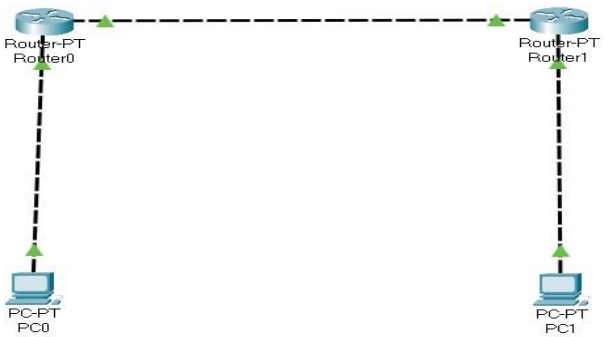
Practical No. 1
Study of Networking

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

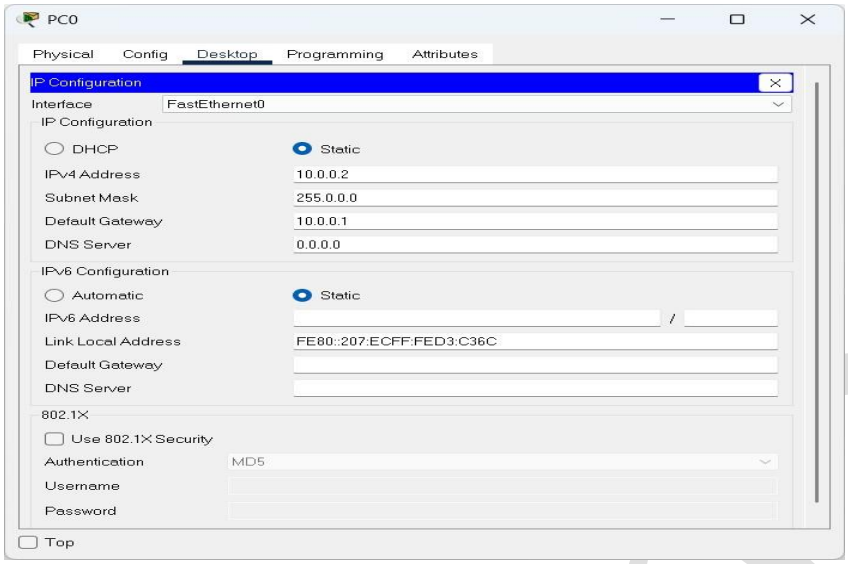
Router 1 > cli :- enable
configure terminal interface
fastethernet 0/0 ip address
40.0.0.1 255.0.0.0 no
shutdown
exit
interface fastethernet 0/1 ip
address 20.0.0.2 255.0.0.0
no shutdown
exit

Pc 0 > Desktop > Ip configuration :-
ipv4 : 10.0.0.2 subnet mask :
255.0.0.0
Default gateway: 10.0.0.1

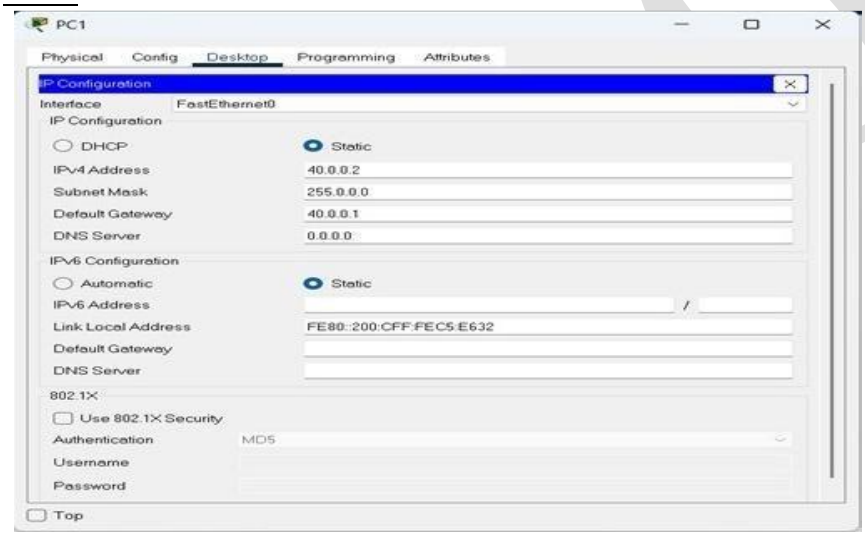
Pc 1 > Desktop > Ip configuration :-
ipv4 : 40.0.0.2
subnet mask : 255.0.0.0
Default gateway: 40.0.0.1

Output :-

PC0 :-



PC1:-



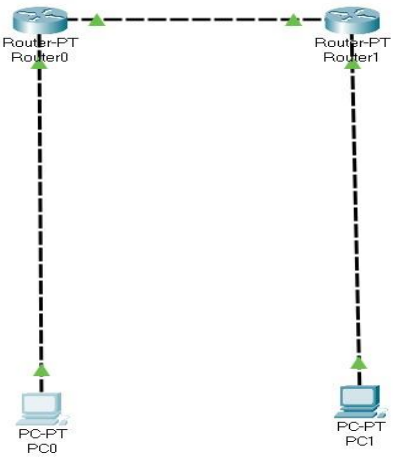
Conclusion :- The program was executed successfully

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

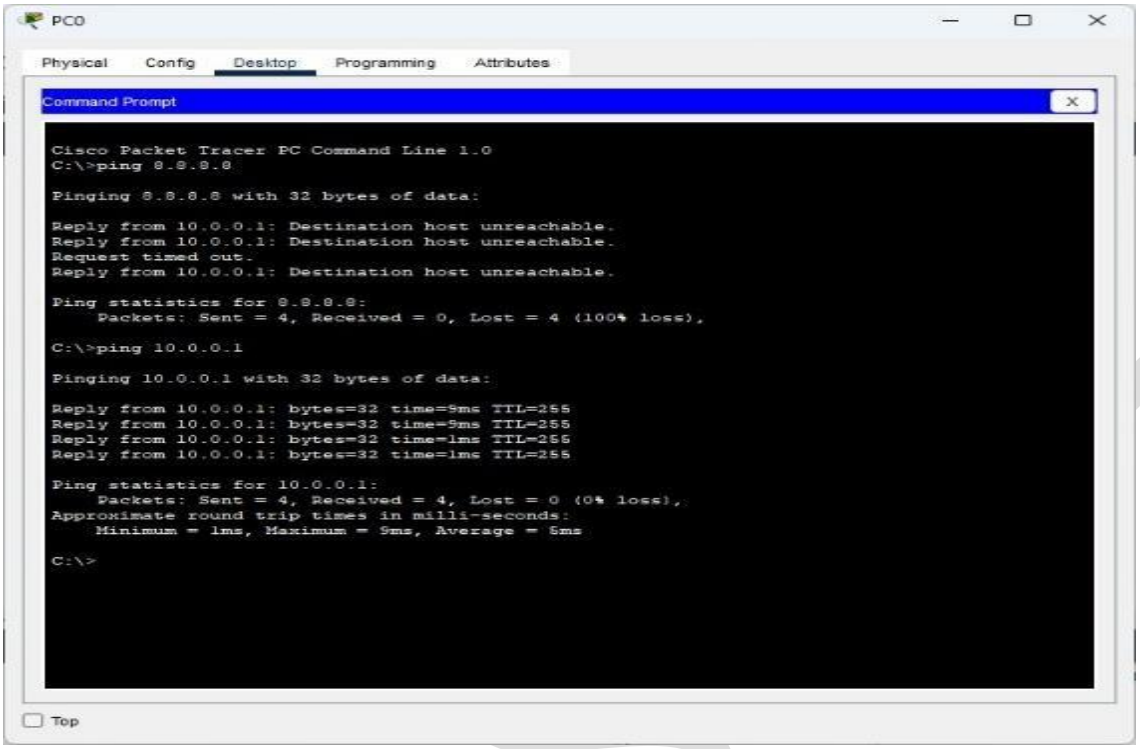
Router 1 > cli :- enable
configure terminal interface
fastethernet 0/0 ip address
40.0.0.1 255.0.0.0 no
shutdown
exit
interface fastethernet 0/1 ip
address 20.0.0.2 255.0.0.0
no shutdown
exit ip route 10.0.0.0 255.0.0.0
20.0.0.1

Pc 0 > Desktop > Ip configuration :-
ipv4 : 10.0.0.2
subnet mask : 255.0.0.0

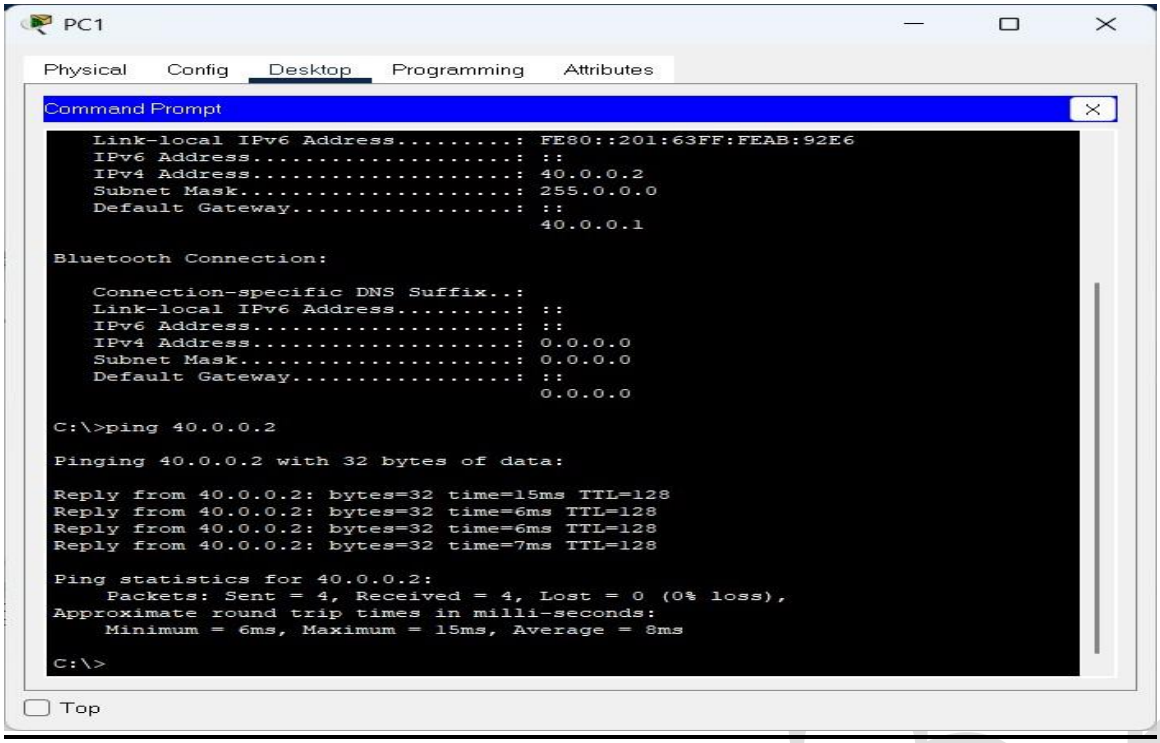
Default gateway: 10.0.0.1

Pc 1 > Desktop > Ip configuration :-
ipv4 : 40.0.0.2
subnet mask : 255.0.0.0
Default gateway: 40.0.0.1

Output :-
PC0 :-



PC1 :-

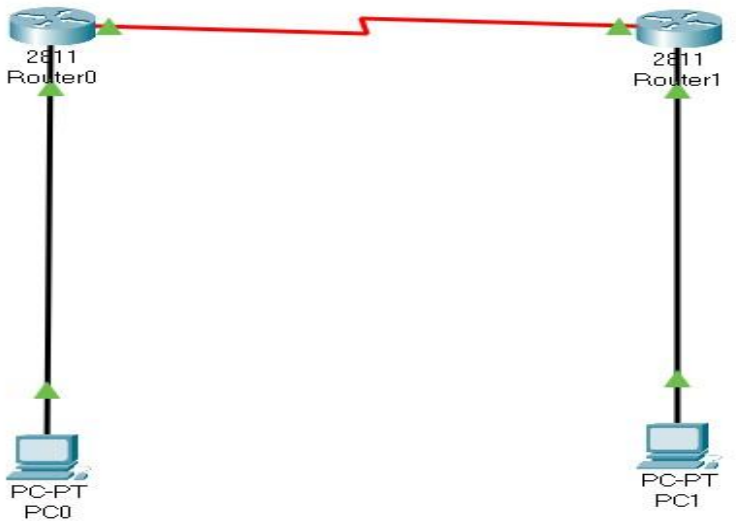


Conclusion :- The program was executed successfully.

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

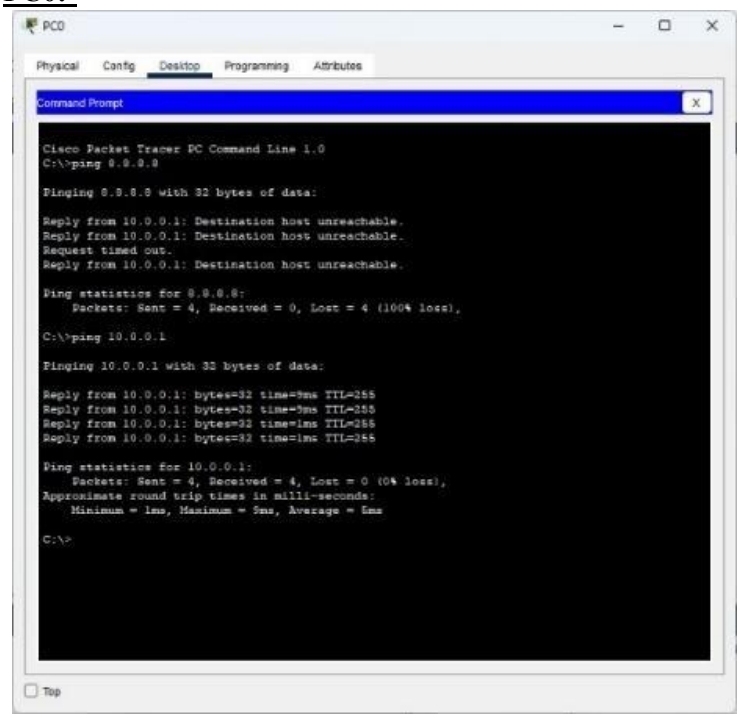
40.0.0.1 255.0.0.0 no
shutdown
exit interface fastethernet
0/1 ip address 20.0.0.2
255.0.0.0 no shutdown
exit router rip
version 2
network 40.0.0.0
network 20.0.0.0
exit

Pc 0 > Desktop > Ip configuration :-
ipv4 : 10.0.0.2 subnet mask :
255.0.0.0
Default gateway: 10.0.0.1

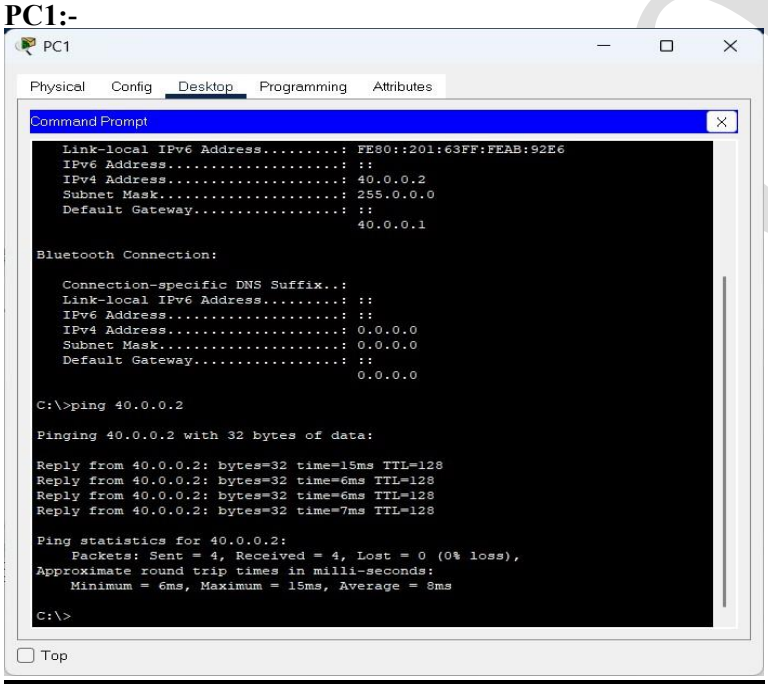
Pc 1 > Desktop > Ip configuration :-
ipv4 : 40.0.0.2
subnet mask : 255.0.0.0
Default gateway: 40.0.0.1

Output :-

PC0:-



PC1:-

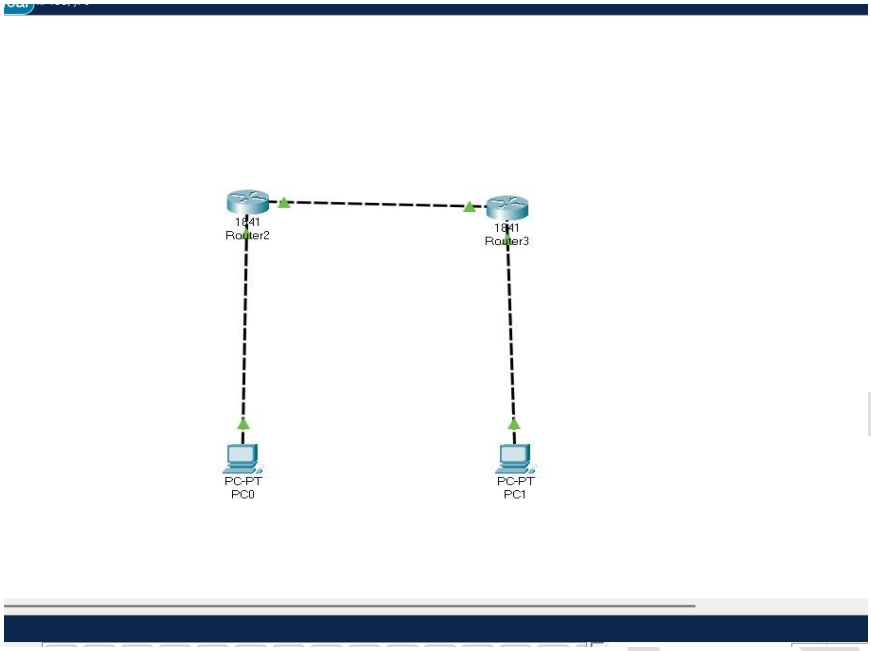


Conclusion :- The program was executed successfully.

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

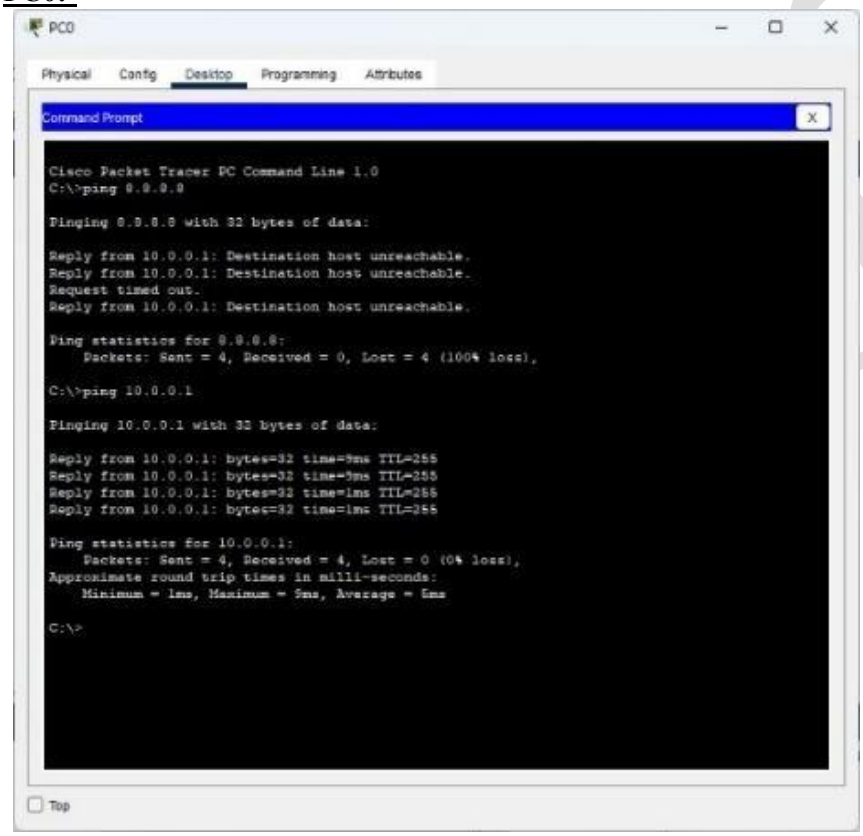
Router 1 > cli :- enable
configure terminal interface
fastethernet 0/0 ip address
40.0.0.1 255.0.0.0 no
shutdown
exit interface fastethernet
0/1 ip address 20.0.0.2
255.0.0.0 no shutdown

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

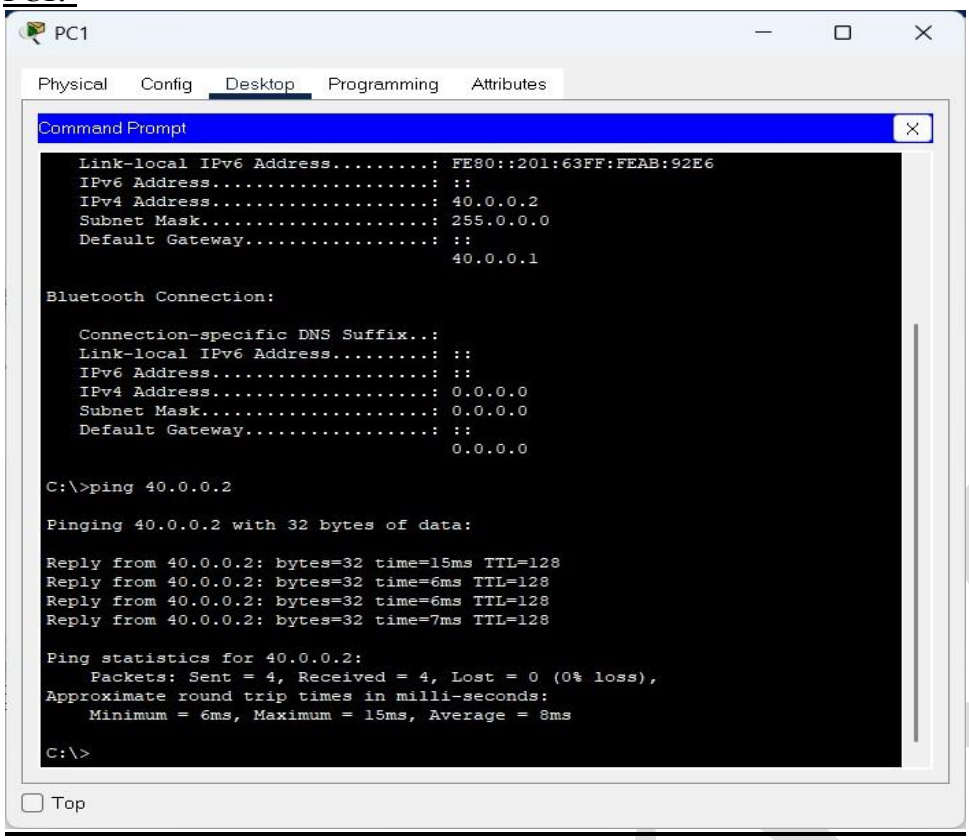
Pc 0 > Desktop > Ip configuration :-
ipv4 : 10.0.0.2
subnet mask : 255.0.0.0
Default gateway: 10.0.0.1

Pc 1 > Desktop > Ip configuration :-
ipv4 : 40.0.0.2
subnet mask : 255.0.0.0
Default gateway: 40.0.0.1

Output :-
PC0:-



PC1:-



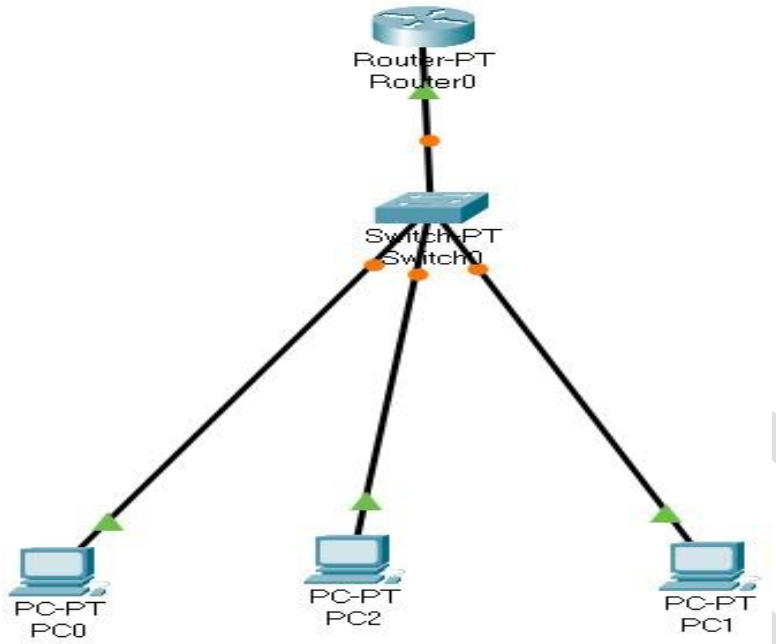
Conclusion :- The program was executed successfully.

Practical No. 3
Study of Application Layer

a) DHCP

Aim :- To study DHCP.

Circuit Diagram :-

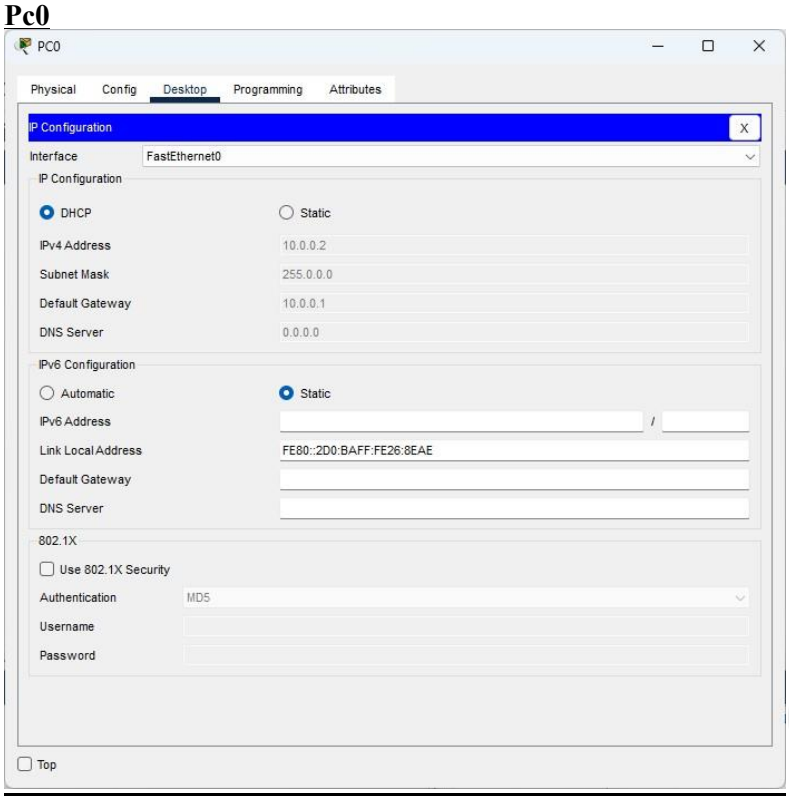


Program :-

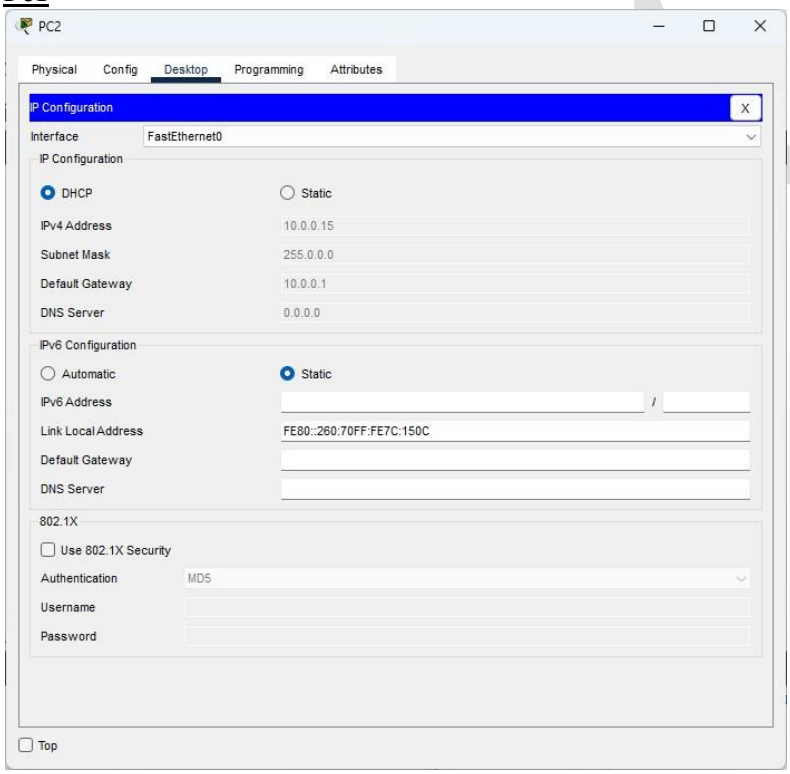
Router 0 > cli :- enable
configure terminal interface
fastethernet 0/0 ip address
10.0.0.1 255.0.0.0 no
shutdown
exit ip dhcp pool syit network 10.0.0.0
255.0.0.0 default-router 10.0.0.1 ip dhcp
excluded-address 10.0.0.2 10.0.0.1 ip dhcp
pool syit network 10.0.0.0 255.0.0.0
default-router 10.0.0.1 ip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

Output:-

Pc0



Pc1

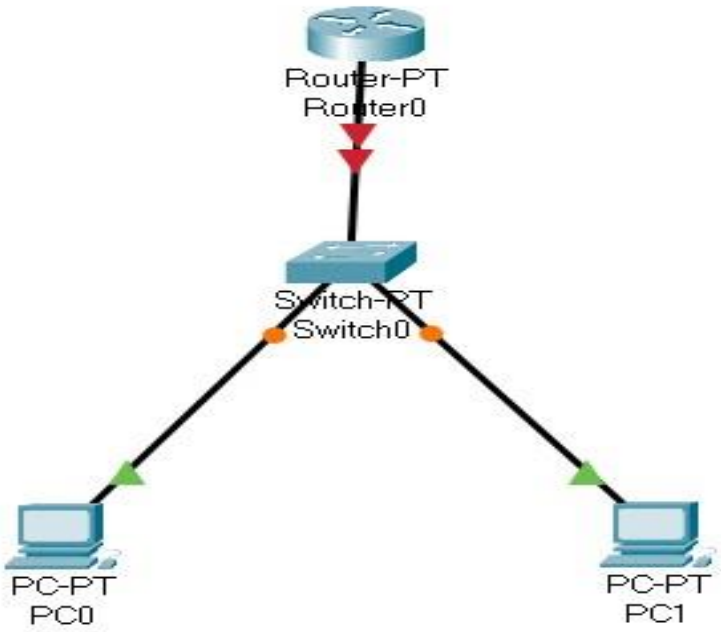


Conclusion :- The program was executed successfully.

b) DNS

Aim :- To study DNS.

Circuit Diagram :-



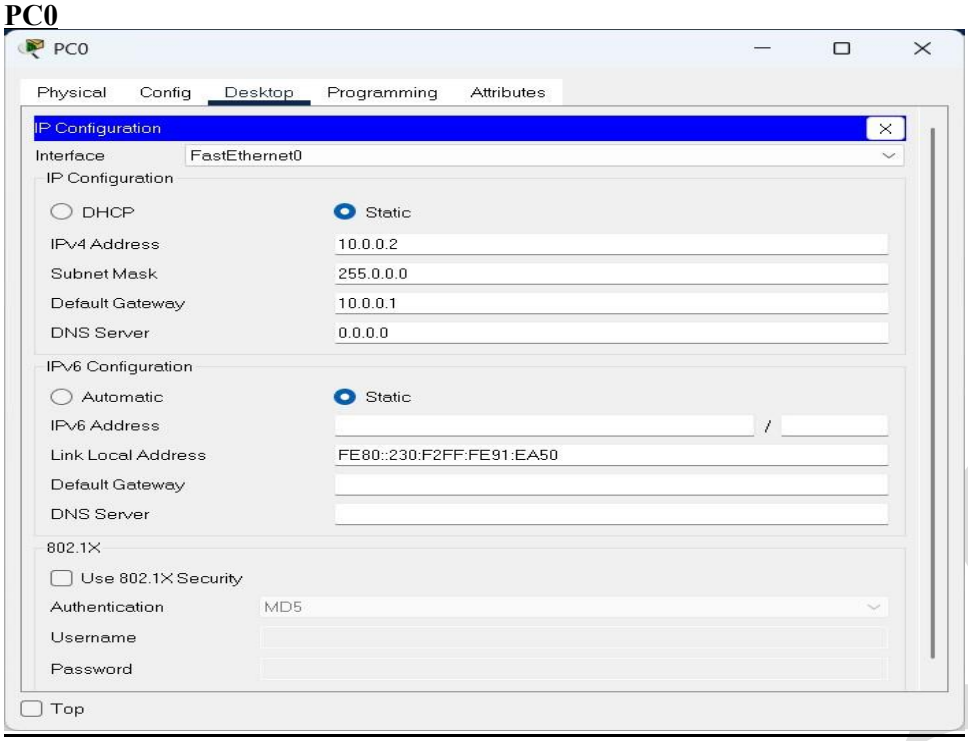
Program :-
Router 0 > cli :- enable
configure terminal interface
fastethernet 0/0 ip address
10.0.0.1 255.0.0.0 no
shutdown
exit ip dhcp pool syit network
10.0.0.0 255.0.0.0 default-
router 10.0.0.1 dns-server
8.8.8.8 exit ip host
www.syit.com 10.0.0.1 exit

Pc 0 > Desktop > Ip configuration :-
ipv4 : 10.0.0.2
subnet mask : 255.0.0.0
Default gateway: 10.0.0.1

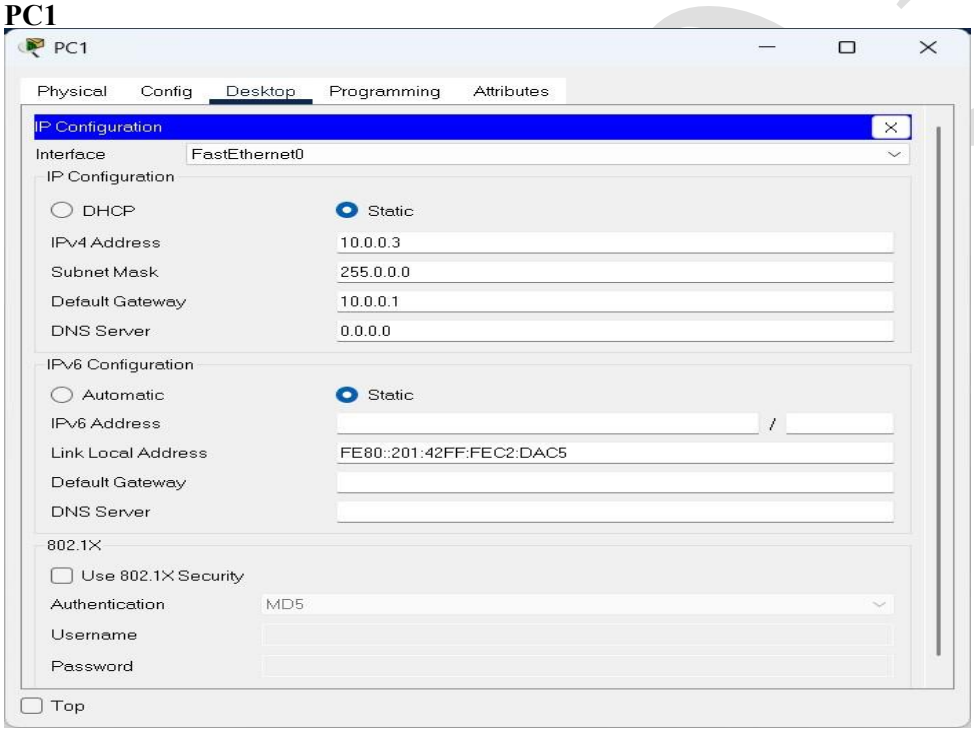
Pc 1 > Desktop > Ip configuration :-
ipv4 : 10.0.0.3
subnet mask : 255.0.0.0
Default gateway: 10.0.0.1

Output:-

PC0



PC1

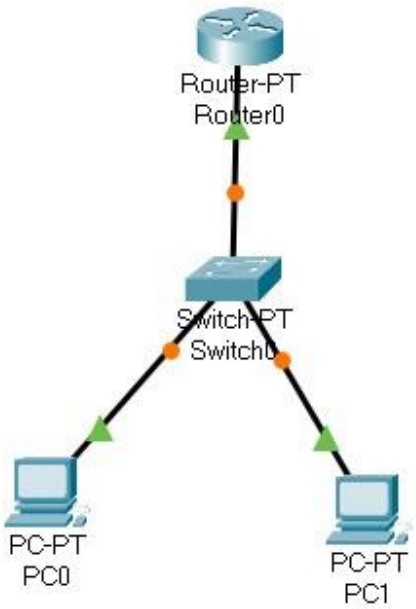


Conclusion:-The program executed Successfully

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

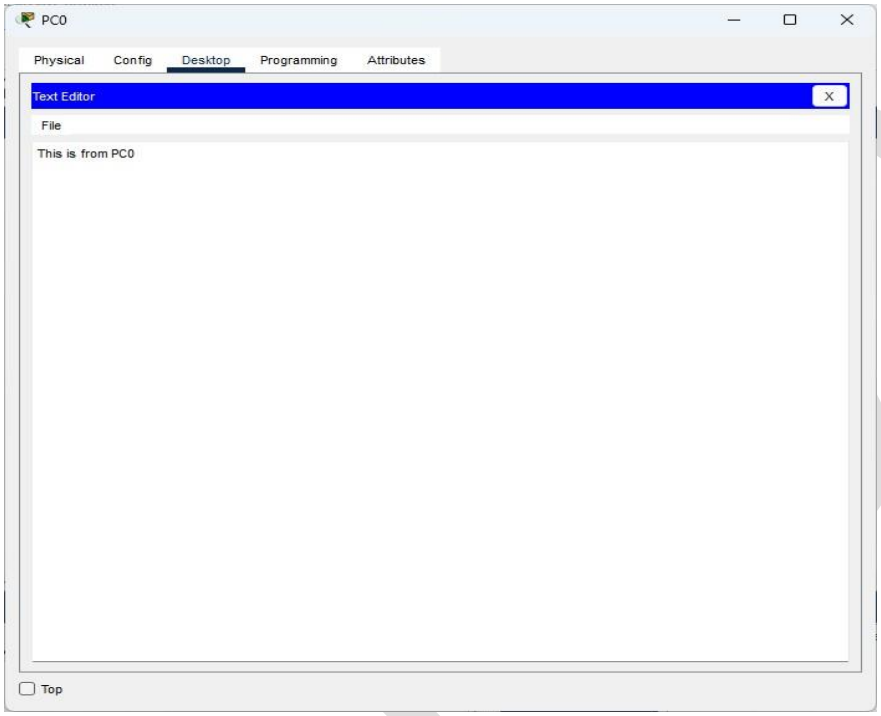
Pc 1 > Desktop > Ip configuration :-
ipv4 : 10.0.0.3
subnet mask : 255.0.0.0
Default gateway: 10.0.0.1

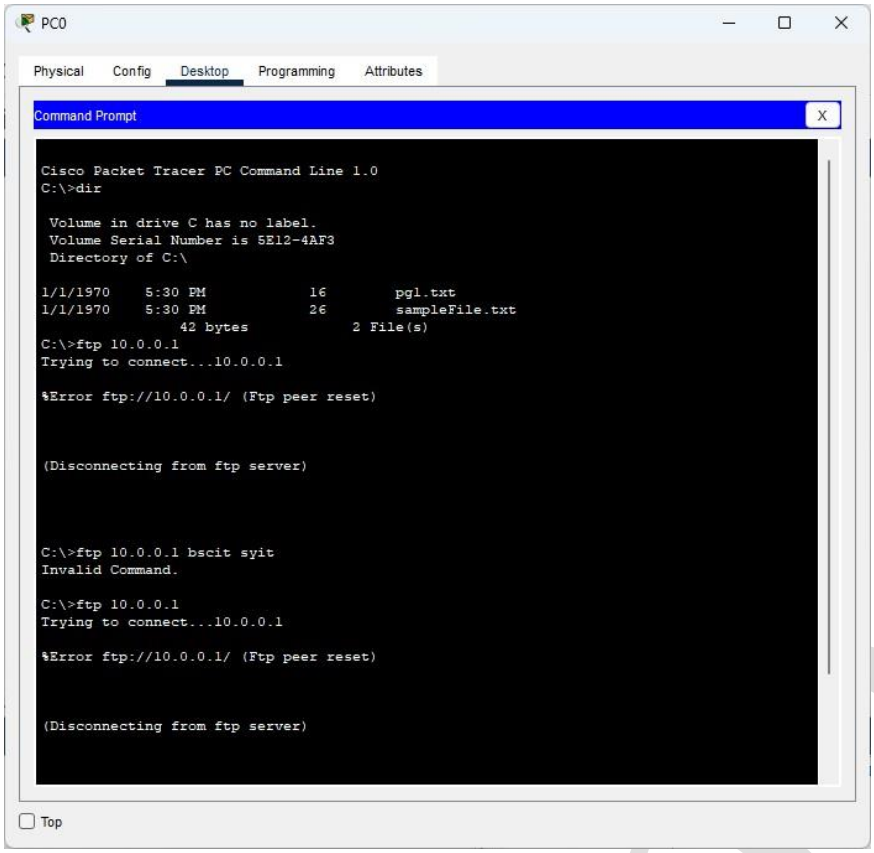
Pc 0 > Desktop > Text Editor :-
This is from PC0

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:-





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

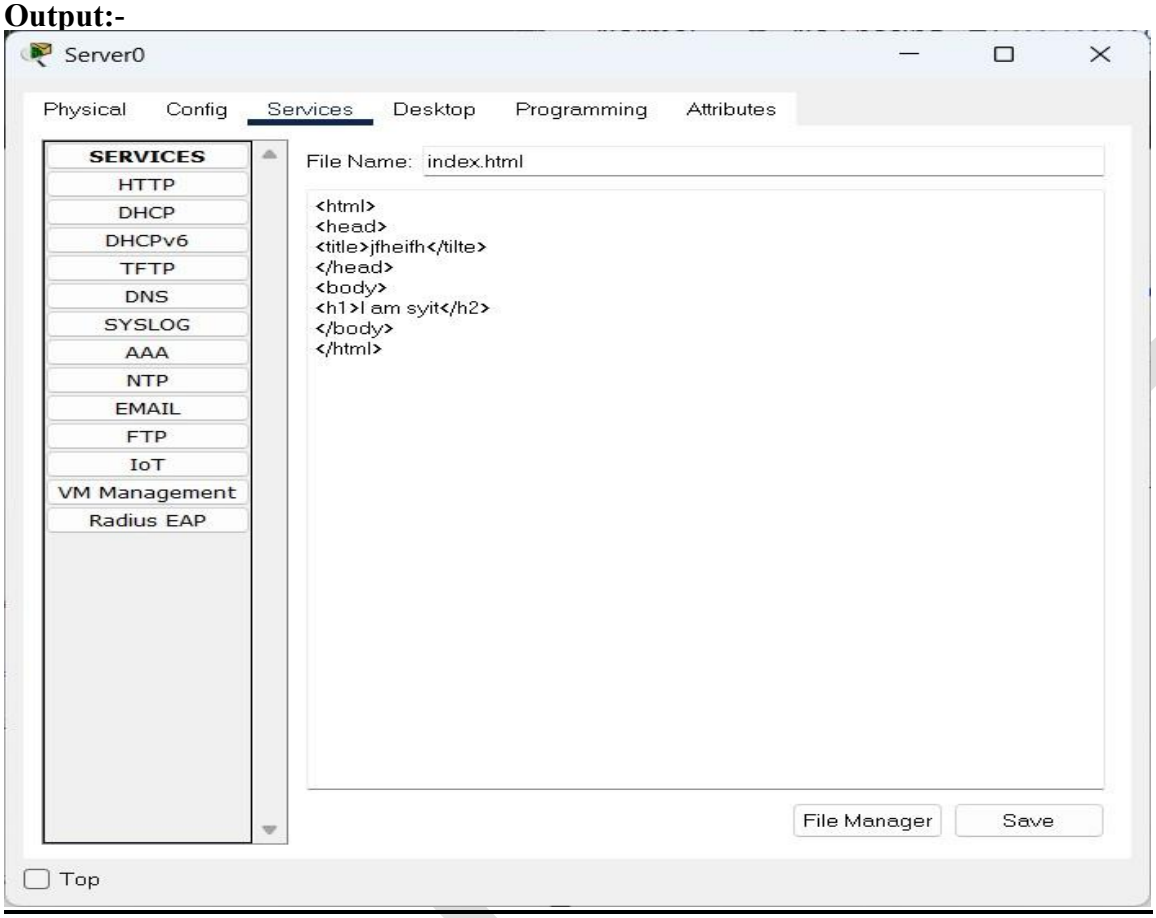
Server 0 > Services > HTTP > index.html > Edit :-

```
<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

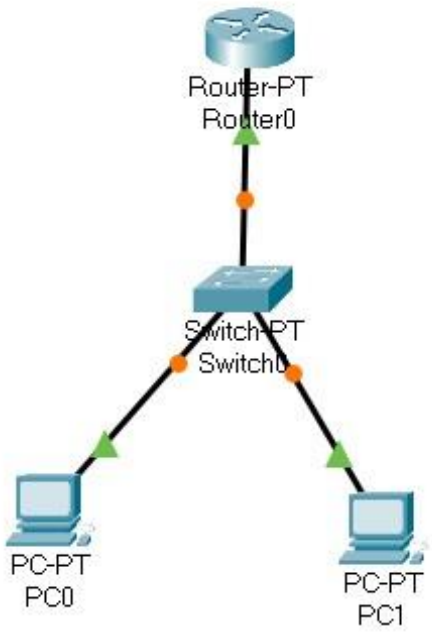
Output:-



Conclusion:-The program executed Successfully.

e) TELNET

Aim :- To study TELNET.
Circuit diagram:-

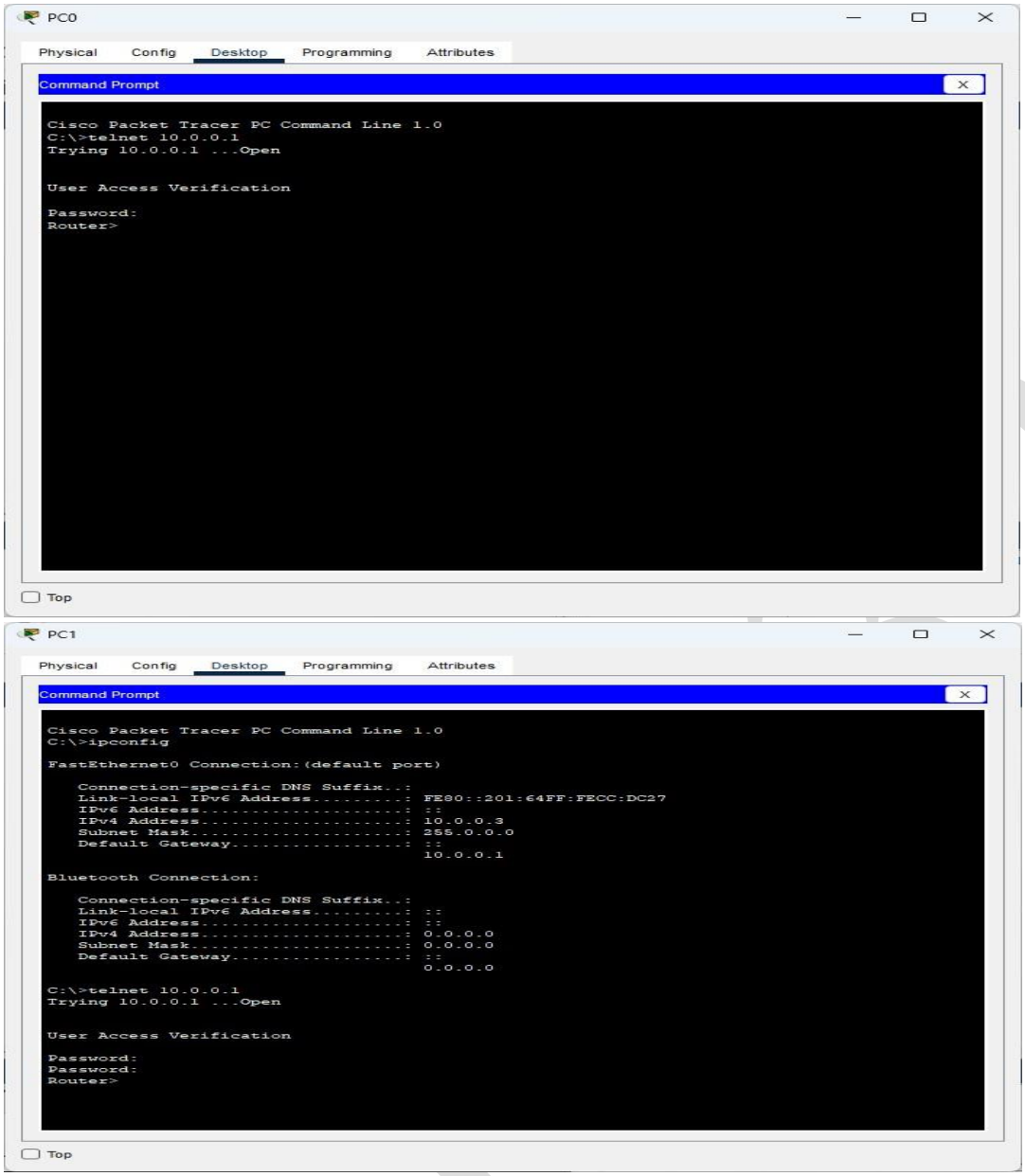


Program :-
Router 0 > cli :- enable
configure terminal interface
fastethernet 0/0 ip address
10.0.0.1 255.0.0.0 no
shutdown
exit line vty 0 10
password syit login
transport input telnet
exit exit

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:-



Conclusion:-The program executed Successfully.