

[Unix/Linux Socket Programming]

Q1. Implementation of a chat server using TCP socket. The server will ensure smooth connection between a pair of clients. A client can talk to another client during a session if the requested client is free. The list of connected clients (with the server) with status (BUSY, FREE, etc.) should be shown to a requesting client. The client sends a match request to the server and depending on the availability of the requested client, a separate communication channel may be established between the clients. This can be implemented in two ways, (i) all messages are exchanged via the server (ii) a separate connection is established between the clients. The choice is yours. The chat session can be ended from any side of both clients by sending a goodbye message. The other side is bound to close the chat session upon receiving the goodbye message. But, both the clients remain active in the server's list and can start chatting on a different session. Only close command from a client terminates a connection between the client and the server. The server runs forever. The above features are mandatory and you can include any other ornamental features as per your choice. But, the grading will be done only based on the above features.