Program Assignment Chat

In a programming language of your choice, write a simple messaging program (server and client programs) that will allow you to talk from client-to-server and back server-to-client in realtime as you type messages. This should effectively work like a chat program between the client and the server. A message can be any single string of characters and input of a message is ended when the enter key is pressed - and then the message is sent. This version of the program needs work between one server and one client at any given time. Use port 5000. Physical maximum length of message 1000 characters

When the message is output, it should clearly show where it came from and the time it was sent along with the message itself. See example runs below.

Server side:
```
$ ./server
IP Address on server is 192.168.1.9
Tue Nov  3 01:33:18 2020
waiting for a connection...
Connection accepted from 192.168.1.7
Enter your server messages one by one and press return key!
client sends – Tue Nov  3 01:34:10 2020: how are you?
doing fine, thank you.
client sends – Tue Nov  3 01:34:39 2020: and back at you too.
likewise, I am sure.
```

Client side:
```
$ ./client 192.168.1.9
IP Address on client is 192.168.1.7
Tue Nov  3 01:33:47 2020
Connected to the server...
Enter your client messages one by one and press return key!
how are you?
server sends – Tue Nov  3 01:34:10 2020: doing fine, thank you.
and back at you too.
server sends – Tue Nov  3 01:35:03 2020: likewise, I am sure.
```

You can test on your own machine using two terminal windows (one for server and the other for client) using both the loop back address 127.0.0.1 and your real ip address.

```
./server
```

```
./client 127.0.0.1        <== loop back...
./client 10.105.97.11      <== real deal, find your own ip address for this...
```

Be prepared to have a source code review in class after the programs are due. You should be able to compile and run your code on screen as well explain what you did and why.

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Submission instructions:

Due: November 10, 2020 at 11:59pm

via Email
        to: sscott@tntech.edu
        Subject: CSC4200-5200 ProgramChat

Send email with 4 files as attachments
1. source for server
2. source for client
3. make file to compile your codes
4. video screen capture of your program from compile through execution and some message exchanges. Maximum of 30-sec video should be sufficient to show this.