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CSCI-4311: Computer Networks & Telecommunications

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Programming Assignment 1

Figure 1:

Text

Description automatically generated

This is the client class. Once this is compiled and ran in the terminal, it won’t acknowledge a connection until opening and running the server. After completing the communication, by typing “bye” the program will end.

Figure 2:

Text

Description automatically generated

This is to continue from Figure 1. But here is the receiving threads in the client class.

Figure 3:

Text

Description automatically generated

Here is the Server class. In the beginning we are creating and making new server sockets and clientHandlers for input and output streams. We also implement output to the client by welcoming him/her along with formatting the time that each message was sent and/or received by the client and server. The port number is set at 5000. This was used after looking at the “Socket Programming Example” you gave to us in class when first assigned.

Figure 4:

Text

Description automatically generated

In this photo we have an inner class within the Server class that is implementing Runnable. This is what is running where we ask for the username, time and output stream for the client. As well here, we format the time we show for the messages.

Figure 5:

Text

Description automatically generated

In this photo, this is where we write out to the user “goodbye” if the you want to end the program and tell the clients that the application is basically over. If the message “bye is received by the client, the server will end the program.

Figure 6:

Graphical user interface, text, application, Word

Description automatically generated

In comparison to your prompt, I opened multiple terminals for multiple clients and one for the server. I ran one as “Alexander Dicharry”, one as “John-Father”, and one as “Rosa-Mother”. And the terminal in the top left was the server. I tried a couple of messages in each client to communicate with everyone and the output came out in each terminal for each client and server to see the chat. By me saying “bye” in the bottom left terminal, the program ended the application.