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DISTRIBUTED SYSTEMS
LAB 3 WRITEUP

The code is implemented in Python3 and Tkinter for the GUI on client side.

Run() python server_multi.py file first from the Spyder tool in the anaconda navigator. Then ,run python client.py in a separate tab.

In order to run multiple clients, When the client.py file is running, the gui.py file will run simultaneously to show the interactions between the client and the server. You need to run the client.py file as many times as many number of clients you require to connect to the server.

If the user enters a duplicate username, an error message will be displayed and the system will sleep for sometime and the windows will close. The client has to be run again to make it work again with the server.

Keep all the files in the same directory.

Vector Clock Implementation

When the user open three clients one by one, they will start sending and receiving messages one by one and their initial vector clocks will update accordingly each time a message is sent and received between them.

The messages are sent randomly and the sender's clock is updated and the clock updates its vectors by choosing the maximum value between the two.

The log of the message sent and received by the clients is shown on the server side updating the vector clock accordingly.

The server will proceed to forward messages between clients. Each forwarded message, including the vector clock, and IDs of the sender and receiver are printed to the server's GUI.

CITATIONS

https://github.com/mikegpl/pychat
https://www.geeksforgeeks.org/simple-chat-room-using-python/