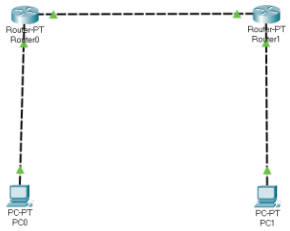
MAJOR :Computer Networking

PRACTICIAL NO 1

Aim:- To study of address in networking devices

Circuit diagram:-



Program:-

Router 1>CLI:-

```
Router>enable
Router#configure terminal
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 10.0.0.2 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#ip address 20.0.0.2
Router(config-if)#no shutdown
Router(config-if)#exit
```

Router 2>CLI:-

```
Router>enable
Router#configure terminal
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 40.0.0.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)# ip address 20.0.0.1
Router(config-if)#no shutdown
Router(config-if)#exit
```

PC 0>Desktop>IP configuaration:-

IPV4:10.0.0.2
Subnet mask : 255.0.0.0
Default gateway:10.0.0.1

PC 1>Desktop>IP configuaration

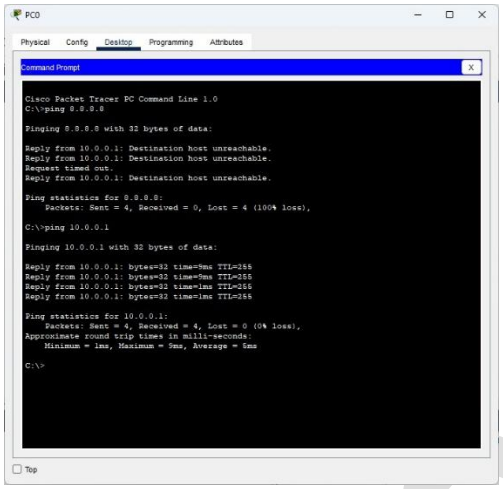
IPV4:40.0.0.2

Subnet mask:255.0.0.0

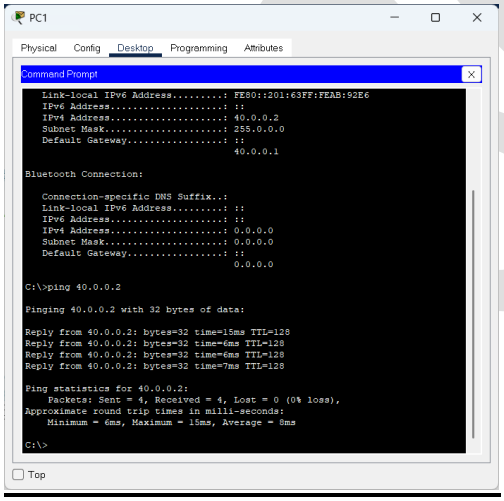
Default gateway:40.0.0.01

Output:-

PC0:-



PC1:-



Program File Link :- https://github.com/devendra-pixel/Major-PRACTICAL-by-devendra/blob/main/DCNPracticalno1.pkt

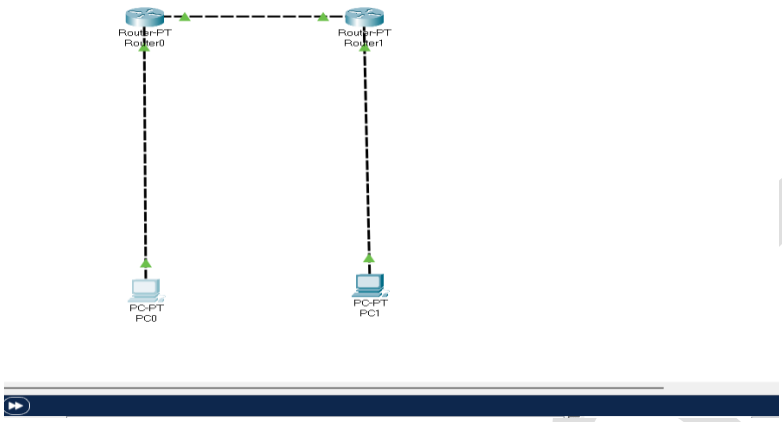
Conclusion:-The program executed successfully.

PRACTICAL NO 2

a) Static Routing

Aim: To study static routing

Circuit diagram:-



Program:

Router 0>CLI:

```
Router>enable
Router#config terminal
Router(config)#interface fastethernet0/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shut down
Router(config-if)#exit
Router(config)#interface fastethernet1/0
Router(config-if)#ip address 20.0.0.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#ip route 40.0.0.0 255.0.0.0 20.0.0.2
```

Router1>CLI:

```
Router>enable
Router#config terminal
Router(config)#interface fastethernet0/0
Router(config-if)#ip address 40.0.0.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface fastethernet1/0
Router(config-if)#ip address 20.0.0.2 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
```

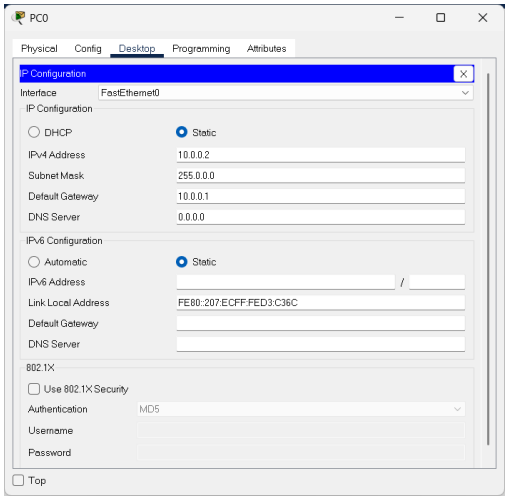
Router(config)#ip route 10.0.0.0 255.0.0.0 20.0.0.0

Pc0>Desktop>IPConfiguration:-
IPV4:-10.0.0.2
Subnet mask:-255.0.0.0
Default gateway:- 10.0.0.1

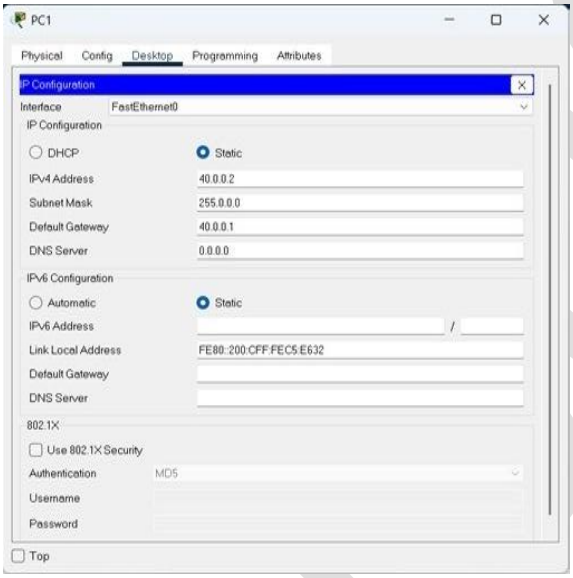
Pc1>Desktop>IPConfiguration:-
IPV4:-40.0.0.2
Subnet mask:-255.0.0.0
Default gateway:- 40.0.0.1

Output:-

Pc0



Pc1



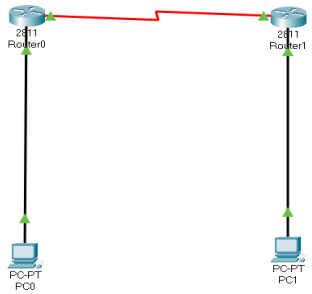
Program File Link :- https://github.com/devendra-pixel/Major-PRACTICAL-by-devendra/blob/main/DCNpracticalno2a.pkt

Conclusion:-The program executed successfully.

b) Rip Routing

Aim: To study rip routing

Circuit diagram:-



Program:

Router 0>CLI:

Router>enable
Router#config terminal
Router(config)#interface fastethernet0/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shut down
Router(config-if)#exit
Router(config)#interface serial0/0/0
Router(config-if)#ip address 20.0.0.3 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#route rip
Router(config-rip)#version 2
Router(config-rip)# network 10.0.0.0
Router(config-rip)#network 20.0.0.0
Router(config-rip)#exit
Router(config)#show ip router
Router(config)#tracert 40.0.0.2

Router1>CLI:

Router>enable
Router#config terminal
Router(config)#interface fastethernet0/0
Router(config-if)#ip address 20.0.0.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface serial0/0/0
Router(config-if)#ip address 20.0.0.2 255.0.0.0

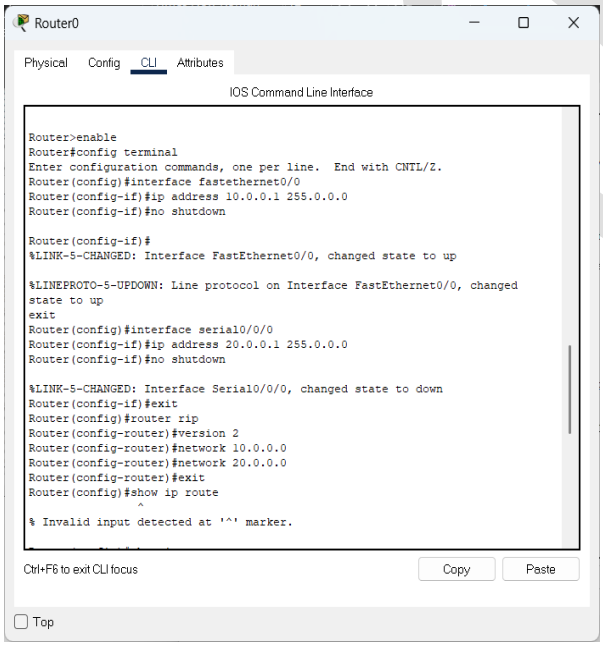
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#router rip
Router(config-rip)#version 2
Router(config-rip)# network 40.0.0.0
Router(config-rip)#network 20.0.0.0
Router(config-rip)#exit
Router(config)#show ip route
Router(config)#tracert 10.0.0.2

Pc0>Desktop>IPConfiguration:-
IPV4:-10.0.0.2
Subnet mask:-255.0.0.0
Default gateway:- 10.0.0.1

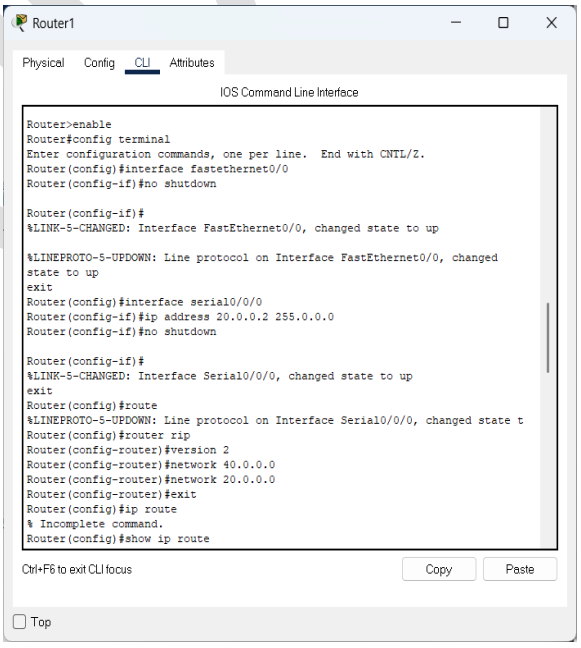
Pc1>Desktop>IPConfiguration:-
IPV4:-40.0.0.2
Subnet mask:-255.0.0.0
Default gateway:- 40.0.0.1

Output:

Router0



Router 1



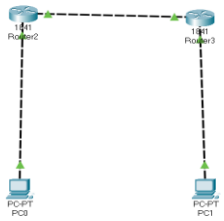
Program File Link :- https://github.com/devendra-pixel/Major-PRACTICAL-by-devendra/blob/main/DCNpracticalno2b.pkt

Conclusion:-The program executed successfully.

C) OSPF Routing

Aim: To study OSPF routing

Circuit diagram:-



Program:

Router 0>CIL

```
Router>enable
Router#config terminal
Router(config)#interface fastethernet0/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface fastethernet0/1
Router(config-if)#ip address 20.0.0.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#router ospf 1
Router(config-router)#network 10.0.0.0 0.255.255.255 area 0
Router(config-router)#network 20.0.0.0 0.255.255.255 area 0
Router(config-router)#exit
```

Router 1>CIL

```
Router>enable
Router#config terminal
Router(config)#interface fastethernet0/0
Router(config-if)#ip address 40.0.0.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface fastethernet0/1
Router(config-if)#ip address 20.0.0.2 255.0.0.0
Router(config-if)#no shutdown
```

```
Router(config-if)#exit
Router(config)#router ospf 2
Router(config-router)#network 40.0.0.0 0.255.255.255 area 0
Router(config-router)#network 20.0.0.0 0.255.255.255 area 0
Router(config-router)#exit
```

Pc0>Desktop>IPConfiguration:-

IPV4:-10.0.0.2

Subnet mask:-255.0.0.0

Default gateway:- 10.0.0.1

Pc1>Desktop>IPConfiguration:-

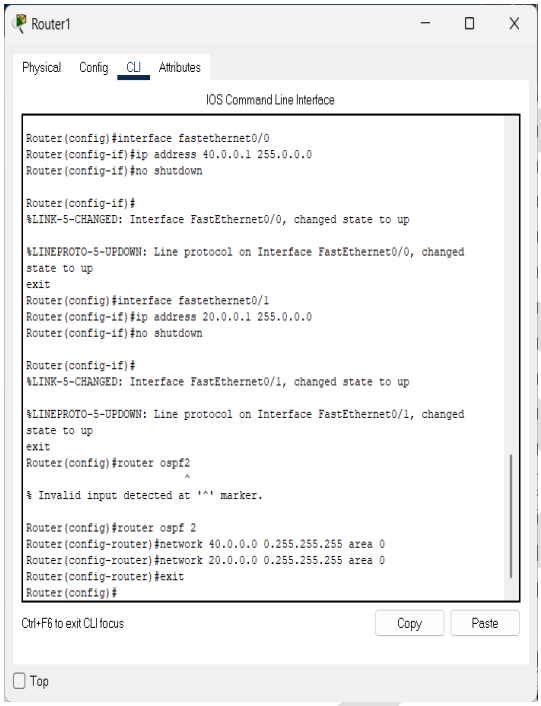
IPV4:-40.0.0.2

Subnet mask:-255.0.0.0

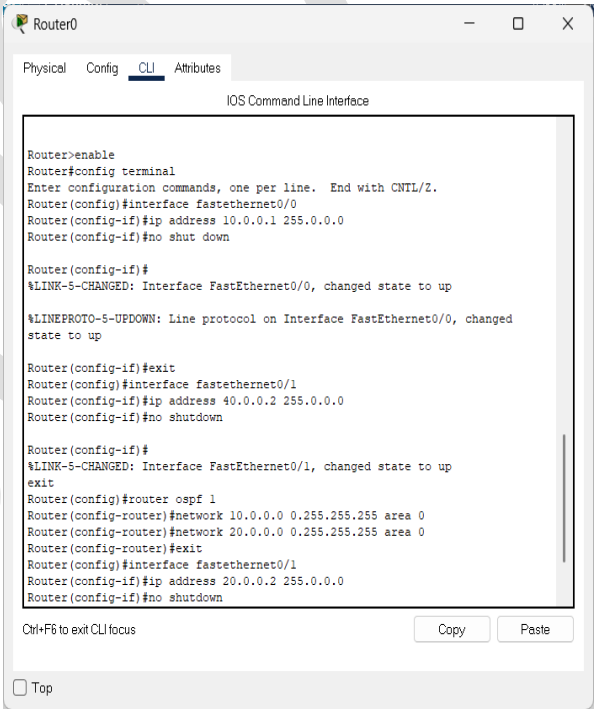
Default gateway:- 40.0.0.1

Output:--

Rourter 0:



Router1:



Program File Link :- https://github.com/devendra-pixel/Major-PRACTICAL-by-devendra/blob/main/DCNpracticalno2c.pkt

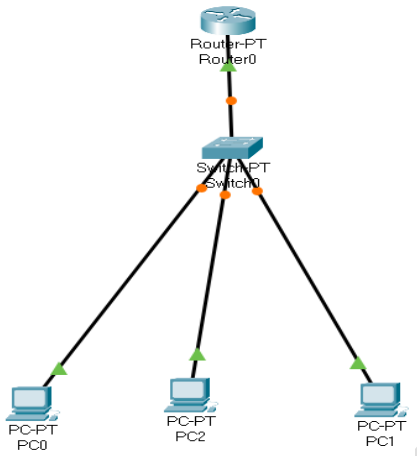
Conclusion:-The program is successfully executed

PRACTCIAL NO:3

a) DHCP

Aim: To study DHCP

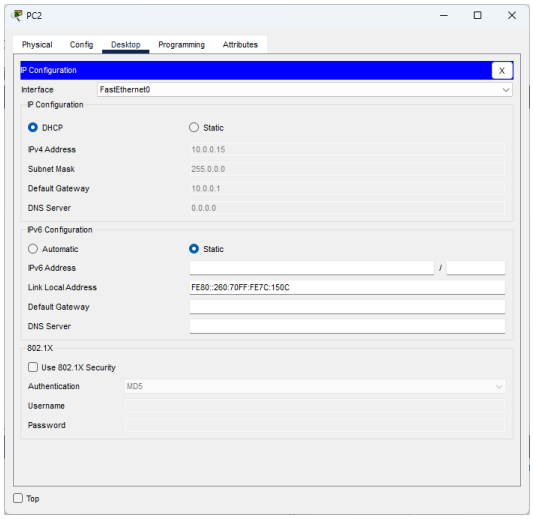
Circuit diagram:-

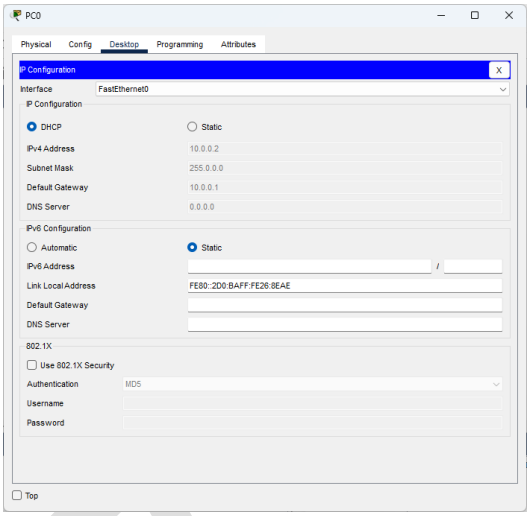


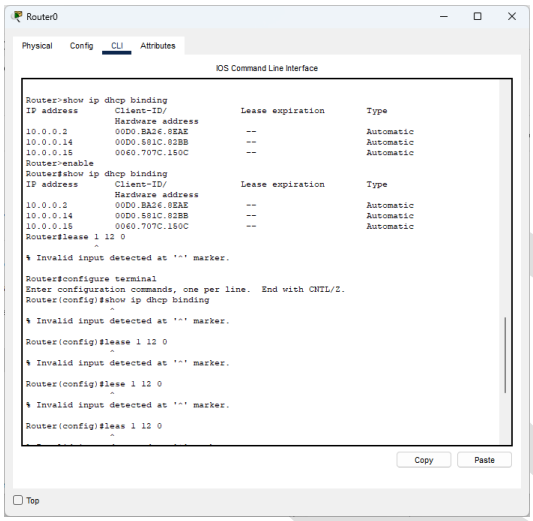
Router 0>CLI

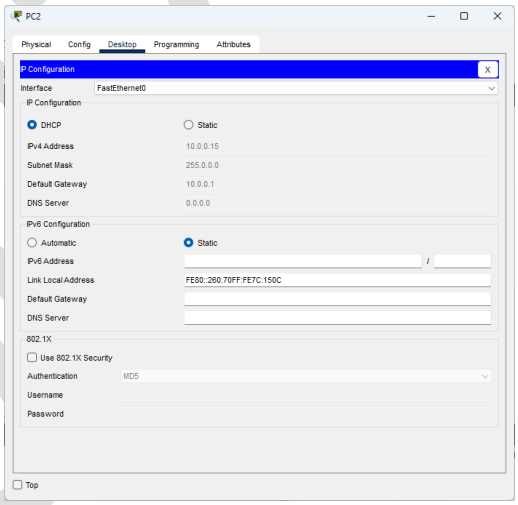
```
Router>enable
Router#config terminal
Router(config)#interface fastethernet0/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#ip dhcp pool syit
Router(dhcp-config)#network 10.0.0.0 255.0.0.0
Router(dhcp-config)#default-router 10.0.0.1
Router(dhcp-config)#ip dhcp excluded-address 10.0.0.2 10.0.0.1
Router(config)#exit
Router#config terminal
Router(config)#ip dhcp pool syit
Router(dhcp-config)#network 10.0.0.0 255.0.0.0
Router(dhcp-config)#default-router 10.0.0.1
Router(dhcp-config)#ip dhcp excluded-address 10.0.0.2 10.0.0.13
Router(config)#exit
```

Output:-









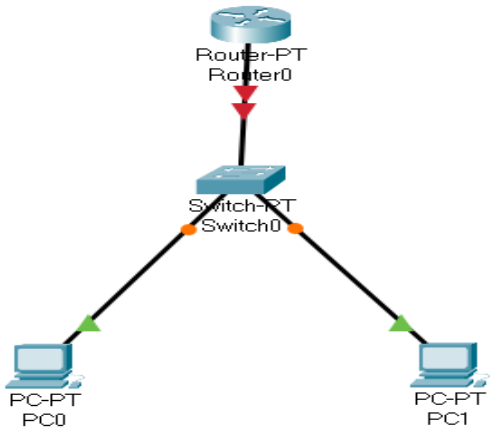
Program File Link :- https://github.com/devendra-pixel/Major-PRACTICAL-by-devendra/blob/main/DCNpracticalno3a.pkt

Conclusion:-The program executed successfully.

b) DNS

Aim:-To study DNS

Circuit diagram:-



Program:-

Router 0>CLI

Router>enable
Router#config terminal
Router(config)#interface fastethernet0/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#ip dhcp pool syit
Router(dhcp-config)#network 10.0.0.0 255.0.0.0
Router(dhcp-config)#default-router 10.0.0.1
Router(dhcp-config)#dns-server 8.8.8.8
Router(dhcp-config)#exit
Router(config)#ip host www.syit.com 10.0.0.1
Router(config)#exit

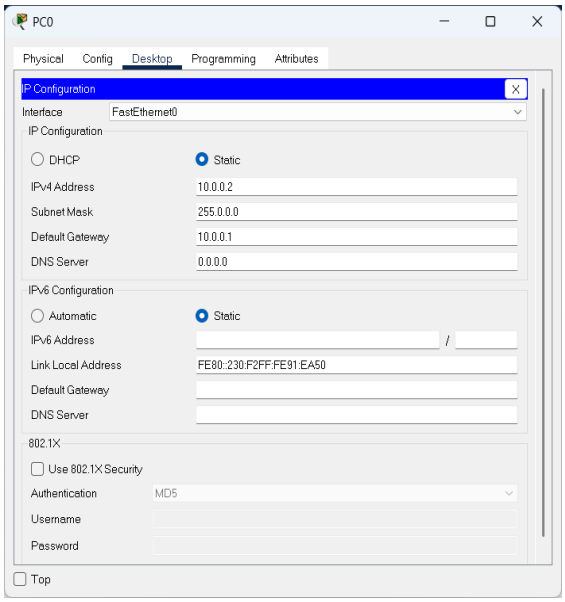
Pc0>Desktop>IPConfiguration:-

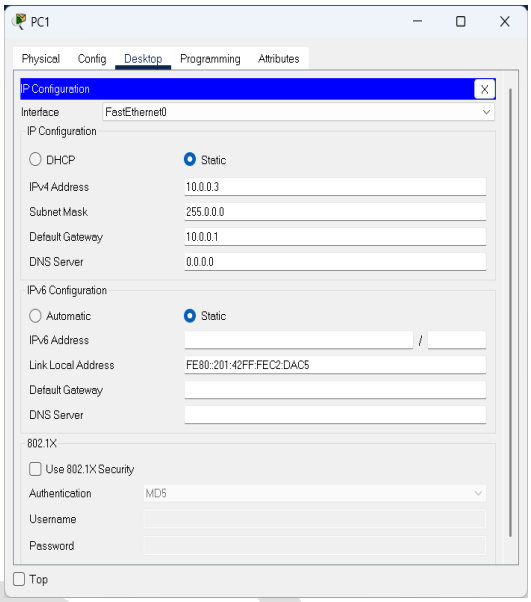
IPV4:-10.0.0.2
Subnet mask:-255.0.0.0
Default gateway:- 10.0.0.1

Pc1>Desktop>IPConfiguration:-

IPV4:-10.0.0.3
Subnet mask:-255.0.0.0
Default gateway:- 10.0.0.1

Output:-





Program File Link :- https://github.com/devendra-pixel/Major-PRACTICAL-by-devendra/blob/main/DCNpracticalno3b.pkt

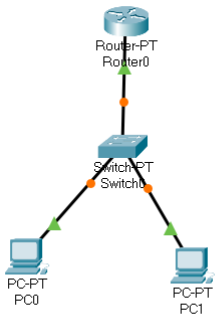
\

Conclusion:-The program executed successfully.

C) FTP

Aim:- To study FTP

Circuit diagram:-



Program:-

Router0>CLI

Router>enable
Router#config terminal
Router(config)#interface fastethernet0/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shutdown

Router(config-if)#exit
Router(config)#interface fastethernet1/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shutdown

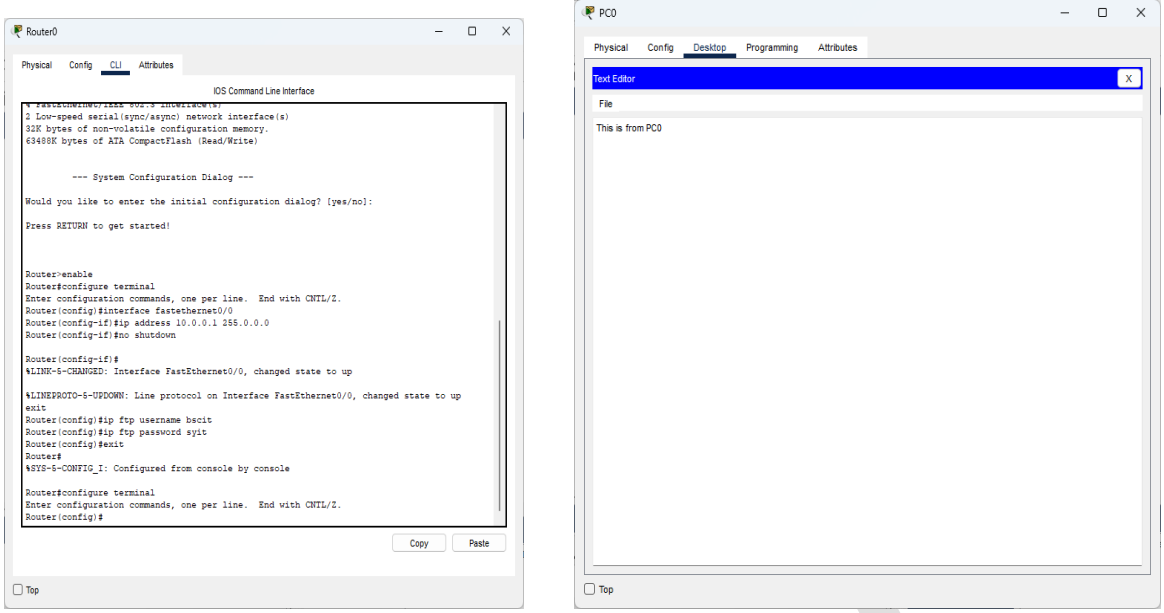
Router(config-if)#exit
Router(config)#ip ftp username bscit
Router(config)#ip ftp password syit
Router(config)#exit

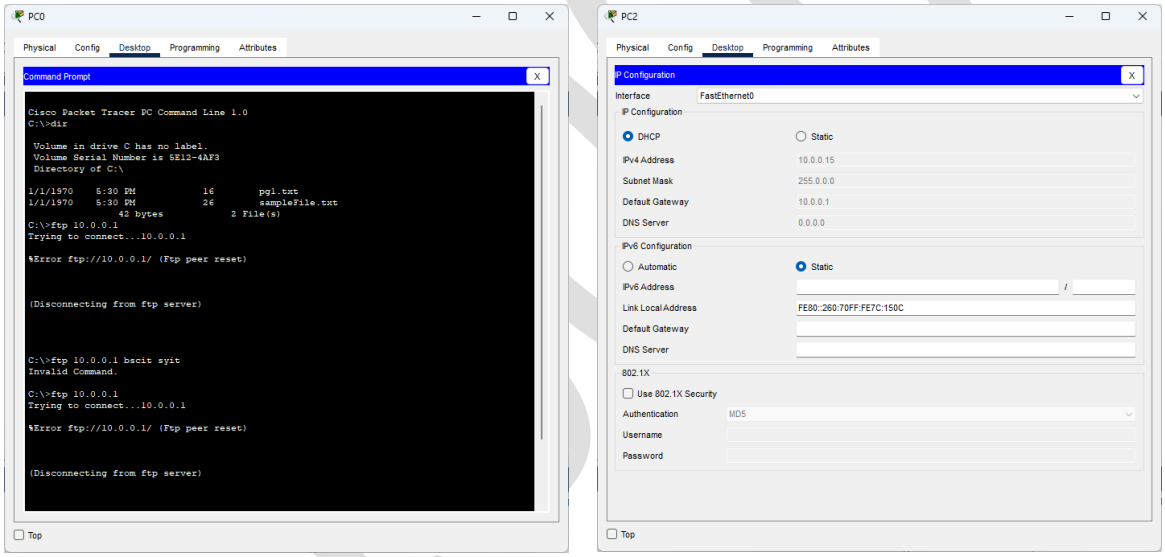
Pc0>Desktop>IPConfiguration:-

IPV4:-10.0.0.2
Subnet mask:-255.0.0.0
Default gateway:- 10.0.0.1

Pc1>Desktop>IPConfiguration:-

IPV4:-10.0.0.3
Subnet mask:-255.0.0.0
Default gateway:- 10.0.0.1





Program File Link :- https://github.com/devendra-pixel/Major-PRACTICAL-by-devendra/blob/main/DCNpracticalno3c.pkt

Conclusion:-The program executed successfully.

D) HTTP

Aim:To study HTTP

Circuit diagram:-

Program:-

Server0>Desktop>IPConfiguration:-

IPV4:-10.0.0.2

Subnet mask:-255.0.0.0

Default gateway:- 0.0.0.0

Server0>Desktop>HTTP:-

HTTP :on

HTTP :on

Server0>Desktop>HTTP>index.html>edit:-

<html>

<head>

<title>Syit</tilte>

</head>

<body>

<h1>I am syit</h2>

</body>

</html>

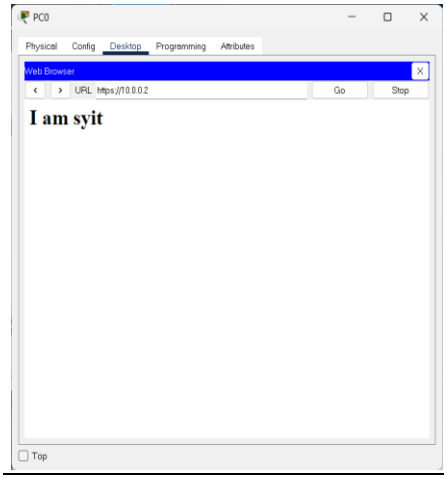
Pc0>Desktop>IPConfiguration:-

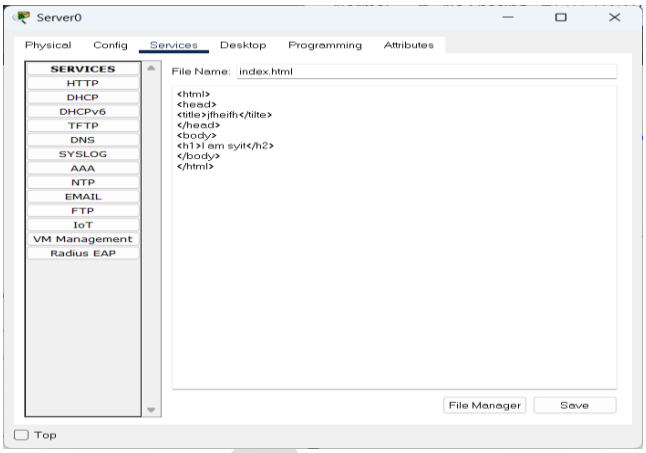
IPV4:-10.0.0.3

Subnet mask:-255.0.0.0

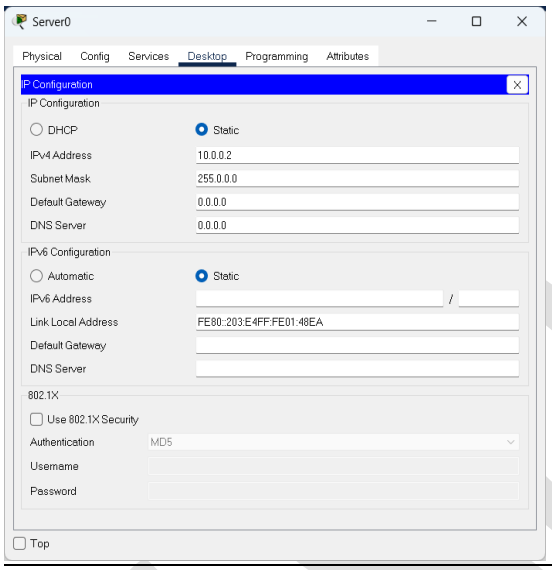
Default gateway:- 10.0.0.2

PC0>Texteiditer

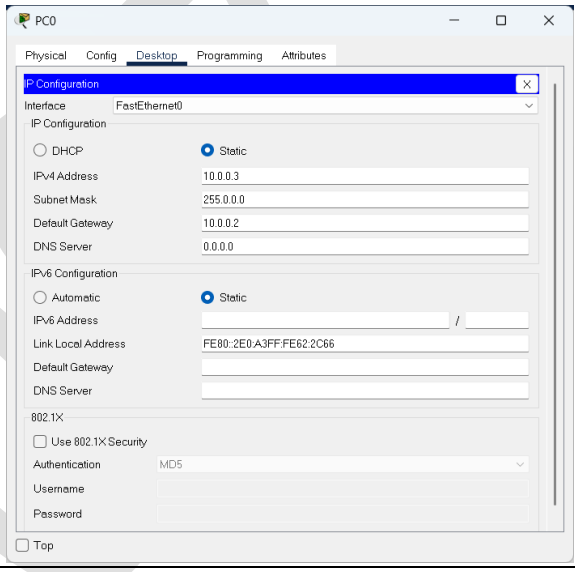




Server



PC0



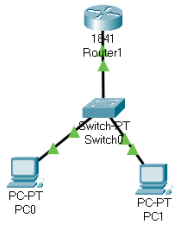
Program File Link :- https://github.com/devendra-pixel/Major-PRACTICAL-by-devendra/blob/main/DCNparcticalno3d.pkt

Conclusion:-The program executed successfully.

E) Telnet

Aim:-To study the Telnet

Circuit diagram:-



Program:-

Router>CLI:-

Router>enable
Router#config terminal
Router(config)#interface fastethernet0/1
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#line vty 010
Router(config-line)#password syit
Router(config-line)#login
Router(config-line)#transport input telnet
Router(config-line)#exit
Router(config)#exit
Router#show user

Pc0>Desktop>IPConfiguration:-

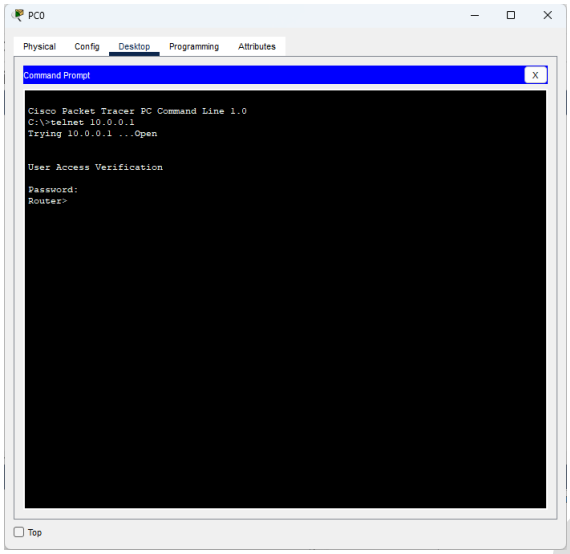
IPV4:-10.0.0.2
Subnet mask:-255.0.0.0
Default gateway:- 10.0.0.1

Pc1>Desktop>IPConfiguration:-

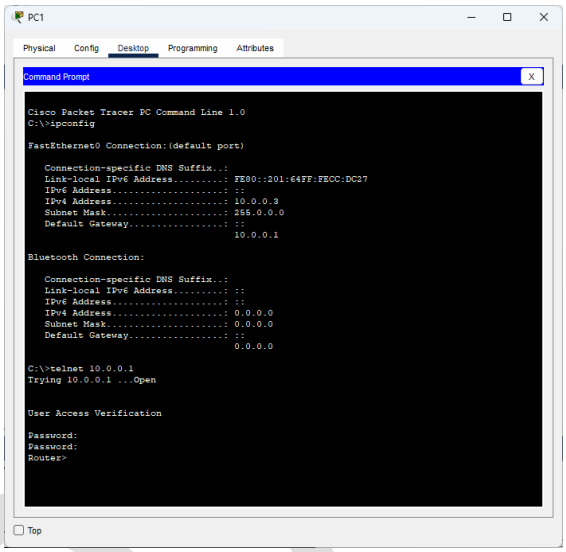
IPV4:-10.0.0.3
Subnet mask:-255.0.0.0
Default gateway:- 10.0.0.1

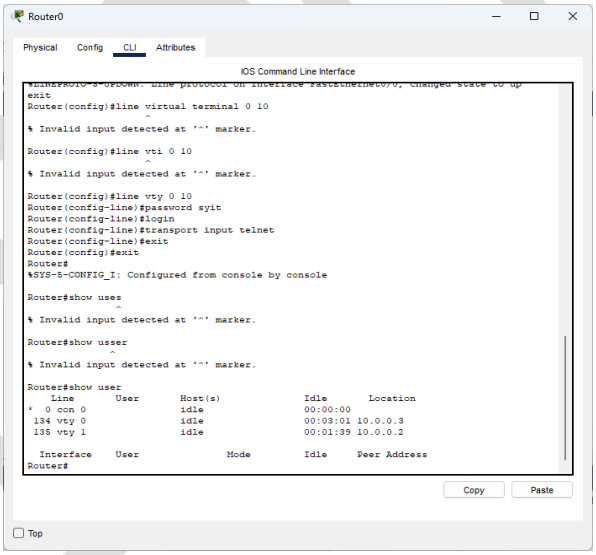
Output:

Pc0



PC 1





Program File Link :- https://github.com/devendra-pixel/Major-PRACTICAL-by-devendra/blob/main/DCNPracticalno3e.pkt

Conclusion:-The program executed successfully.