NEW YORK INSTITUTE OF TECHNOLOGY
School of Engineering and Computing Sciences
Computer Science
Old Westbury Campus

CSCI 690: Computer Networks (Fall 2017)
Programming Assignment I
Total Points: 100

You have to implement a chat program. The following must be done.

- In Chat 1 console window, the program should collect the following information:

```
Enter IP Address of Chat 2:
Enter Port of Chat 2:
```

- In Chat 2 console window, the program should collect the following information:

```
Enter IP Address of Chat 1:
Enter Port of Chat 1:
```

Output: Chat 1 and Chat 2 programs should be able to:

- Send/receive text messages from different machines [40 points]
- Seamlessly handle a series of text message exchanges (*i.e.,* users should be able to send/receive messages continuously) [20 points].
- When text is not entered, the programs should wait for the user to enter text [10 points].
- The programs should gracefully terminate, for example, when "quit" is entered [10 points].

Note: Use TCP sockets. Use of multithreading is strongly encouraged.

Programming language: Use any programming language of your choice.

Total 100 points − *80* points for fully working program(s), *10* points for code documentation, *10* points for a "Readme.txt" file, which gives step-by-step instructions on how to compile and run your code.

Notes: This is an individual programming assignment, **so do not collaborate**. Do not copy programs from the Internet. You should be able to run the program and (or) explain the code if asked to do so.

Submission: The assignment is due **November 20, 2017 on or before 11:59pm**. Submit the assignment on Blackboard and also email a Dropbox link (see Step 8). To do so, follow the instructions below:

1. Log on to your Blackboard account.
2. Navigate to the course page. The link to our course reads: "Fall 2017 - W01 - Computer Networks" and it appears on the right hand side of the login screen under the list of courses.
3. Once you have navigated to the course page, on the left hand side of the screen there should be an option that reads "Assignments" click on that link. You will then be taken to a page where you will see a list of assignments.

4. Click on the link that reads "Programming Assignment 1" and you will be taken to the submission page. Ensure that when you navigate to the Submission form, you should read a header that says: "Upload Assignment: Programming Assignment 1".
5. In the form, there is a section which reads "Step 2. Assignment Submission" and there are two options there: "Text Submission" and "Attach File". Next to the option which reads "Attach File" there are two buttons. One reads "Browse My Computer" and another reads "Browse Content Collection"
6. Click on the button which reads "Browse My Computer" and you will be shown a prompt for you to locate and upload your assignment. Please ensure that you submit a compressed file with the extensions of either (.zip or .rar), and that you have named the compressed file in the following format:

   CSCI690_Fall2017_ProgrammingAssignment1_YourFirstnameYourLastname.zip [.rar]
   - **Note:** Make sure that your compressed file attachment does not exceed 25 MB in size.
   - **Contents of Compressed File:** Make sure that your compressed file has the following contents
     - A compilable and well-documented source code
     - Program executable(s)
     - A "Readme.txt" file containing clear, step-by-step instructions on how to compile and run your programs (include installation of any special software/compilers used).
7. If you want to add any comments, do so in the section that reads "3. Add Comments" and make sure that you include your full name, and student ID number in the comments section. Once you are completed, click on the button that reads "Submit" which is located at the bottom of the screen on the right hand side.
8. Additionally, send a Dropbox link to the email address **kbalagan@nyit.edu** and **dchhab02@nyit.edu**