

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 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]
- (2) Write a Java application that runs the queries given below. Your application must handle error cases. If a query returns an error, the error must be displayed to the user. You may also write 1 application for each query. [4*5=20 Marks]
 - (a) Ask the user to specify the name of a room. Print the names of all classes that meet in that room.
 - (b) Ask the user to specify the name of a course. Print the rooms and the times at which classes for that course will be conducted.
 - (c) Ask the user to specify the name of a faculty member. Print the names of the courses that that faculty member teaches.
 - (d) Find all faculty members who belong to department 20 and whose courses are conducted in room R128.