CS241 - Questions for Lab Assignment 5

1 INSTRUCTIONS

(1) This lab **is graded**.

(2) Use the student database that was created in Lab1.

(3) Get the answers for Lab4 evaluated before you complete this lab.

(4) Instructions for downloading JDBC driver for MySQL:

    (a) Download JDBC connector from https://dev.mysql.com/downloads/connector/j/
    Install using sudo apt install <.deb> file

    (b) Your .jar will be in /usr/share/java
    Set your CLASSPATH using the following command (for bash):
```
export CLASSPATH=$CLASSPATH:/usr/share/java/mysql-connector-java-8.0.15.jar
```

    (c) To start a connection, use the following code:
```
String url = "jdbc:mysql://localhost:3306/<your database name>";
String username = "<your user name>";
String password = "<your password>";
Connection conn= DriverManager.getConnection(url, username, password);
```

2 QUESTION 1

Consider the following relations:

    Student(snum: integer, sname: string, major: string, level: string, age: integer)

    Class(name: string, meets_at: time, room: string, fid: integer)

    Enrolled(snum: integer, cname: string)

    Faculty (fid: integer, fname: string, deptid: integer)

The meaning of these relations is straightforward; for example, Enrolled has one record per student-class pair such that the student is enrolled in the class.

(1) Write a Java application that creates a new table called Student1 and adds students to Student1. Accept the required inputs from the user. Use the first five table rows given to you for Student while entering inputs. [5 Marks]

(2) Write a java application that lists all the tables and asks the user to select a table to print. Upon selection, the application must print the contents of the selected table in tabular form. [5 Marks]

(3) Write a java application that does the following:
    Use the table Student1 for this question.

    (a) Create a table called NewEnrolled, which has the same attributes as Enrolled.

    (b) Accept a student id from the user. If the id does not exist in Student1, print an error message.

    (c) If it exists, print the complete row corresponding to that id and the classes for which that student has enrolled, by referring to Enrolled.

    (d) If the student has not enrolled for any classes, list the available classes and ask for a class name to enroll.

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(e) Enroll the student in the given class by making an entry in NewEnrolled.

[5 Marks]