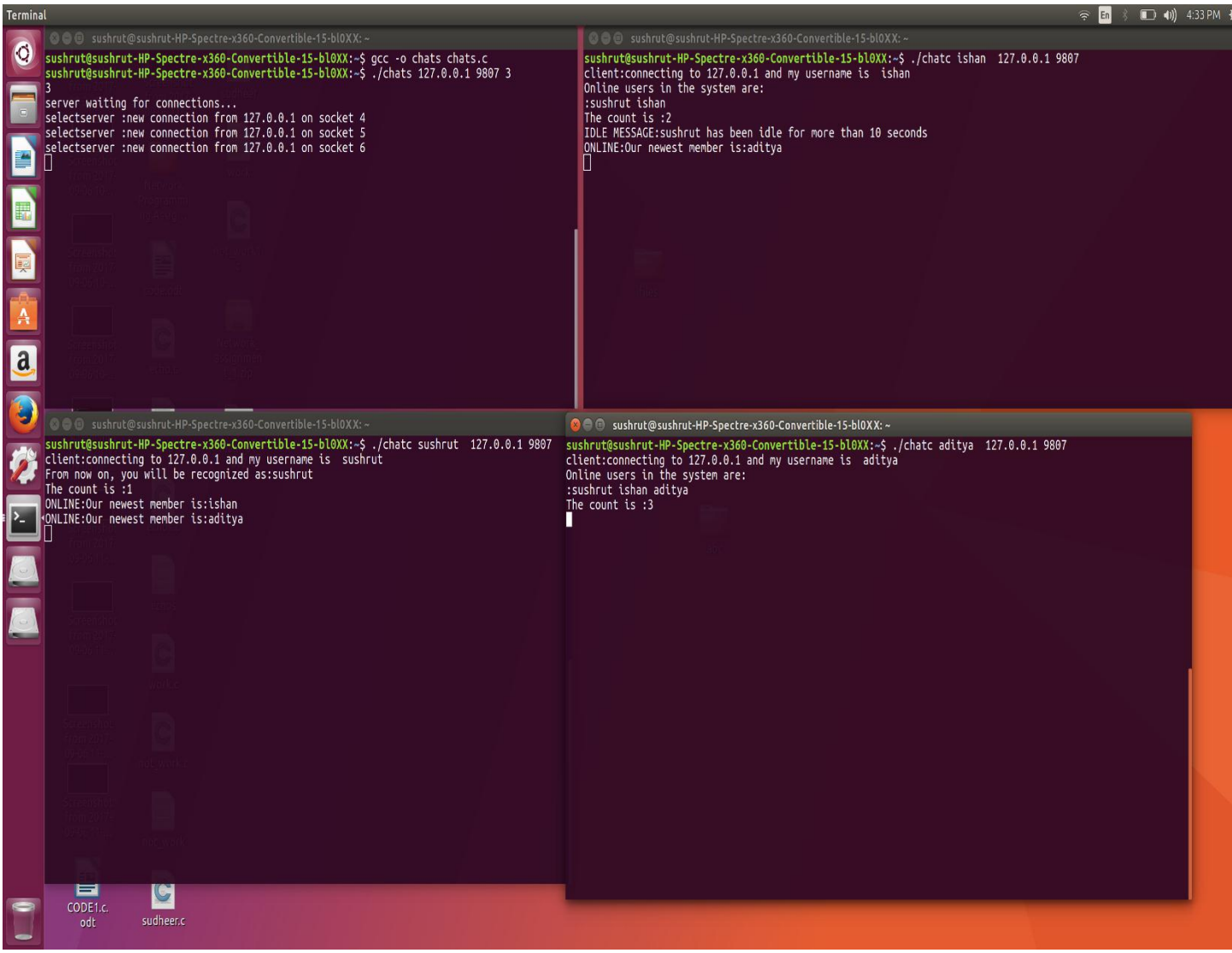
TEST CASES

TEST CASE-1

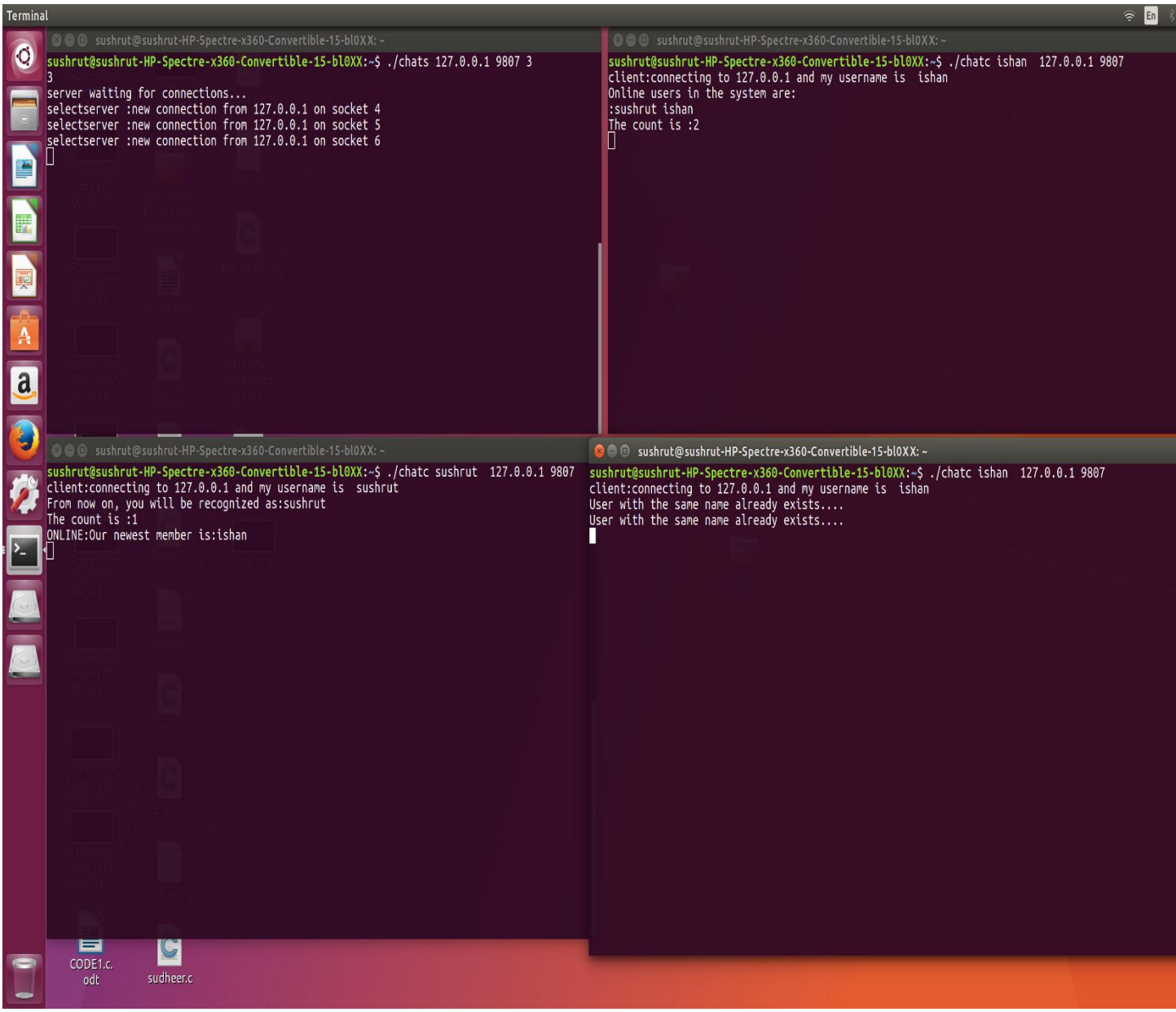
A).



In the first case, the server's IP address is 127.0.0.1 and port number is 9807. The maximum no. of clients possible is 3. The clients here are ishan, sushrut and aditya. All can send and receive messages to and from the client. The screen also shows the status of various clients in the chat room.

TEST CASE-2

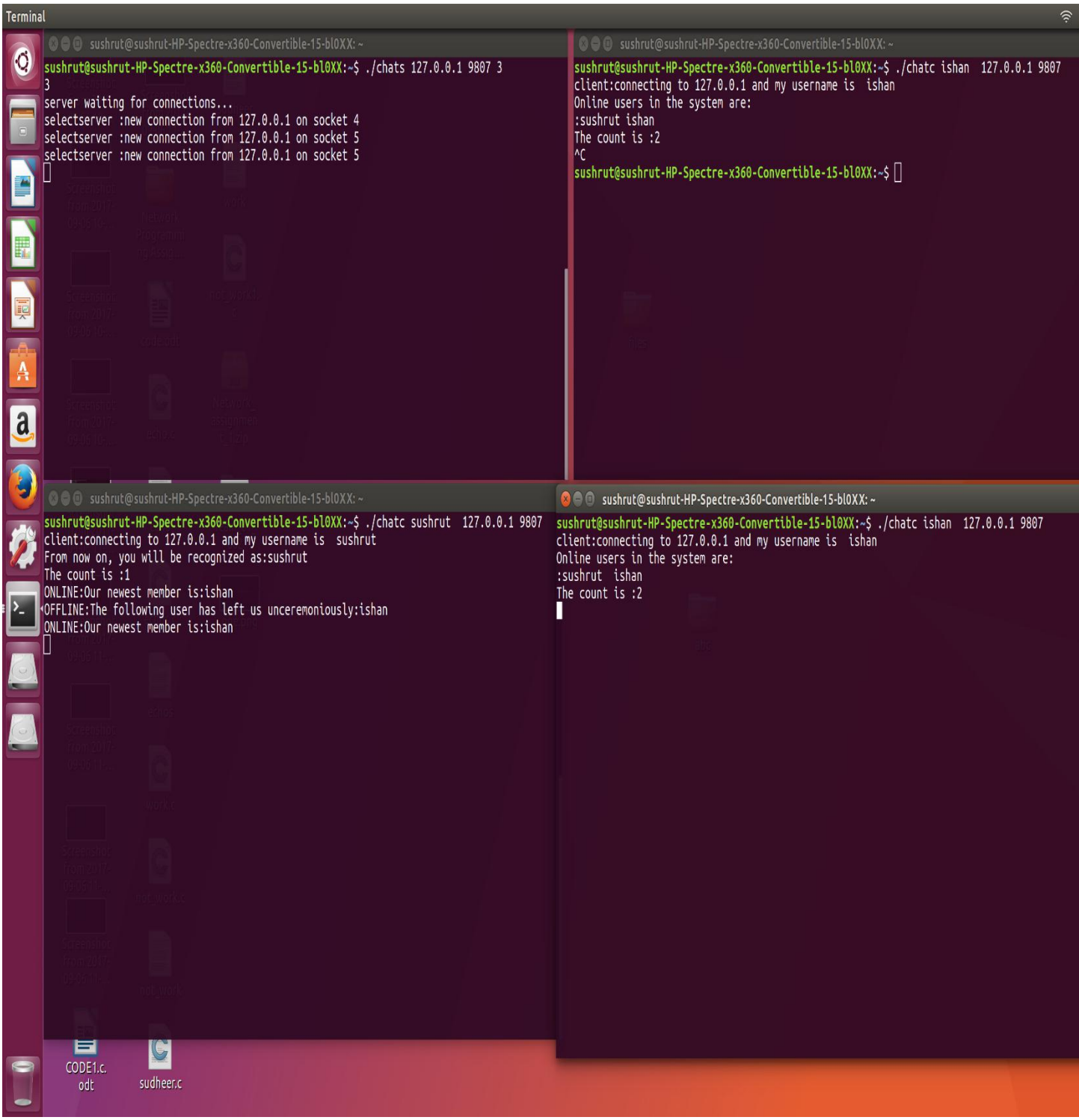
B).



Here we can observe that there are already two users connected to the server- ishan, sushrut, and when the third user tries to connect with the chat room with the same username as one of the already existing users (ishan in this case), then that user shall get a negative acknowledgement from the server and shall eventually get rejected.

TEST CASE-3

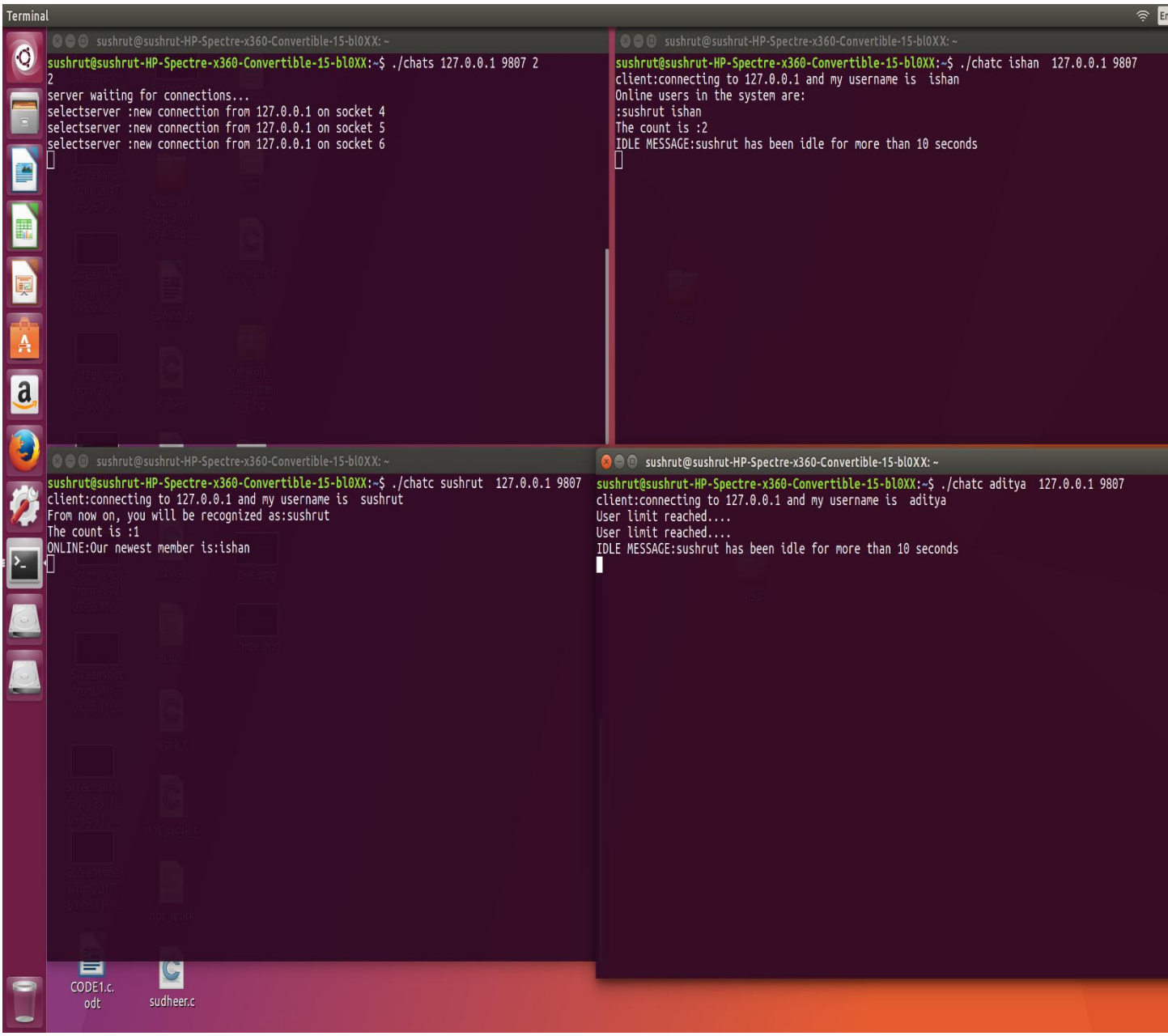
C).


Terminal
sushrut@sushrut-HP-Spectre-x360-Convertible-15-bl0XX: ~
sushrut@sushrut-HP-Spectre-x360-Convertible-15-bl0XX:~$ ./chats 127.0.0.1 9807 3
3
server waiting for connections...
selectserver :new connection from 127.0.0.1 on socket 4
selectserver :new connection from 127.0.0.1 on socket 5
selectserver :new connection from 127.0.0.1 on socket 5
sushrut@sushrut-HP-Spectre-x360-Convertible-15-bl0XX: ~
sushrut@sushrut-HP-Spectre-x360-Convertible-15-bl0XX:~$ ./chatc ishan 127.0.0.1 9807
client:connecting to 127.0.0.1 and my username is ishan
Online users in the system are:
:sushrut ishan
The count is :2
^C
sushrut@sushrut-HP-Spectre-x360-Convertible-15-bl0XX:~$
sushrut@sushrut-HP-Spectre-x360-Convertible-15-bl0XX: ~
sushrut@sushrut-HP-Spectre-x360-Convertible-15-bl0XX:~$ ./chatc sushrut 127.0.0.1 9807
client:connecting to 127.0.0.1 and my username is sushrut
From now on, you will be recognized as:sushrut
The count is :1
ONLINE:Our newest member is:ishan
OFFLINE:The following user has left us unceremoniously:ishan
ONLINE:Our newest member is:ishan
sushrut@sushrut-HP-Spectre-x360-Convertible-15-bl0XX: ~
sushrut@sushrut-HP-Spectre-x360-Convertible-15-bl0XX:~$ ./chatc ishan 127.0.0.1 9807
client:connecting to 127.0.0.1 and my username is ishan
Online users in the system are:
:sushrut ishan
The count is :2
CODE1.c.odt
sudheer.c

In this test case, we can observe that when a user, initially connected to the chat room, leaves the connection and then when that user or some other user with the same name comes to join the chat room (provided, in the meantime, no other user connects with that particular username) they are able to do it successfully.

TEST CASE-4

D).



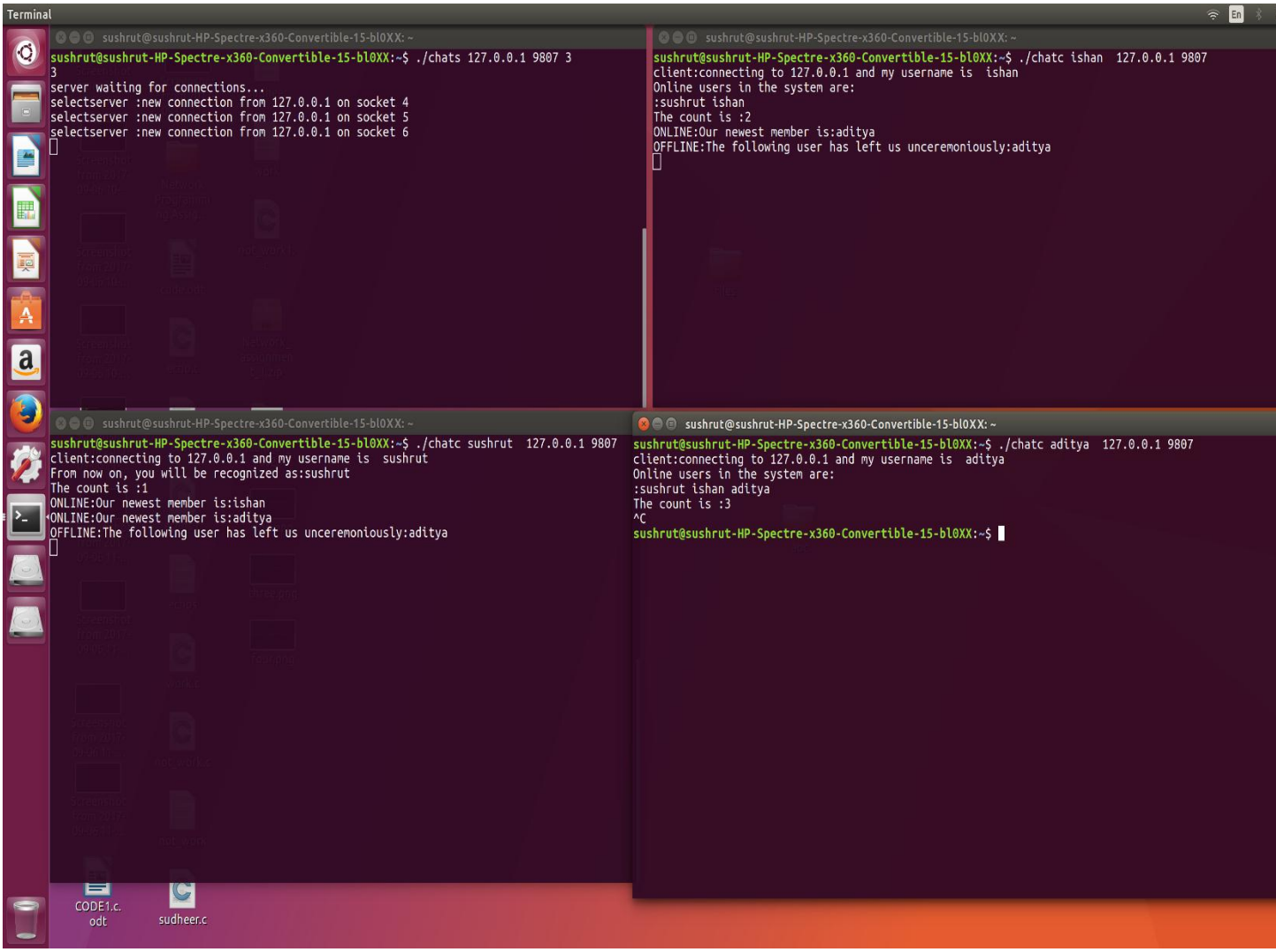
This test case deals with the number of clients exceeding the maximum possible number of clients (2 users in this case-ishan, sushrut) in the chat room. So when the third user(Aditya) comes to join the chat room, he gets message motioning about the number of client limit being exceeded.

TEST CASE-5

E). BONUS CASE

IPv4 and IPv6- Our code efficiently implements and takes care of both types of functionalities.

FEATURE 1-



ACK- Whenever a client connects, he receives an ACK (acknowledgement) message from the server, which consists of a statement of acknowledgement and a list and count of others users already online in the chat room.

NACK- This message is sent to the clients when they either join with the same username as that of the already online user in the system or they try to connect with the chat room when the number of client limit is already reached.

ONLINE-The server is sending a message to all the other users that such a client has joined the chat room.

OFFLINE- The server is sending a message to all the other users that one of the client has left the chat room.

IDLE- When a client is inactive in the chat session for more than ten seconds, the server send a message to the rest of the users that the respective client is inactive in the chat session.

FEATURE 2-

IDLE-