CS408 – Computer Networks – Fall 2020 - In-lab assignment (B)

- No collaboration is allowed. You are not allowed to ask and get help from your classmates. Any such activity will directly result in failure in this lab.
- All cell phones must be totally switched off if you are not using it as a modem.
- Any type of online communication via email, DM, Whatsapp, etc. with another human being will be treated as plagiarism.
- IP-sharing is strictly prohibited, you should connect to VPN using your own SU account credentials only.

Your task

Your task in this lab is to develop a *Chat Client* via Graphical User Interface (GUI).
IP and port number will be taken as inputs from the user GUI via text boxes. Moreover, the user will enter his/her email address (e.g. fkerem@sabanciuniv.edu) and full name without Turkish characters (e.g. "Faik Kerem Ors") in the other text boxes. In addition to these four text boxes, there will be only one "connect button" and a rich text box to show the message received from server. There will not be any other boxes or buttons on the GUI.

When user clicks to "Connect" button, the client should connect to the server using server's IP and port number. Server's IP and port number will be written on Zoom chat by your TAs during the lab. You do not need to do anything for the server part. You will only implement the client part.

After the connection is established, the scenario that you will implement is as follows:

1) Write the connection status (fail, success) in the rich text box (hint: use try-catch).
2) Before you (client) get any message from the server, send your email address and full name (that was entered via text box before the connection) to the server in the same message. Please put a space between your email address and full name in the form of `Email_Address FullName` (e.g. fkerem@sabanciuniv.edu Faik Kerem Ors)

   Caution: Include domain name (@sabanciuniv.edu) in your email address, it's required.

   Caution: You should send your full name correctly, but without any Turkish letters. If you send a nickname or something other than your full name, a deduction policy will be applied on your grade!

3) After that, the server will send you a response message. You have to show this response message in the rich text box. The response message will include a token (an integer value) and you have to parse it.
4) Use digits of the incoming integer (token) as indices to get the corresponding characters from your email address. Then, send back the string that is composed by these characters to the server together with your full name (e.g. resulting_string Faik Kerem Ors).

   Example:
   - Token: 6357 (consider each digit as an index)
   - Email address: fkerem@sabanciuniv.edu
   - String that should be sent to the server: @rms Faik Kerem Ors

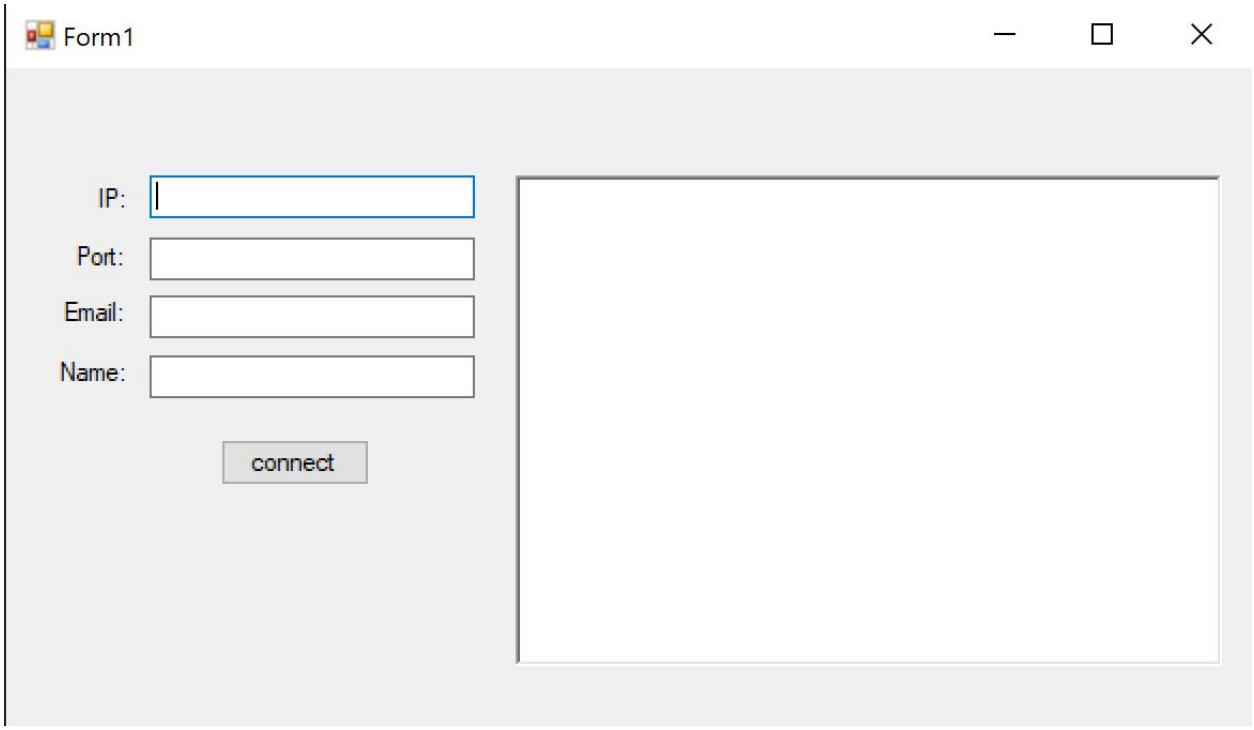
5) After sending this message, the server will send you a response message indicating whether your application was successful or not. The socket must be closed automatically after you get this message.

After you get the success message from the server (see the images below), the steps that you should follow are:

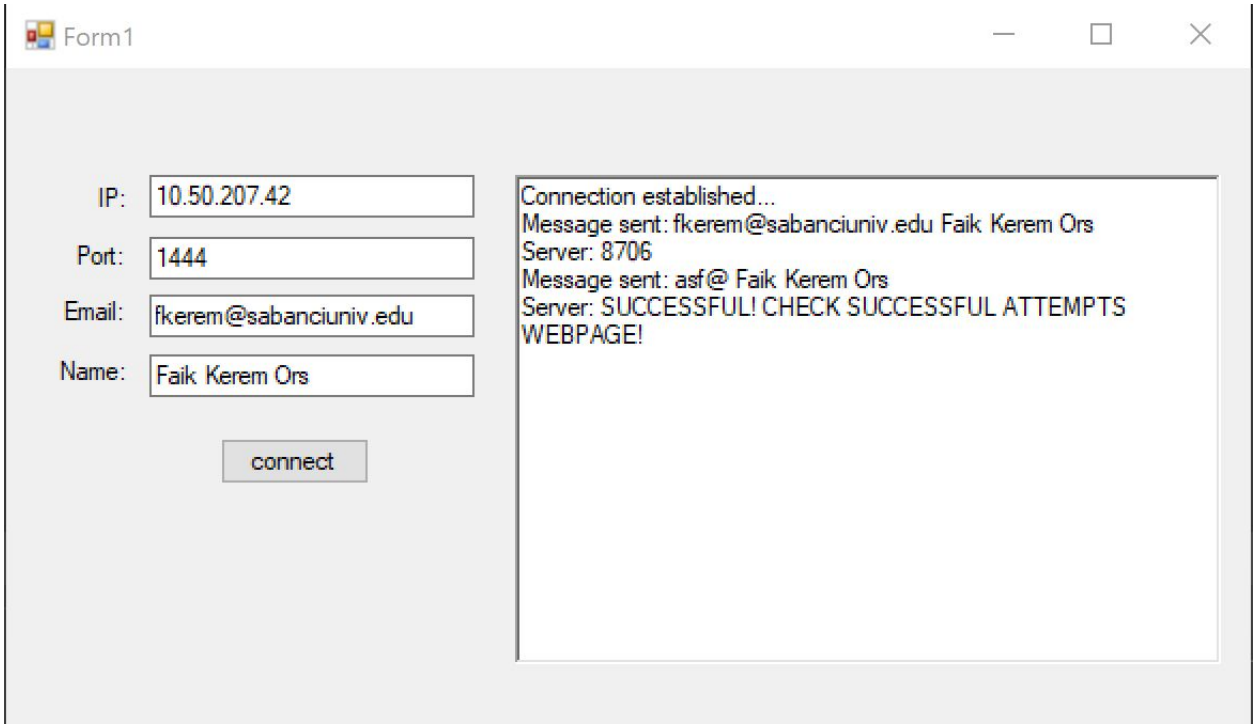
1) Check whether your full name is in the successful attempts table (Webpage will be indicated by your TAs).
2) Do not forget to submit your application (whole project folder) to the assignment "In-lab Exercise B" in a zip file on SuCourse+. (Name your zip file as "**yourSuNetusername_lastname_othernames.zip**")
3) Record your demo (Please make it very short: about 1 min.):
   a) Start recording your screen (no voice, make sure the computer clock is visible)
   b) Go to SuCourse+ and download your application.
   c) Run your client application and show that it works properly.
   d) Upload your video on Google Drive and submit the share link to the assignment "In-lab Recordings B" on SuCourse+. When you are getting your share link for the recording, adjust sharing options properly so that anyone from Sabancı University with the link should be able to access it.

Please follow the steps carefully and verify whether your attempt was successful (check your name on the successful attempts webpage). Also, do not forget to submit your client application and screen responding to the corresponding assignments. Otherwise we can not grade your work!

Initial state of the GUI



After connecting…



IP or port number is wrong…