CSCI 2380 **Fall 2021** **Mr. Gustavo Dietrich**

Homework 12: C++ STL **Due Date:** 12/1/21

Today, doing almost anything requires creating an online account and logging into that account. Such accounts store banking information, email, contacts, documents, purchases, medical records, etc.
Every entity (a business, government agency, university, etc.) with user accounts must store and maintain this account information on a login server that users can connect to (usually via a webpage) and login ("log in") to their account with credentials (usually a password).
This week, you'll implement a class that supports all of the basic features of a login server using some premade data structures from the C++ STL: **unordered_set** and **unordered_map**.

The following files have been given to you:

1. A C++ header file (loginserver.h) declaring the **LoginServer** class.
2. A C++ source file (main.cpp) containing a main() function with tests.

Create new C++ source file named **loginserver.cpp** that implements the function declared in loginserver.h so that loginserver.cpp and the provided files compile into a program that runs with no failed tests.

Submit just the source file **loginserver.cpp**. You don't need to submit the main.cpp nor the other files because I will use my own loginserver.h and main.cpp files to evaluate your loginserver.cpp file.

Review the examples discussed in class and the textbook to get an idea of what you need to do. Analyze carefully the tests because that will help you understand how the functions that you need to create work.

Do not hesitate to use the corresponding topic in Discussions to post your questions/doubts about this assignment. I will reply as soon as I can.

IMPORTANT:

Make sure your program compiles and executes in full (it should pass all the tests included in main()).
You must submit ONLY ONE solution per team.

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Your program must be well commented, use meaningful identifiers, and use indentation to improve its readability.

Your program must have the following comments at the top:

```
//*********************************************************************
// Team #              CSCI 2380              Fall 2021              Homework # 12
// First and Last Name
// First and Last Name
//
//*********************************************************************
```

When done, upload and submit your program solution through Blackboard using the link corresponding to this assignment. Do Not email it.

Include the link to your Repl.it solution in the Comments box (enter just the link. Example: https://repl.it/repls/WhatEver#main.cpp).

The following is the basic criteria to be used to grade your submission:

You start with 100 points and then lose points as you don't do something that is required.

-10 : Incorrect implementation of LoginServer()
-10 : Incorrect implementation of create_user()
-10 : Incorrect implementation of delete_user()
-10 : Incorrect implementation of total_user_count()
-10 : Incorrect implementation of login()
-10 : Incorrect implementation of logout()
-10 : Incorrect implementation of is_logged_in()
-10 : Incorrect implementation of active_user_count()
-10 : Incorrect implementation of logout_everyone()
-10 : Incorrect implementation of change_password()
-20 : Program crashes when executed
-5 : Unnecessary statements in your code
-10 : Your program has warnings
-40 : Program does not compile
-10 : Missing/too few comments
-10 : Late
-100 : No submission.

-100 : No team contribution
-100: The code submitted is not your creation (you got it from a web site or another person)

Important: more points may be lost for other reasons not specified here.