**Capability:** Use JDBC to connect to database through JAVA application

**Estimated time: 30 Mins**

**Problem description:** ABC College has 4 departments (ComputerSciene, ECE, EEE, IT) and computer science department has only 5 students for year 2018.

**Student has below info:**

**rollNumber: Integer**

**studentName: String**

**studentAddress : String**

**Write a JDBC programs for below scenarios:**

**1. Insert 5 student data into the database.**

**2. Display information of all the students of computer science department.**

**3. Display Name of the student whose Roll number is 1.**

**4. Update Address of the student from Bangalore to Bhubaneswar whose Roll number is 1.**

**5. Delete Student whose Roll number is 2.**

**Note:-**

* **Use MySQL driver to connect with the database.**
* **Use statement/prepared statement for the above problem statements and try to understand the differences between them.**
* **Close the connections properly.**
* **Try to understand the type of exceptions that is been handled by the program.**

**Assignment 2: Get Primary Key Values (Auto Generated Keys)**

**Estimated time: 20 Mins**

**Problem description:** When we are inserting a record into the database table and the primary key is an auto-increment or auto-generated key, then the insert query will generate it dynamically.

**Write a program to insert data into above Student table. rollNumber should be generated dynamically through the application.**

**Student has following information.**

**rollNumber: Integer Primary Key**

**studentName: String**

**studentAddress: String**

Note:

* **Use MySQL driver to connect with the database.**
* **Use prepared statement to insert data into the Student table.**
* **Print the generated Id for a particular record in the console.**
* **Close the connections properly.**

Hint: - After preforming executeUpdate () method on Prepared Statement, call getGeneratedKeys () method on Prepared Statement. It will return you Result Set, from which you can get auto increment column values.

**Assignment 3: Program to Execute Stored Procedure Using JDBC**

**Estimated time: 20 Mins**

**Problem description:** Develop a simple stored procedure named GetAllStudents () .The GetAllStudents () stored procedure selects all students detail from the student table.

**Write a Callable Statement to call the procedure GetAllStudents () using JDBC.**

**1. Use MySQL driver to connect with the database.**

**2. Use callable statement to execute the stored procedure.**

**3. Close the connections properly**

**Assignment 4: Display Data from Multiple Tables Using JDBC**

**Estimated time: 20 Mins**

**Problem description:** **Note:** Use JDBC to display Student Info where the department Name is Computer Science.

**depratmentId: Integer Primary Key**

**deaprtmentName: String**

**departMentLocation: String**

**rollNumber: Integer Primary Key**

**studentName: String**

**studentAddress: String**

**departmentId : integer Foreign Key**

Note:-

1. **Use MySQL driver to connect with the database.**
2. **Use statement/prepared statement for the above problem statements and try to understand the differences between them.**
3. **Close the connections properly.**

**Estimated time: 20 Mins**

**Assignment 5: Login Application Using JDBC**

**Estimated time: 20 Mins**

**Problem description:** Create an Application for simple login. If User Successfully logs in it will display a Welcome Message. If the user Fails to login it will Show Error Message.

Login

userId: Integer Primary Key

password:- Varchar2

**1. Use MySQL driver to connect with the database.**

**2. Use Properties file to read connection details.**

**3. Do validation in your program to check if the entered User name and password matches with the username and password present in DB.**

**4. If successfully validated display a Message that Successful, if validation fails display in correct result.**

**5. Close the connections.**

**Summary of assignments:**

You have learnt

* How to perform CRUD operation using JDBC
* How to Use Statement, Prepared Sstatement and Callable Statement.
* How to read from a properties file.
* How to auto increment primary key.