Requirement Specification of Multi-client chat application

1-server

- The server creates a new thread to handle each new client.

- Each thread handles both send and receive.

- Valid message format: <clientID><space><message>

- If client sends an invalid message, the server informs the client of the valid format.

- Client can enter "online?" to view list of available clients.

- The client stores client information, including the socket descriptor that is used to send messages to the particular client.

- The destination clientID is obtained from a valid message and used to get the corresponding client's socketID.

2-client

- The main thread deals with sending messages.

- A new thread is created to receive messages.

- This ensures that send and receive can occur parallely and independent of each other (not sequential like send -> receive -> send -> receive -> ...).

- Client can enter "logout" to disconnect from the server.