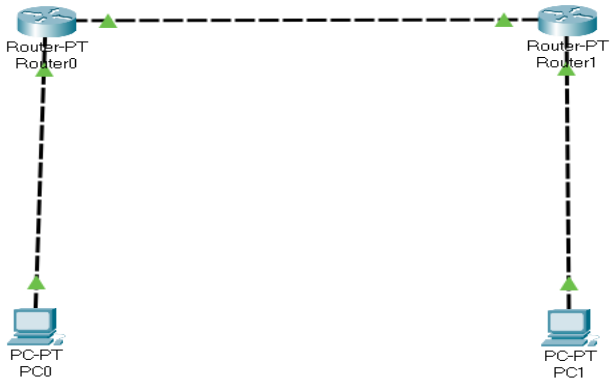
Practical No. 1
Study of Networking

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 :-

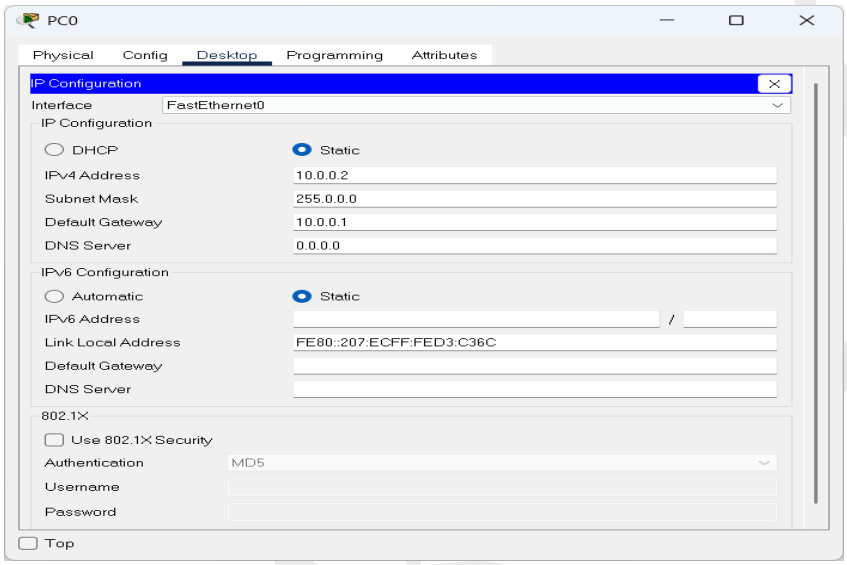
```
enable
configure terminal
interface fastethernet 0/0
ip address 40.0.0.1 255.0.0.0
no shutdown
exit
interface fastethernet 0/1
ip address 20.0.0.2 255.0.0.0
no shutdown
exit
```

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

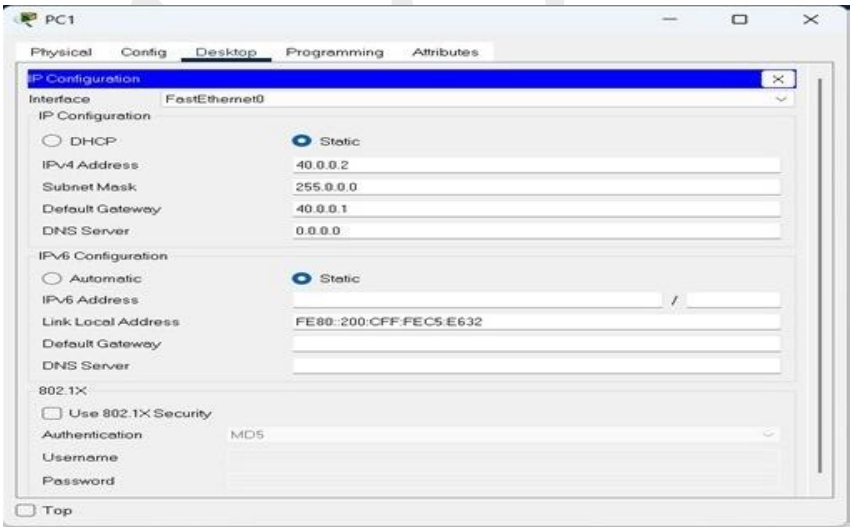
Pc 1 > Desktop > Ip configuration :-
ipv4 : 40.0.0.2
subnet mask : 255.0.0.0
Default gateway: 40.0.0.1

Output :-

PC0 :-



PC1:-



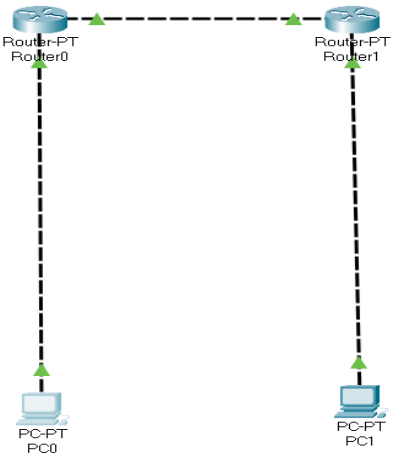
Conclusion :- The program was executed successfully

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 :-

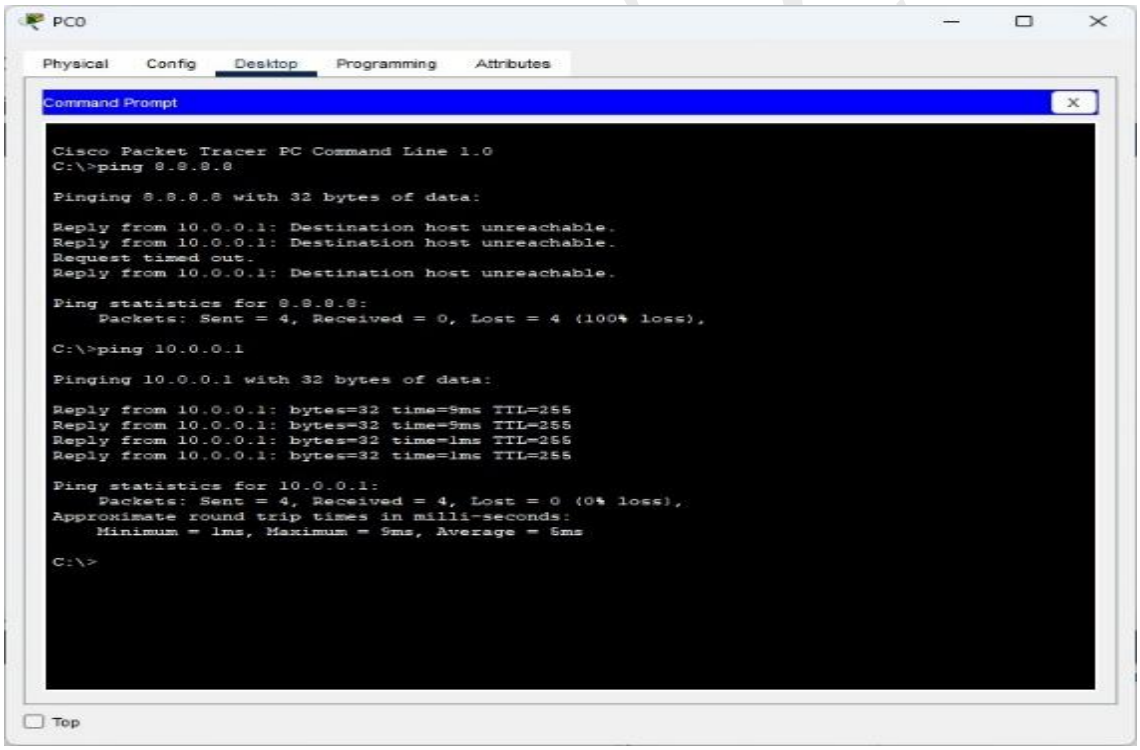
```
enable
configure terminal
interface fastethernet 0/0
ip address 40.0.0.1 255.0.0.0
no shutdown
exit
```

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

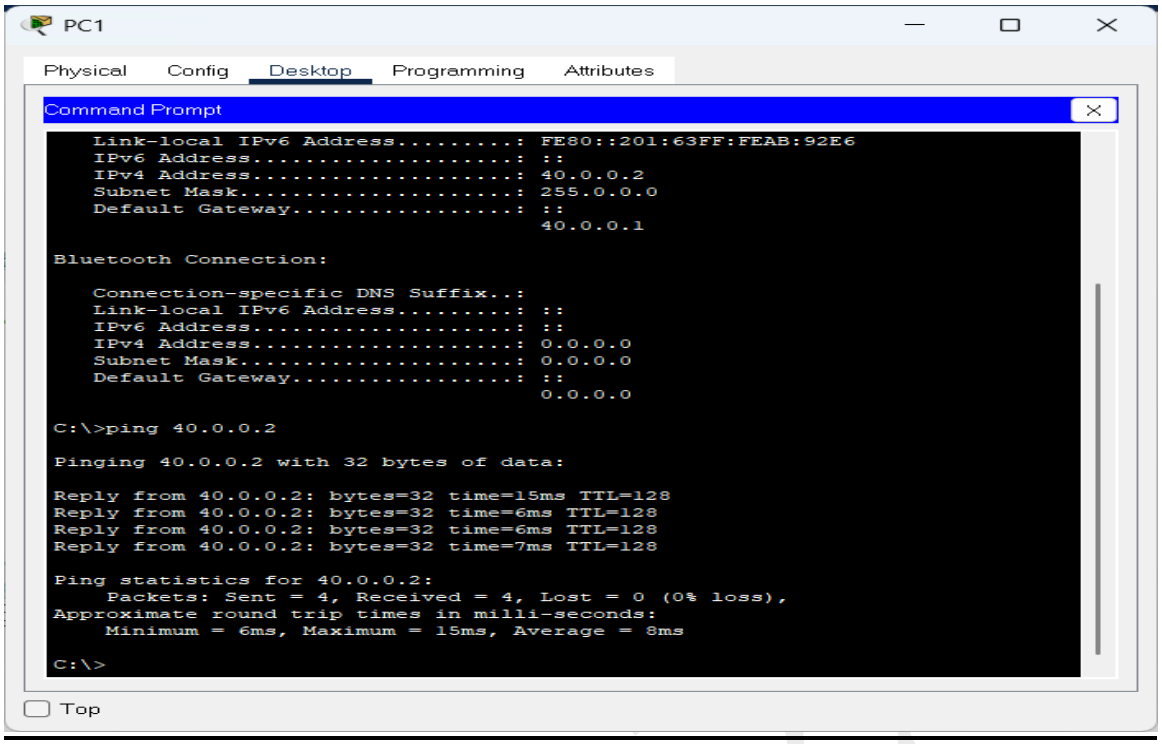
Pc 0 > Desktop > Ip configuration :-
ipv4 : 10.0.0.2
subnet mask : 255.0.0.0
Default gateway: 10.0.0.1

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 :-

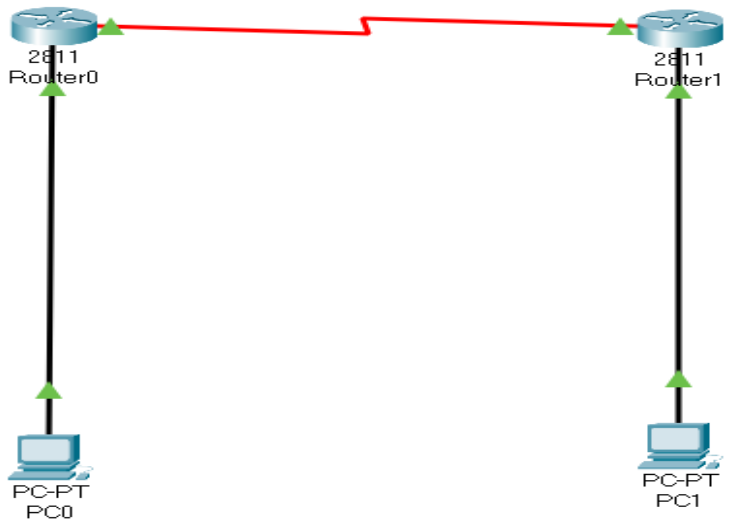


Conclusion :- The program was executed successfully.

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 :-

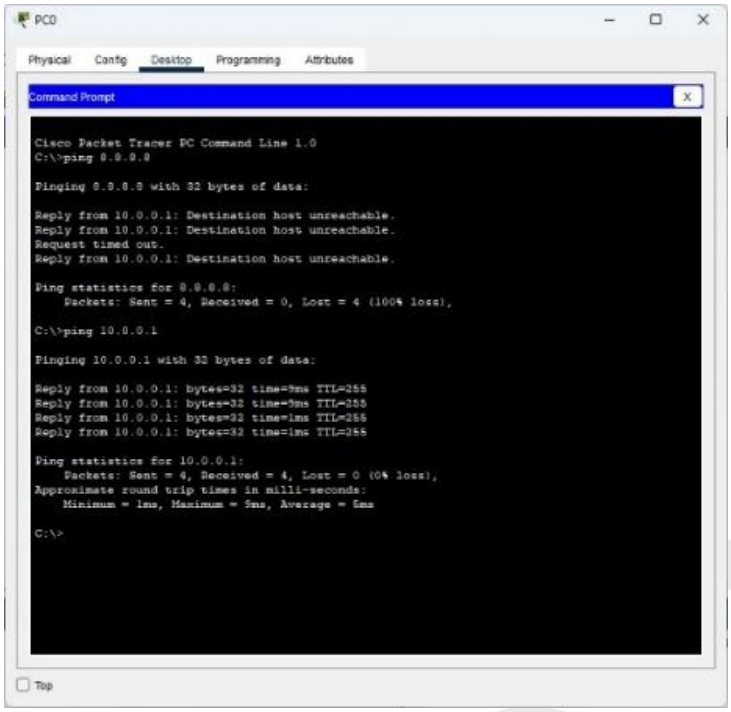
ipv4 : 10.0.0.2
subnet mask : 255.0.0.0
Default gateway: 10.0.0.1

Pc 1 > Desktop > Ip configuration :-

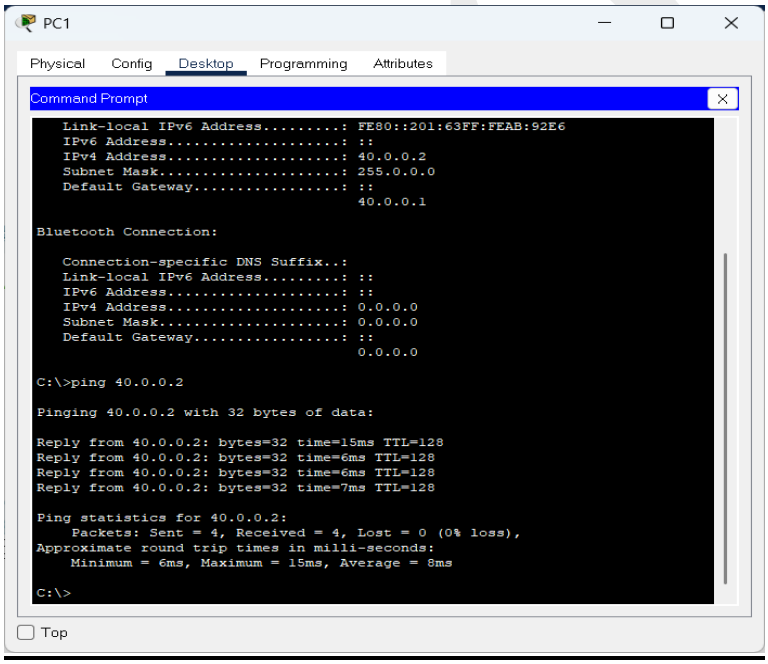
ipv4 : 40.0.0.2
subnet mask : 255.0.0.0
Default gateway: 40.0.0.1

Output :-

PC0:-



PC1:-

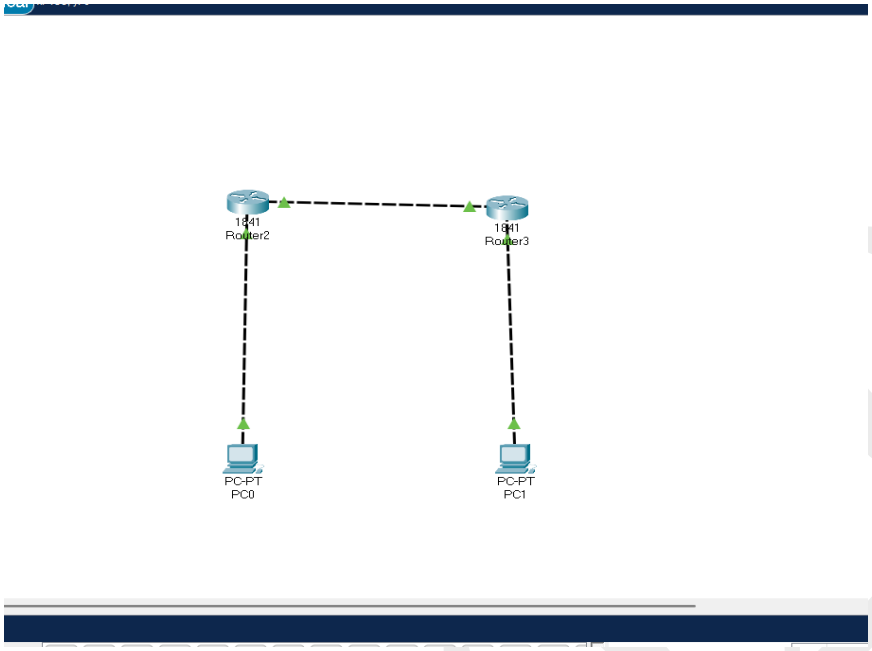


Conclusion :- The program was executed successfully.

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 :-

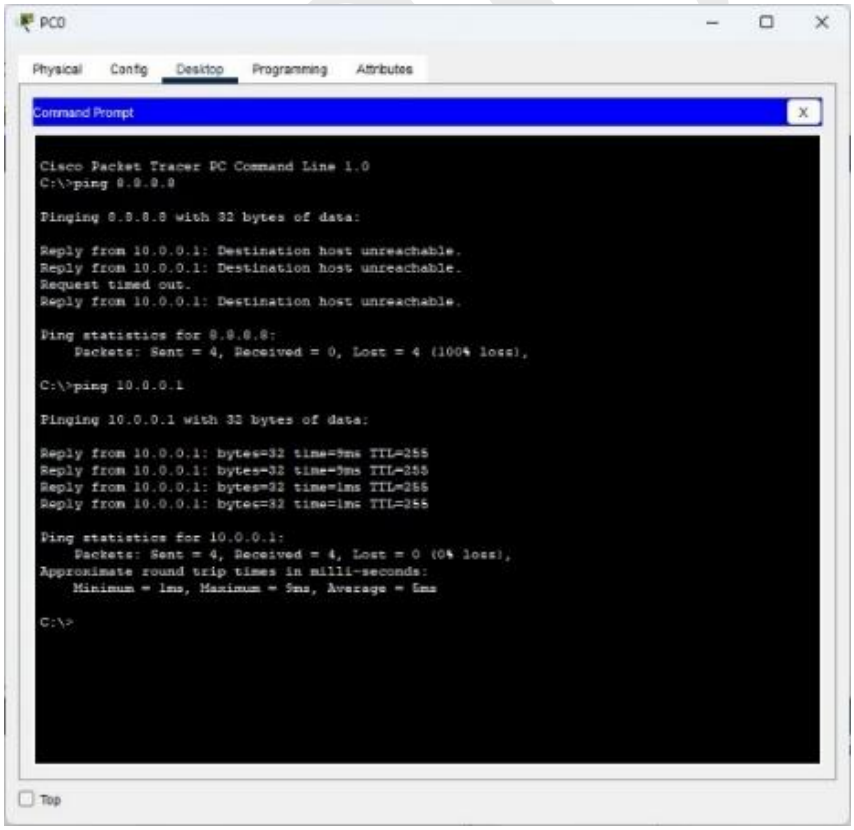
```
enable
configure terminal
interface fastethernet 0/0
ip address 40.0.0.1 255.0.0.0
no shutdown
```

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

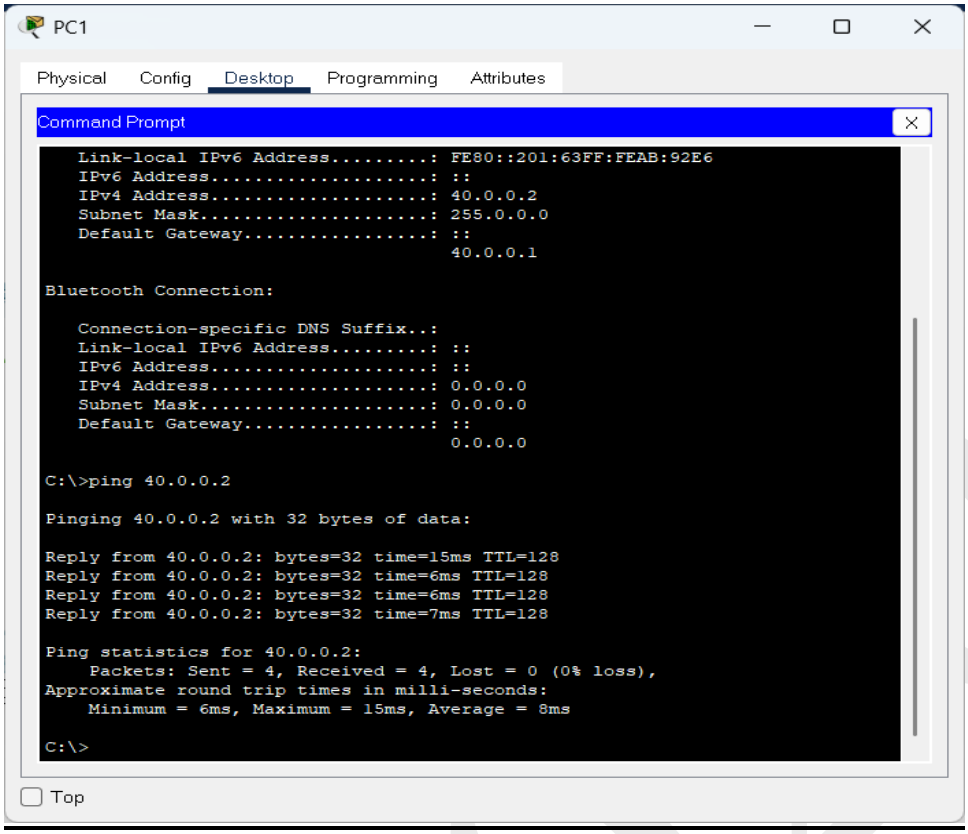
Pc 0 > Desktop > Ip configuration :-
ipv4 : 10.0.0.2
subnet mask : 255.0.0.0
Default gateway: 10.0.0.1

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:-



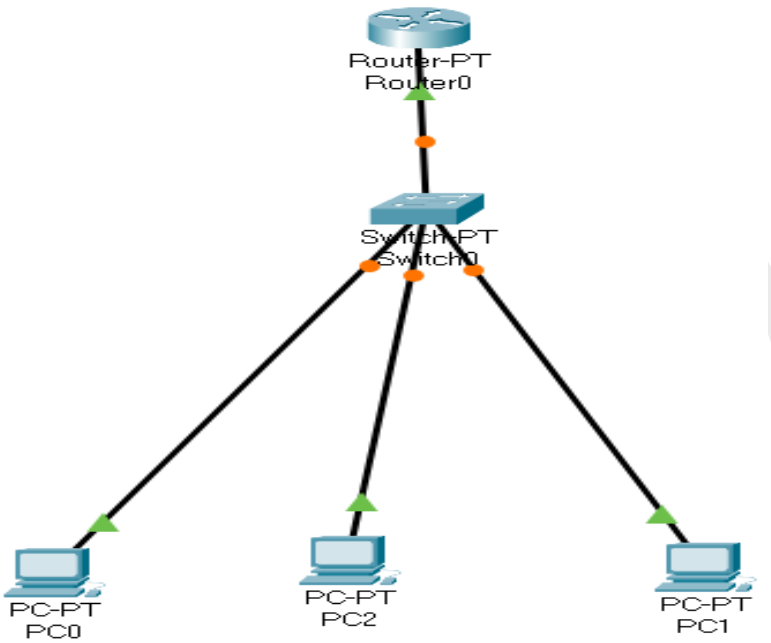
Conclusion :- The program was executed successfully.

Practical No. 3
Study of Application Layer

a) DHCP

Aim :- To study DHCP.

Circuit Diagram :-



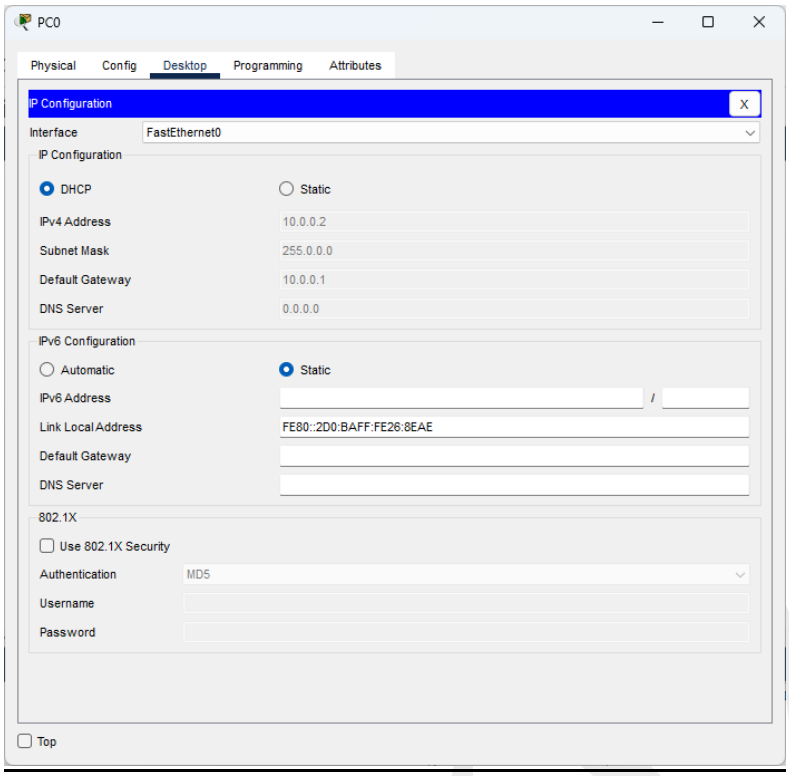
Program :-

Router 0 > cli :-

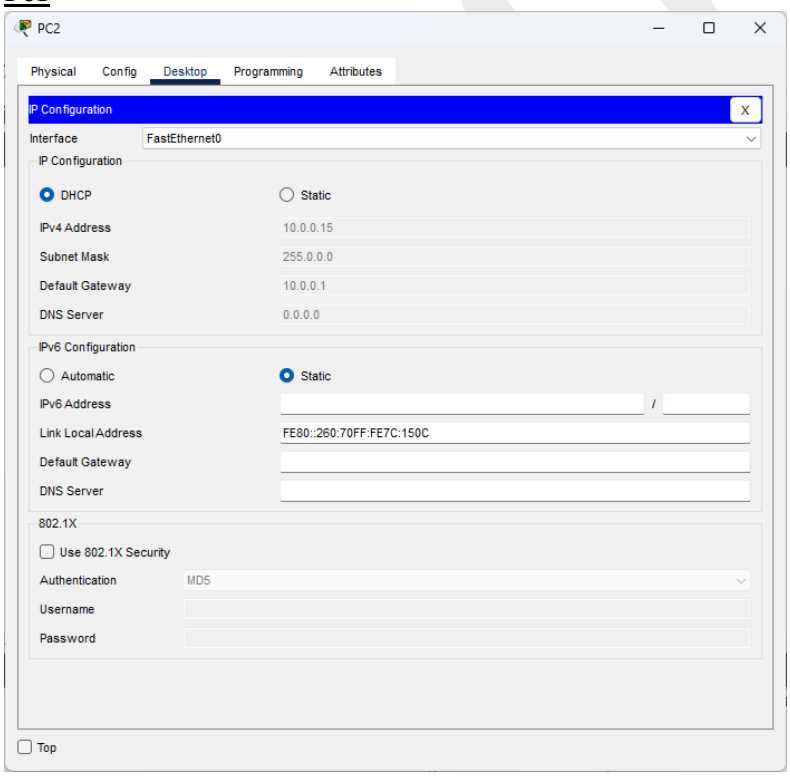
```
enable
configure terminal
interface fastethernet 0/0
ip address 10.0.0.1 255.0.0.0
no shutdown
exit
ip dhcp pool syit
network 10.0.0.0 255.0.0.0
default-router 10.0.0.1
ip dhcp excluded-address 10.0.0.2 10.0.0.1
ip dhcp pool syit
network 10.0.0.0 255.0.0.0
default-router 10.0.0.1
ip dhcp excluded-address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

Output:-

Pc0



Pc1

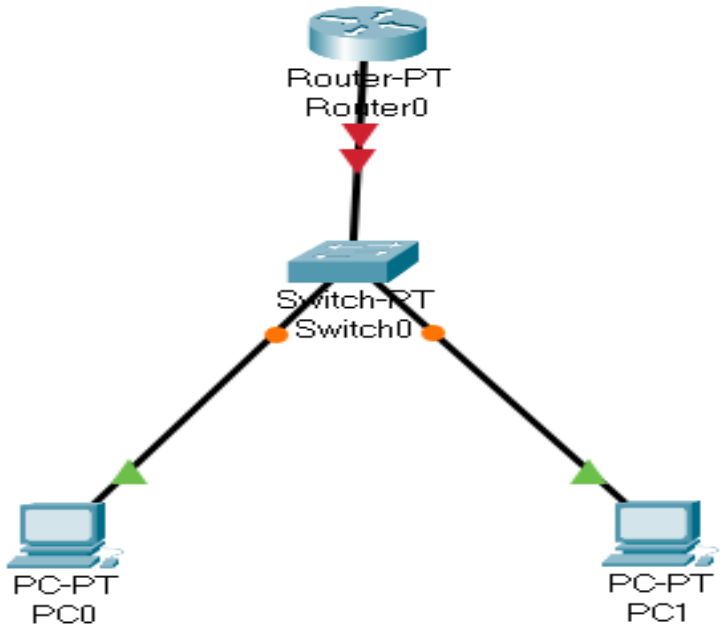


Conclusion :- The program was executed successfully.

b) DNS

Aim :- To study DNS.

Circuit Diagram :-



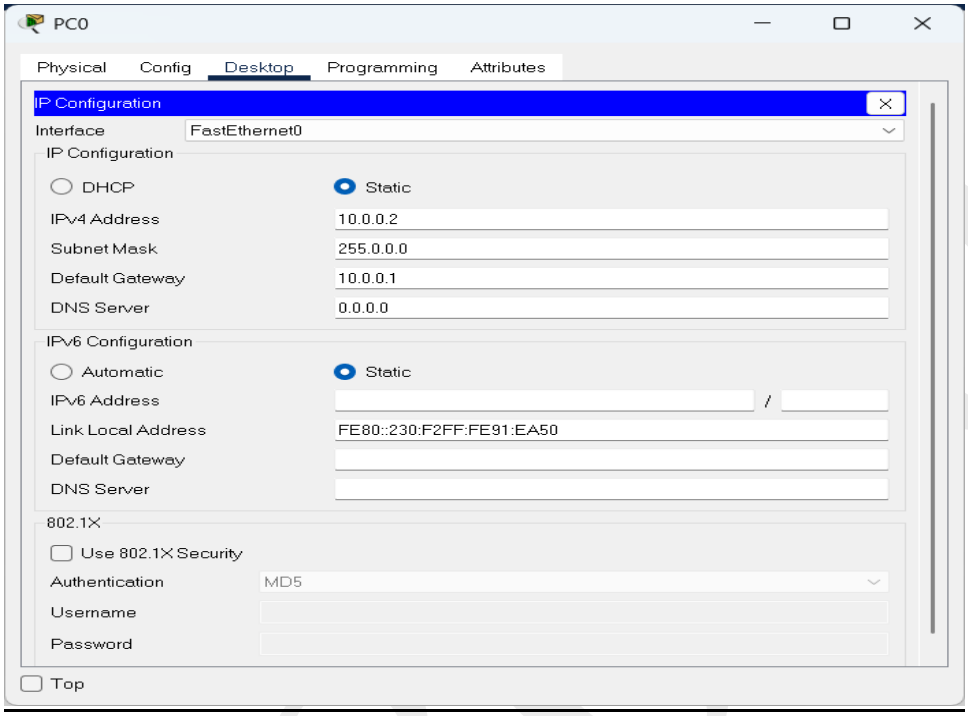
Program :-
Router 0 > cli :-
enable
configure terminal
interface fastethernet 0/0
ip address 10.0.0.1 255.0.0.0
no shutdown
exit
ip dhcp pool syit
network 10.0.0.0 255.0.0.0
default-router 10.0.0.1
dns-server 8.8.8.8
exit
ip host www.syit.com 10.0.0.1
exit

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

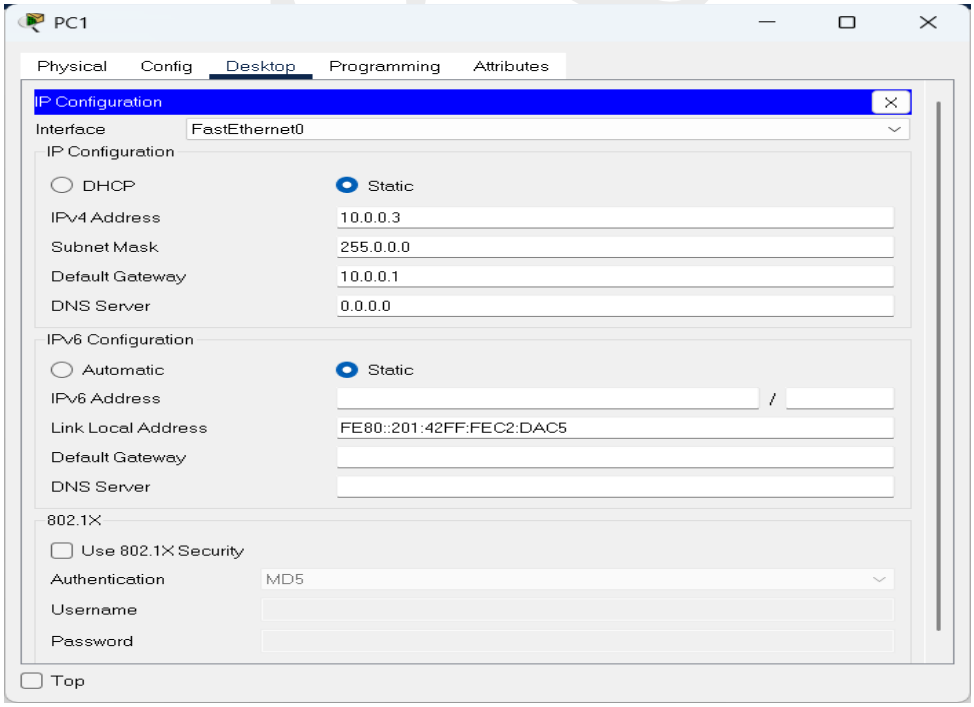
Pc 1 > Desktop > Ip configuration :-
ipv4 : 10.0.0.3
subnet mask : 255.0.0.0
Default gateway: 10.0.0.1

Output:-

PC0



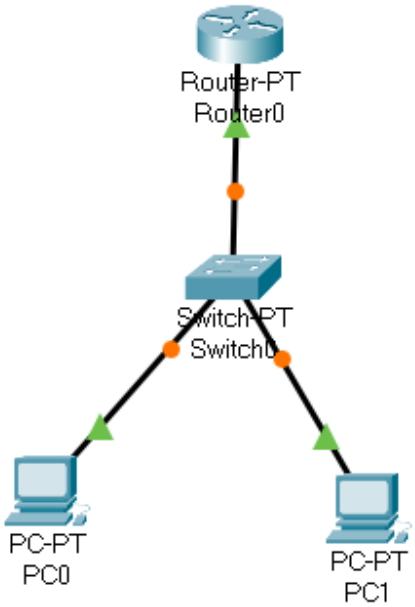
PC1



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

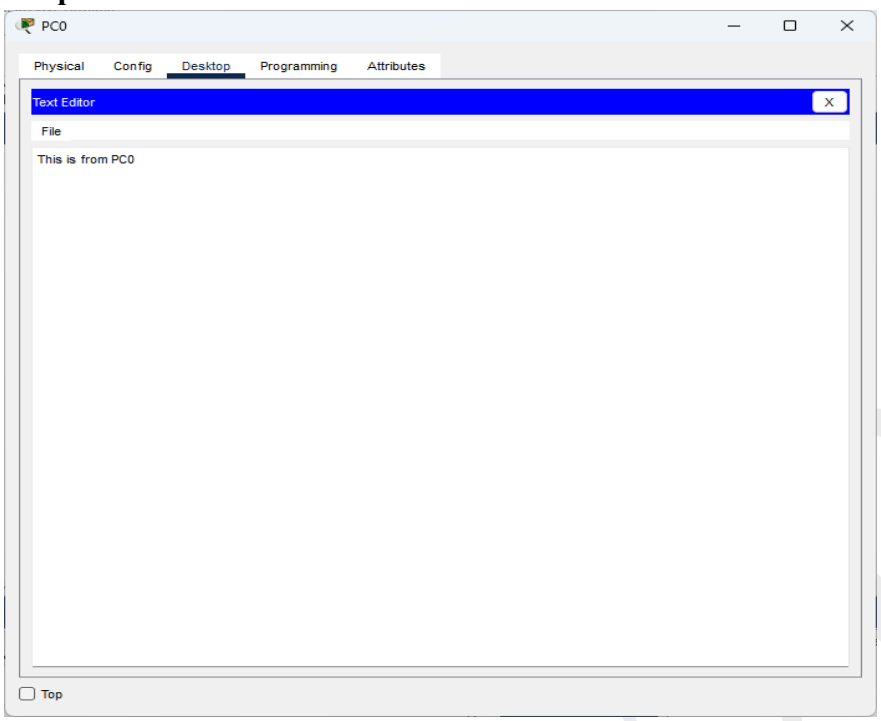
Pc 1 > Desktop > Ip configuration :-
ipv4 : 10.0.0.3
subnet mask : 255.0.0.0
Default gateway: 10.0.0.1

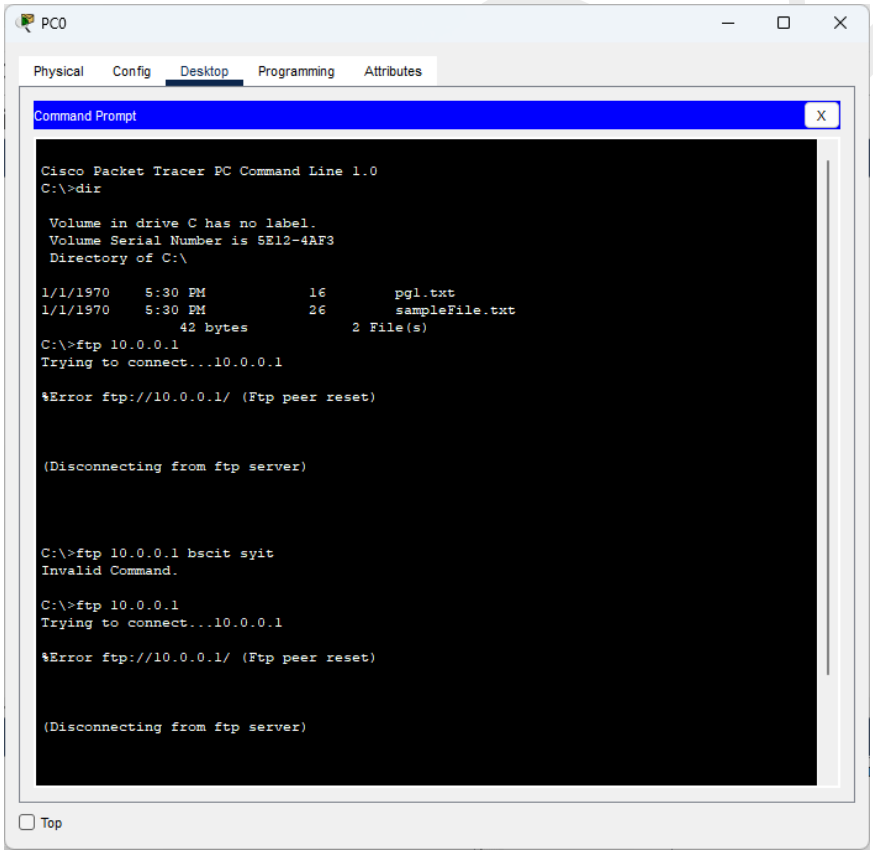
Pc 0 > Desktop > Text Editor :-
This is from PC0

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

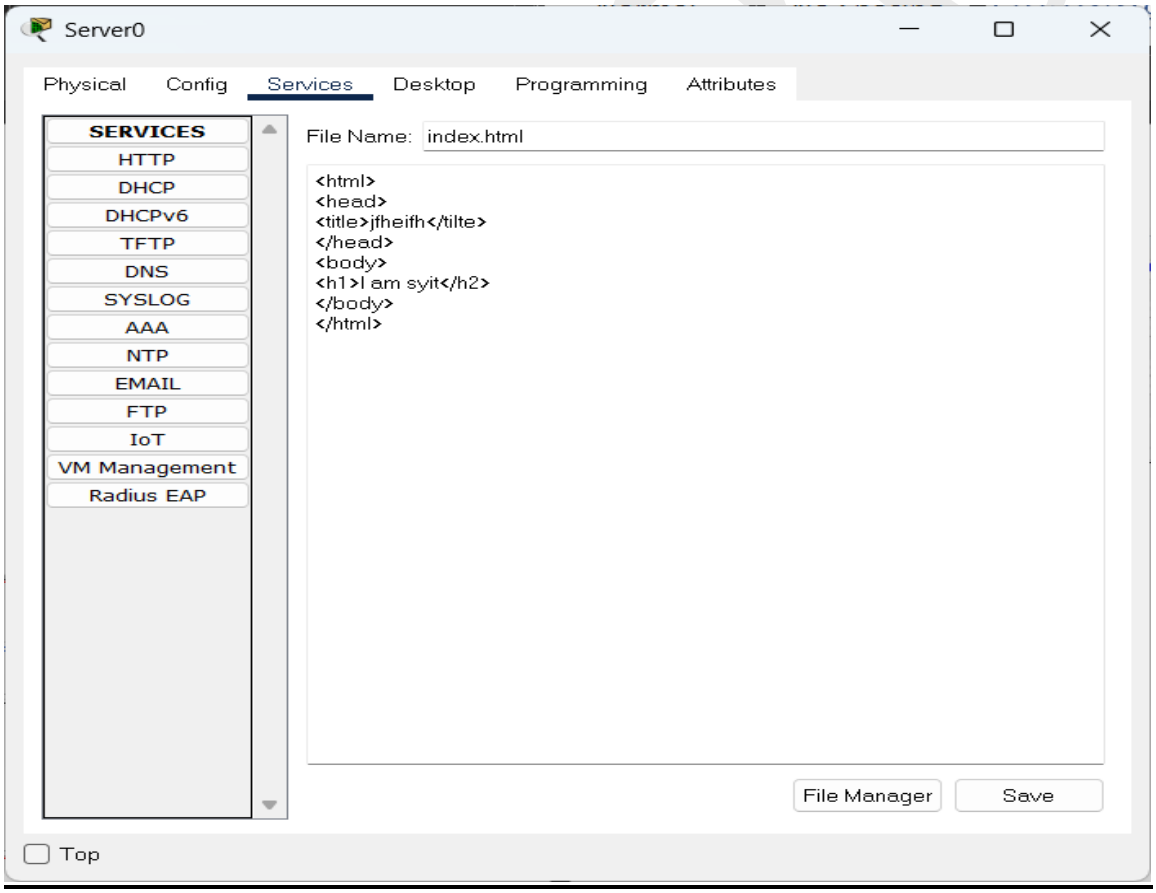
Server 0 > Services > TFTP :-
service: off

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:-

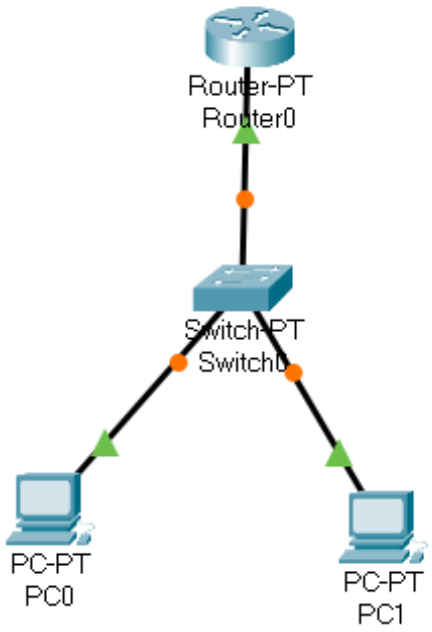


Conclusion:-The program executed Successfully.

e) TELNET

Aim :- To study TELNET.

Circuit diagram:-



Program :-

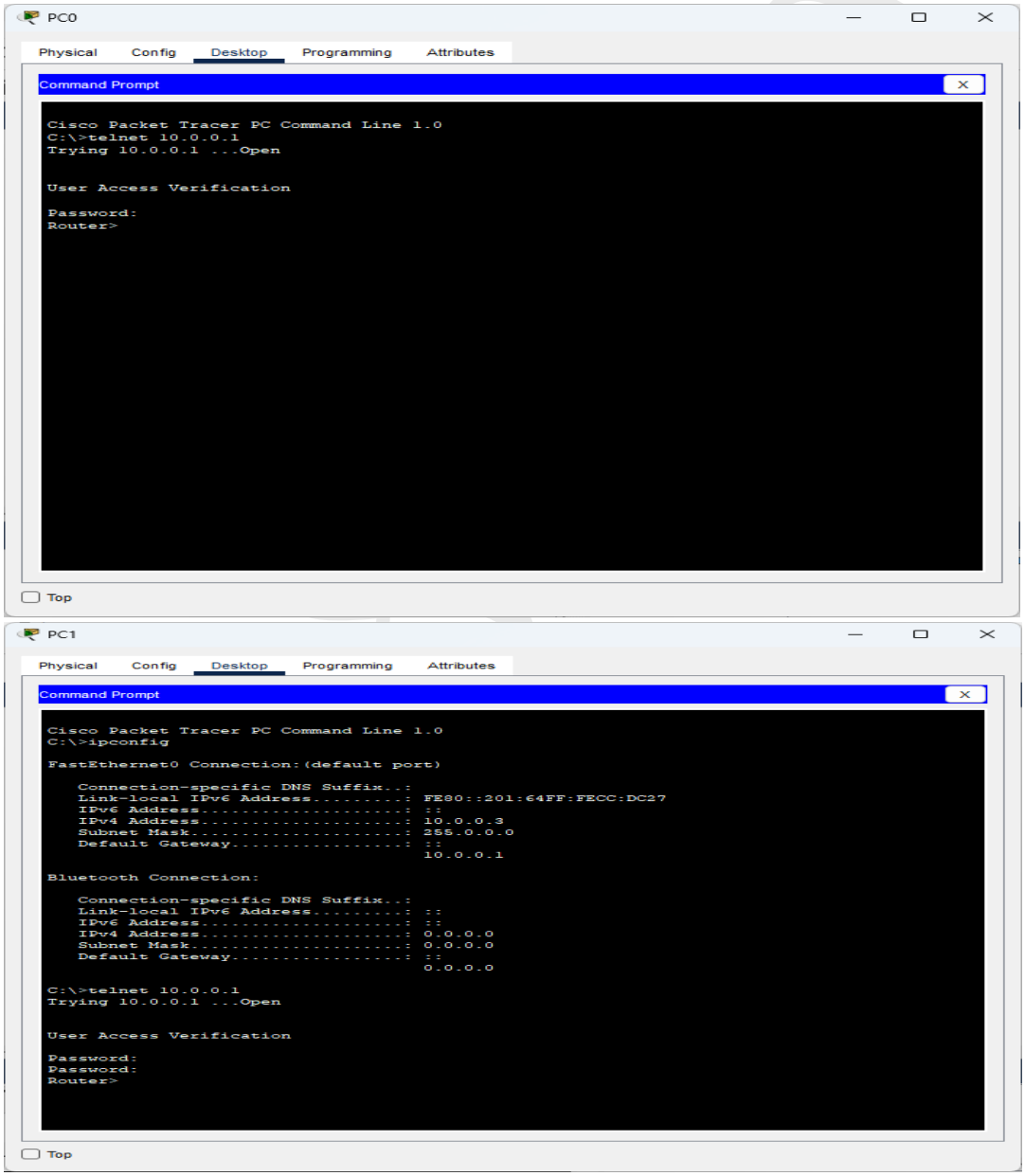
Router 0 > cli :-

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.