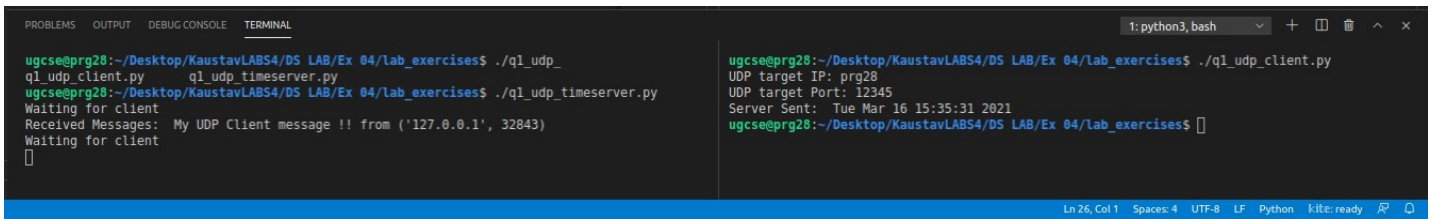
Q1 UDP client

```
#!/usr/bin/env python3
import socket

sock = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)
udp_host = socket.gethostname()
udp_port = 12345

msg = "My UDP Client message !!"
print("UDP target IP:", udp_host)
print("UDP target Port:", udp_port)

sock.sendto(msg.encode(), (udp_host, udp_port))

data, addr = sock.recvfrom(1024)
print("Server Sent: ", data.decode())
```

Q1 UDP Time Server

```
#!/usr/bin/env python3
import socket
import time

sock = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)
udp_host = socket.gethostname()
# udp_host = "172.16.58.56"
udp_port = 12345

sock.bind((udp_host, udp_port))

while True:
    print("Waiting for client")
    data, address = sock.recvfrom(1024)
    currentTime = time.ctime(time.time())
    print("Received Messages: ", data.decode(), "from", address)
    sock.sendto(currentTime.encode(), address)
```

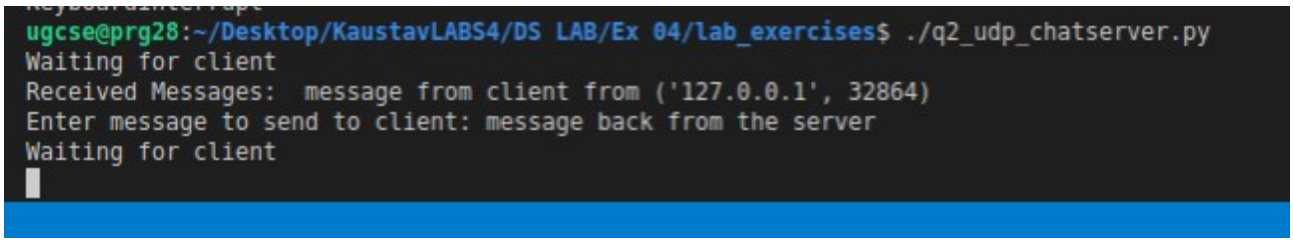


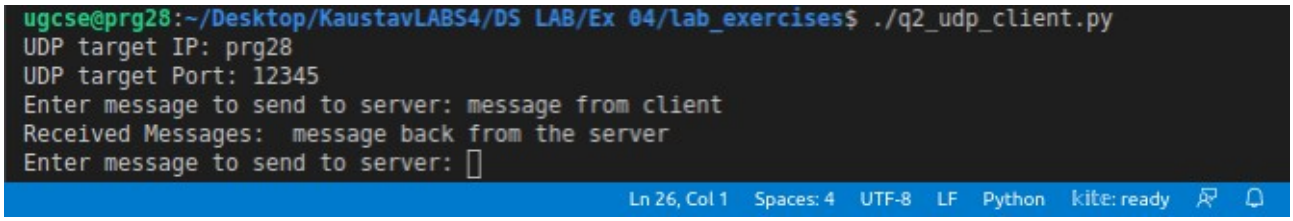
Q2 UDP Chat Server

```
#!/usr/bin/env python3
import socket
import time

sock = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)
udp_host = socket.gethostname()
udp_port = 12345

sock.bind((udp_host, udp_port))

while True:
    print("Waiting for client")
    data, address = sock.recvfrom(1024)

    print("Received Messages: ", data.decode(), "from", address)
    msg = str(input("Enter message to send to client: "))
    sock.sendto(msg.encode(), address)
```

Q2 UDP Client

```
#!/usr/bin/env python3
import socket


sock = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)
udp_host = socket.gethostname()
udp_port = 12345

# msg = "My First UDP Client message !!"
print("UDP target IP:", udp_host)
print("UDP target Port:", udp_port)


while True:
    msg = str(input("Enter message to send to server: "))
    sock.sendto(msg.encode(), (udp_host, udp_port))

    data,addr = sock.recvfrom(1024)
    print("Received Messages: ", data.decode())
```



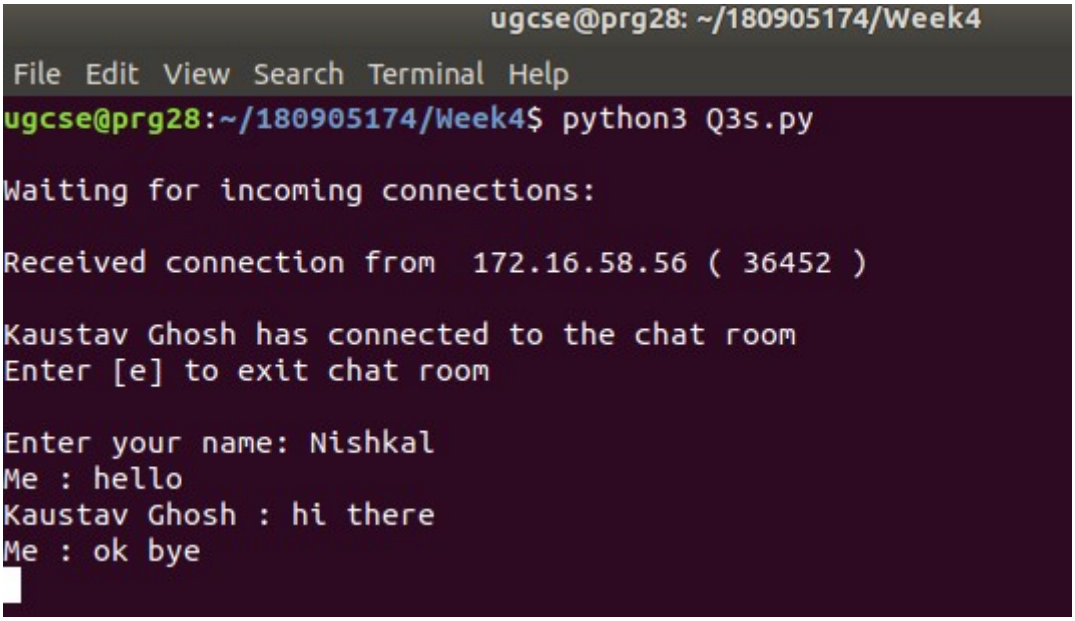


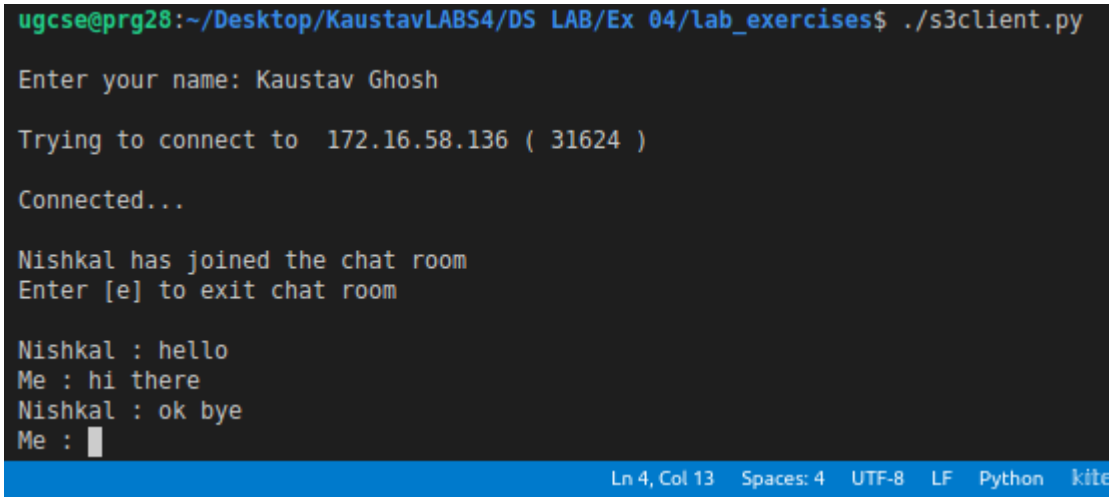
Q3 Client

```
#!/usr/bin/env python3
import socket
HOST = '172.16.58.136'
PORT = 31624
s = socket.socket()
name = input(str("\nEnter your name: "))
print("\nTrying to connect to ", HOST, "(", PORT, ")\n")
s.connect((HOST, PORT))
print("Connected...\n")
s.send(name.encode())
s_name = s.recv(1024)
s_name = s_name.decode()
print(s_name, "has joined the chat room\nEnter [e] to exit chat room\n")
while True:
    message = s.recv(1024)
    message = message.decode()
    print(s_name, ":", message)
    message = input(str("Me : "))
    if message == "[e]":
        message = "Left chat room!"
        s.send(message.encode())
        print("\n")
        break
    s.send(message.encode())
```

Q3 Server

```
#!/usr/bin/env python3
import socket
HOST = '127.0.0.1'
PORT = 31621
s = socket.socket()
s.bind((HOST, PORT))
s.listen()
print("\nWaiting for incoming connections...\n")
conn, addr = s.accept()
print("Received connection from ", addr[0], "(", addr[1], ")\n")
s_name = conn.recv(1024)
s_name = s_name.decode()
print(s_name, "has connected to the chat room\nEnter [e] to exit chat room\n")
name = input(str("Enter your name: "))
conn.send(name.encode())
while True:
    message = input(str("Me : "))
    if message == "[e]":
        message = "Left chat room!"
        conn.send(message.encode())
        print("\n")
        break
    conn.send(message.encode())
    message = conn.recv(1024)
    message = message.decode()
    print(s_name, ":", message)
```


ugcse@prg28: ~/180905174/Week4
File Edit View Search Terminal Help
ugcse@prg28:~/180905174/Week4$ python3 Q3s.py
Waiting for incoming connections:
Received connection from 172.16.58.56 (36452)
Kaustav Ghosh has connected to the chat room
Enter [e] to exit chat room
Enter your name: Nishkal
Me : hello
Kaustav Ghosh : hi there
Me : ok bye


ugcse@prg28:~/Desktop/KaustavLABS4/DS LAB/Ex 04/lab_exercises$ ./s3client.py
Enter your name: Kaustav Ghosh
Trying to connect to 172.16.58.136 (31624)
Connected...
Nishkal has joined the chat room
Enter [e] to exit chat room
Nishkal : hello
Me : hi there
Nishkal : ok bye
Me :
Ln 4, Col 13 Spaces: 4 UTF-8 LF Python