ASSIGNMENT 2

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There are two given files with the names client.py and server.py. Here I will discuss my design choice along with the different parts of the code that I have written. I first started by establishing a single socket and single client application where the client sends a message to the server and the server responds with the same message with the client. This is done by establishing a connection in the socket of the server by forming a tuple of IP address and port. Then extend my server-client model to multi-client and single server model and there also I am adding multiple clients and then a single server is doing all the things which include registering the clients for sending and receiving sockets and then there is broadcasting taking place in this application which sends the message to all except the sender. Then I extended the code to include the broadcasting and unicasting together using @ALL and @username in the messages sent by clients, the username must contain only characters and digits and in case it contains something else we will send an error message of malicious username. Hence we are going to store the clients in a hashmap with key as the username and the value as a connection. We will first add the clients to a list also to check whether the name we are getting is registered and not. In this way, we are establishing a connection in our application and are trying to broadcast and unicast messages.

HOW TO RUN:

1 First open the terminal and run server code using python server.py

2 Now open another terminal by minimizing the previous terminal and run client code using the command python client.py. Enter the username and anything else that is asked in the command line. For sending the message we are going to write something like @receipent in the message before writing the actual message. Then the connection is established and everything will work fine.