Concordia University
Department of Electrical & Computer Engineering
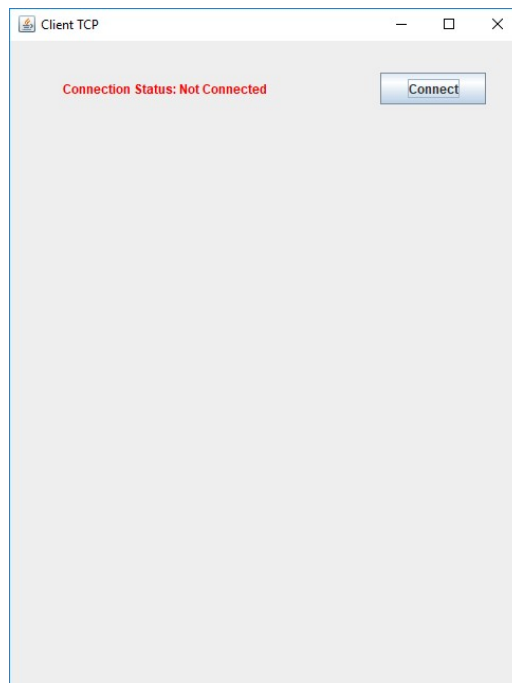
Telecommunication Networks
ELEC 366

Lab 2: Socket Programming using TCP Assignment
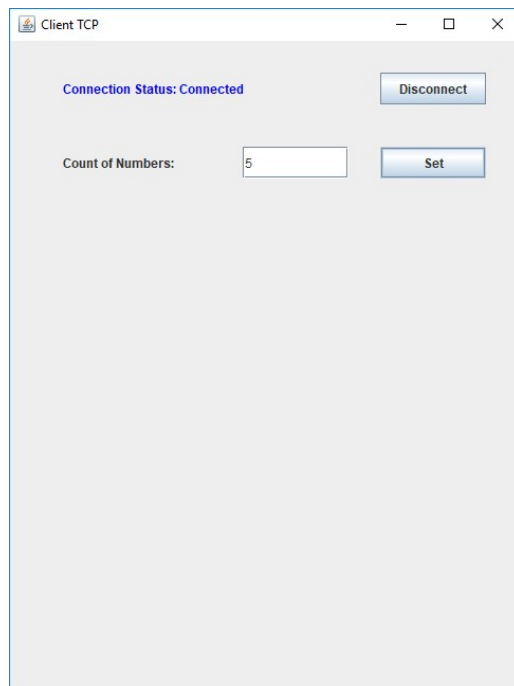
Client/Server Application using TCP

Implement a client/server application, where the client asks the user to enter a specified number of Double values and send them to the Server which computes the Sum, Average, Maximum number and Minimum number of all numbers sent by the client and send the results back to the Client.
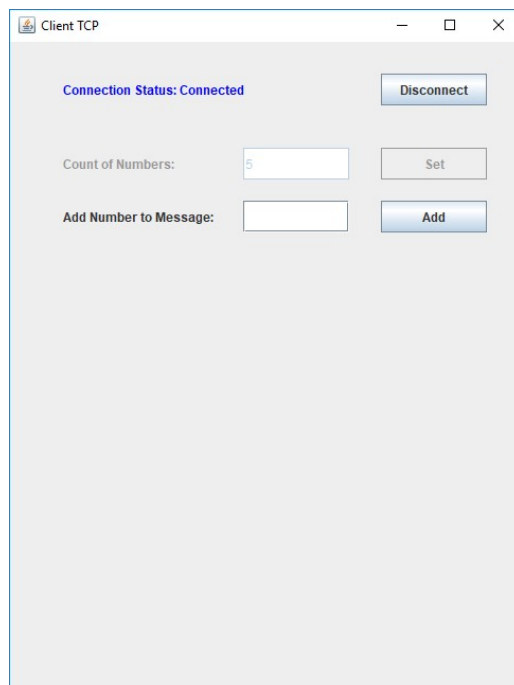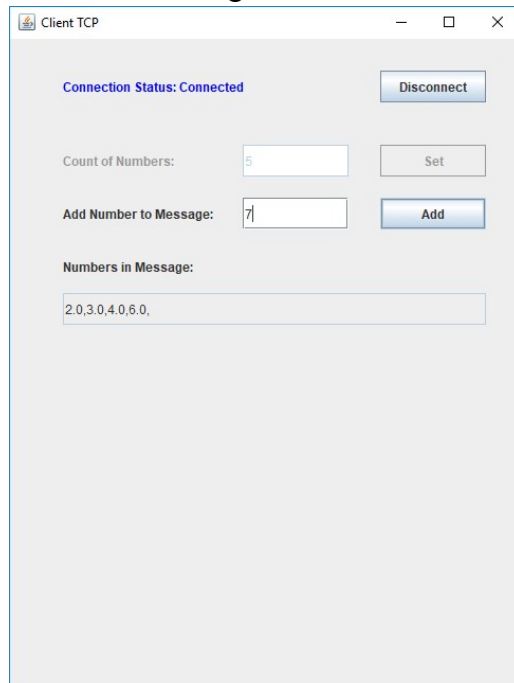
Client:

When you click "Connect", a new label, TextField, and button will appear as shown in the following figure. The connect button will be changed to "Disconnect".

When you click set, the count of numbers in the message will be set to the number entered in the TextField, and a new label, TextField and button will appear as shown in the following figure.
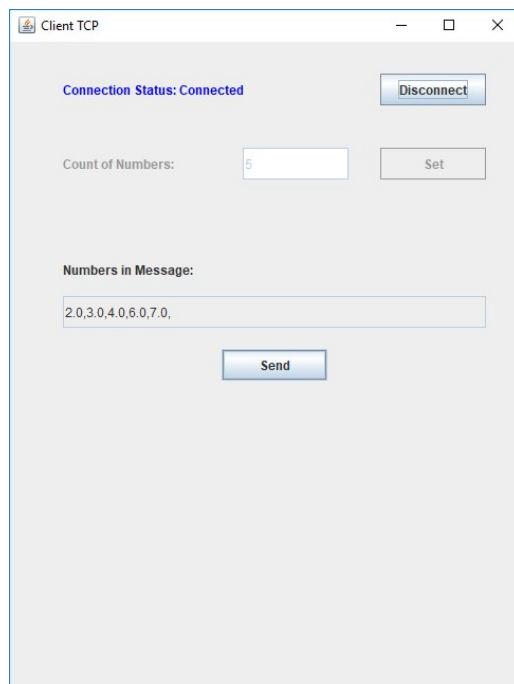
You can add numbers to the message by entering a number in the text field and clicking "Add". A TextField will show the numbers of the message as shown in the next figure.

When you enter all the numbers, the adding numbers TextField and button will disappear, and a new button "Send" will appear as shown in the following figure.
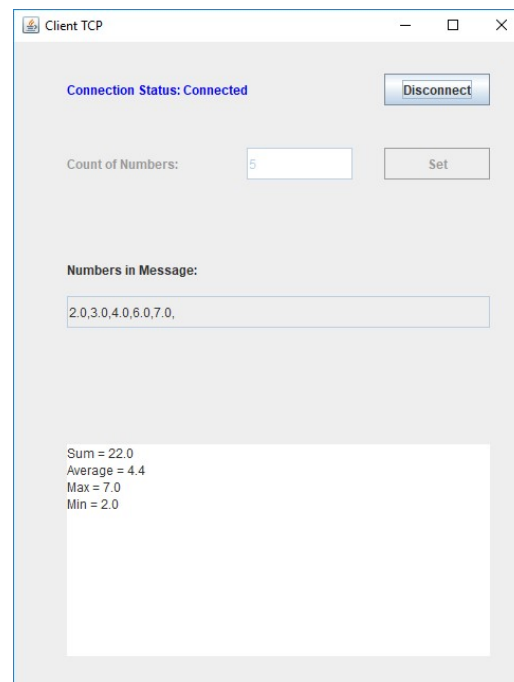
When you click "Send", a message with all numbers will be sent to the server.

Server:
   1. Receives the message that was sent by the client and extract the numbers from it.
   2. Computes the SUM, Average, Maximum number, and Minimum Number.
   3. Send the results back to the client.

Then Client will extract the results from the Server's results message and show them in a TextArea as shown in the following figure.

Note:
To split a string based on the comma character use the following.

String receivedSentence = "A,B,C,D,E";
String[] stringsArray = receivedSentence.split(",");

Then stringsArray is an array of five elements such that:

stringsArray[0] = "A"

stringsArray[1] = "B"
stringsArray[2] = "C"
stringsArray[3] = "D"
stringsArray[4] = "E"

stringsArray.length will equal 5.