

Network Programming
Project 1,
Due Date: 28/2/2018(Hard deadline)

This is an individual project. In this project, you are required to use socket programming in C to implement a pair of client and server that can achieve simple password verification. Your client will send a pair of username and password to your server and your server will verify whether the pair of username and password is legitimate or not. Assume the only legitimate pairs of usernames and passwords that will be accepted by your server are as follows.

username	Password
Alice	aaaaaaaaaa
Bob	bbbbbbbbbb
Cindy	ccccccccc
David	dddddddddd
Eve	eeeeeeeeee
Frank	fffffffffff
George	gggggggggg

More specifically, your client and server need to achieve the following requirements:

1. Your program for client needs to take two arguments that specify the name of the server and the port that it is trying to connect to. Your program for server needs to take an argument that specifies the port that it is listening to.
2. Your server will start first and keep listening to the specified port. Your client will connect to the port that your server is listening to, and a socket between your client and server is constructed.
3. Your client will first prompt a welcome message that asks the user to enter a username using the keyboard. This username will then be sent to the server. Then, your server, after receiving the username from your client, will send an acknowledgment message to the client.
4. Your client, after receiving the acknowledgment message from your server, will prompt a message that asks the user to enter the corresponding password. This password will then be sent to the server. Then, your server, after receiving the password from your client, will verify the received pair of username and password against the list of legitimate pairs. If the result is positive, the server will send a success message to the client. If the result is negative, the server will send a failure message to the client.
5. Your client, after receiving the result message, will print out the result and close the socket. Your server will close the socket following the client, and keep listening for the next client request.

Remember a grade of zero will be given, if your programs cannot be compiled and executed on Unix/Linux machines. You should report your projects in a short write up, README file. The README file should contain following information: 0) your name; 1) the programming environment you used; 2) how to compile your programs; 3) how to execute your programs. The programs will be graded based on the amount of the required functionalities that has been implemented , and the quality of the code .