CS 576 Computer Networks and Distributed Systems
Programming Assign 1

Keyword: TCP Socket, Client - Server

For this assignment you are to implement both a TCP server and a TCP client piece of software. You may use any high level language that provides built in networking support.

The server is to accept a connection from a client and receive a text message of no more than 256 characters. It will convert the message to an encoded message as detailed next. Your server will convert each character by replacing it with the next character in the ASCII sequence. For example the message: "**Hello World**" would become "**Ifmmp!Xpsme**"

You must also write a client that will connect to the server using the same port and then pass a message to the server. The server will respond with the message converted to the encoded string. The client will then display the converted message to the monitor.

For those of you looking for an extra challenge, you may pass a flag to the server so that it may either encode or decode a message. This task is entirely optional, but should not add much complexity to the server.

Both programs need to perform a reasonable amount of error checking, be well documented, and include a set of user instructions. Upon an error, issue an appropriate error message and then continue.

Please feel free to choose any programming language, on any operating system.

Please copy/paste the screen catch pictures of your program, and attach source code to your assignment. Due to extreme diversity of platforms, it is impossible to validate each individual implementation by running each program on one computer. Thus, handing in a <u>hardcopy</u> is anticipated in class on the due date.

Help on socket programming can be found at Beej's Guide to Network Programming
http://beej.us/guide/bgnet/.