Programming Assignment: Broadcast Server

Write a server program, which implements following functionality:

- When started, the server listens on a port of your choice for incoming TCP connections.
- For each incoming connection, a new thread is started, which then handles this connection.
- Incoming connections are enumerated with "Client 1", "Client 2", "Client 3" and so on. The enumeration can be done with a simple counter, i.e., you don't have to take into account that clients might disconnect and, therefore, their number might disappear.
- If the server receives a line of text from one client, it will broadcast this text to all other clients, preceding it with the client label. For example, if "Client 3" sends the text "MESSAGE" to the server, the server will send out "Client 3: MESSAGE" to every **other** client.
- The end of a message is marked with the new-line character.
- Clients themselves don't know which label they have, i.e,. which number they are assigned to. The server does this automatically.

To demonstrate your code, run your server on joker.pcs.cnu.edu and send me an email with the port number, on which your server is listening. Since I won't be checking your server right away and you probably won't be able to be logged on to the server for that long, make sure that you are running your program in the background (symbol "&" achieves this in Linux) and that your program doesn't stop when you log out (check out the "nohup" command).