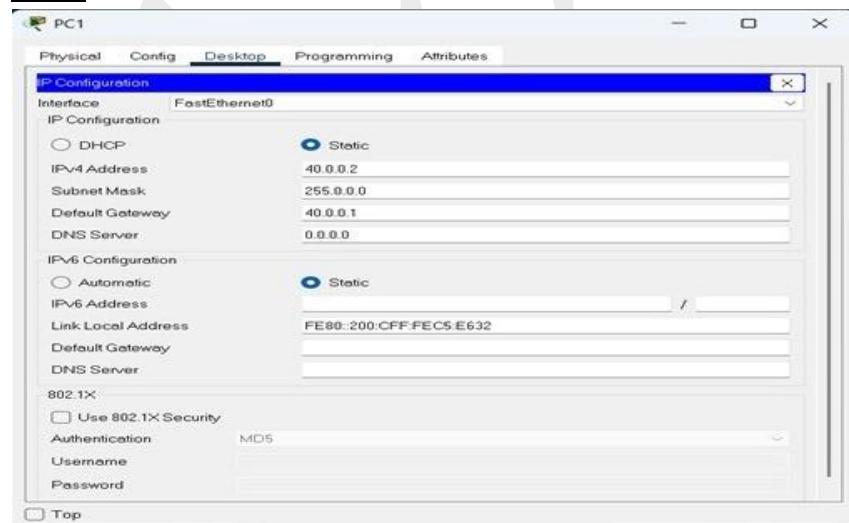
Default gateway: 40.0.0.1

Output :-

PC0 :-



PC1:-



Conclusion :- The program was executed successfully

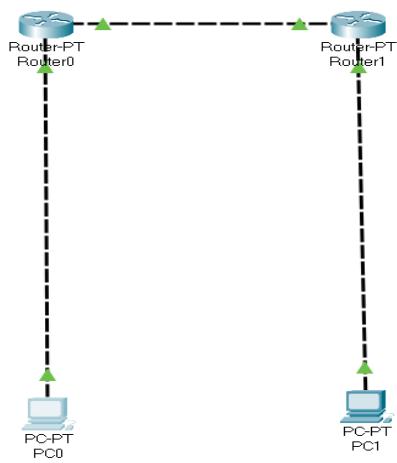
Practical No. 2

Study of Network Layer

a) Static Routing

Aim :- To study Static routing.

Circuit Diagram :-



Program :-

Router 0 > cli :-

```

enable
configure terminal
interface fastethernet 0/0
ip address 10.0.0.1 255.0.0.0
no shutdown
exit
interface fastethernet 0/1
ip address 20.0.0.1 255.0.0.0
no shutdown
exit
ip route 40.0.0.0 255.0.0.0 20.0.0.2
  
```

Router 1 > cli :-

```

enable
configure terminal
interface fastethernet 0/0
ip address 40.0.0.1 255.0.0.0
no shutdown
exit
  
```

```

interface fastethernet 0/1
ip address 20.0.0.2 255.0.0.0
no shutdown
exit
ip route 10.0.0.0 255.0.0.0 20.0.0.1

```

Pc 0 > Desktop > Ip configuration :-

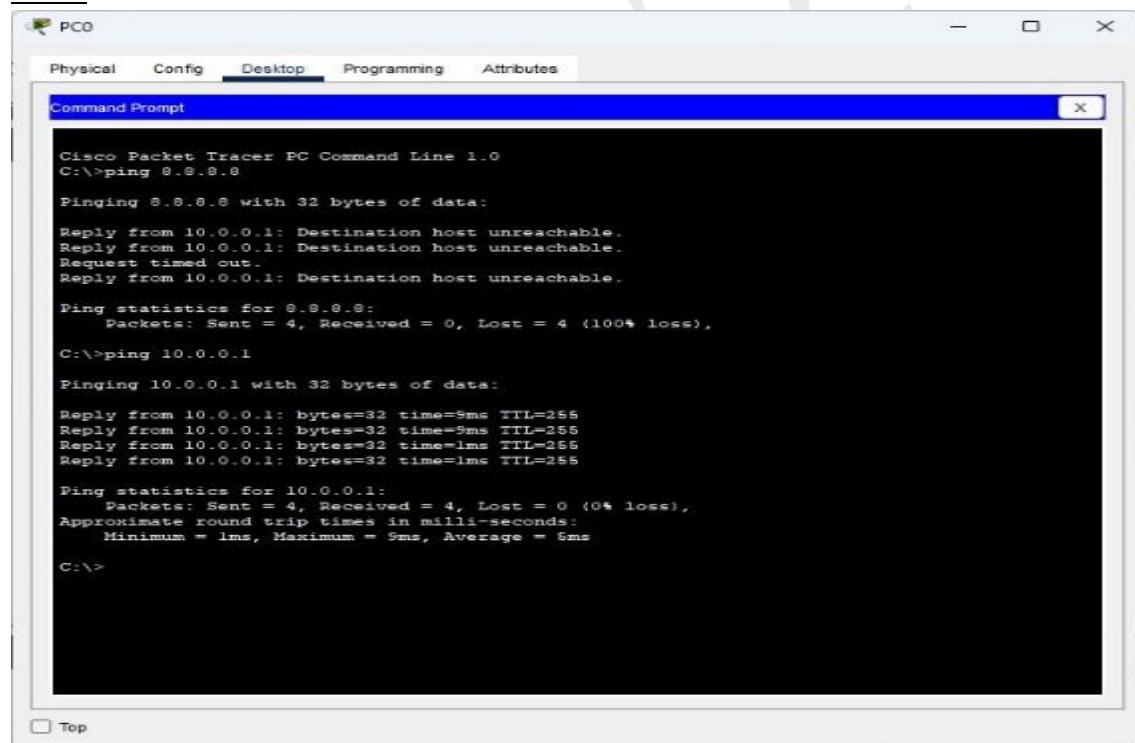
ipv4 : 10.0.0.2
 subnet mask : 255.0.0.0
 Default gateway: 10.0.0.1

Pc 1 > Desktop > Ip configuration :-

ipv4 : 40.0.0.2
 subnet mask : 255.0.0.0
 Default gateway: 40.0.0.1

Output :-

PC0 :-



The screenshot shows a Cisco Packet Tracer PC Command Line 1.0 window titled "Command Prompt". The window displays the following command-line session:

```

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Request timed out.
Reply from 10.0.0.1: Destination host unreachable.

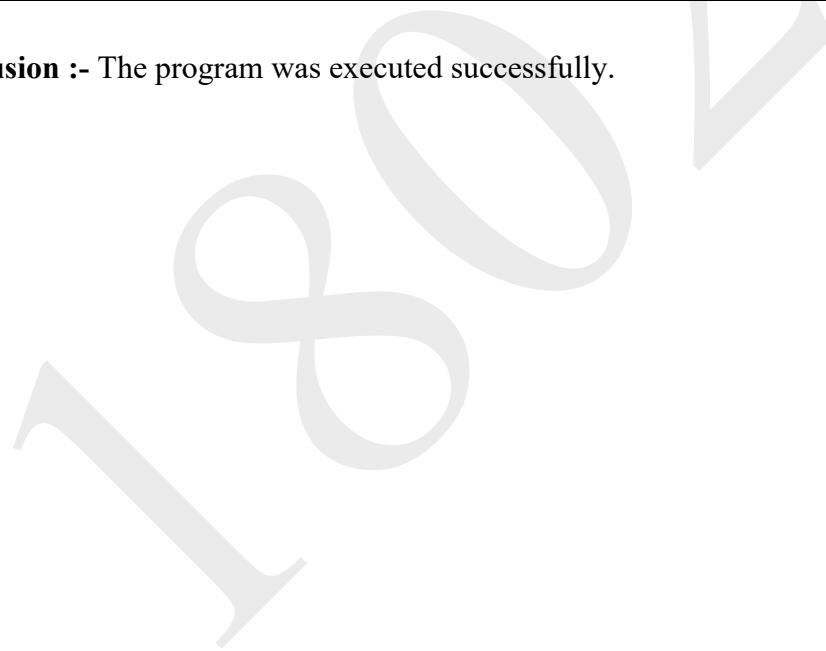
Ping statistics for 8.8.8.8:
  Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>ping 10.0.0.1

Pinging 10.0.0.1 with 32 bytes of data:
Reply from 10.0.0.1: bytes=32 time=9ms TTL=255
Reply from 10.0.0.1: bytes=32 time=9ms TTL=255
Reply from 10.0.0.1: bytes=32 time=1ms TTL=255
Reply from 10.0.0.1: bytes=32 time=1ms TTL=255

Ping statistics for 10.0.0.1:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
  Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 9ms, Average = 6ms
C:\>

```

PC1 :-



PC1

Physical Config Desktop Programming Attributes

Command Prompt

```
Link-local IPv6 Address.....: FE80::201:63FF:FEAB:92E6
IPv6 Address.....: ::

IPv4 Address.....: 40.0.0.2
Subnet Mask.....: 255.0.0.0
Default Gateway.....: ::          40.0.0.1

Bluetooth Connection:

Connection-specific DNS Suffix.: 
Link-local IPv6 Address.....: ::

IPv6 Address.....: ::

IPv4 Address.....: 0.0.0.0
Subnet Mask.....: 0.0.0.0
Default Gateway.....: ::          0.0.0.0

C:\>ping 40.0.0.2

Pinging 40.0.0.2 with 32 bytes of data:

Reply from 40.0.0.2: bytes=32 time=15ms TTL=128
Reply from 40.0.0.2: bytes=32 time=6ms TTL=128
Reply from 40.0.0.2: bytes=32 time=6ms TTL=128
Reply from 40.0.0.2: bytes=32 time=7ms TTL=128

Ping statistics for 40.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 15ms, Average = 8ms

C:\>
```

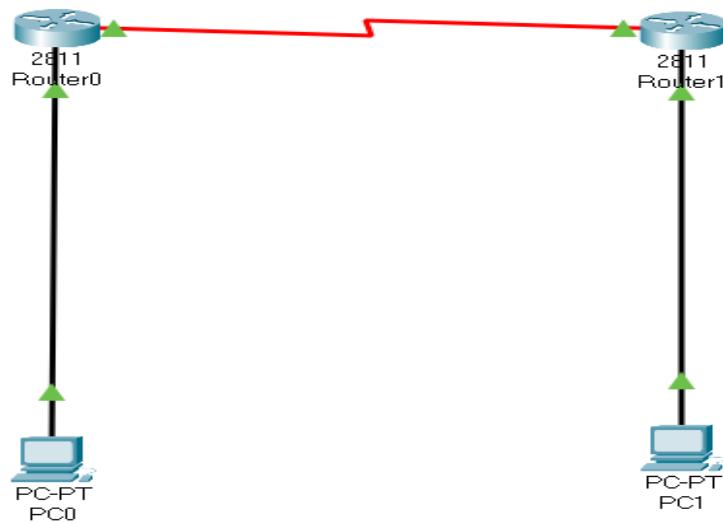
Top

Conclusion :- The program was executed successfully.

b) RIP Routing

Aim :- To study RIP routing.

Circuit Diagram :-



Program :-

Router 0 > cli :-

```

enable
configure terminal
interface fastethernet 0/0
ip address 10.0.0.1 255.0.0.0
no shutdown
exit
interface fastethernet 0/1
ip address 20.0.0.1 255.0.0.0
no shutdown
exit
router rip
version 2
network 10.0.0.0
network 20.0.0.0
exit
  
```

Router 1 > cli :-

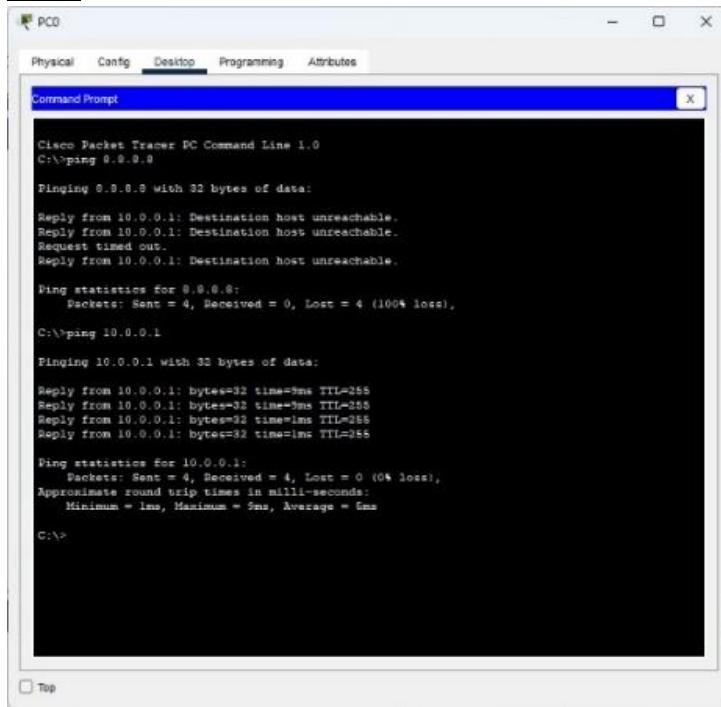
```
enable
configure terminal
interface fastethernet 0/0
ip address 40.0.0.1 255.0.0.0
no shutdown
exit
interface fastethernet 0/1
ip address 20.0.0.2 255.0.0.0
no shutdown
exit
router rip
version 2
network 40.0.0.0
network 20.0.0.0
exit
```

Pc 0 > Desktop > Ip configuration :-

```
ipv4 : 10.0.0.2
subnet mask : 255.0.0.0
Default gateway: 10.0.0.1
```

Pc 1 > Desktop > Ip configuration :-

```
ipv4 : 40.0.0.2
subnet mask : 255.0.0.0
Default gateway: 40.0.0.1
```

Output :-**PC0:-**


```

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 0.0.0.0

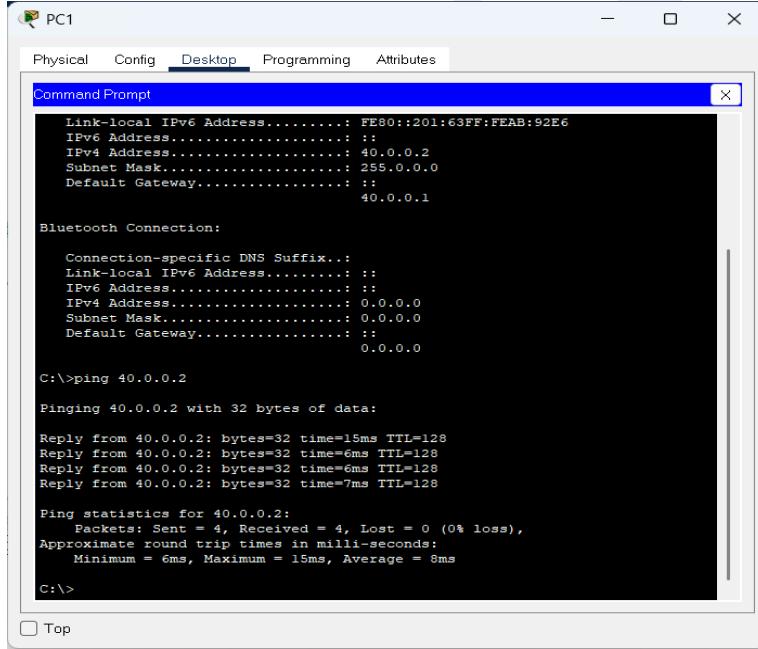
Pinging 0.0.0.0 with 32 bytes of data:
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Request timed out.
Reply from 10.0.0.1: Destination host unreachable.

Ping statistics for 0.0.0.0:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>ping 10.0.0.1

Pinging 10.0.0.1 with 32 bytes of data:
Reply from 10.0.0.1: bytes=32 time=3ms TTL=255
Reply from 10.0.0.1: bytes=32 time=3ms TTL=255
Reply from 10.0.0.1: bytes=32 time=1ms TTL=255
Reply from 10.0.0.1: bytes=32 time=1ms TTL=255

Ping statistics for 10.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 9ms, Average = 6ms
C:\>

```

PC1:-


```

Cisco Packet Tracer PC Command Line 1.0
Physical Config Desktop Programming Attributes
Command Prompt

Link-local IPv6 Address.....: FE80::201:63FF:FEAB:92E6
IPv6 Address.....: ::
IPv4 Address.....: 40.0.0.2
Subnet Mask.....: 255.0.0.0
Default Gateway.....: :: 40.0.0.1

Bluetooth Connection:

Connection-specific DNS Suffix...:
Link-local IPv6 Address.....: ::
IPv6 Address.....: ::
IPv4 Address.....: 0.0.0.0
Subnet Mask.....: 0.0.0.0
Default Gateway.....: :: 0.0.0.0

C:\>ping 40.0.0.2

Pinging 40.0.0.2 with 32 bytes of data:
Reply from 40.0.0.2: bytes=32 time=15ms TTL=128
Reply from 40.0.0.2: bytes=32 time=6ms TTL=128
Reply from 40.0.0.2: bytes=32 time=6ms TTL=128
Reply from 40.0.0.2: bytes=32 time=7ms TTL=128

Ping statistics for 40.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 15ms, Average = 8ms
C:\>

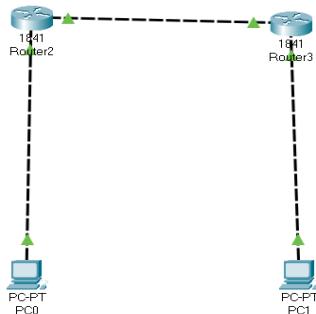
```

Conclusion :- The program was executed successfully.

c) OSPF Routing

Aim :- To study OSPF routing.

Circuit Diagram :-



Program :-

Router 0 > cli :-

```

enable
configure terminal
interface fastethernet 0/0
ip address 10.0.0.1 255.0.0.0
no shutdown
exit
interface fastethernet 0/1
ip address 20.0.0.1 255.0.0.0
no shutdown
exit
router ospf 1
network 10.0.0.0 0.255.255.255 area 0
network 20.0.0.0 0.255.255.255 area 0
exit
  
```

Router 1 > cli :-

```

enable
configure terminal
interface fastethernet 0/0
ip address 40.0.0.1 255.0.0.0
no shutdown
  
```

```

exit
interface fastethernet 0/1
ip address 20.0.0.2 255.0.0.0
no shutdown
exit
router ospf 2
network 40.0.0.0 0.255.255.255 area 0
network 20.0.0.0 0.255.255.255 area 0
exit

```

Pc 0 > Desktop > Ip configuration :-

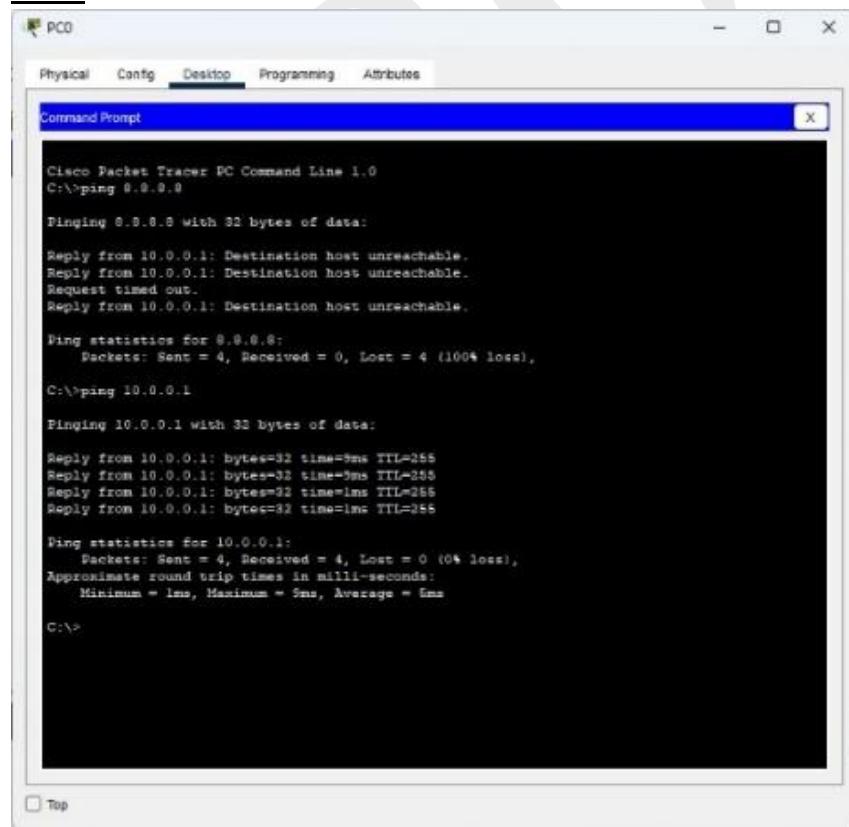
ipv4 : 10.0.0.2
 subnet mask : 255.0.0.0
 Default gateway: 10.0.0.1

Pc 1 > Desktop > Ip configuration :-

ipv4 : 40.0.0.2
 subnet mask : 255.0.0.0
 Default gateway: 40.0.0.1

Output :-

PC0:-



The screenshot shows a Cisco Packet Tracer window titled "PC0". The "Command Prompt" tab is selected. The terminal window displays the following output:

```

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 0.0.0.8

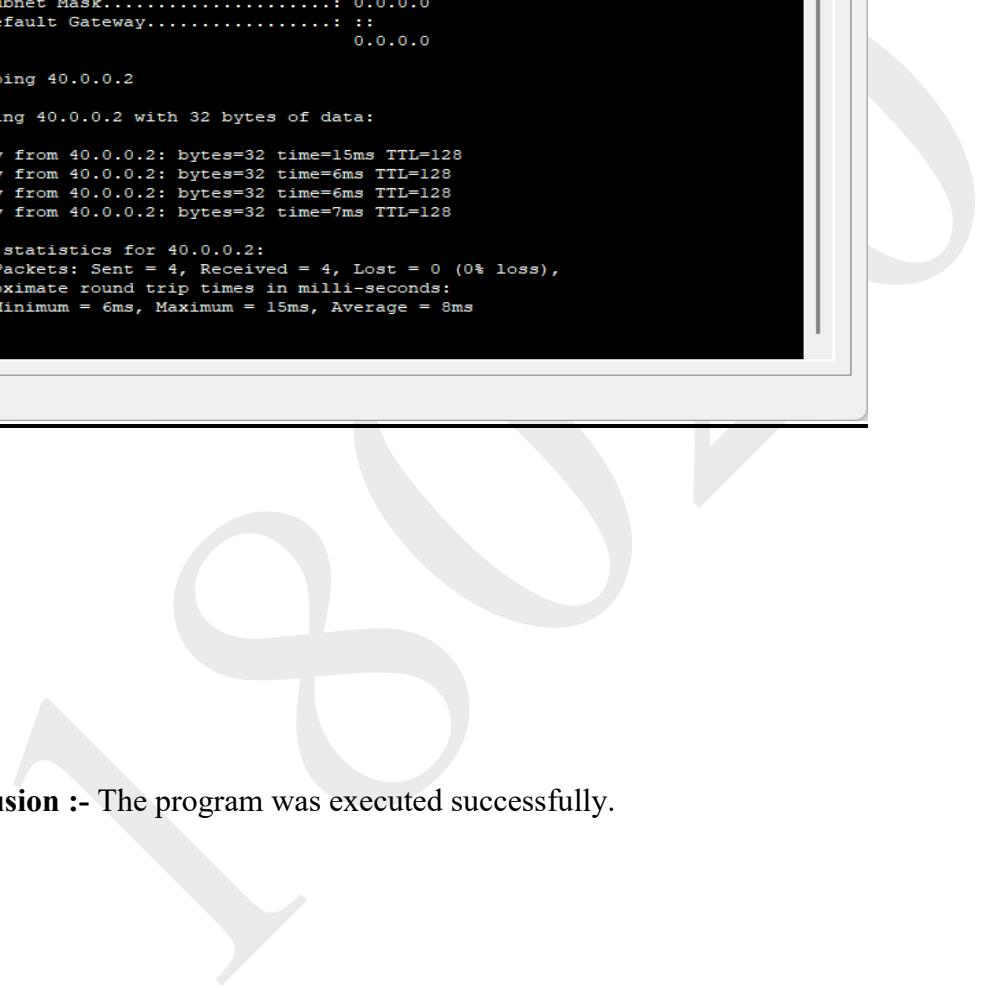
Pinging 0.0.0.8 with 32 bytes of data:
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Request timed out.
Reply from 10.0.0.1: Destination host unreachable.

Ping statistics for 0.0.0.8:
  Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>ping 10.0.0.1

Pinging 10.0.0.1 with 32 bytes of data:
Reply from 10.0.0.1: bytes=32 time=1ms TTL=255

Ping statistics for 10.0.0.1:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
  Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 9ms, Average = 1ms
C:\>

```

PC1:-

PC1

Physical Config Desktop Programming Attributes

Command Prompt

```
Link-local IPv6 Address.....: FE80::201:63FF:FEAB:92E6
IPv6 Address.....: ::

IPv4 Address.....: 40.0.0.2
Subnet Mask.....: 255.0.0.0
Default Gateway.....: ::

40.0.0.1

Bluetooth Connection:

Connection-specific DNS Suffix...:
Link-local IPv6 Address.....: ::

IPv6 Address.....: ::

IPv4 Address.....: 0.0.0.0
Subnet Mask.....: 0.0.0.0
Default Gateway.....: ::

0.0.0.0

C:\>ping 40.0.0.2

Pinging 40.0.0.2 with 32 bytes of data:

Reply from 40.0.0.2: bytes=32 time=15ms TTL=128
Reply from 40.0.0.2: bytes=32 time=6ms TTL=128
Reply from 40.0.0.2: bytes=32 time=6ms TTL=128
Reply from 40.0.0.2: bytes=32 time=7ms TTL=128

Ping statistics for 40.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 15ms, Average = 8ms

C:\>
```

Top

Conclusion :- The program was executed successfully.

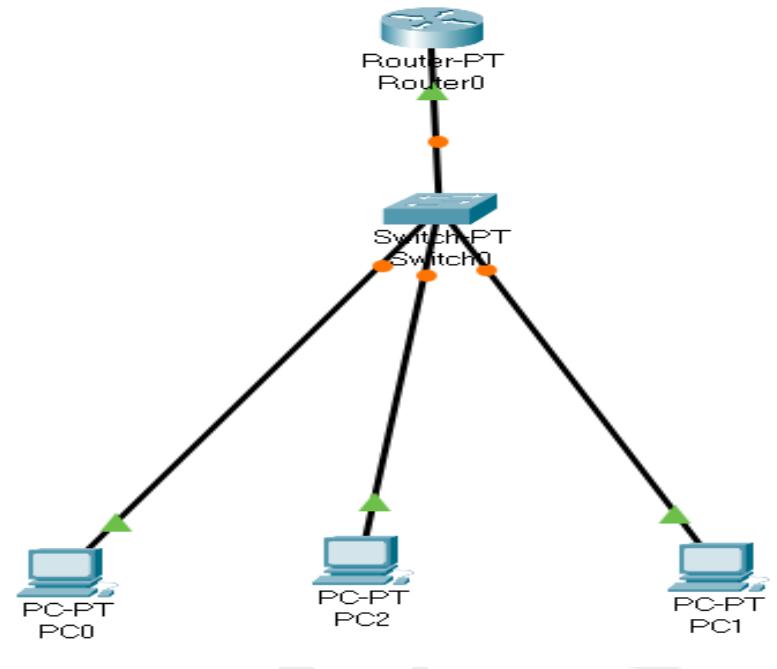
Practical No. 3

Study of Application Layer

a) DHCP

Aim :- To study DHCP.

Circuit Diagram :-

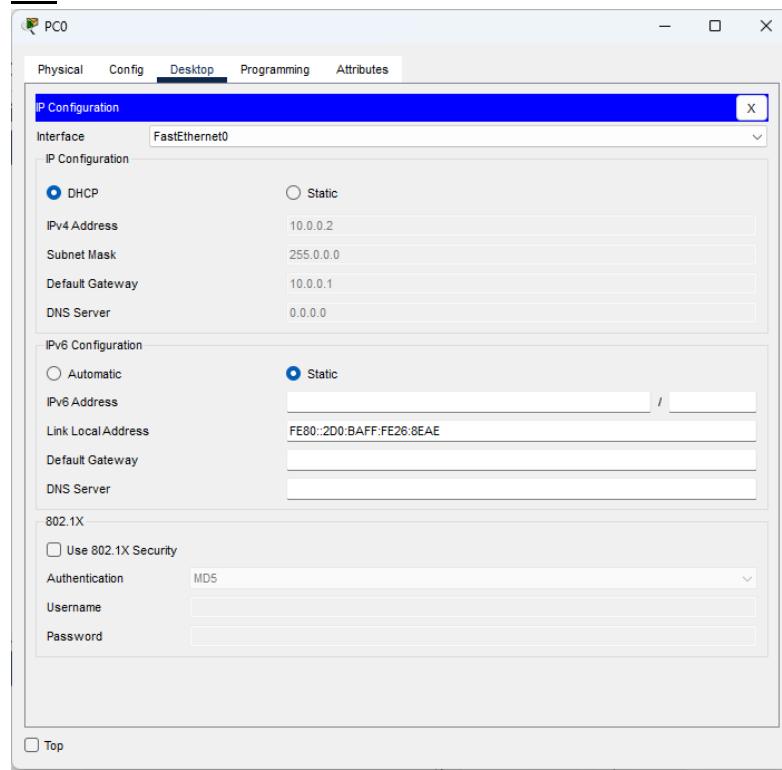
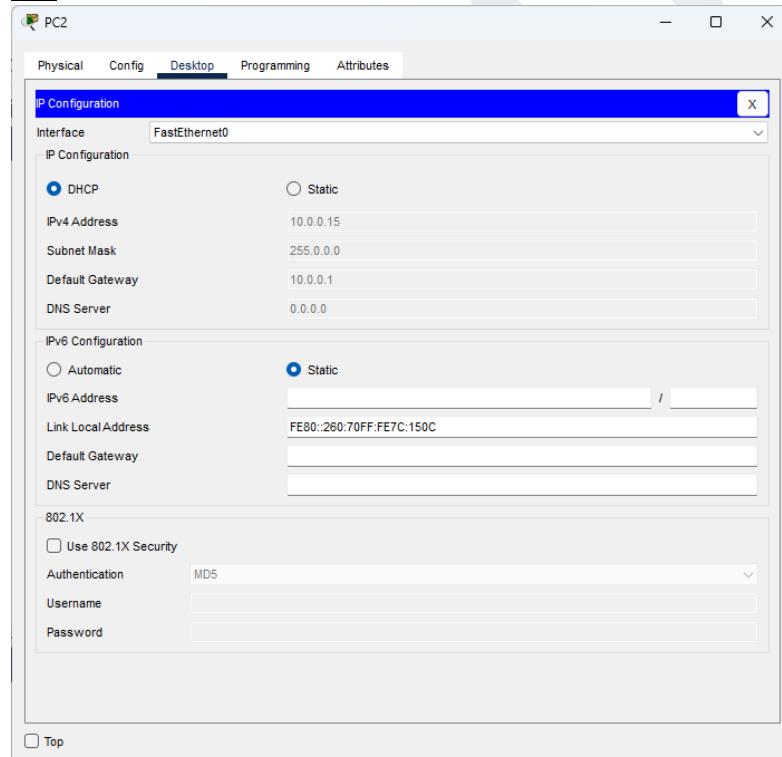


Program :-

Router 0 > cli :-

```

enable
configure terminal
interface fastethernet 0/0
ip address 10.0.0.1 255.0.0.0
no shutdown
exit
ip dhcp pool syit
network 10.0.0.0 255.0.0.0
default-router 10.0.0.1
ip dhcp excluded-address 10.0.0.2 10.0.0.1
ip dhcp pool syit
network 10.0.0.0 255.0.0.0
default-router 10.0.0.1
ip dhcp excluded-address 10.0.0.2 10.0.0.13
exit
  
```

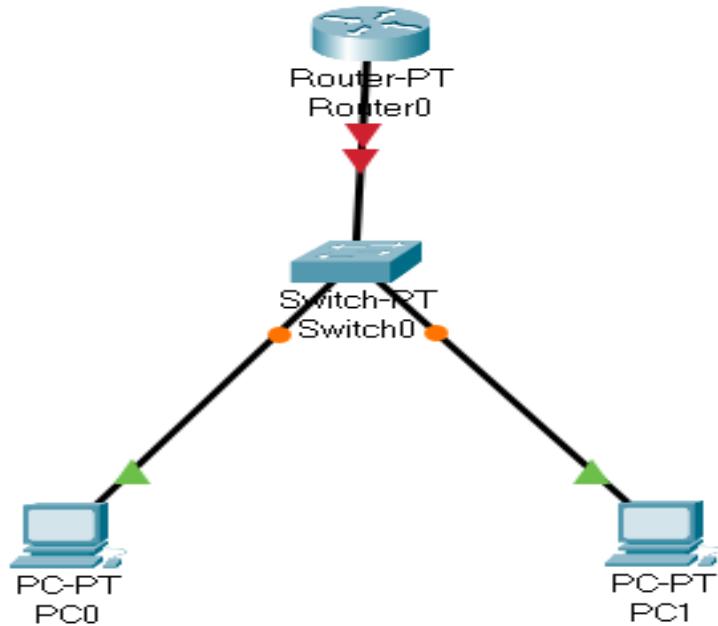
Output:-**Pc0****Pc1**

Conclusion :- The program was executed successfully.

b) DNS

Aim :- To study DNS.

Circuit Diagram :-



Program :-

Router 0 > cli :-

```

enable
configure terminal
interface fastethernet 0/0
ip address 10.0.0.1 255.0.0.0
no shutdown
exit
ip dhcp pool syit
network 10.0.0.0 255.0.0.0
default-router 10.0.0.1
dns-server 8.8.8.8
exit
ip host www.syit.com 10.0.0.1
exit
  
```

Pc 0 > Desktop > Ip configuration :-

```

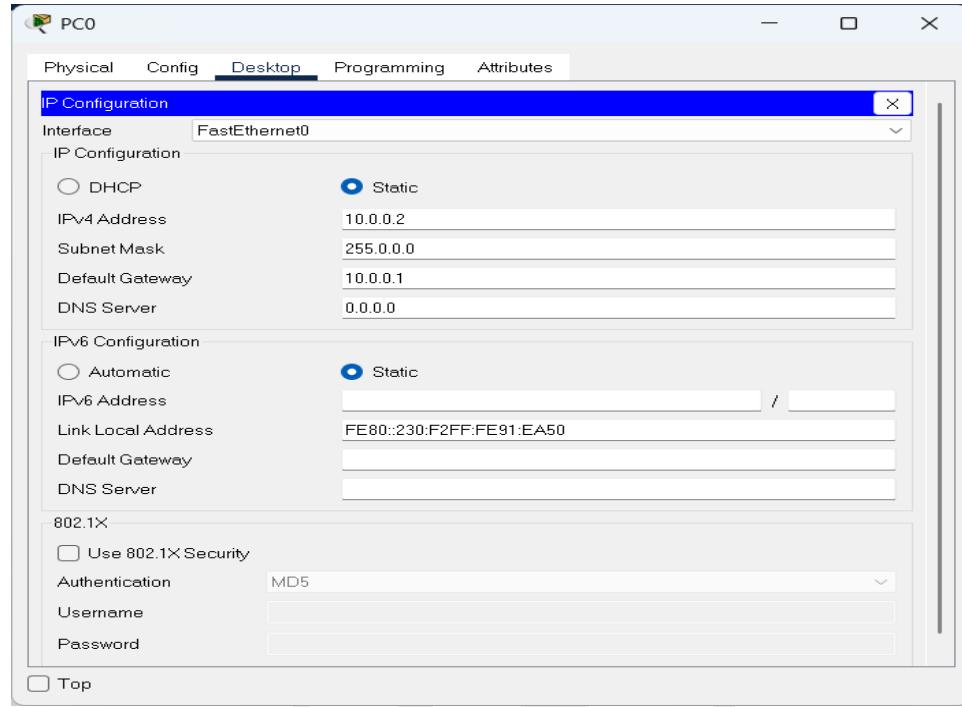
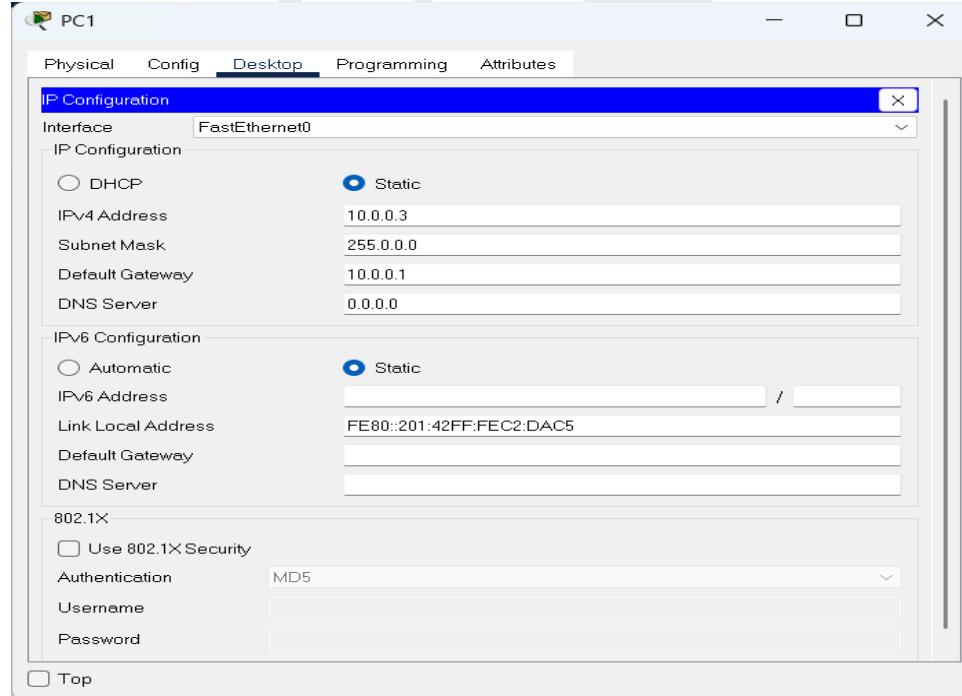
ipv4 : 10.0.0.2
subnet mask : 255.0.0.0
Default gateway: 10.0.0.1
  
```

Pc 1 > Desktop > Ip configuration :-

ipv4 : 10.0.0.3

subnet mask : 255.0.0.0

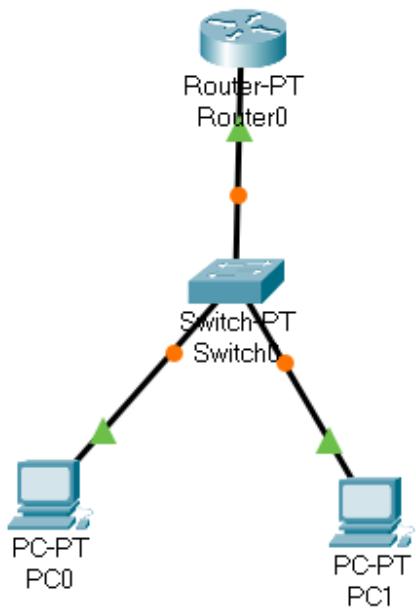
Default gateway: 10.0.0.1

Output:-**PC0****PC1****Conclusion:-The program executed Successfully**

c) FTP

Aim :- To study FTP.

Diagram:



Program :-

Router 0 > cli :-

```

enable
configure terminal
interface fastethernet 0/0
ip address 10.0.0.1 255.0.0.0
no shutdown
exit
ip ftp username bscit
ip ftp password syit
ip ftp server enable
exit
    
```

Pc 0 > Desktop > Ip configuration :-

```

ipv4 : 10.0.0.2
subnet mask : 255.0.0.0
Default gateway: 10.0.0.1
    
```

Pc 1 > Desktop > Ip configuration :-

ipv4 : 10.0.0.3
subnet mask : 255.0.0.0
Default gateway: 10.0.0.1

Pc 0 > Desktop > Text Editor :-

This is from PC0

Pc 0 > Desktop > Command Prompt :-

ftp 10.0.0.1
username : bscit
password : syit
put testfile.txt

Pc 1 > Desktop > Command Prompt :-

ftp 10.0.0.1
username : bscit
password : syit
get testfile.txt

Output:-

The image displays two windows from the Cisco Packet Tracer software. The top window is a 'Text Editor' titled 'PC0' with tabs for Physical, Config, Desktop, Programming, and Attributes. It shows a single line of text: 'This is from PC0'. The bottom window is a 'Command Prompt' titled 'PC0' with the same tab options. It displays a series of commands and their outputs:

```
Cisco Packet Tracer PC Command Line 1.0
C:>dir
Volume in drive C has no label.
Volume Serial Number is SE12-4AF3
Directory of C:\

1/1/1970  5:30 PM           16      pgl.txt
1/1/1970  5:30 PM           26      sampleFile.txt
                           42 bytes          2 File(s)

C:>ftp 10.0.0.1
Trying to connect...10.0.0.1
%Error ftp://10.0.0.1/ (Ftp peer reset)

(Disconnecting from ftp server)

C:>ftp 10.0.0.1 bscit syit
Invalid Command.

C:>ftp 10.0.0.1
Trying to connect...10.0.0.1
%Error ftp://10.0.0.1/ (Ftp peer reset)

(Disconnecting from ftp server)
```

Conclusion:-The program executed Successfully

d) HTTP

Aim :- To study HTTP.

Circuit Diagram:-



Program :-

Server 0 > Desktop > Ip configuration :-

ipv4 : 10.0.0.2

subnet mask : 255.0.0.0

Default gateway: 0.0.0.0

Server 0 > Services > HTTP :-

HTTP : on

HTTPS : on

Server 0 > Services > TFTP :-

service: off

Server 0 > Services > HTTP > index.html > Edit :-

```
<html>
<head>
<title>SYIT</title>
</head>
<body>
<h1>I am SYIT</h1>
</body>
</html>
```

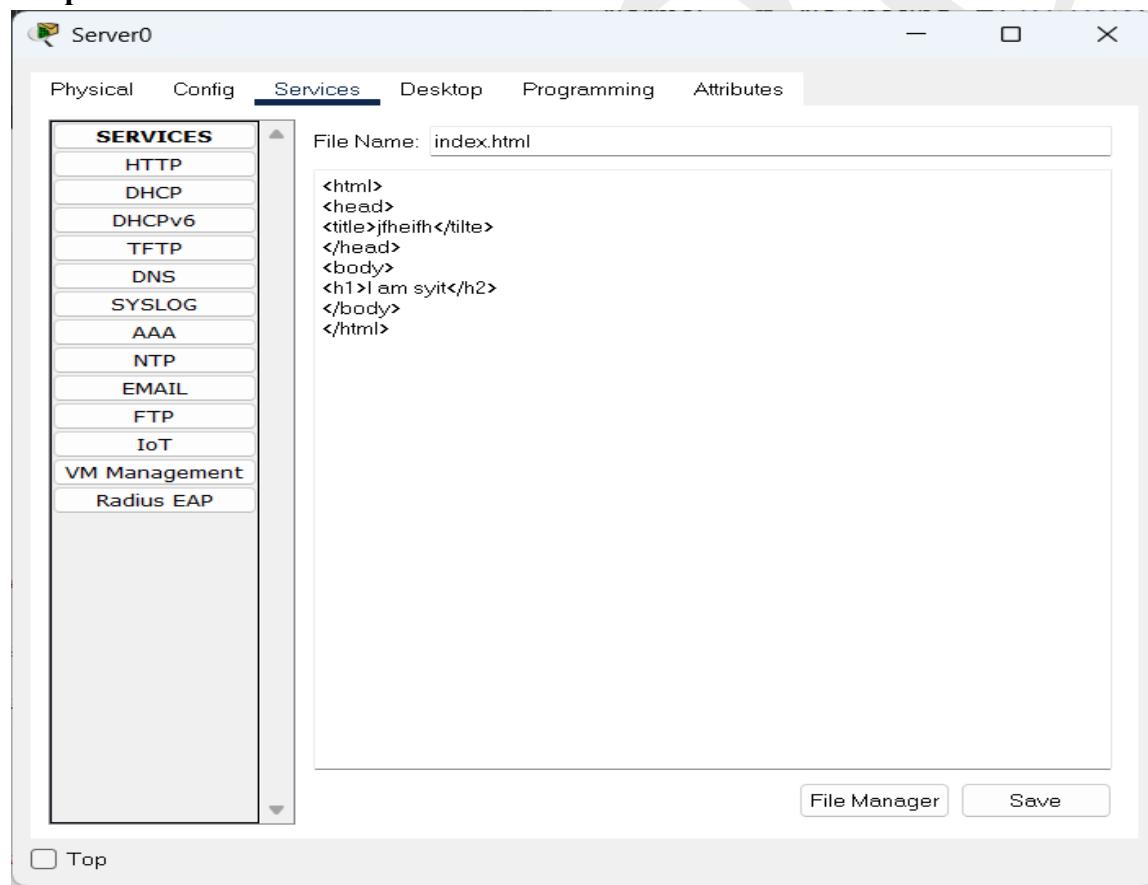
Pc 0 > Desktop > Ip Configuration :-

ipv4 : 10.0.0.3

subnet mask : 255.0.0.0

Default gateway: 10.0.0.2

Output:-

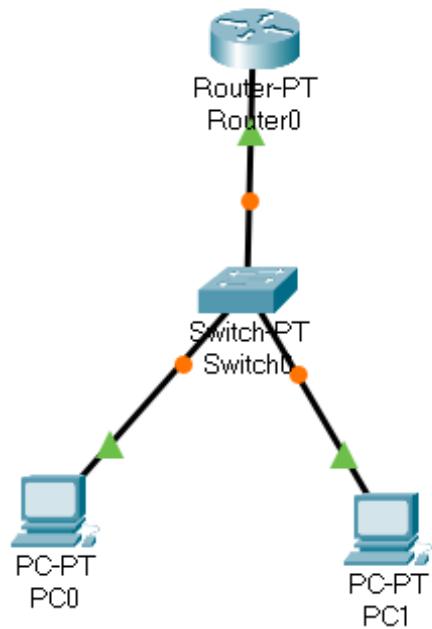


Conclusion:-The program executed Successfully.

e) TELNET

Aim :- To study TELNET.

Circuit diagram:-



Program :-

Router 0 > cli :-

```

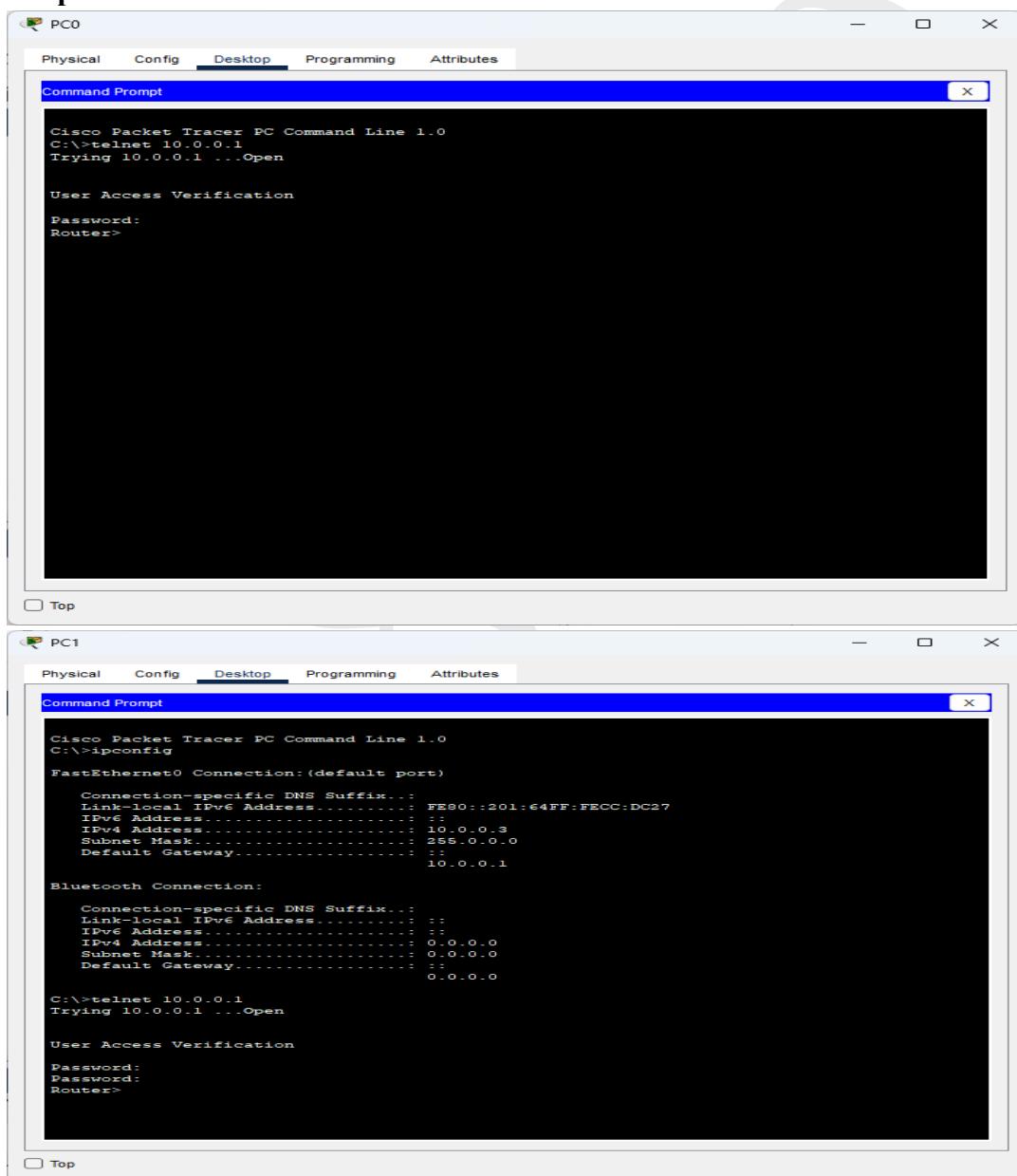
enable
configure terminal
interface fastethernet 0/0
ip address 10.0.0.1 255.0.0.0
no shutdown
exit
line vty 0 10
password syit
login
transport input telnet
exit
exit
  
```

Pc 0 > Desktop > Ip configuration :-

ipv4 : 10.0.0.2
 subnet mask : 255.0.0.0
 Default gateway: 10.0.0.1

Pc 1 > Desktop > Ip configuration :-

ipv4 : 10.0.0.3
 subnet mask : 255.0.0.0
 Default gateway: 10.0.0.1

Output:-


```

PC0
Physical Config Desktop Programming Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>telnet 10.0.0.1 ...Open
Trying 10.0.0.1 ...Open

User Access Verification

Password:
Router>

PC1
Physical Config Desktop Programming Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig
FastEthernet0 Connection:(default port)
Connection-specific DNS Suffix...:
Link-local IPv6 Address....: FE80::201:64FF:FECC:DC27
IPv6 Address....: ::1
IPv4 Address....: 10.0.0.3
Subnet Mask....: 255.0.0.0
Default Gateway....: 10.0.0.1

Bluetooth Connection:
Connection-specific DNS Suffix...:
Link-local IPv6 Address....: ::1
IPv6 Address....: ::1
IPv4 Address....: 0.0.0.0
Subnet Mask....: 0.0.0.0
Default Gateway....: 0.0.0.0

C:\>telnet 10.0.0.1 ...Open
Trying 10.0.0.1 ...Open

User Access Verification

Password:
Password:
Router>
  
```

Conclusion:-The program executed Successfully.