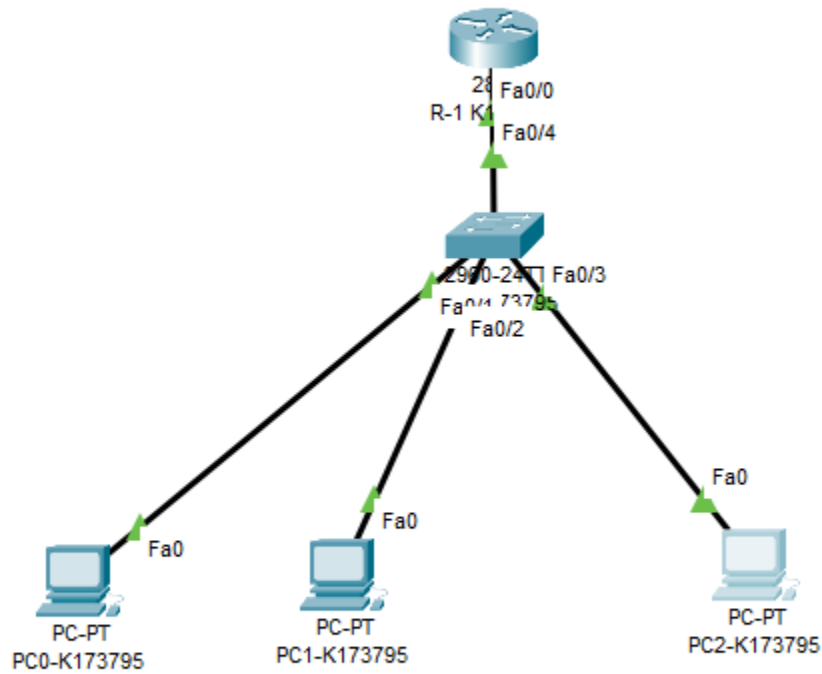


## Question no 1:



Topology

The screenshot shows a web-based configuration interface for a network switch, titled "S-5 K173795". The interface has a top navigation bar with tabs: "Physical", "Config", "CLI", and "Attributes". The "CLI" tab is selected, displaying the "IOS Command Line Interface". The main content area shows a terminal window with the following commands and output:

```
Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#vlvvlan 20
Switch(config-vlan)#ex
Switch(config)#int fa0/1
Switch(config-if)#switchport access vlan 10
Switch(coint fa0/lintswitchport access vlan 10switchport access vlan
10
Switch(coint fa0/2intswitchport access vlan 10switchport access vlan
20
Switch(config-if)#ini
Switch(config-if)#iniint fa0/4
Switch(config-if)#switchport mode trunk

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4,
changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4,
changed state to up

Switch(config-if)#switchport trunk allowed vlan 10,20
Switchport truswitchport minswitchport truswitchport mode
```

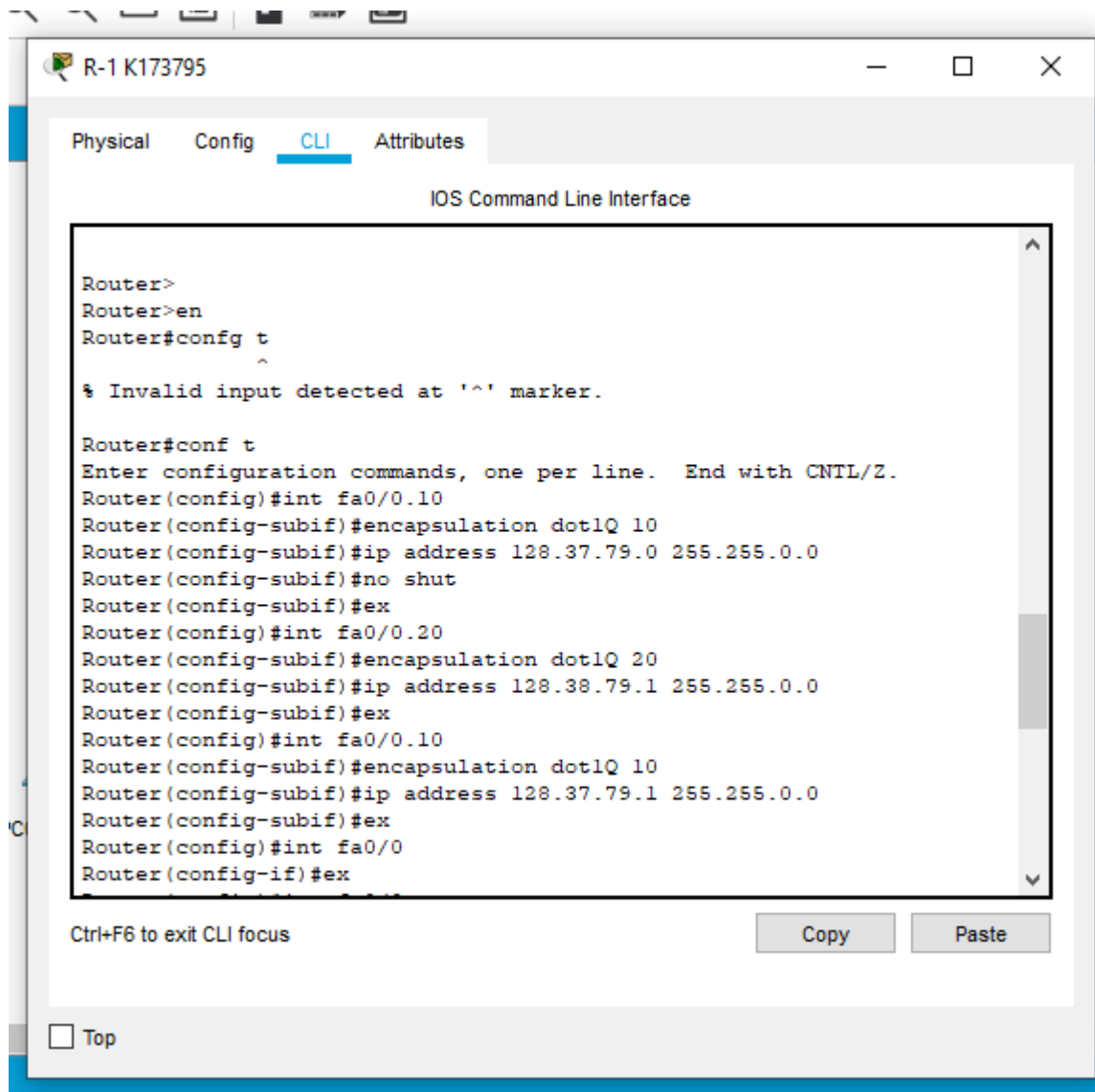
At the bottom of the CLI window, there is a status bar that says "Ctrl+F6 to exit CLI focus". To the right of the status bar are two buttons: "Copy" and "Paste". On the left side of the interface, there is a vertical sidebar with a "PC" icon and a "Top" button at the bottom.

Ctrl+F6 to exit CLI focus

Paste

[Top](#)

## Switch Configuration



## Router Configuration



PC0-K173795

Physical Config Desktop Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IP Address 128.37.79.2

Subnet Mask 255.255.0.0

Default Gateway 128.37.79.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::20C:CFFF:FE1A:D801

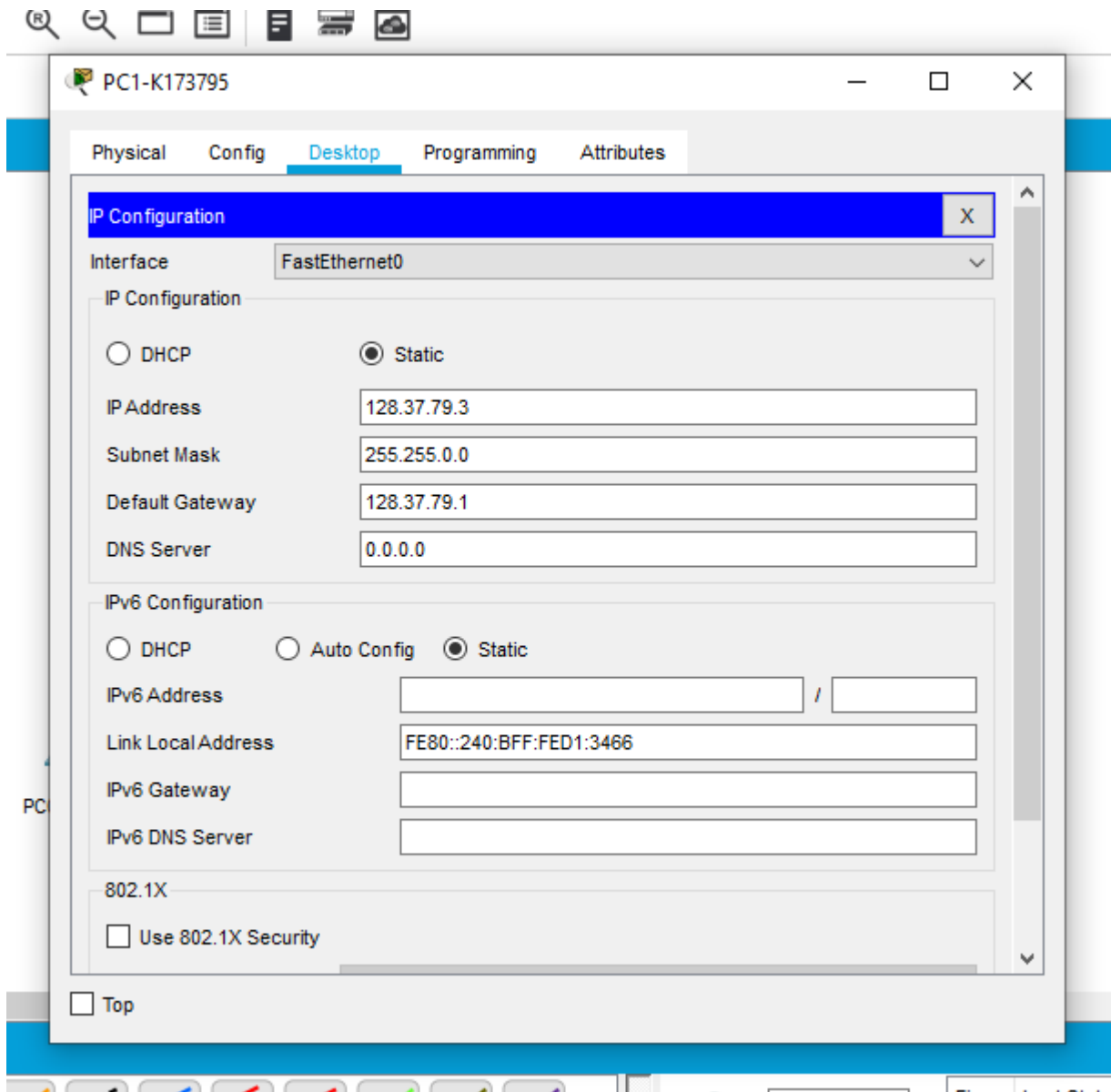
IPv6 Gateway

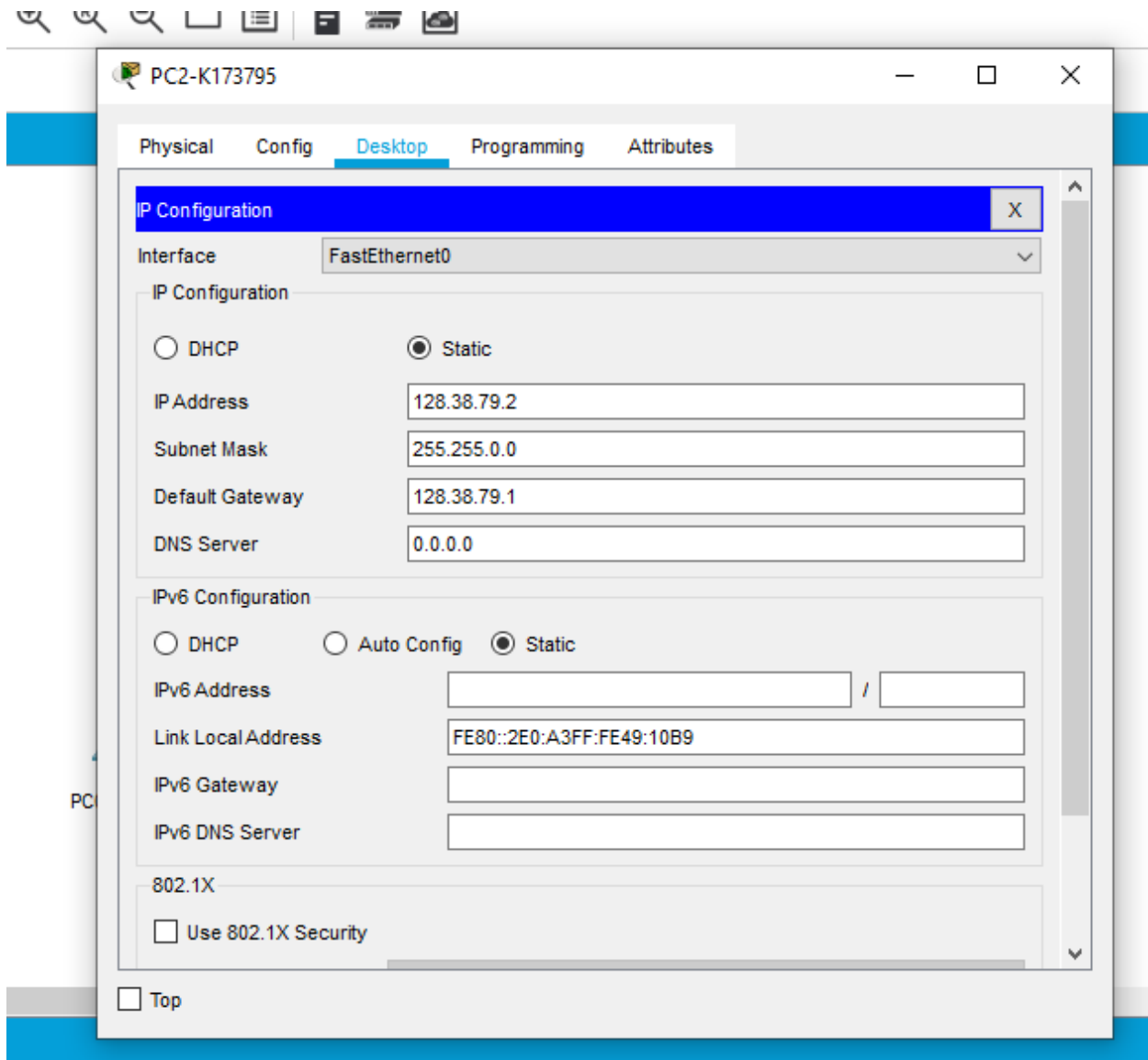
IPv6 DNS Server

802.1X

☐ Use 802.1X Security

☐ Top





PC config with IP

Simulation Panel

Event List

Vis.	Time(sec)	Last Device	At Device	Type
	0.002	S-5 K173795	R-1 K173795	ICMP
	0.003	R-1 K173795	S-5 K173795	ICMP
	0.004	S-5 K173795	PC2-K173795	ICMP
	0.005	PC2-K173795	S-5 K173795	ICMP
	0.006	S-5 K173795	R-1 K173795	ICMP
	0.007	R-1 K173795	S-5 K173795	ICMP
	0.008	S-5 K173795	PC0-K173795	ICMP
	0.996	--	S-5 K173795	STP

Reset Simulation ☒ Constant Delay Captured to: 0.996 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Event List Realtime Simulation

Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Eq
Successful	PC0-...	PC2-K173...	ICMP		0.000	N	0	(e

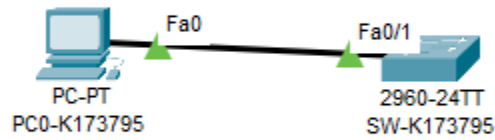
Go to Settings to activate Windows.

Success Message

Question no 2:

Only theory

### Question no 3:



### Topology

Press RETURN to get started!

%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Switch>en

Switch#config t

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#interface vlan 1

Switch(config-if)#ip address 192.37.79.2 255.255.255.0

Switch(config-if)#no shut

Switch(config-if)#

%LINK-5-CHANGED: Interface Vlan1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up

Switch(config-if)#exit

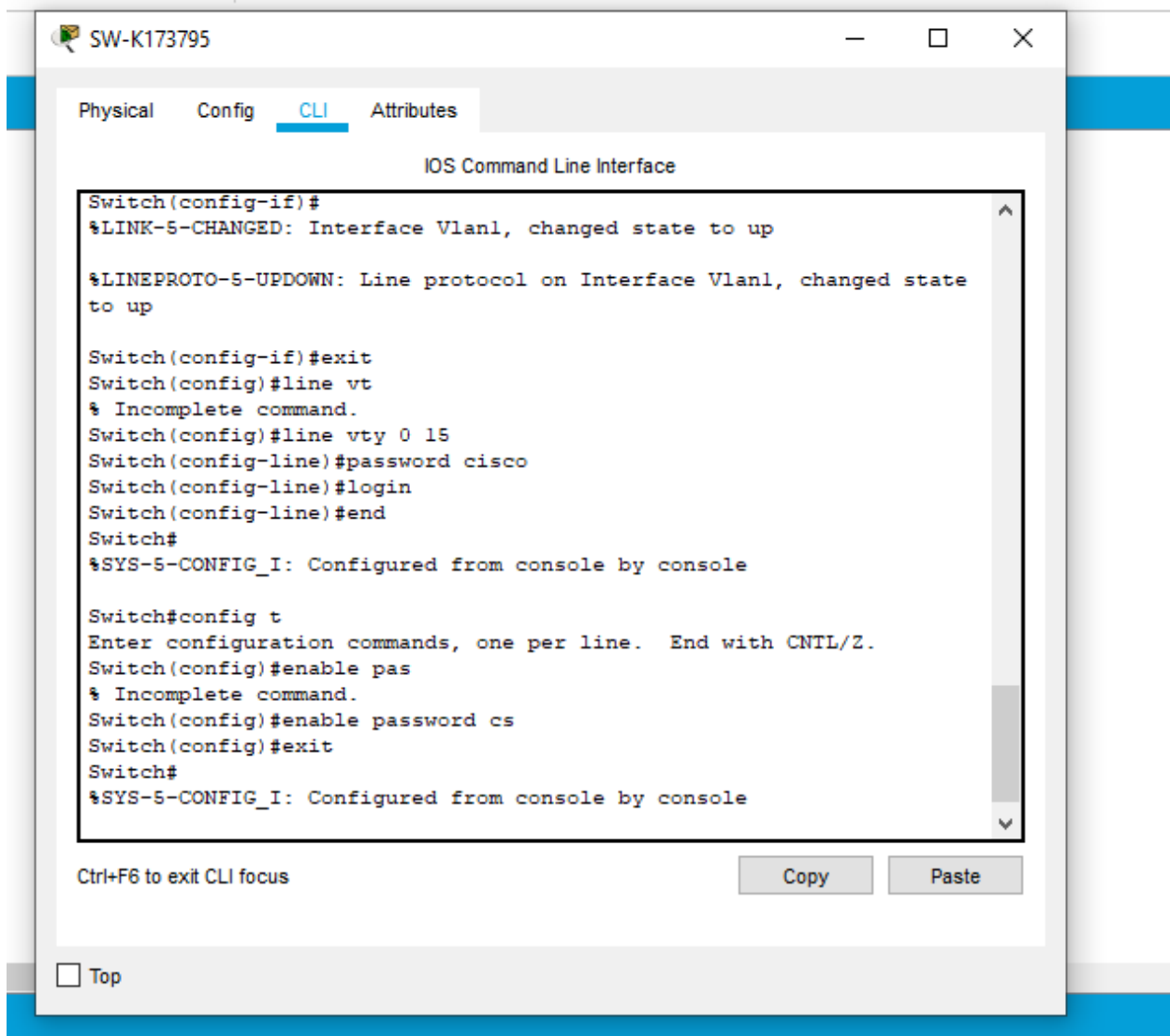
Switch(config)#line vt

Ctrl+F6 to exit CLI focus

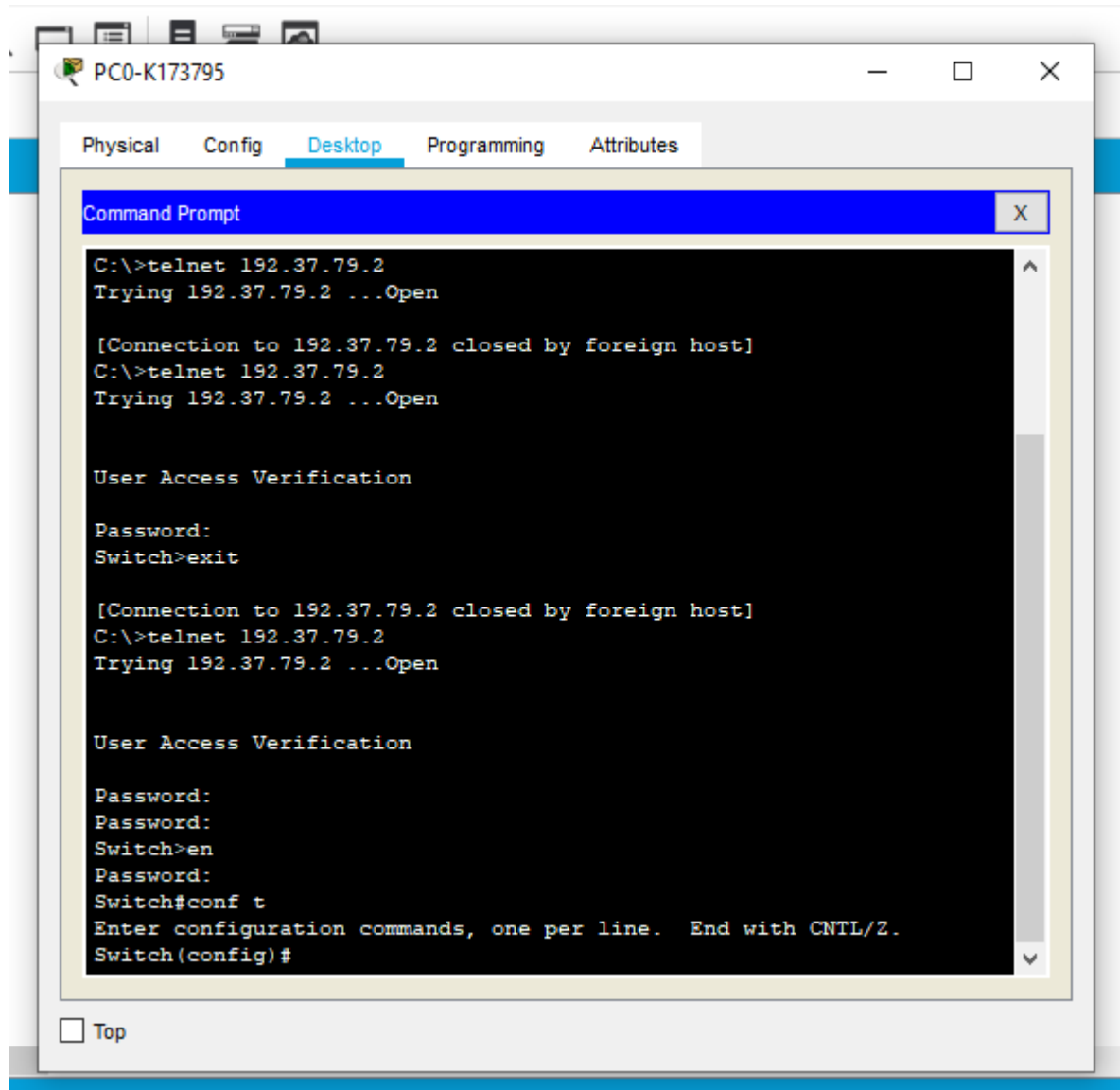
Copy

Paste

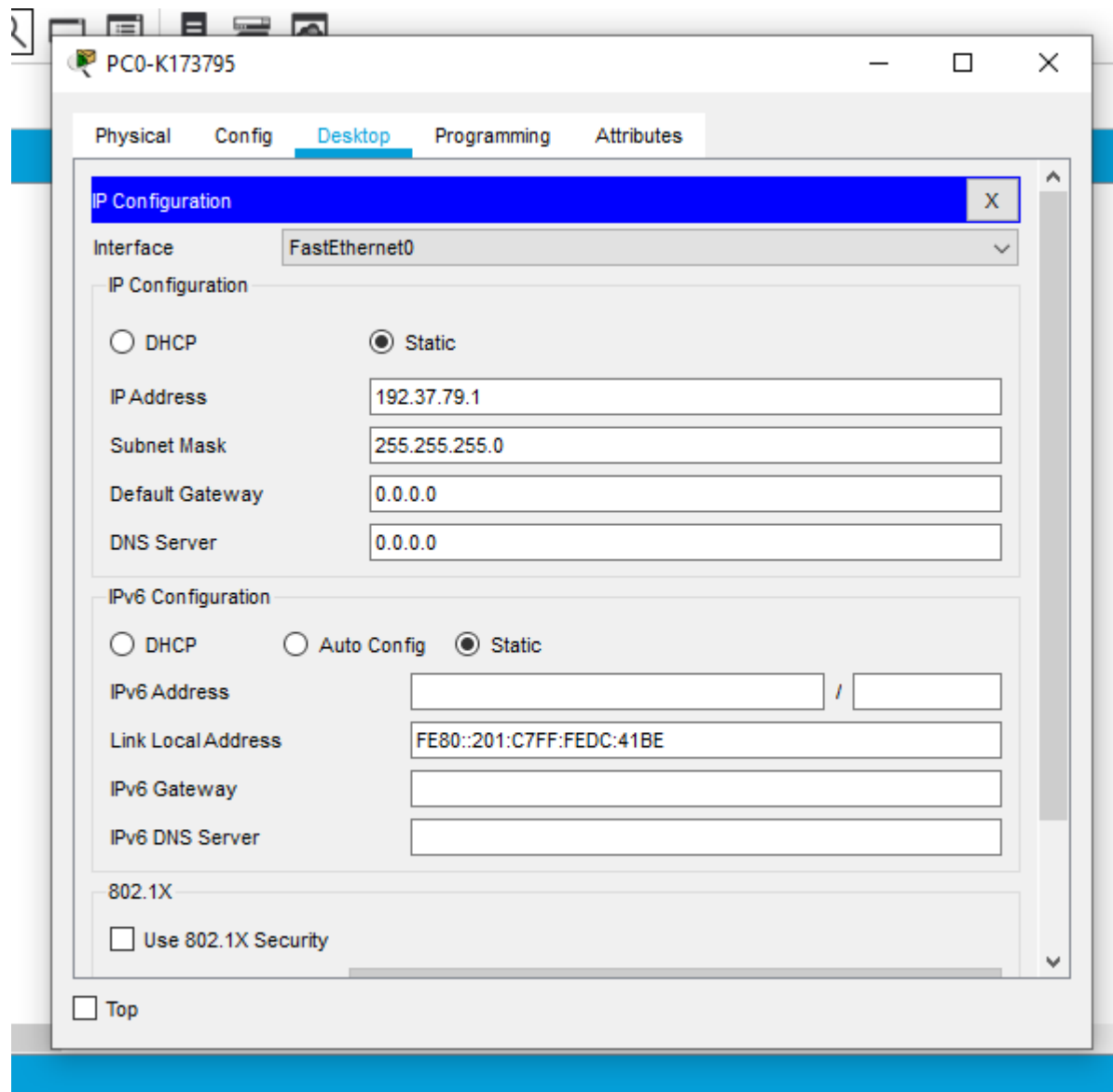




## Switch Configuration



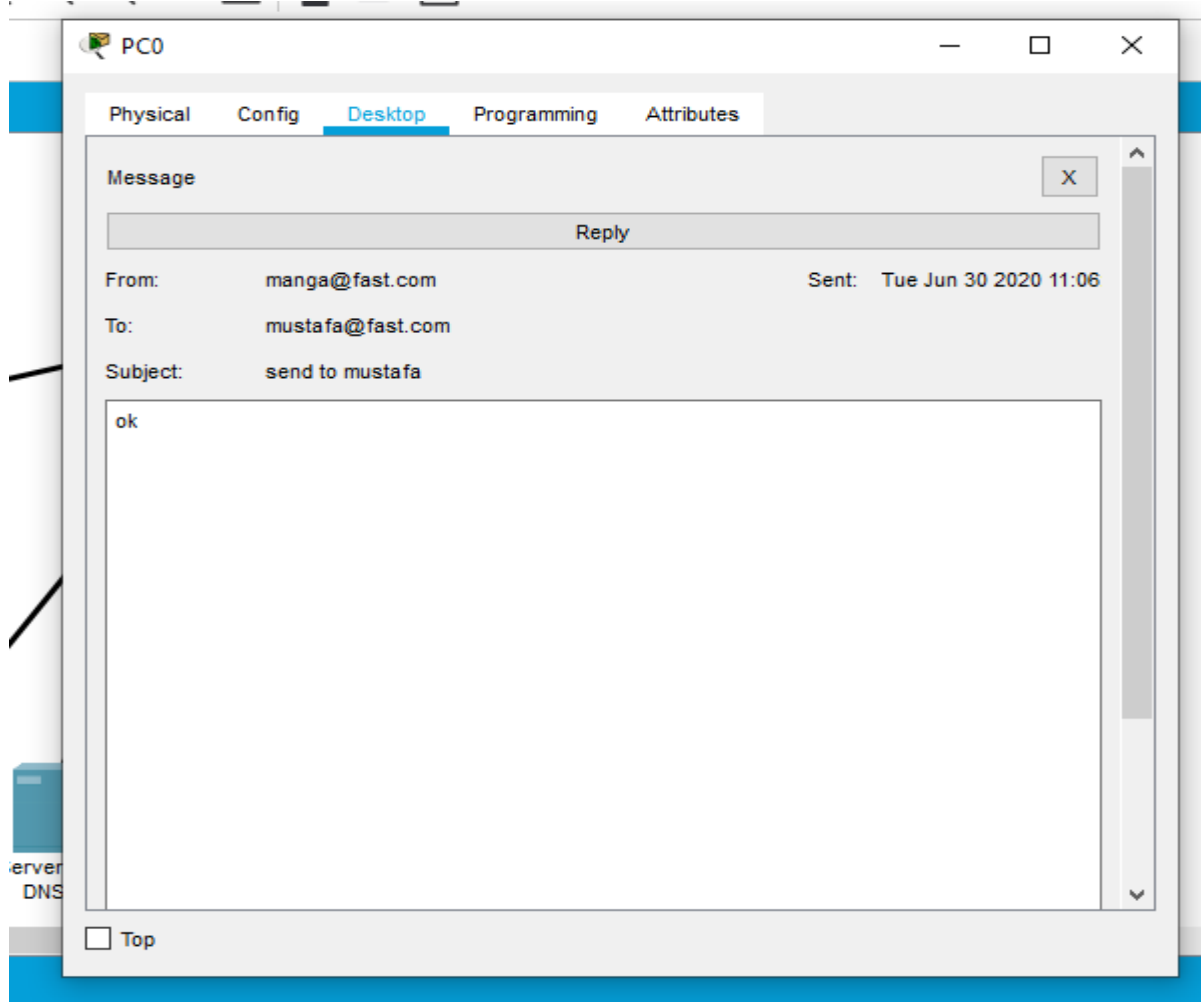
PC telnet



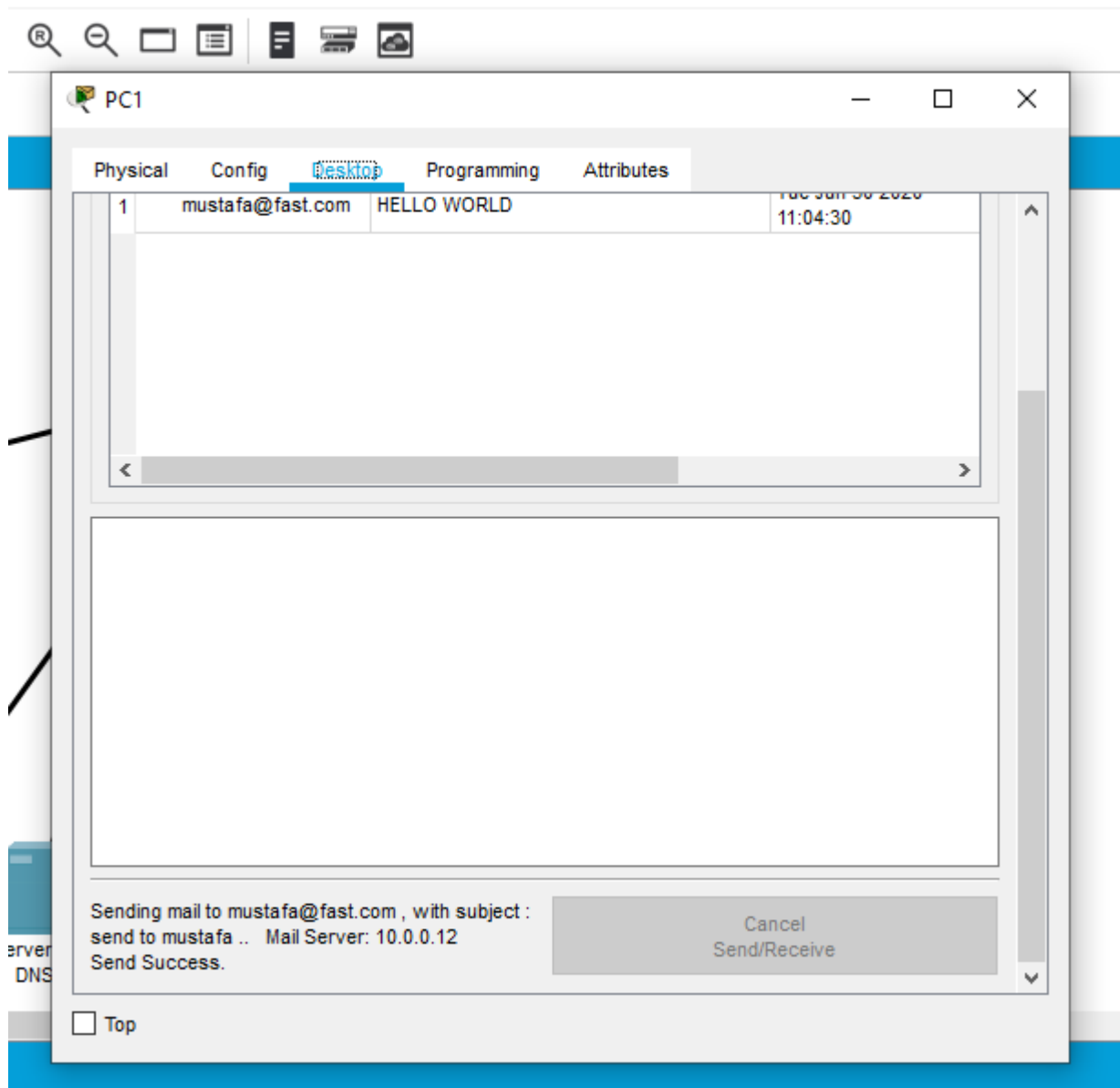
Assign IP to PC

## Question no 4:

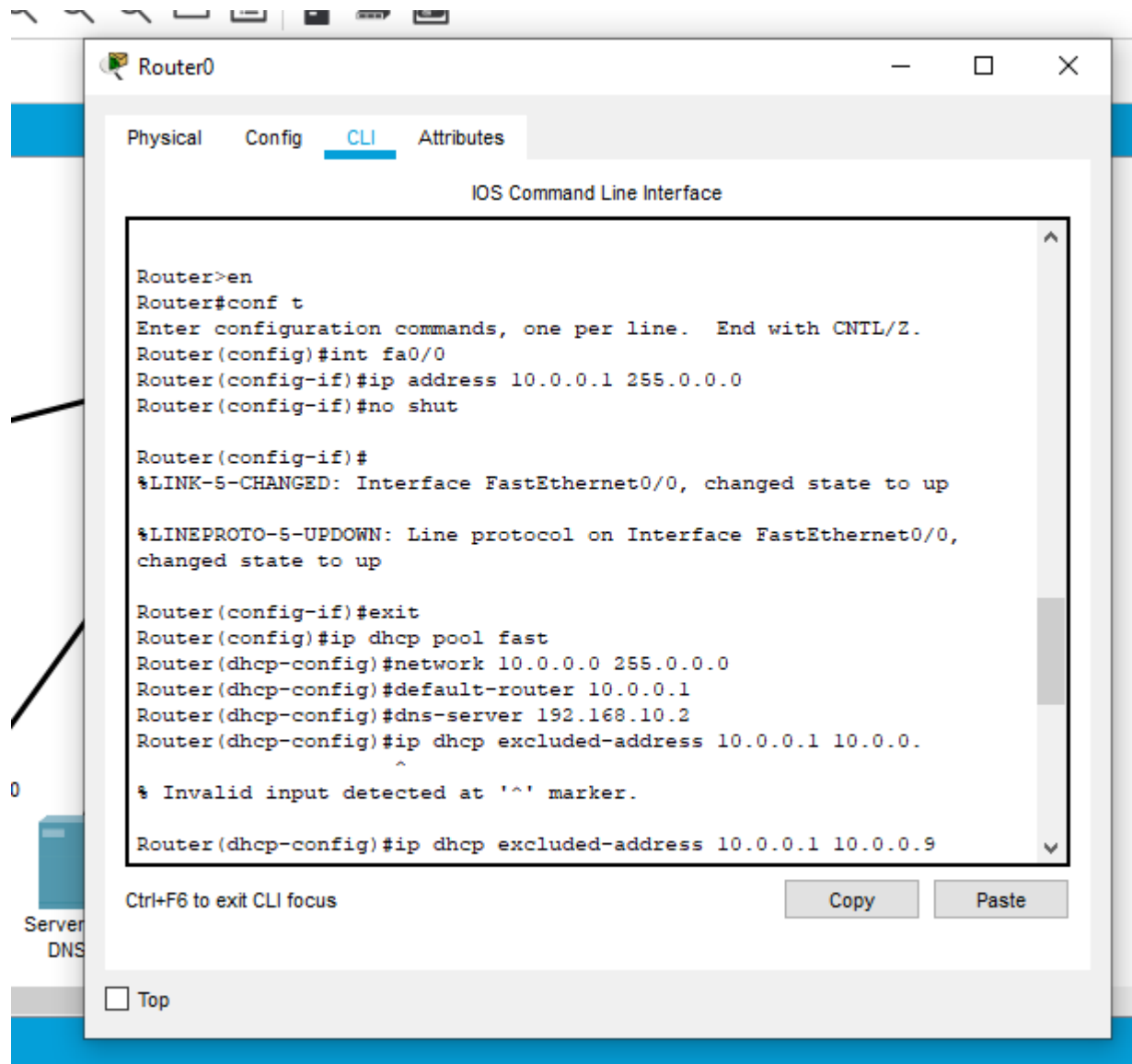
SMTP:



Email Rcv.

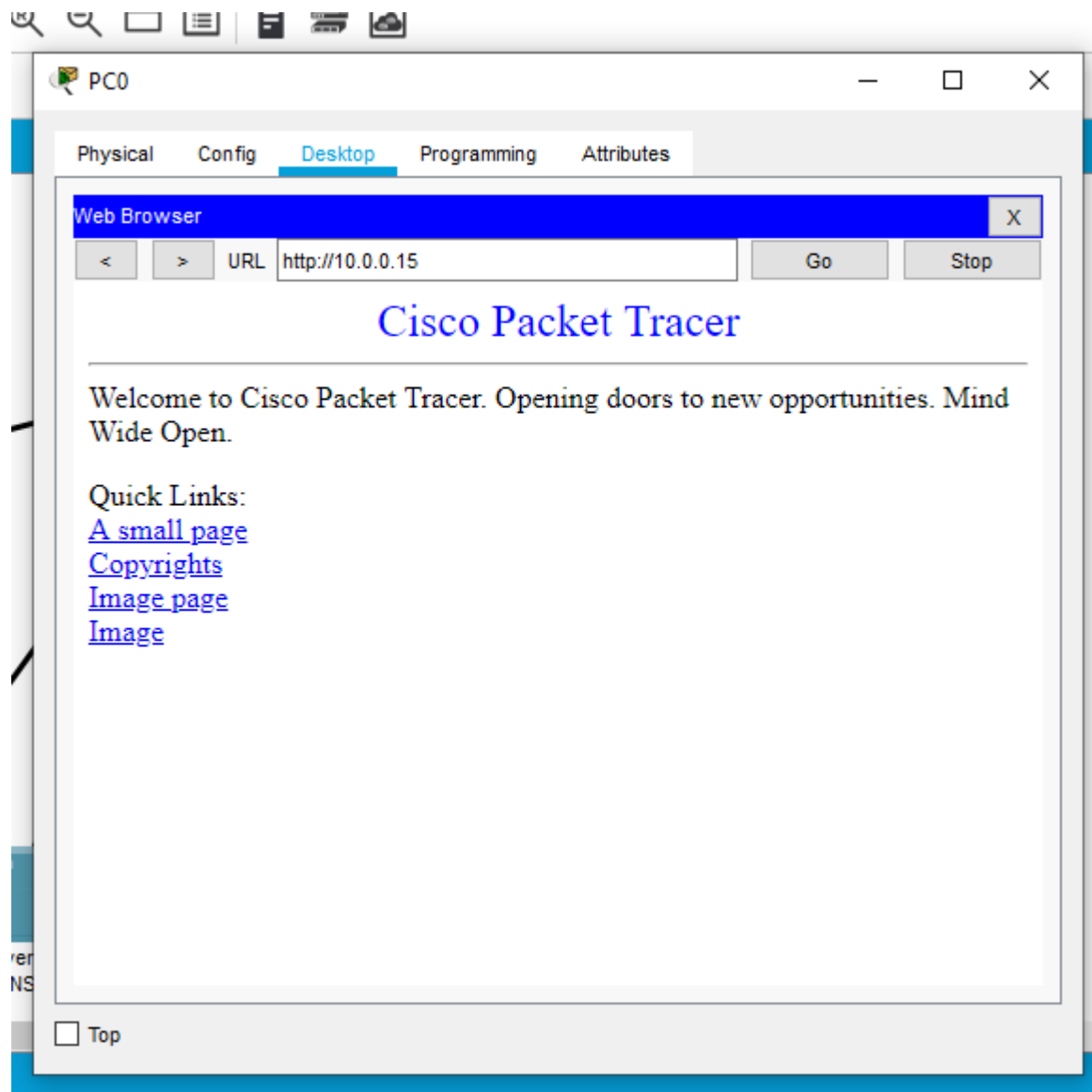


Email Snd.

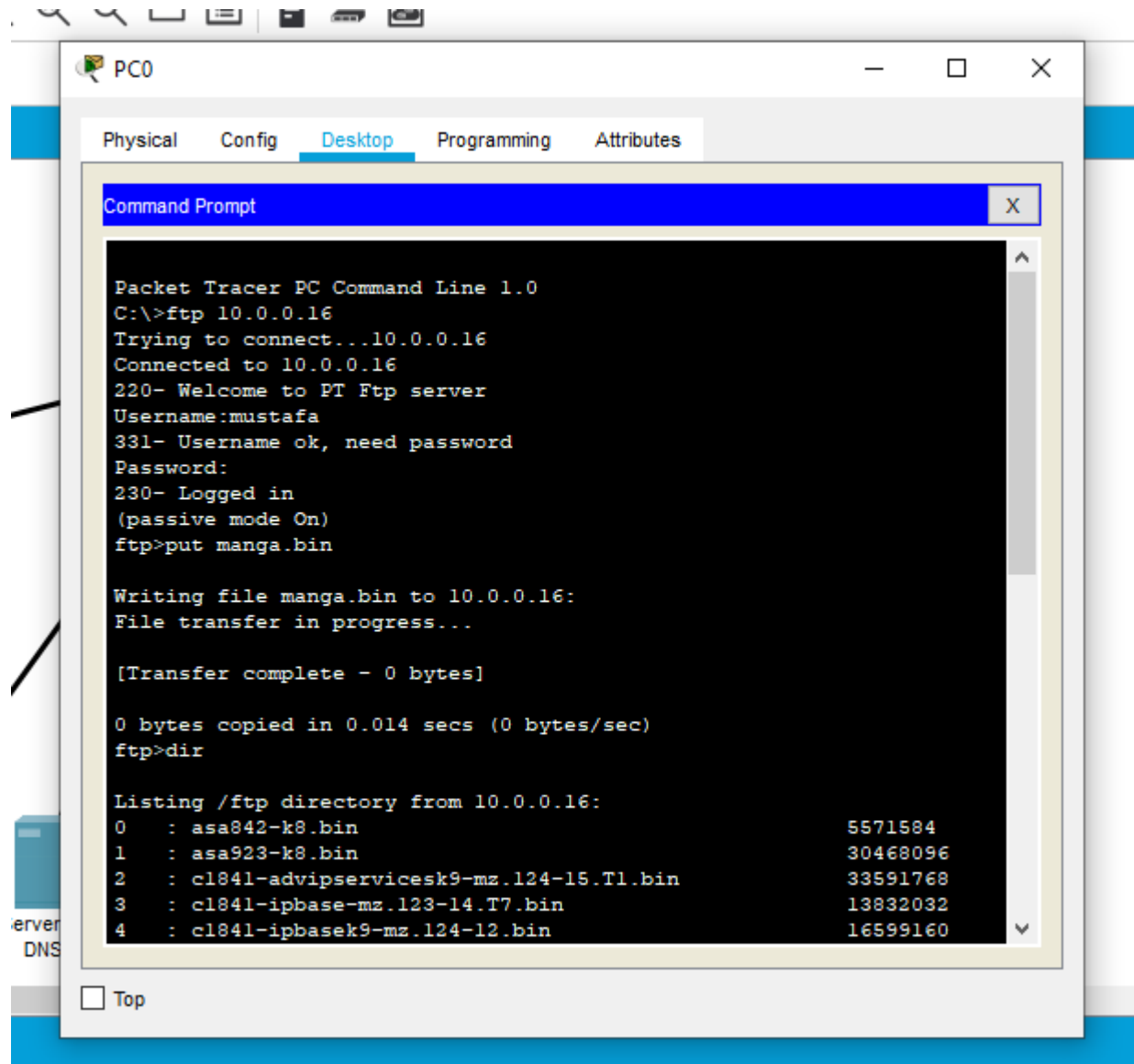


Route dhcp config

HTTP:

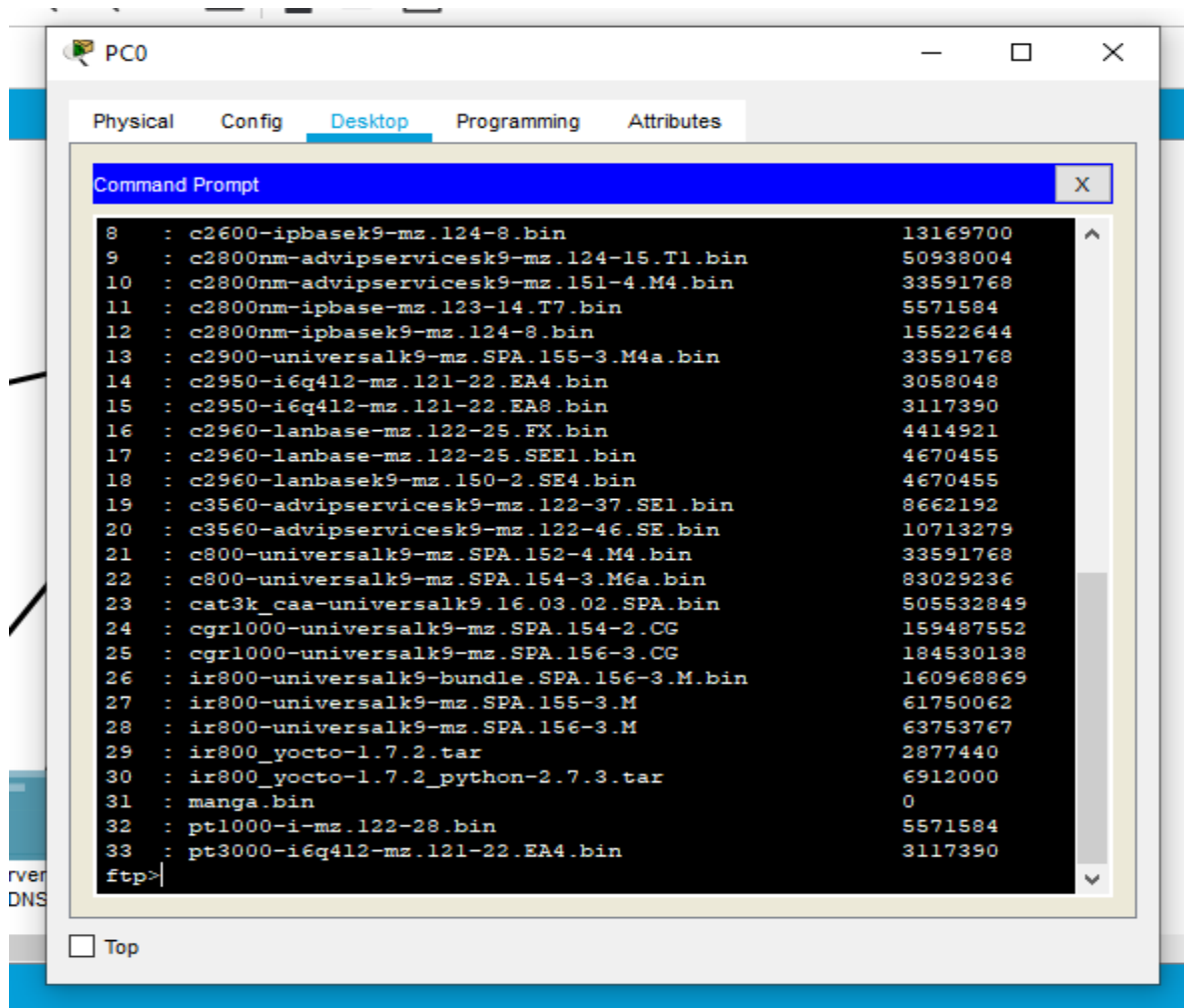


## FTTP:

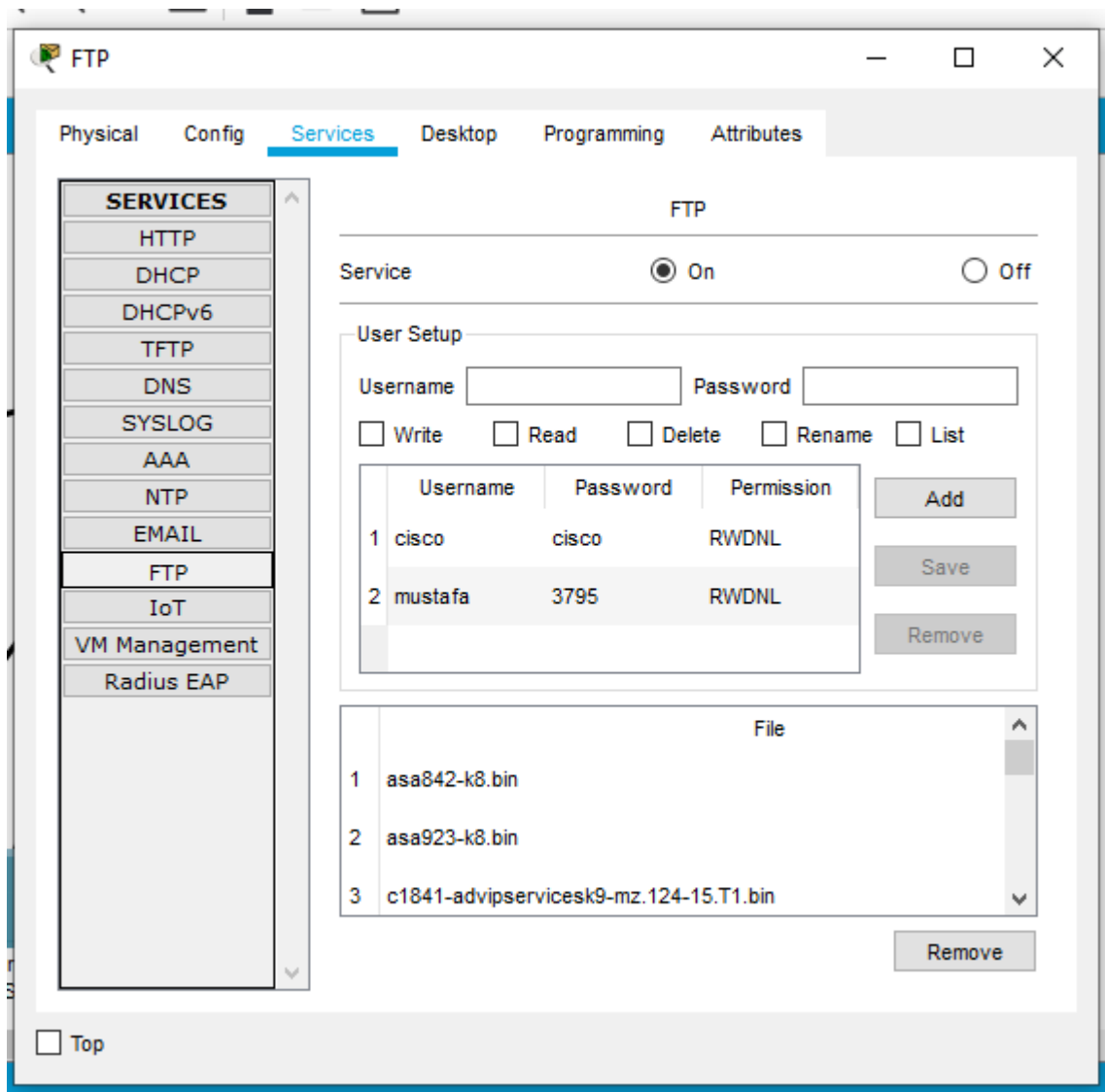


## Put file



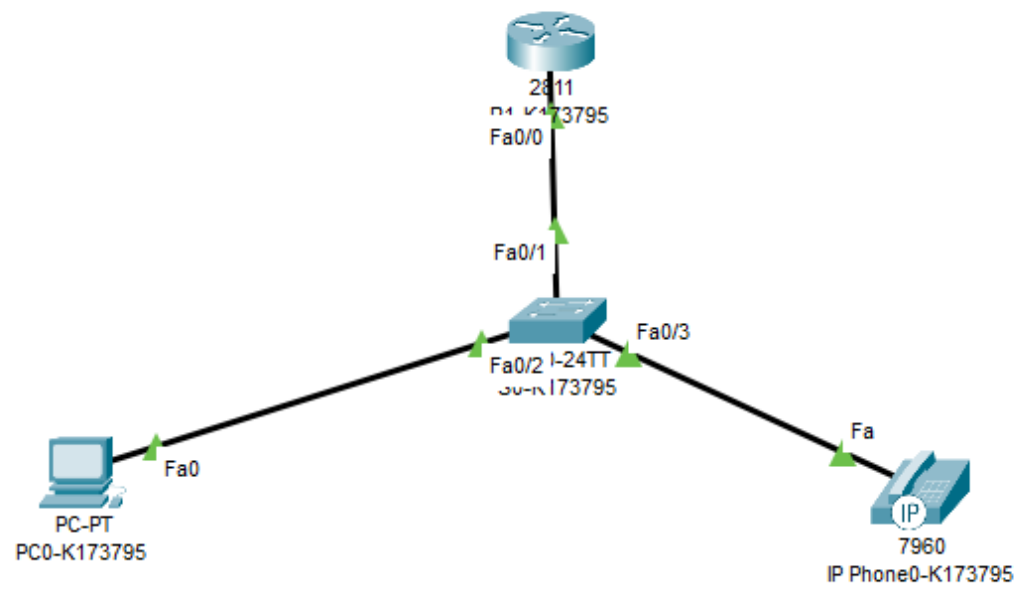


Check File in dir



## Setup Server

### Question no 5:



**Topology**



R1-K173795

Physical Config CLI Attributes

### IOS Command Line Interface

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip ad
% Incomplete command.
Router(config-if)#ip address 192.37.79.1 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up

Router(config-if)#ip dhcp pool p1
Router(dhcp-config)#network 192.37.79.1 255.255.255.0
Router(dhcp-config)#defa
% Incomplete command.
Router(dhcp-config)#default-router 192.37.79.1
Router(dhcp-config)#option 150 ip 192.37.79.1
Router(dhcp-config)#telephony-service
Router(config-telephony)#max-dn 5
```

Ctrl+F6 to exit CLI focus

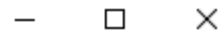
Copy

Paste

☐ Top



R1-K173795

Physical Config CLI Attributes

## IOS Command Line Interface

```
%LINK-3-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up

Router(config-if)#ip dhcp pool pl
Router(dhcp-config)#network 192.37.79.1 255.255.255.0
Router(dhcp-config)#defa
% Incomplete command.
Router(dhcp-config)#default-router 192.37.79.1
Router(dhcp-config)#option 150 ip 192.37.79.1
Router(dhcp-config)#telephony-service
Router(config-telephony)#max-dn 5
Router(config-telephony)#max-ephone 5
Router(config-telephony)#ip so
% Incomplete command.
Router(config-telephony)#ip source-address 192.37.79.1 port 2000
Router(config-telephony)#auto assign 4 to 6
Router(config-telephony)#auto assign 1 to 5
Router(config-telephony)#ex
Router(config)#ephone-dn 1
Router(config-ephone-dn)%%LINK-3-UPDOWN: Interface ephone_dsp DN 1.1,
changed state to up

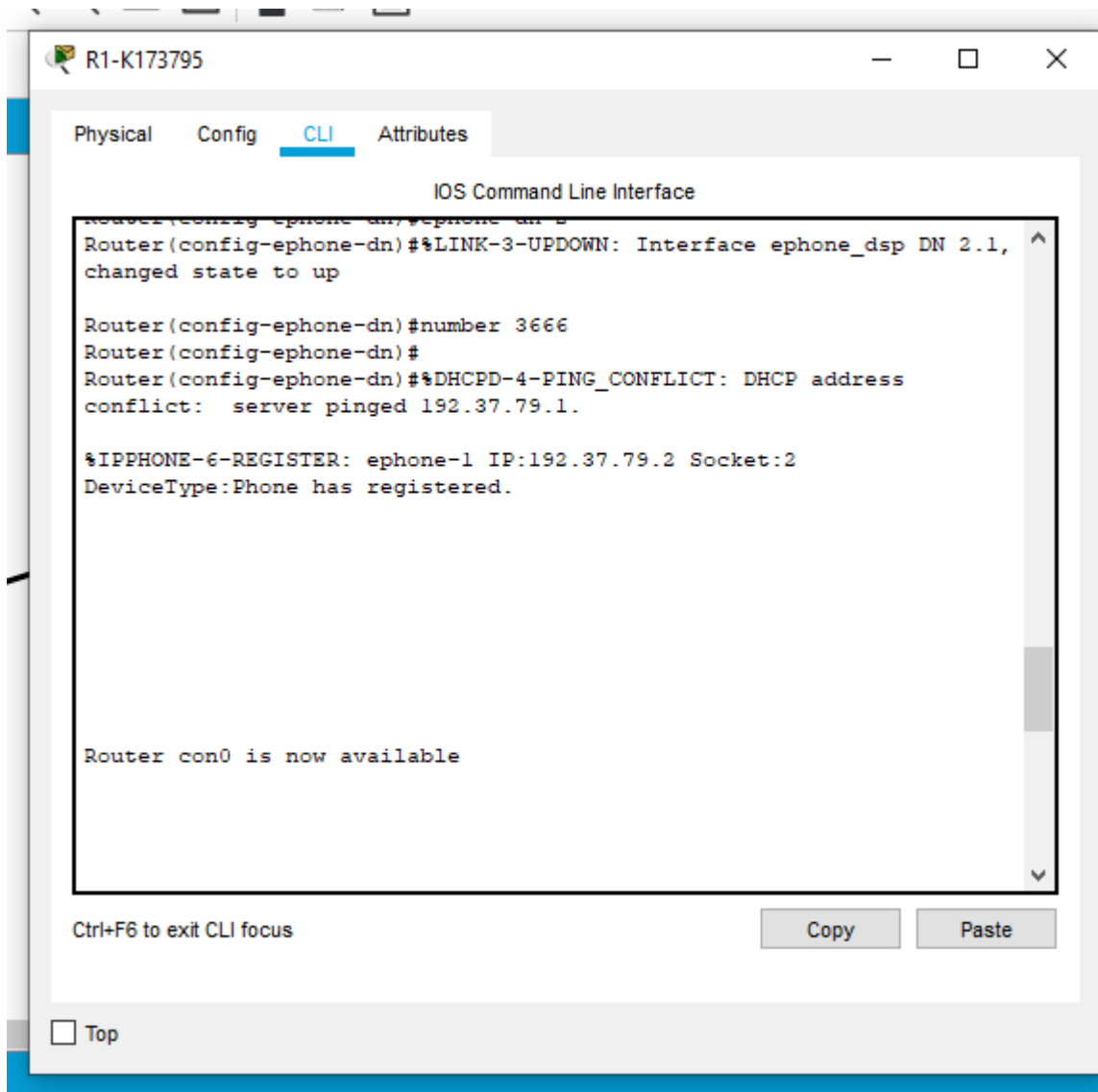
Router(config-ephone-dn)#number 3795
```

Ctrl+F6 to exit CLI focus

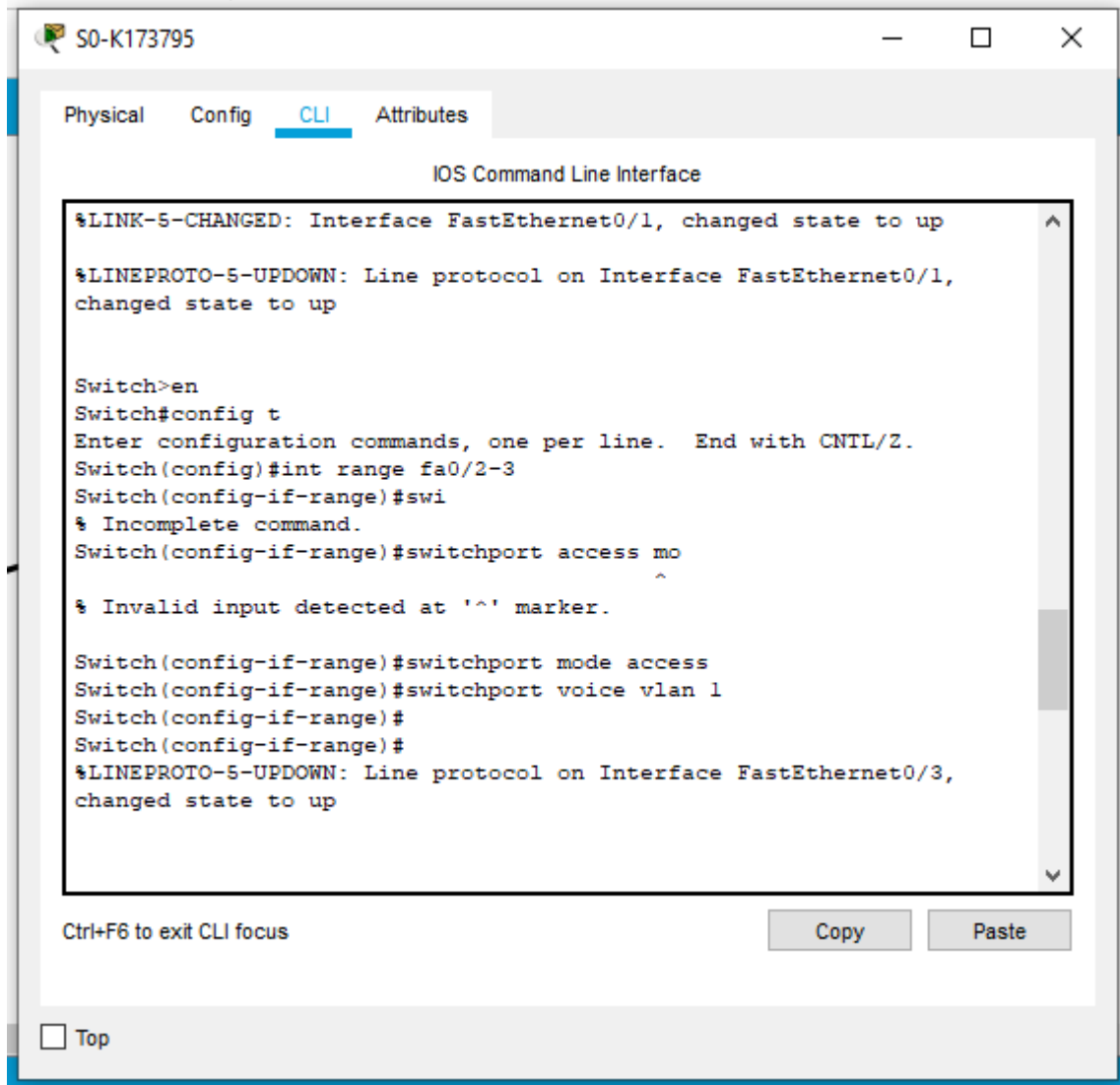
Copy

Paste

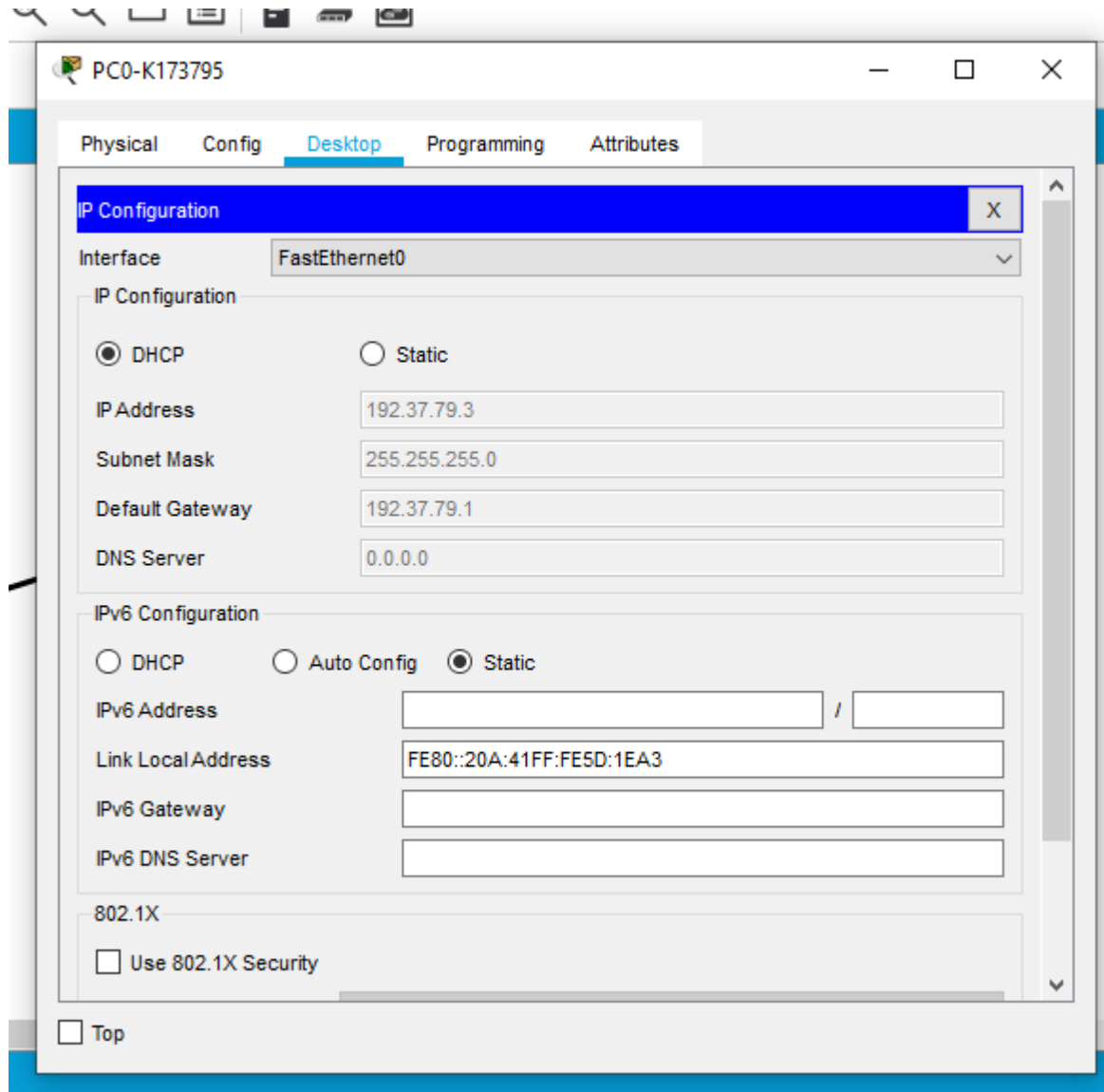
☐ Top



## Router Config



## Switch Config

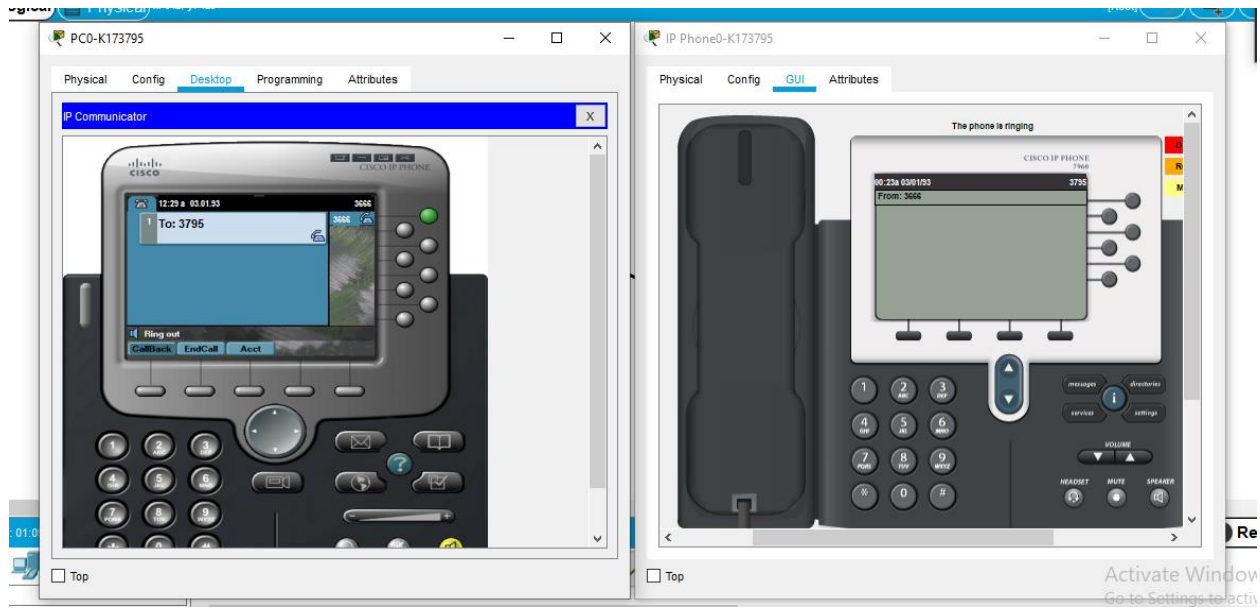


**PC DHCP**

**Phone call**

**Phone call**





## Phone Call

### Question no 7:

17k-3795

mlf

Date

#### Question 7(a)

175.37.95/16

50 subnets. require  
borrow 6 bits for 50 subnets.

$$2^6 = 64 \text{ Total subnets.}$$

$$2^{10} = 1024 \text{ Total host}$$

$$2^{10} - 2 = 1022 \text{ usable host}$$

(b)

199.37.95.0/24

4 floors = 4 subnets.

last 2 digit of roll number : 95

Network 1:

required host = 95

$$\text{Total host} = 95 + 7 = 97$$

$$2^7 = 128 \text{ host}$$

37 95

199. ~~37~~. ~~95~~. 0/25

199. <sup>37</sup>~~37~~. <sup>95</sup>~~95~~. 127/25 - 255.255.255.128

Date

Network 2:

199. 37. 95. 128 / 25

to

199. 37. 95. 255 / 25 → 255. 255. 255. 128

Network 3:

199. 37. 96. ~~127~~ 0 / 25

to

199. 37. 96. 127 / 25 → 255. 255. 255. 128

Network 4:

199. 37. 96. 128 / 25

to

199. 37. 96. 255 / 25 → 255. 255. 255. 128



## Theory of Question 1 2 3 5

17K-3795

Mif

Date

### Question 1:

Two different network is connected with switch so we have to connect with router to assign IP. and perform Virtual network. VLAN reduce the incidence of collision.

### Question 2:

OSPF is used because the network is expected to extend and OSPF does not broadcast like rip V1 & rip V2 after every 30 sec. It broadcast only when there is any change in network.

### Question 3:

We use telnet because encrypted and secure. telnet is layer 2. protocol. (transport).

### Question 5:

- Because VoIP enable people to use internet as the transmission medium for calls.
- Data link layer

RC