TCP

Server:

```
import socket
host='127.0.0.1'
port=8000
#Create server side socket
s=socket.socket()
s.bind((host,port))
print ("Server is Waiting.....")
#Allow max clients connections=1
s.listen(1)
# wait till client connects
c,addr=s.accept()
print ("A Client is connected")
#Server runs continuously
while True:
#receive 1024 byte data from client
    data=c.recv(1024)
# if client send empty string then
come out
    if not data:
        break
    print ("From Client:
"+str(data.decode()))
# Enter response from server
    data1=input("From Server : ")
# Send data to the client
    c.send(data1.encode())
#Close Connection
```

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Roll No. 41
SE INFT-1

```
c.close()
Client:
import socket
host='127.0.0.1'
port=8000
#Create client side socket
s=socket.socket()
s.connect((host,port))
# Enter message at Client side
str1=input("Enter your message : ")
# Continue till client exits
while str1!='exit':
# Send data from client to server
    s.send(str1.encode())
#receive 1024 byte data from client
    data=s.recv(1024)
    data1=data.decode()
    print ("From server :",data1)
#Enter data
    str1=input("Enter data : ")
#Close Connection
s.close()
```

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Output :

```
Last login: Sat Mar 30 13:45:46 on ttys001
[Himanshus-MacBook-Air:~ himanshuchuri$ cd desktop
[Himanshus-MacBook-Air:desktop himanshuchuri$ python3 tcpserver.py
Server is Waiting.........
A Client is connected
From Client: hi
From Server : hello
From Client: 4324
From Server : 0643
From Client: ljtgh
From Server : nnjhgg
```

```
Himanshus-MacBook-Air:~ himanshuchuri$ cd desktop
[Himanshus-MacBook-Air:desktop himanshuchuri$ python3 tcpclient.py
[Enter your message : hi
From server : hello
Enter data : 4324
From server : 0643
Enter data : ljtgh
From server : nnjhgg
Enter data :
```

UDP

Sever:

```
import socket
import time
host='localhost'
port=5000
#create Socket
s=socket.socket(socket.AF_INET,s
ocket.SOCK_DGRAM)
```

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Roll No. 41
SE INFT-1

```
print("Server is Waiting .....")
time.sleep(5)
#Send message to client
s.sendto(b"Hello Client,..How r u
??",(host,port))
msg="Bye"
s.sendto(msg.encode(),(host,port))
s.close()
```

Client:

```
import socket
import time
host='localhost'
port=5000
#create client Socket
s=socket.socket(socket.AF_INET,s
ocket.SOCK_DGRAM)
#Connect to server using hostname
and port
s.bind((host,port))
#receive a message
msg, addr=s.recvfrom(1024)
try:
#block socket for 5 seconds for
sync
   s.settimeout(5)
#repeat till msg get empty
   while msg:
      print("Received from
Server:",msg.decode())
```

```
msg, addr=s.recvfrom(1024)
except socket.timeout:
    print("Time is over hence
Terminating....")
s.close()
```

Output:

```
Himanshus-MacBook-Air:desktop himanshuchuri$ python3 udpserver.py
Server is Waiting .........
Himanshus-MacBook-Air:desktop himanshuchuri$ clear
Himanshus-MacBook-Air:desktop himanshuchuri$ python3 udpserver.py
Server is Waiting .........
Himanshus-MacBook-Air:desktop himanshuchuri$ python3 udpserver.py
Server is Waiting .........
Himanshus-MacBook-Air:desktop himanshuchuri$
```

```
Himanshus-MacBook-Air:desktop himanshuchuri$ python3 udpclient.py
Received from Server: Hello Client,..How r u ??
Received from Server: Bye
Time is over hence Terminating....
Himanshus-MacBook-Air:desktop himanshuchuri$
```