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March 19, 2023
CS 372 – 400
Intro to Networks
Project #4

Client/Server Chat

Introduction:

This is a simple client and server chat program. A server will listen on localhost on a port number that is provided already in the code. The client side will then try to connect and if successful will begin to chat with the server. Follow the instructions below and start chatting (with yourself of course).

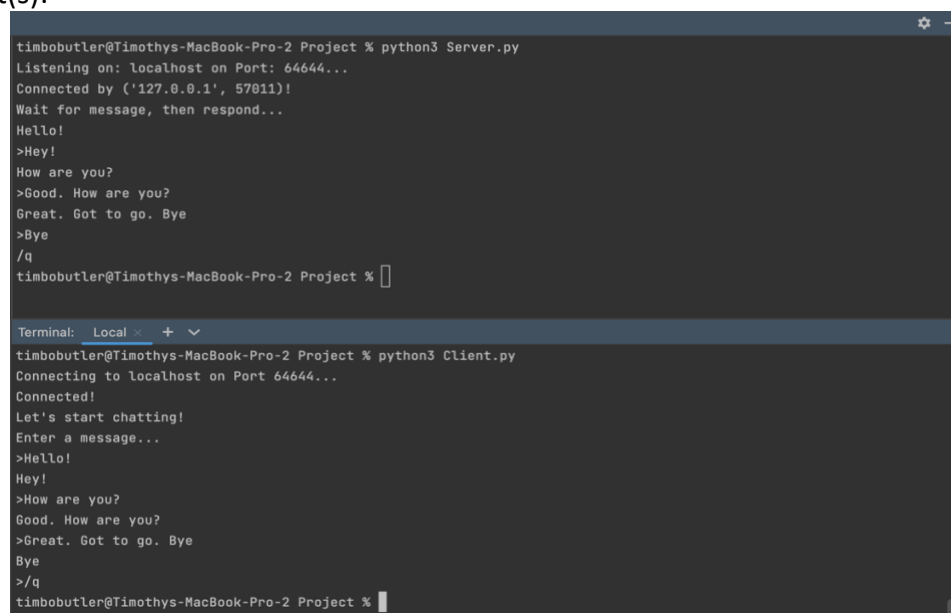
To run the program:

1. Start your local terminal and find the folder where files Client.py and Server.py
2. Run the statement in your terminal:
`python3 Server.py`
3. Open another terminal window (set terminals side-by-side)
4. Run the statement in your new terminal:
`python3 Client.py`
5. Begin the chat on the Client-side and respond on the Server-side. Go back and forth from the two terminals to simulate a live chat room!

Comments:

Be sure to run the Server.py program first!

Screenshot(s):



```
timbobutler@Timothys-MacBook-Pro-2 Project % python3 Server.py
Listening on: localhost on Port: 64644...
Connected by ('127.0.0.1', 57011)!
Wait for message, then respond...
Hello!
>Hey!
How are you?
>Good. How are you?
Great. Got to go. Bye
>Bye
/q
timbobutler@Timothys-MacBook-Pro-2 Project %

Terminal: Local x + v
timbobutler@Timothys-MacBook-Pro-2 Project % python3 Client.py
Connecting to localhost on Port 64644...
Connected!
Let's start chatting!
Enter a message...
>Hello!
Hey!
>How are you?
Good. How are you?
>Great. Got to go. Bye
Bye
>/q
timbobutler@Timothys-MacBook-Pro-2 Project %
```

```
1  # Author: Timothy Butler
2  # Date: 03/19/2023
3  # Course: CS372 - 400
4  # Sources:
5  # https://realpython.com/python-sockets/#tcp-sockets
6
7  import socket
8  import time
9
10 # Connect to the server
11 HOST = "localhost"
12 PORT = 64644
13 print(f"Connecting to {HOST} on Port {PORT}...")
14 time.sleep(0.5)
15 with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s:
16     s.connect((HOST, PORT))
17     print("Connected!\nLet's start chatting!")
18     time.sleep(0.5)
19     print("Enter a message...")
20     while True:
21         message = input('>')
22         s.send(message.encode())
23         # if /q, then quit
24         if message == '/q':
25             break
26         data = s.recv(4096).decode()
27         # if /q, then quit
28         if data == '/q':
29             break
30         print(data)
31
```

```
1  # Author: Timothy Butler
2  # Date: 03/19/2023
3  # Course: CS372 - 400
4  # Sources:
5  # https://realpython.com/python-sockets/#tcp-sockets
6
7  import socket
8
9  HOST = "localhost"
10 PORT = 64644
11 with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s:
12     s.bind((HOST, PORT))
13     s.listen()
14     print(f"Listening on: {HOST} on Port: {PORT}...")
15     conn, addr = s.accept()
16     print(f"Connected by {addr}!\nWait for message, then respond...")
17     while True:
18         data = conn.recv(4096).decode()
19         print(data)
20         # if /q, then quit
21         if data == '/q':
22             break
23         message = input('>')
24         conn.send(message.encode())
25         # if /q, then quit
26         if message == '/q':
27             break
28     # Close the connection
29     conn.close()
```