**CS3431-A22: Project Description**

**Phase 3: Database Application**

Due Date: Sa 10/1 at 11:59pm. No late submissions because solutions will be posted shortly afterwards.

Teams: The project is done in the same teams of three as in the previous project phases.

Submission: One teammate will zip the p3 project. Develop the code using IntelliJ because you will be submitting a zipped IntelliJ project for the TAs to grade. Include all three of your names in a comment at the top of your code. Any comments or assumptions that you have, you can include them in a separate Word or PDF file. **Also make sure to use the same interface and filename or the auto-grader will give you a 0**!

Description:

For the first two phases of this term project, you were a database developer in charge of creating the database component that application developers would use. For this final phase of the project, you will get experience from the other side - you are now a Java application developer who will use and modify a database created by someone else for your use.

Download and use the provided p3start.sql file to do the final phase of the project. The SQL file contains the same starter tables from Phase 2 so you can test your Java code. You may want to add additional records to more fully test your program.

You are required to write a java program that accesses and modifies the database, and prints results on the screen. Your program will be the interface to perform some simple functionality over the database. **Pay careful attention to the naming of your file and class so we can run the code and give you credit for this final project phase! If your java program does not compile properly, you will receive the grade of 0.**

Create an IntelliJ project named p3, a main() program in “p3.java” and any additional java files in the same src folder (no subfolders).

When the program is run without any parameters, display the message:

“You need to include your UserID and Password parameters on the command line”

The program will take two parameters, e.g., username and password to connect to the DB. (Pass them as parameters such that the TAs can easily set them as needed without recompilation).

When your program is executed without any additional arguments, e.g.,  
> java p3 <username> <password>

Then the program should output the following options, and then terminate:

Include the number of the following menu item as the third parameter on the command line.

1 – Report Patient Information

2 – Report Employee Information

3 – Update Employee’s Password

All parameters and user inputs should NOT require single quotes for the program to run.

1. When the program is executed with an argument 1 as follows:  
   > java p3 <username> <password> 1

The program now enters the “Patient Information” mode. The program should print out the following line:

Enter Patient First Name : <and wait for user’s input>

Enter Patient Last Name : <and wait for user’s input>

When the user enters the patient’s first name and last name, the program should execute a query of the Patient table, display the following results, and then terminate.

Patient Information

Patient ID: …

Patient Name: … (first name, space, last name)

Address: … (city followed by a comma and then state)

Patient ID: … (if there is more than one result)

…

Name should include first name and last name on a single line. Address should include city and state separated by a comma on a single line.

1. When the program is executed with an argument 2 as follows:  
   > java p3 <username> <password> 2

The program enters the “Employee Information” mode. The program should print out the following line:

Enter Employee ID: <and wait for user’s input>

When the user enters the Employee ID, the program should execute a query of the Employee and related tables and print on the screen the following Employee information as follows:

Employee Information

Employee ID: …

NPI: …

Employee Name: … (first name, space, last name)

Username: …

Password: …

Salary Grade: …

Security Clearance: …

Only display the NPI, Salary Grade, and Security Clearance lines if there is a non-null value. Employee name should include first name and last name on a single line. If the employee has an NPI number, then Add “Dr.” to the beginning of their name. The program terminates after this display. Display the password as this is needed for you to test part 3.

1. When the program is executed with an argument 3 as follows:  
   > java p3 <username> <password> 3

The program now enters the “Update Employee’s Password” mode. The program should print out the following line:

Enter the employee ID: <and wait for user’s input>

Enter the updated password: <and wait for user’s input>

Then your program should update the password for the employee ID in the Employee table.

If the update statement returns 1, the program states “Your password was updated.”

Then the program terminates. If you execute the program with option 2 again with the employee ID, you should see the updated password.