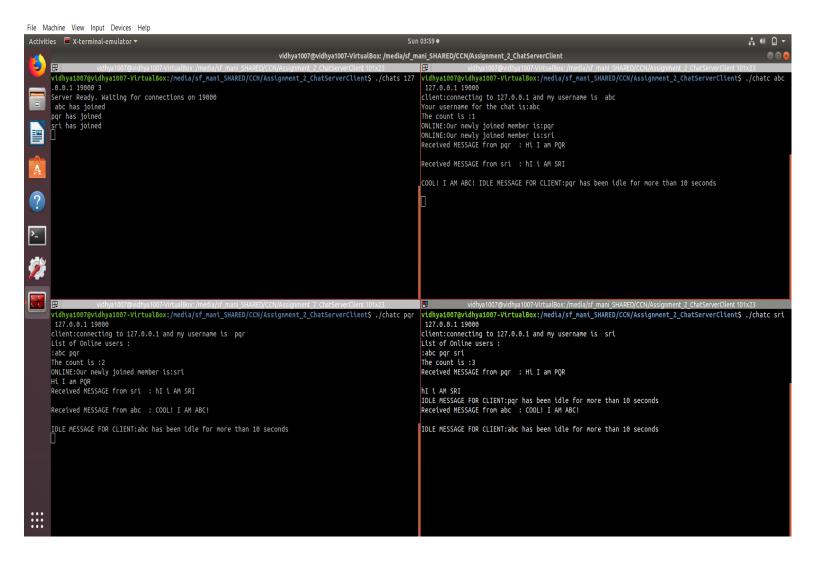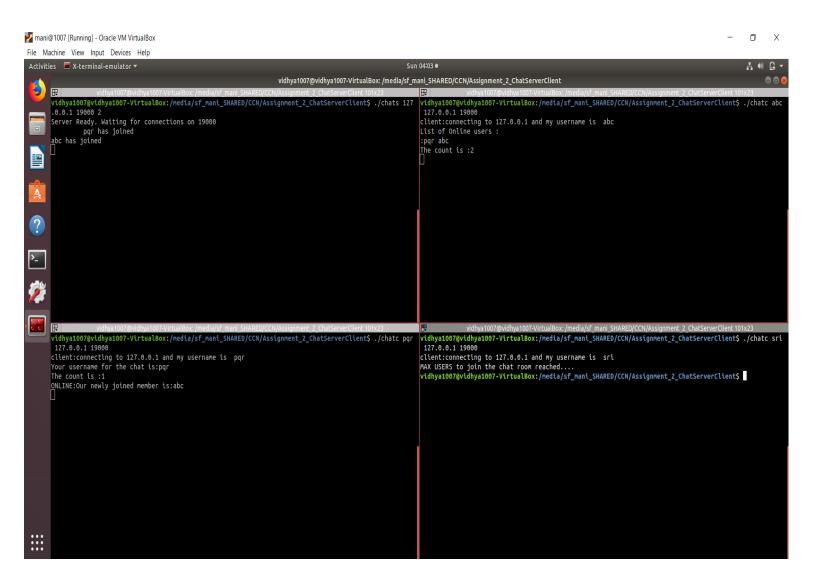**ECEN 602: Network Programming Assignment 2**
TCP Simple Broadcast Chat Server and Client
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This document contains a list of screenshots for the Test Cases considered for normal and the bonus sequences.
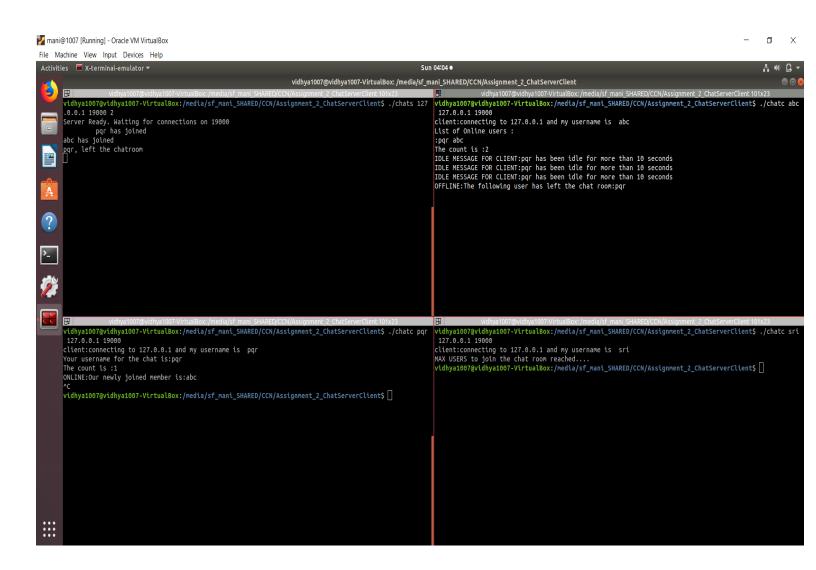
1) **TESTCASE 1:** A TCP Simple Broadcast Chat Server and Client connection. Here a maximum number of clients of 3 were allotted to be connected to the server port and the server IP. Three clients, namely abc, pqr, sri were connected to the server and are exchanging messages. The connection involves indicating the other users the list of online users, the message sent by each user, user joining the chatroom (printed at the server.
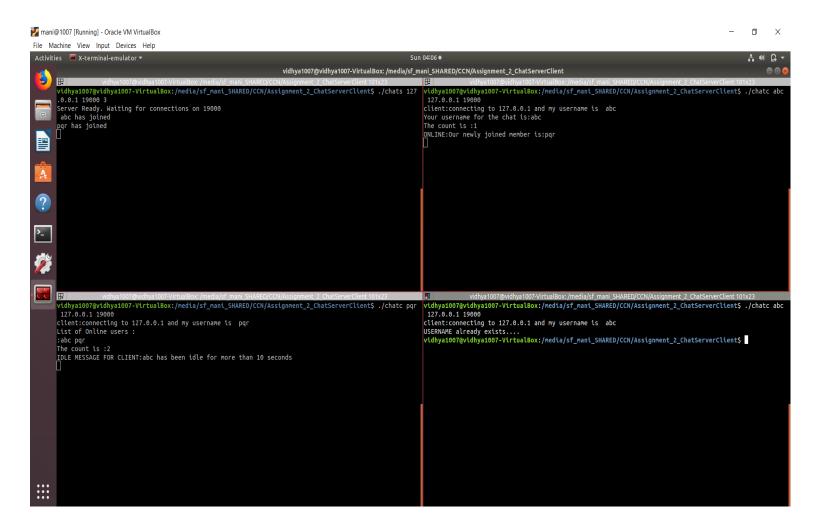
2) TESTCASE 2: In this test case, we consider a scenario when number of clients attempting to join the chatroom exceeds the max client limit. In this case, a NAK message saying, "MAX USERS REACHED" and the corresponding client's request is terminated. Here the limit is set to 2. When third user 'sri' tries to connect , the NAK message is sent.
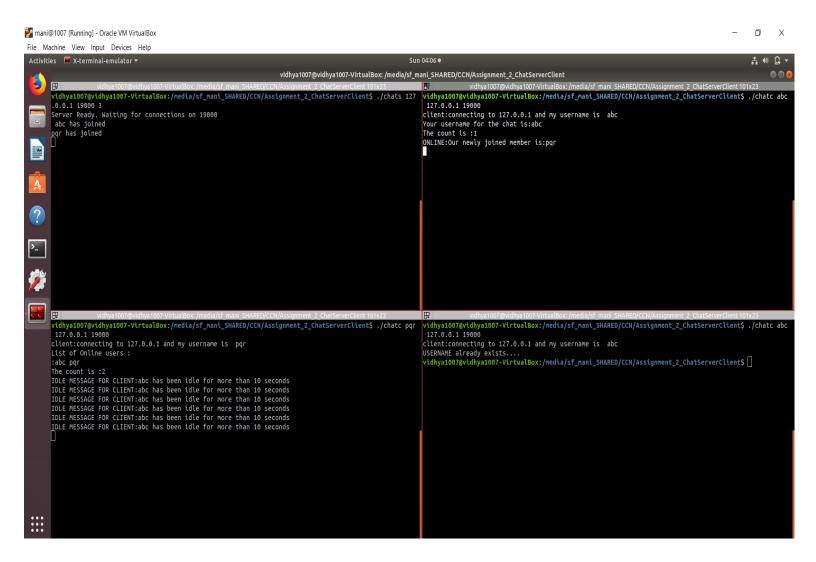
3) TESTCASE 3: Whenever a client leaves the chatroom, its OFFLINE status is broadcasted to other clients connected in the chat room. In the screenshot below, client : pqr leaves the chatroom, and client : abc is indicated that "OFFLINE: PQR has left the chatroom"

4) TESTCASE 4: This test case considered a scenario when two users try to connect with the same USERNAME. In this case a NAK is sent to the new client that is trying to JOIN the chatroom using this duplicate USERNAME. In the screenshot below, abc, pqr are in the chatroom. When a third client with the same name abc tries to join the chatroom, its request is denied with a NAK message saying, "USERNAME ALREADY EXISTS…."

5) TESTCASE 5: In this it is shown how the IDLE state of an inactive client is broadcasted to other users in the CHATROOM. When a client remains inactive for more than 10 seconds, an IDLE message is sent to the server, which broadcasts the username of the IDLE client to all other clients in the chatroom.

6) TESTCASE 6: When a client exits and rejoins the chatroom with the same username, it should be able to normally connect and operate. When a client exits the chatroom, the server clears all the data corresponding to it and maintains only data pertaining to ONLINE users. Thus, when a client tries to rejoin using its previous username, it is treated as a new entity and is connected to the server. Here, pqr left the chatroom. OFFLINE status broadcasted to all the other clients in the chatroom. Then pqr joins back to the chatroom.