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1.

Explanation of the source file

The Basic idea of the implementation

- The client is responsible for starting a connection with the server
- The server is ready to accept any incoming connection request from the client
- The client creates a TCP socket
- The client specifies the IP address of the server
- The client specifies the port number of the server's socket
- The client and the server's socket can then send and receive message between themselves.

Client.py implementation [Built for python 3.7.0]

- The server's IP address is specified
- The server's socket port number is specified
- Given the IP address and the port number a connection is attempted to the server
- Using a utility function "*select*", I can listen for messages from the server and also listen to user input

Server.py implementation [Built for python 3.7.0]

- The server is responsible for accepting connections from the clients
- So in a "while" loop that is always true. I listen for new client connections
- Every new client is added to a list .
- In the while loop if a message comes from a client, I use another function that takes the message and distribute it to other clients. This function also checks to avoid sending message to the sending client.

2. **Compilation Proces**s

1. Unzip the files to your preferred working directory, lets say "/Desktop"
2. Open a terminal Window.
3. Type "python server.py". The server will be waiting for connections at port 3823
4. Open a new terminal window for client 1.
5. Type "python client.py". This client will be connected to the server at port 3823
6. From here you can type a message
7. Open a new terminal window for client2

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8. Type “python client.py”
9. From here client2 can send a message to client 1 and vice versa
10. The same step if a new client is connected.

3. **Sample output**

11.