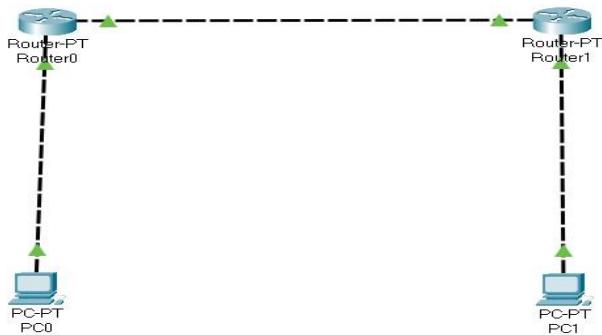


Practical No. 1

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 :-

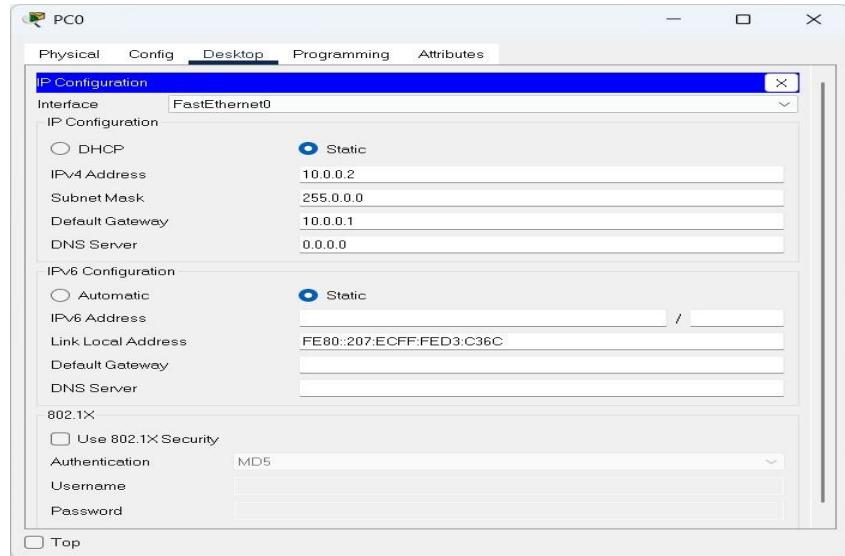
ipv4 : 40.0.0.2

subnet mask : 255.0.0.0

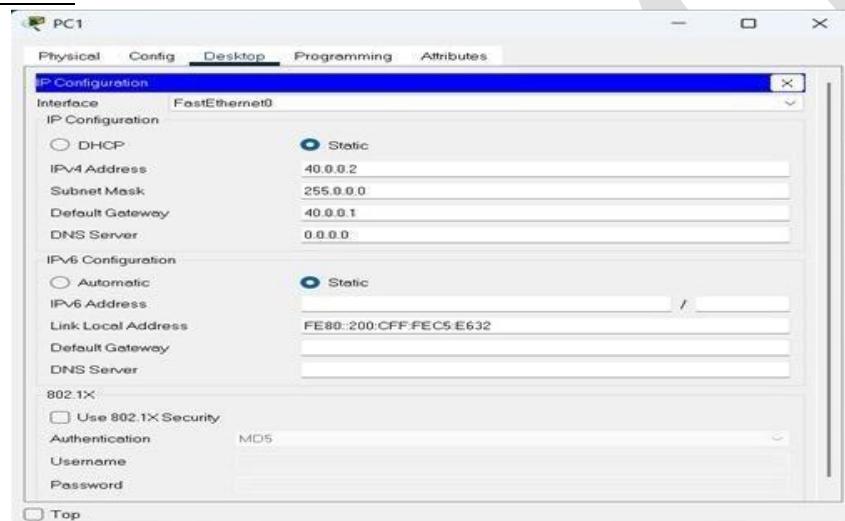
Default gateway: 40.0.0.1

Output :-

PC0 :-



PC1:-



Conclusion :- The program was executed successfully

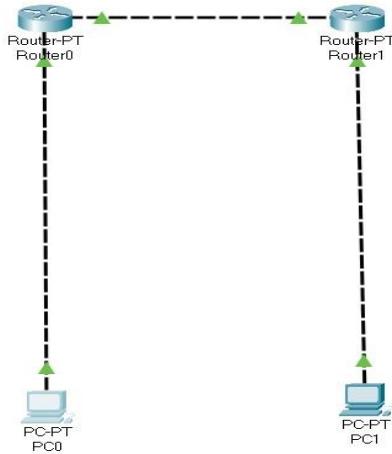
Practical No. 2

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 :-

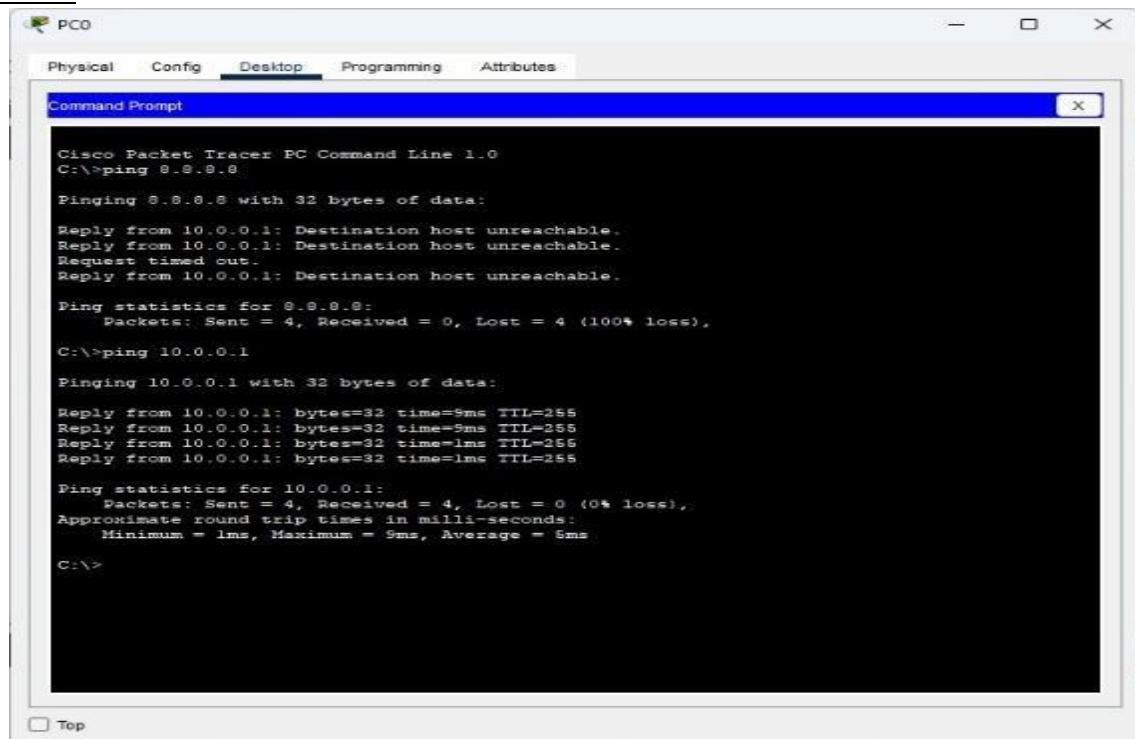
ipv4 : 40.0.0.2

subnet mask : 255.0.0.0

Default gateway: 40.0.0.1

Output :-

PC0 :-



The screenshot shows a Cisco Packet Tracer PC Command Line window titled "Command Prompt". The window has tabs: Physical, Config, Desktop (which is selected), Programming, and Attributes. The command prompt shows the following output:

```
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.

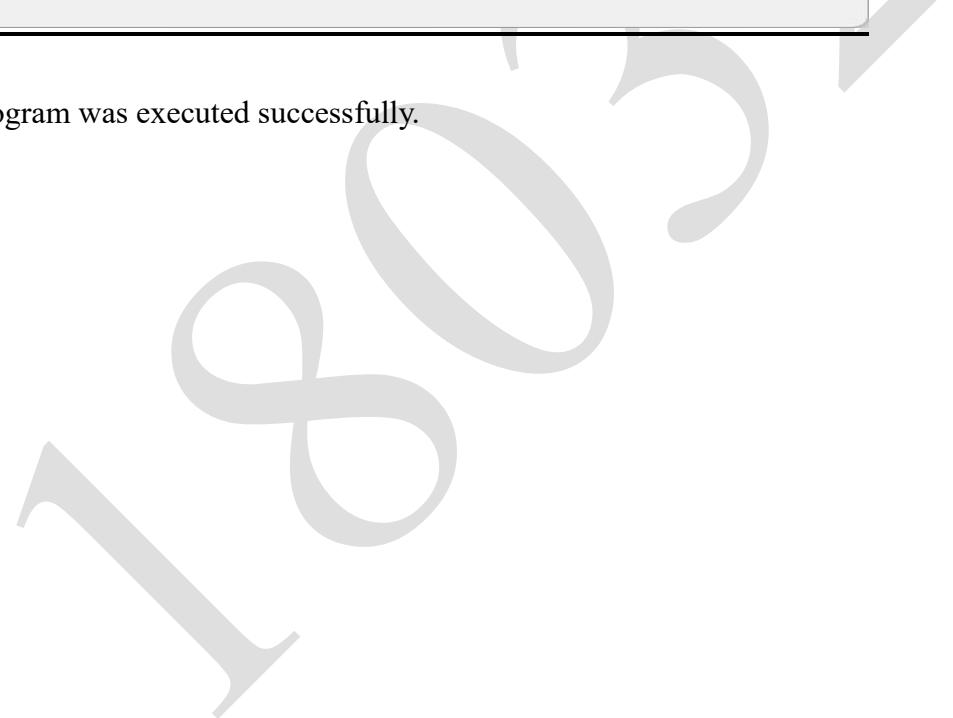
Ping statistics for 8.8.8.8:
  Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>ping 10.0.0.1

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:\>
```

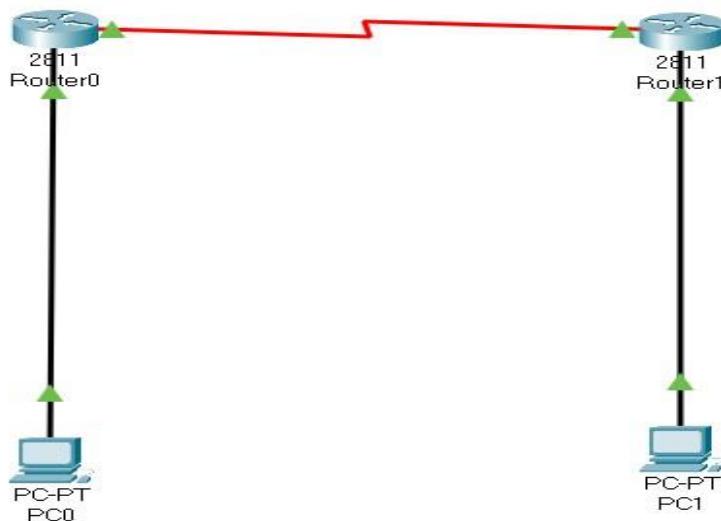
Top

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:-**


PC0

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 0.0.0.9

Pinging 0.0.0.9 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 0.0.0.9:
    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 = 1ms
C:\>
```

Top

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:\>
```

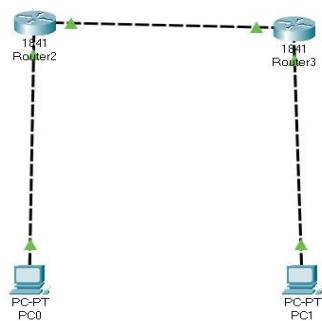
Top

Conclusion :- The program was executed successfully.

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 :-

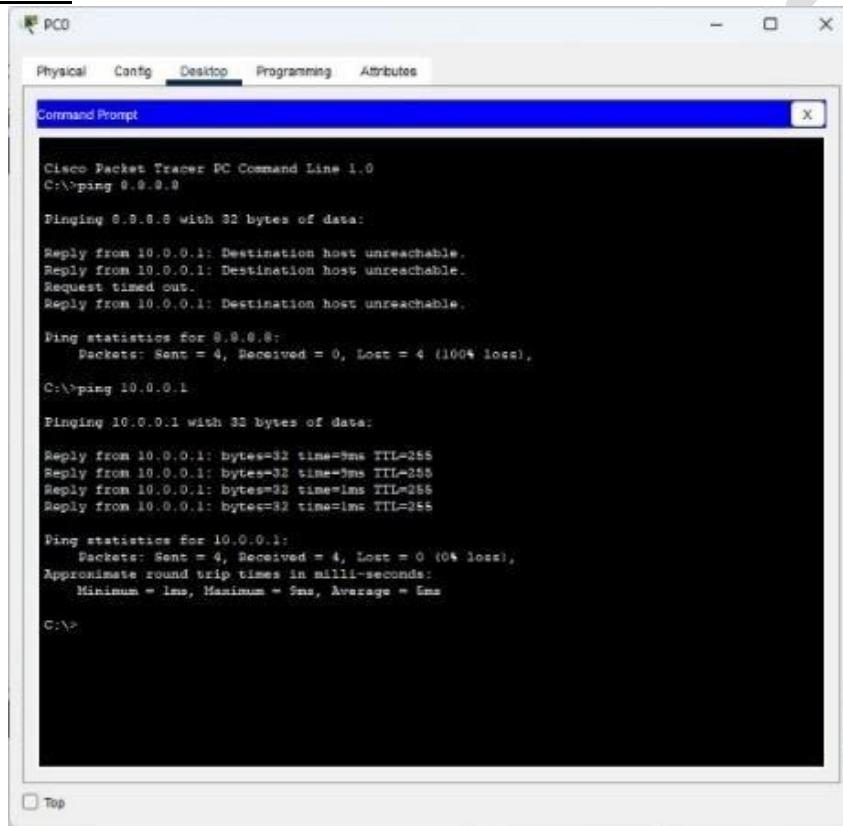
ipv4 : 10.0.0.2
 subnet mask : 255.0.0.0
 Default gateway: 10.0.0.1

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

```
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 = 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.

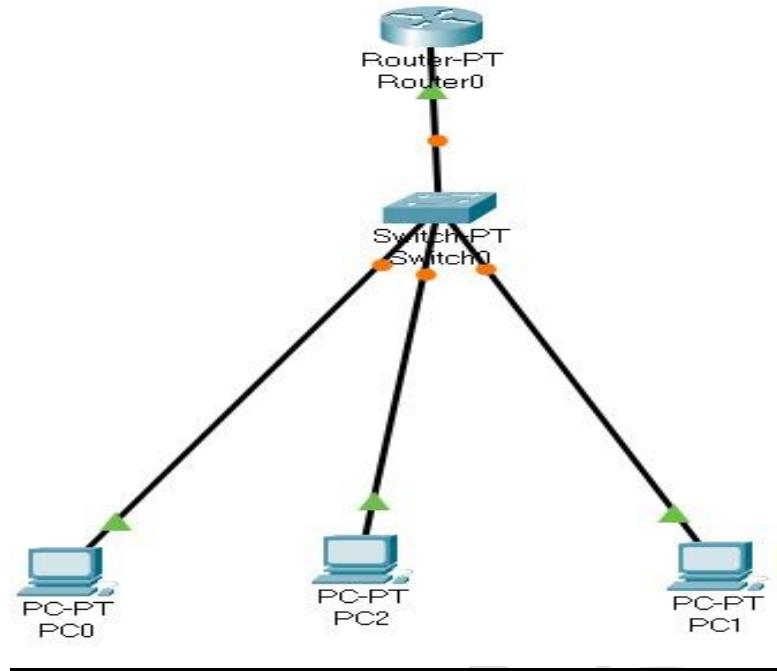
Practical No. 3

Study of Application Layer

a) DHCP

Aim :- To study DHCP.

Circuit Diagram :-

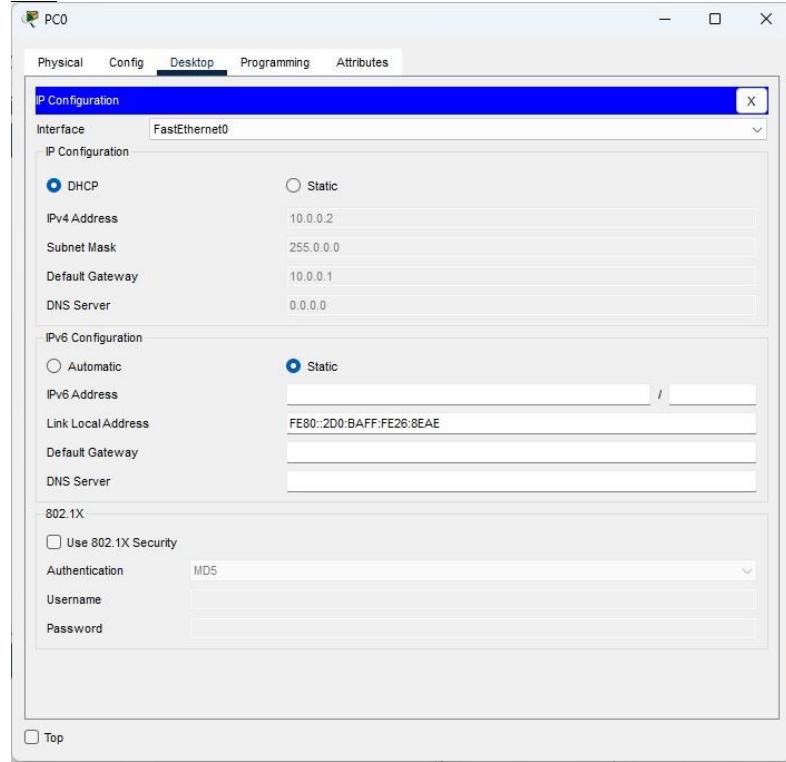
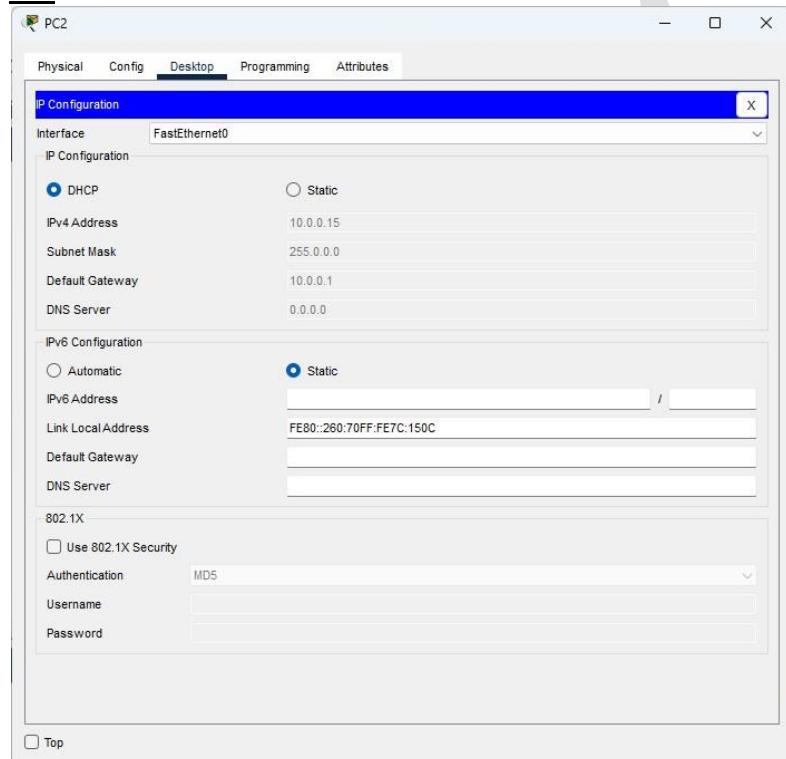


Program :-

```

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:-

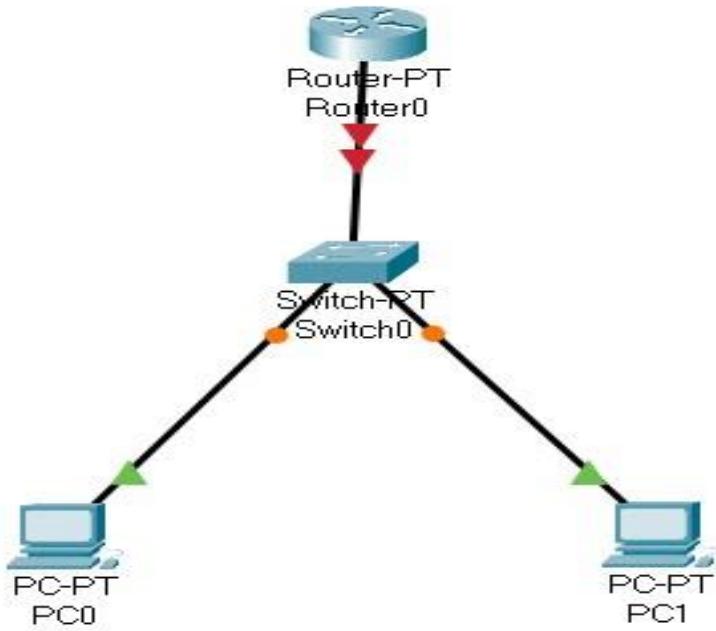
Pc0**Pc1**

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 :-

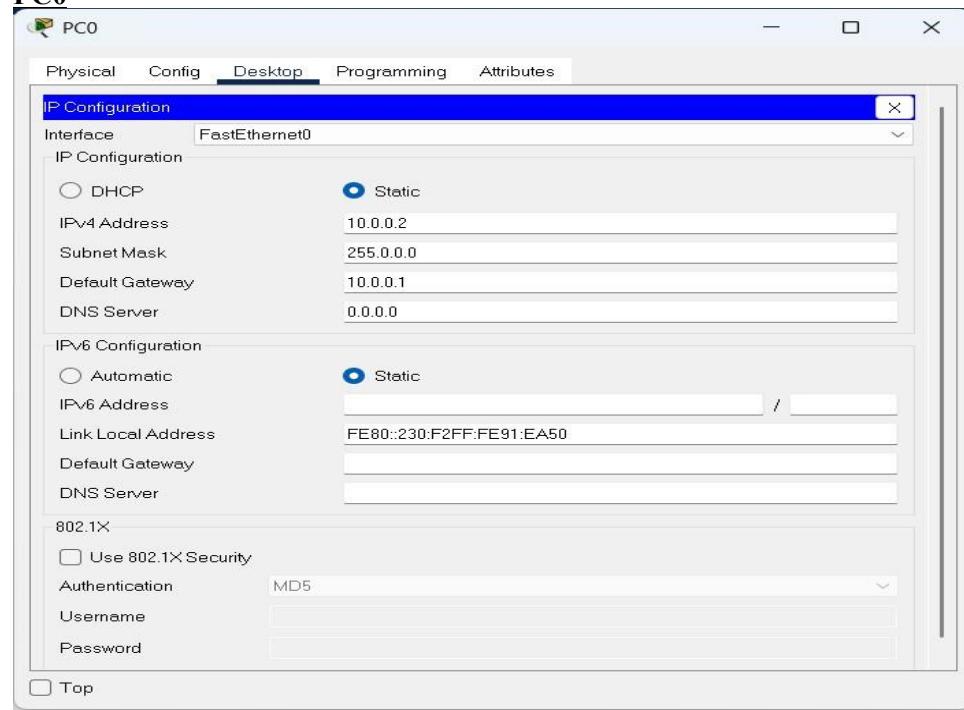
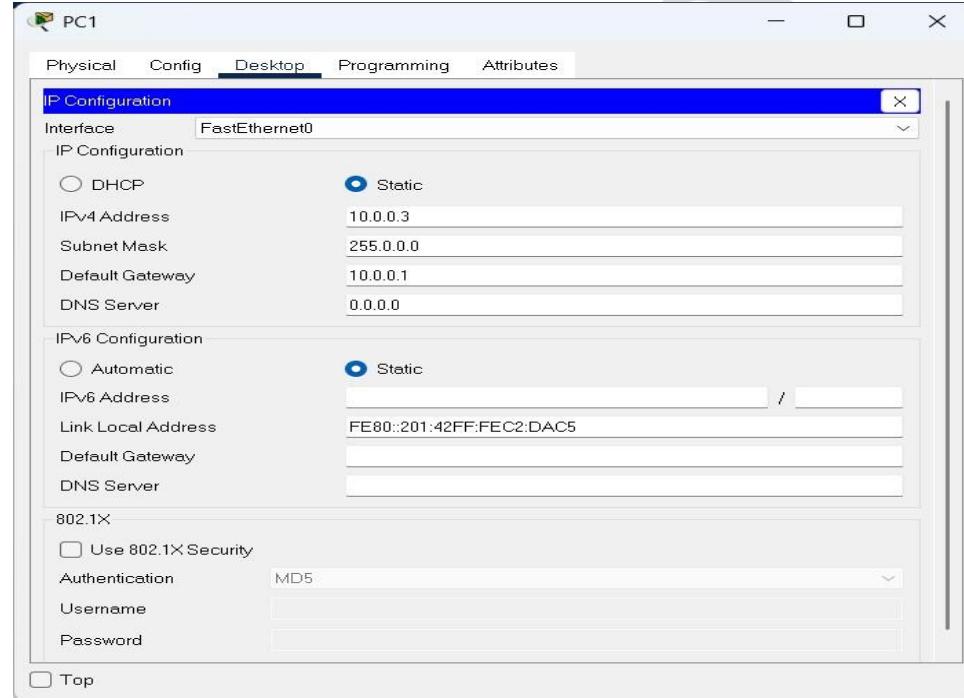
```

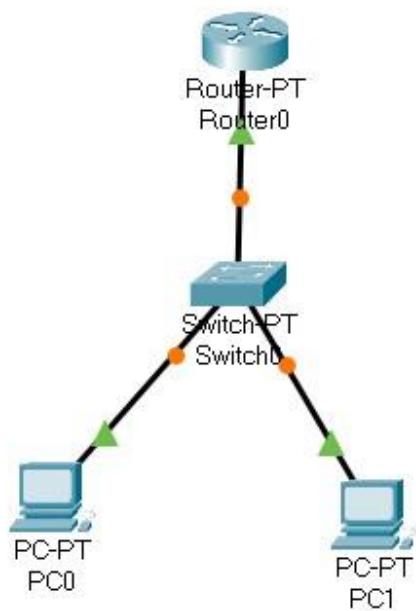
ipv4 : 10.0.0.2
subnet mask : 255.0.0.0
Default gateway: 10.0.0.1
    
```

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
syft 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 :-

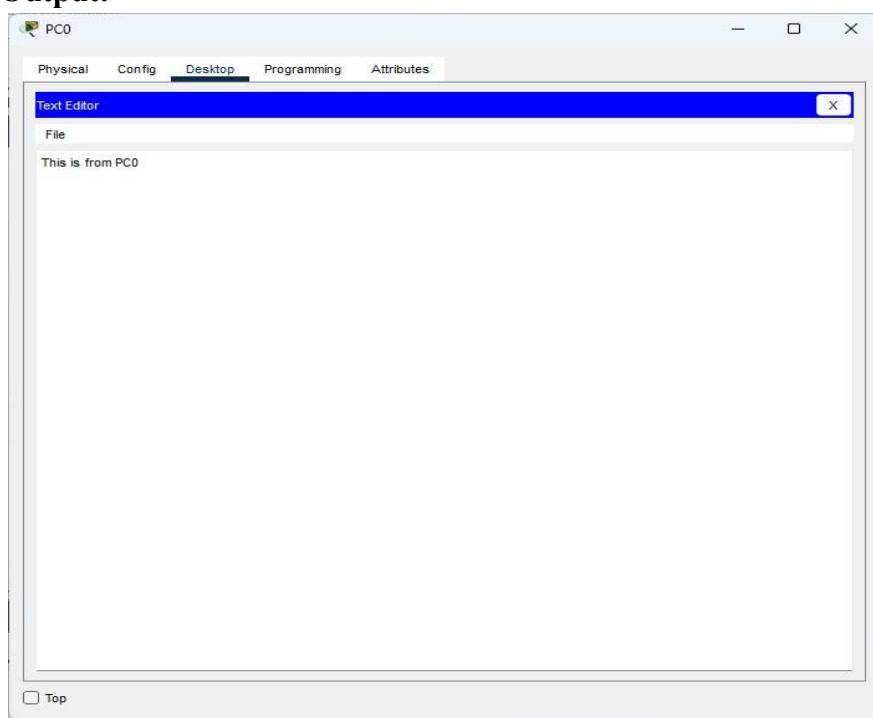
This is from PC0

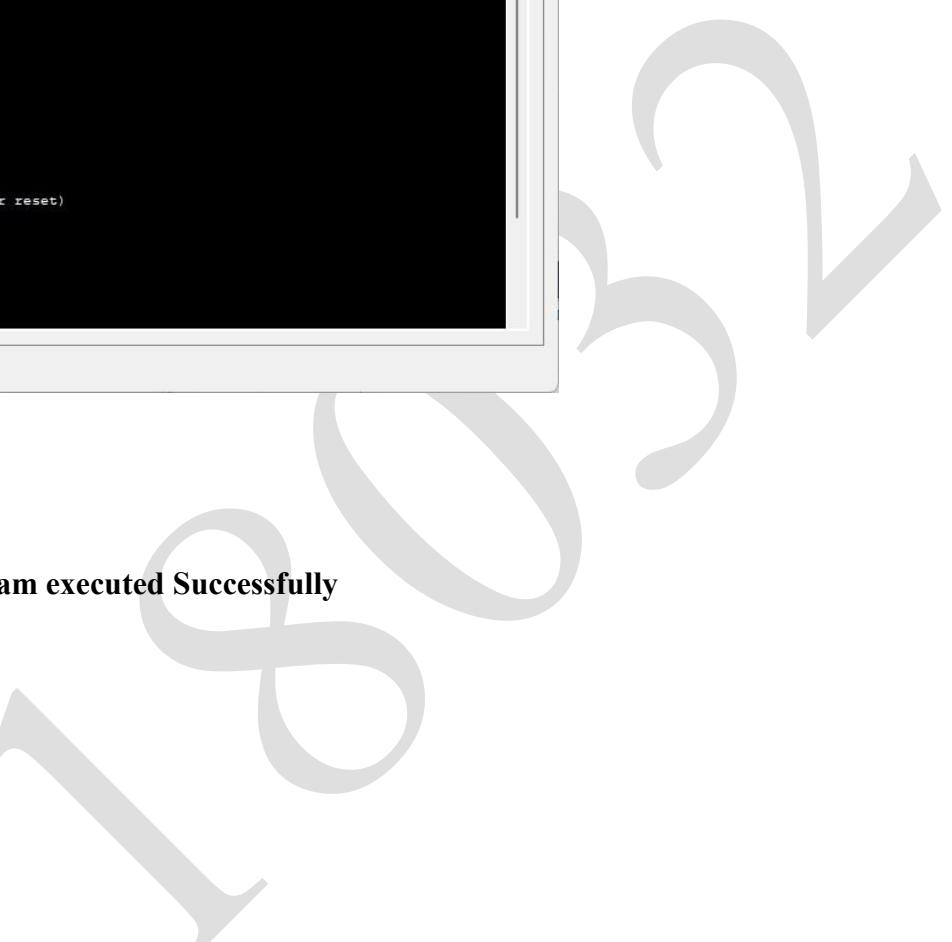
Pc 0 > Desktop > Command Prompt :-

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:-



```
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      pg1.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 :-**

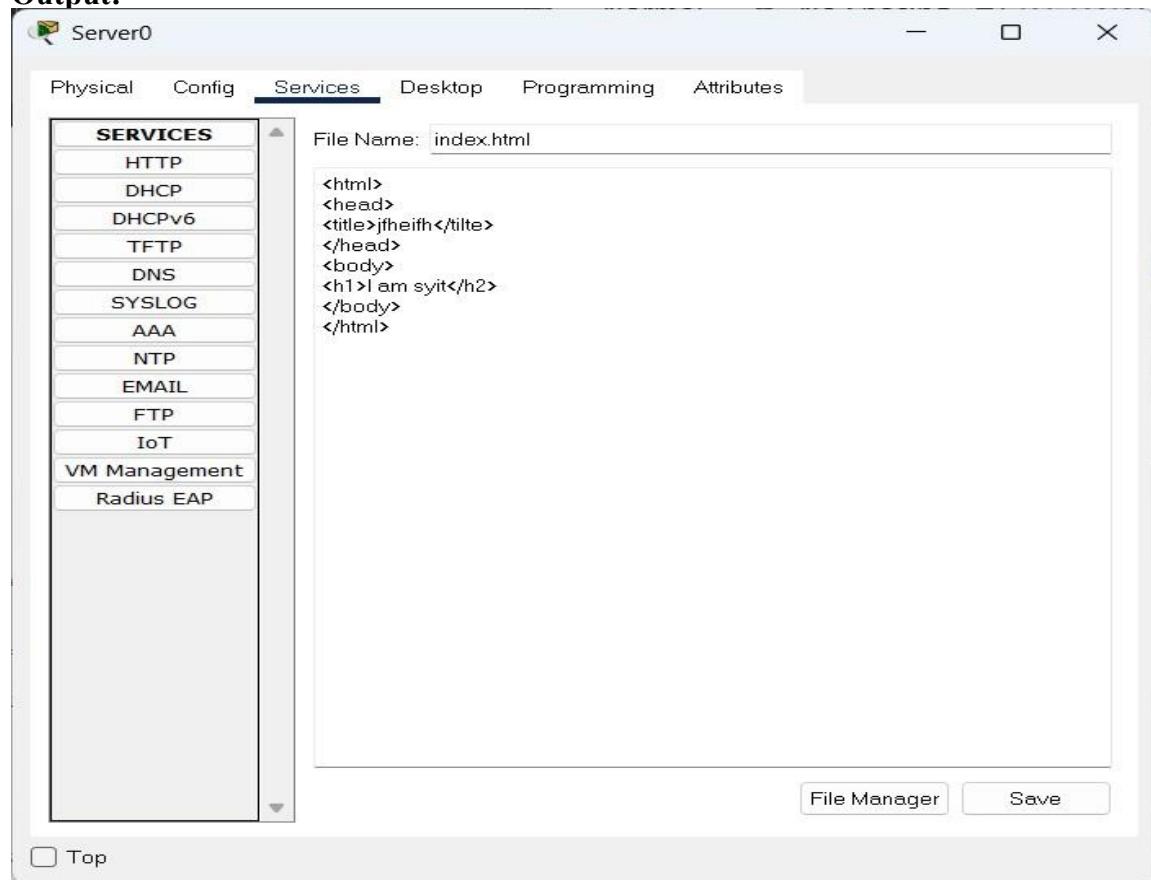
```

<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:-

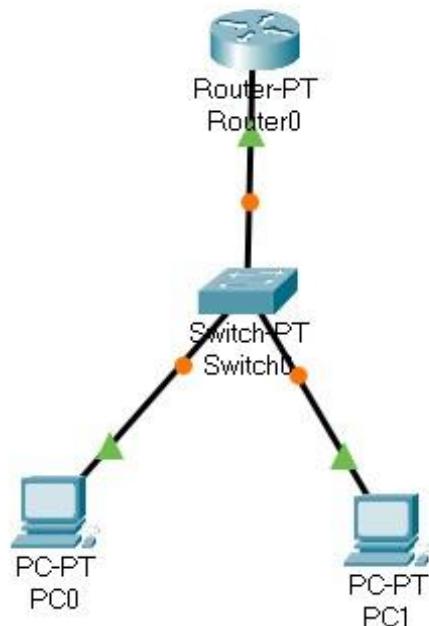


Conclusion:-The program executed Successfully.

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
Trying 10.0.0.1 ...Open

User Access Verification
Password:
Router>
```

Top

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.....:: FEG0::201:64FF:FECC:DC27
  IPv6 Address.....:::
  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.....:::
  IPv6 Address.....:::
  IPv4 Address.....:: 0.0.0.0
  Subnet Mask.....:: 0.0.0.0
  Default Gateway.....:: 0.0.0.0

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

User Access Verification
Password:
Password:
Router>
```

Top

Conclusion:-The program executed Successfully.