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----------PRACTICAL 05----------

- **AIM :** Utilize Telnet, SSH and FTP in a network of an organization.
- **Scenario :**

Design the network of an organization having 5 different departments. Make sure the below mentioned requirements must be fulfilled.

1) Create 3 users which will be able to get the access of the router using Telnet.

2) Create a single password to get the access of the router using Telnet.

3) Create 3 users which will be able to get the access of the router using SSH.

4) Create a FTP server and perform the operation to upload and download a file. And explore all the operation available with the ftp server.

- ✓ **Procedure :**

1. Create a network department as follows :

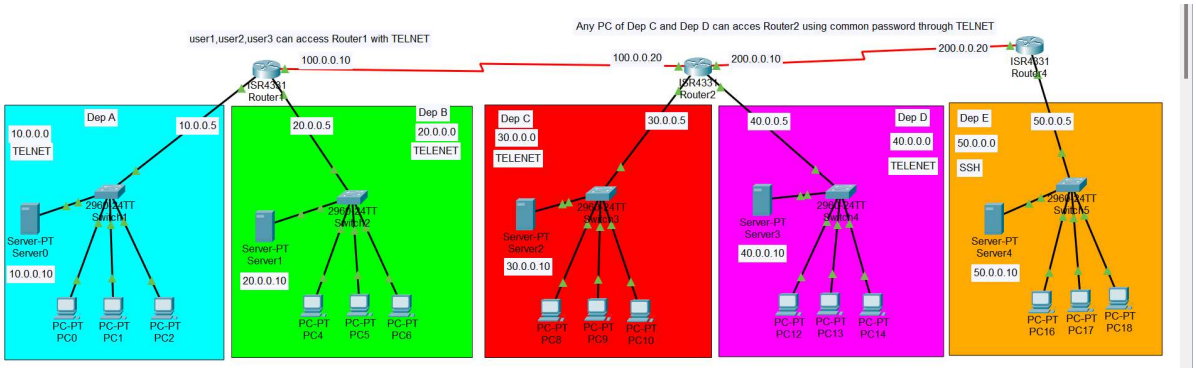
DEPARTMENT A Network - 10.0.0.0

DEPARTMENT B Network - 20.0.0.0

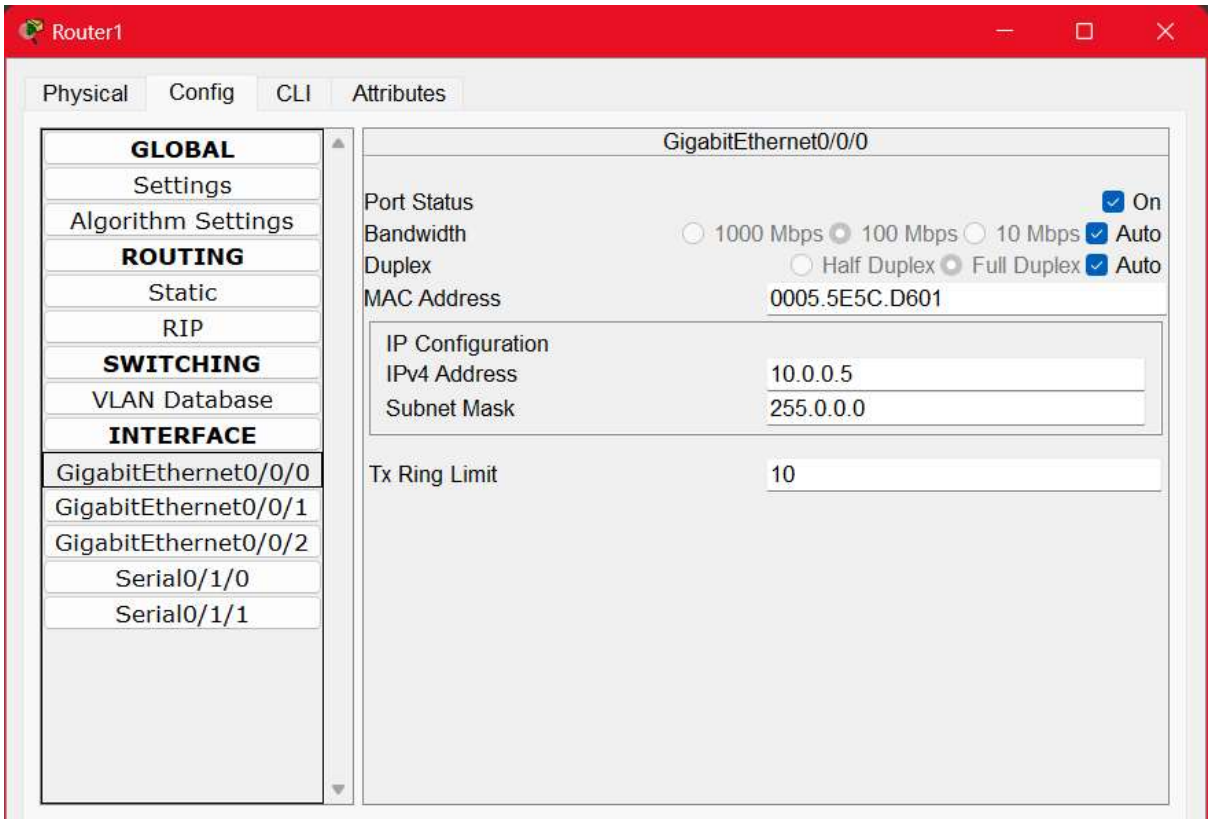
DEPARTMENT C Network - 30.0.0.0

DEPARTMENT D Network - 40.0.0.0

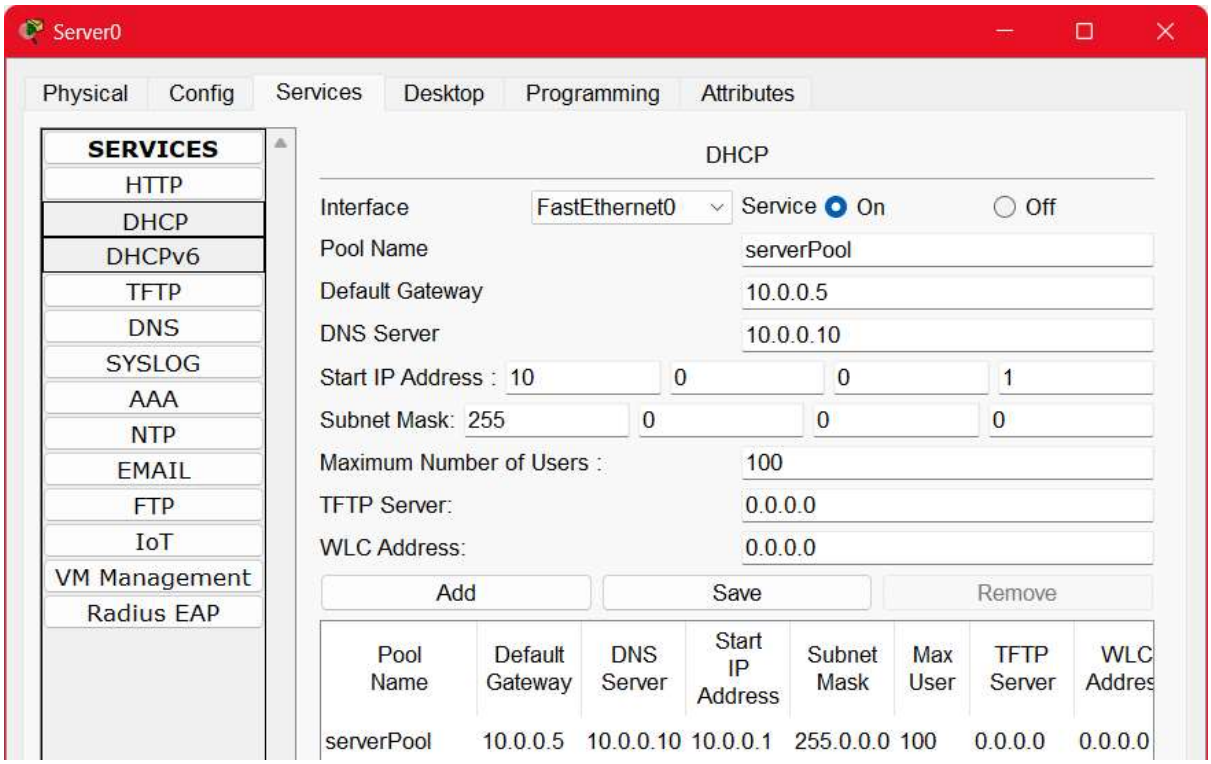
DEPARTMENT E Network - 50.0.0.0



2. Setup the Router Configuration in each router among the networks :



3. Setup DHCP in the server and assign IP to each PC through DHCP :



Similarly setup DHCP in servers of other networks and give the IP to the PC's through DHCP.

4. Make following Configuration in Router0 so that 3 users which will be able to get the access of the router using Telnet:
change host name.
setup router enable password
create 3 users
line vty 0 3
login local

by running this command on CLI we can see config details:
`show running-config`

```
hostname DepAB
!
!
!
enable password r1

!
!
username user1 password 0 pass1
username user2 password 0 pass2
username user3 password 0 pass3

line vty 0 3
 login local
line vty 4
 login
!
!
!
end


DepAB#
```

5. Make following configuraθon in Router1 so that a single password is needed to get the access of the router using Telnet:

change host name.

setup router enable password

line vty 0 3

password pass

login

by running this command on CLI we can see config details:

`show running-config`

```
hostname DepCD
!
!
!
enable password r2
!
!
```

```
line vty 0 3
 password pass
 login
line vty 4
 login
!
!
!
end


DepCD#
```

6. Make following configuraθon in Router2 so that 3 users which will be able to get the access of the router using SSH:
Setup router enable password
change host name
set a domain-name
create 3 users
generate key
line vty 0 3
transport input ssh
login local

by running this command on CLI we can see config details:
`show running-config`

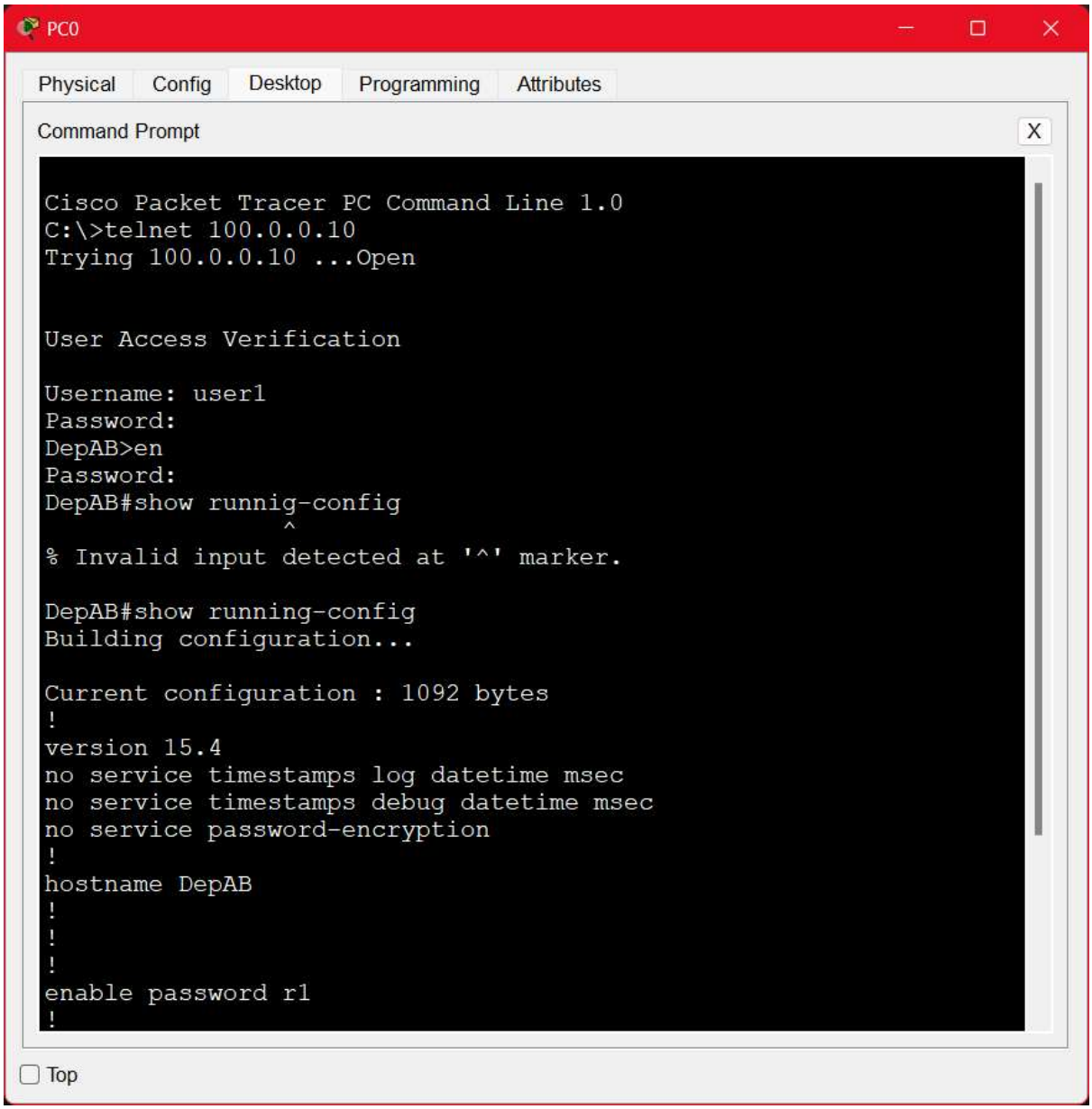
```
hostname depE
!
!
!
enable password r3
```

```
username user1 password 0 pass1
username user2 password 0 pass2
username user3 password 0 pass3
!
!
!
!
!
!
!
!
ip ssh version 1
ip domain-name ict
```

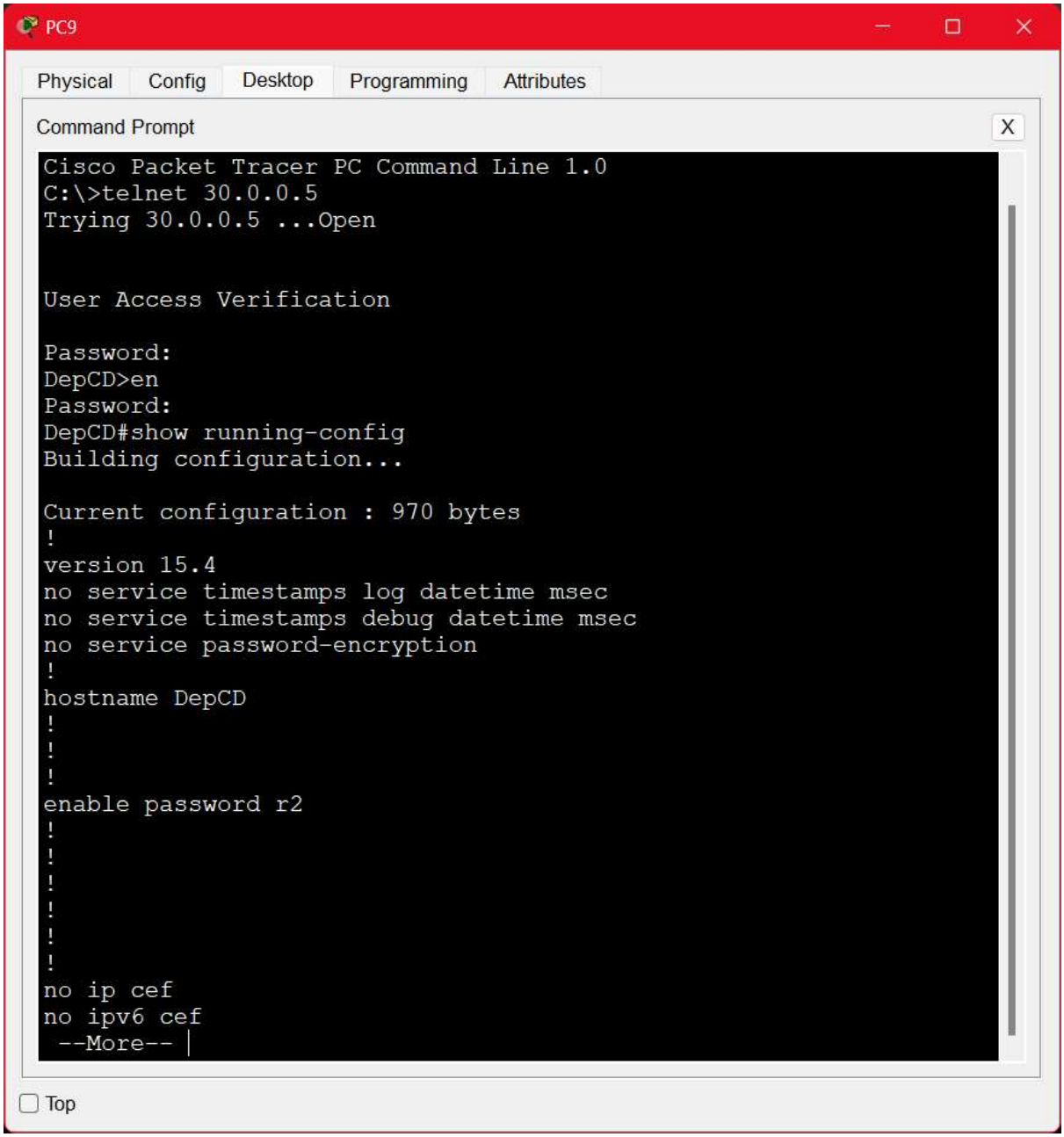
```
line con 0
!
line aux 0
!
line vty 0 3
 login local
 transport input ssh
line vty 4
 login
!
!
!
end


depE# |
```

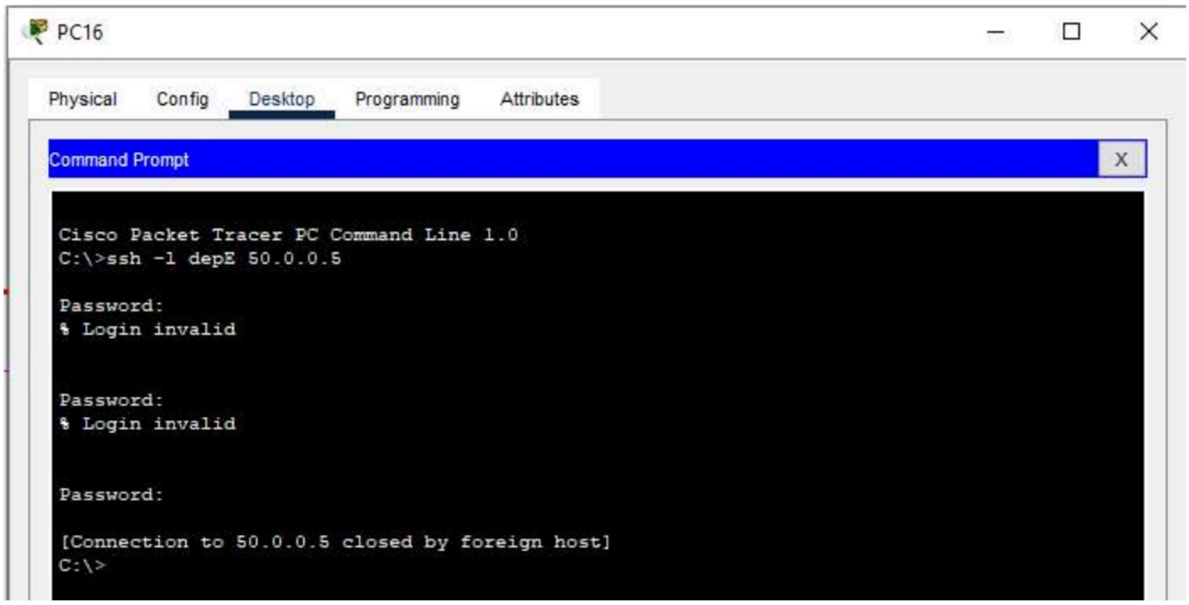
7. Check remote access to each router configured above:
Router0 (DepAB) [telnet user & password]



Router1 (DepCD) [telnet common password]



Router2 (DepE) [SSH]



8. Through FTP upload & download a text file as follow:

PC0 uploads test.txt :

```
C:\>ftp 10.0.0.10
Trying to connect...10.0.0.10
Connected to 10.0.0.10
220- Welcome to PT Ftp server
Username:cisco
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>put test.txt

Writing file test.txt to 10.0.0.10:
File transfer in progress...

[Transfer complete - 15 bytes]

15 bytes copied in 0.076 secs (197 bytes/sec)
ftp>
```

PC1 dowloads test.txt :

```
C:\>ftp 10.0.0.10
Trying to connect...10.0.0.10
Connected to 10.0.0.10
220- Welcome to PT Ftp server
Username:cisco
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>get test.txt

Reading file test.txt from 10.0.0.10:
File transfer in progress...

[Transfer complete - 15 bytes]

15 bytes copied in 0 secs
ftp>
```

9. Exploring other FTP commands options :

```
ftp>help
         ?
         cd
         delete
         dir
         get
         help
         passive
         put
         pwd
         quit
         rename
ftp>pwd
ftp>
/ftp is current working directory.
ftp>rename test.txt hello.txt

Renaming test.txt
ftp>
[OK Renamed file successfully from test.txt to hello.txt]
ftp>
```

```
ftp>put test.txt

Writing file test.txt to 10.0.0.10:
File transfer in progress...

[Transfer complete - 15 bytes]

15 bytes copied in 0.053 secs (283 bytes/sec)
ftp>delete test.txt

Deleting file test.txt from 10.0.0.10: ftp>
[Deleted file test.txt successfully ]
ftp>
```

```
ftp>help passive
 Toggle between active and passive mode
 syntax: passive
ftp>
```

```
ftp>dir

Listing /ftp directory from 10.0.0.10:
0    : asa842-k8.bin                                5571584
1    : asa923-k8.bin                                30468096
2    : c1841-advipservicesk9-mz.124-15.T1.bin       33591768
3    : c1841-ipbase-mz.123-14.T7.bin                13832032
4    : c1841-ipbasek9-mz.124-12.bin                 16599160
5    : c1900-universalk9-mz.SPA.155-3.M4a.bin       33591768
6    : c2600-advipservicesk9-mz.124-15.T1.bin       33591768
7    : c2600-i-mz.122-28.bin                        5571584
8    : c2600-ipbasek9-mz.124-8.bin                  13169700
9    : c2800nm-advipservicesk9-mz.124-15.T1.bin     50938004
10   : c2800nm-advipservicesk9-mz.151-4.M4.bin      33591768
11   : c2800nm-ipbase-mz.123-14.T7.bin              5571584
12   : c2800nm-ipbasek9-mz.124-8.bin                15522644
13   : c2900-universalk9-mz.SPA.155-3.M4a.bin       33591768
14   : c2950-i6q4l2-mz.121-22.EA4.bin               3058048
15   : c2950-i6q4l2-mz.121-22.EA8.bin               3117390
16   : c2960-lanbase-mz.122-25.FX.bin               4414921
17   : c2960-lanbase-mz.122-25.SEE1.bin             4670455
18   : c2960-lanbasek9-mz.150-2.SE4.bin             4670455
19   : c3560-advipservicesk9-mz.122-37.SE1.bin      8662192
20   : c3560-advipservicesk9-mz.122-46.SE.bin       10713279
21   : c800-universalk9-mz.SPA.152-4.M4.bin         33591768
22   : c800-universalk9-mz.SPA.154-3.M6a.bin        83029236
23   : cat3k_caa-universalk9.16.03.02.SPA.bin       505532849
24   : cgr1000-universalk9-mz.SPA.154-2.CG          159487552
25   : cgr1000-universalk9-mz.SPA.156-3.CG          184530138
26   : hello.txt                                    15
27   : ir800-universalk9-bundle.SPA.156-3.M.bin     160968869
28   : ir800-universalk9-mz.SPA.155-3.M             61750062
29   : ir800-universalk9-mz.SPA.156-3.M             63753767
30   : ir800_yocto-1.7.2.tar                        2877440
31   : ir800_yocto-1.7.2_python-2.7.3.tar           6912000
32   : pt1000-i-mz.122-28.bin                       5571584
33   : pt3000-i6q4l2-mz.121-22.EA4.bin              3117390
ftp>
```

```
ftp>quit

221- Service closing control connection.
C:\>
```

Conclusion: Thus, hereby performing this pracθcal we understood how to uθlize Telnet, SSH and FTP in a network.