Oh boy oh boy, it sure is a programming assignment with socket programming and thread creation. I have it currently set up so that it clears the terminal after the user enters something to the group chat to make it look a bit cleaner. I just used an array with a shifting starting index to store the messages along with their sender and print it out every time a new message is received by the server. Not too complicated.

Also also, I use separate threads for the reading and sending of messages in the client code. I don't know how else to read and write messages at the same time, so this is the best that I got.

**Step 1: Initialize the Server**

$javac Server.java

$java Server 1234

These commands compile the server code and run it. The server is listening on port 1234

**Step 2: Initialize the Client**

$javac Client.java

$java Client localhost 1234

Compiles and runs the client code. The Client attempts to connect to the local host on port 1234. Upon joining, the user is prompted for a username. In this case, it's Test 1 as seen in the screenshot (first client is the top right terminal).

When typing and sending a message to the server, it's sent to all other users currently connected to the server.

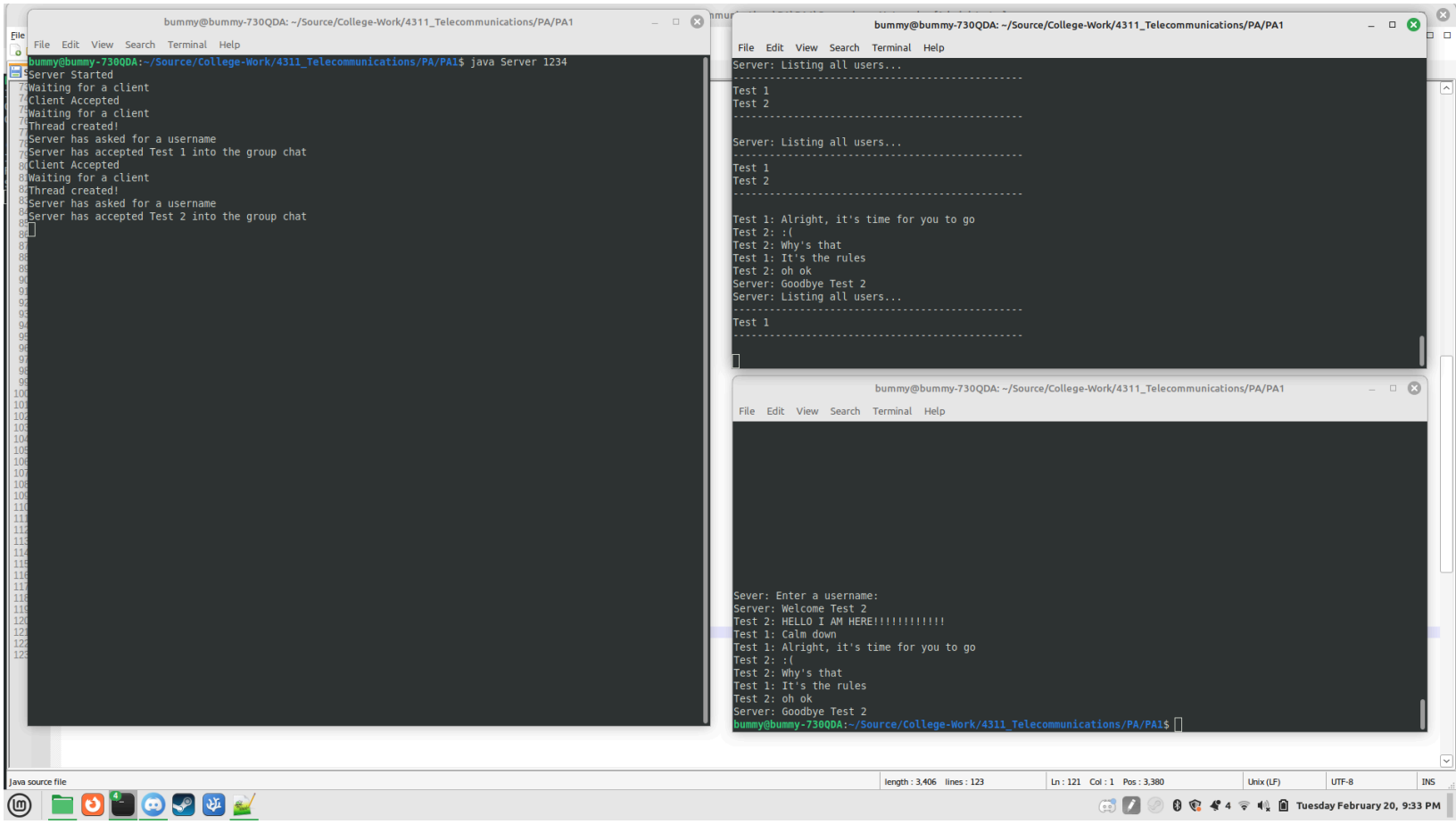
**Step 3: Initialize another Client**

$javac Client.java

$java Client localhost 1234

Same lines as the last one.

Again, we're prompted for a username, so we just do Test 2. Here you can actually see the chat history and how messages are actually being sent to the other client (bottom right terminal).


bummy@bummy-730QDA: ~/Source/College-Work/4311_Telecommunications/PA/PA1
File Edit View Search Terminal Help
bummy@bummy-730QDA:~/Source/College-Work/4311_Telecommunications/PA/PA1$ java Server 1234
Server Started
Waiting for a client
Client Accepted
Waiting for a client
Thread created!
Server has asked for a username
Server has accepted Test 1 into the group chat
Client Accepted
Waiting for a client
Thread created!
Server has asked for a username
Server has accepted Test 2 into the group chat
bummy@bummy-730QDA: ~/Source/College-Work/4311_Telecommunications/PA/PA1
File Edit View Search Terminal Help
Server: Listing all users...
Test 1
Test 2
Server: Listing all users...
Test 1
Test 2
Test 1: Alright, it's time for you to go
Test 2: :(
Test 2: Why's that
Test 1: It's the rules
Test 2: oh ok
Server: Goodbye Test 2
Server: Listing all users...
Test 1
bummy@bummy-730QDA: ~/Source/College-Work/4311_Telecommunications/PA/PA1
File Edit View Search Terminal Help
Sever: Enter a username:
Server: Welcome Test 2
Test 2: HELLO I AM HERE!!!!!!!!!!!
Test 1: Calm down
Test 1: Alright, it's time for you to go
Test 2: :(
Test 2: Why's that
Test 1: It's the rules
Test 2: oh ok
Server: Goodbye Test 2
bummy@bummy-730QDA:~/Source/College-Work/4311_Telecommunications/PA/PA1$
Java source file
length : 3,406 lines : 123
Ln : 121 Col : 1 Pos : 3,380
Unix (LF)
UTF-8
INS
Tuesday February 20, 9:33 PM