

```

/**
 * Q 1) Write a program to perform CRUD operations using JDBC.
 */

import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.*;

public class assign {
    public static void main(String[] args) {
        Connection con = null;

        try {

            /**
             * Need to execute first export
             * CLASSPATH=$CLASSPATH:mysql-connector-java-8.0.21.jar
             */

            con = DriverManager.getConnection("jdbc:mysql://localhost:3306/kaustubh?useSSL=false",
            "kaustubh",
            "kaustubh");

            // connection TEST
            System.out.println("Connection is successful !!!!!");

            //Create table if does not exists
            String CREATE_TABLE_SQL="CREATE TABLE IF NOT EXISTS kaustubh.student ("
            + "id INT,"
            + "sname VARCHAR(30), "
            + "sclass VARCHAR(30),"
            + "PRIMARY KEY (id))";

            //end create table if does not exists

            Statement stmt = con.createStatement();

            stmt.executeUpdate(CREATE_TABLE_SQL);
            System.out.println("Table created");

            insert(con,1,"Kaustubh","MCA II");
            insert(con,2,"Angad","MCA II");
            insert(con,3,"Sagar","MCA III");
            insert(con,4,"Rajesh","MCA II");

            // insert operation
            showData(con);

```

```
// end insert
```

```
// Start UPDATE Statement [UPDATE OPERATION]
```

```
updateData(con);  
showData(con);
```

```
// END UPDATE Statement [UPDATE OPERATION]
```

```
// DELETE OPERATION
```

```
delete(con);  
showData(con);
```

```
// END DELETE
```

```
stmt.executeUpdate("DELETE from student");  
System.out.println("Student Table DROPPED");
```

```
} catch (Exception e) {  
    e.printStackTrace();  
}  
}
```

```
static void insert(Connection con,Integer sid,String name, String ssclass){
```

```
    try {  
        String sql = "INSERT INTO student (id, sname, sclass) VALUES (?, ?, ?)";  
        PreparedStatement statement = con.prepareStatement(sql);  
        statement.setInt(1, sid);  
        statement.setString(2, name);  
        statement.setString(3, ssclass);  
        int rowsInserted = statement.executeUpdate();  
        if (rowsInserted > 0) {  
            System.out.println("A new student was inserted successfully!");  
        }  
    }
```

```
    } catch (Exception e) {  
        e.printStackTrace();
```

```
    }
```

```
}
```

```
static void showData(Connection con) {
```

```
    try {
```

```
        String selectSql = "SELECT * FROM student";  
        Statement selectStatement = con.createStatement();
```

```

ResultSet result = selectStatement.executeQuery(selectSql);
int count = 0;
while (result.next()) {
String id = result.getString("id");
String sname = result.getString("sname");
String sclass = result.getString("sclass");
String output = "Student #%d: %s - %s - %s";
System.out.println(String.format(output, ++count, id, sname, sclass));
}
} catch (Exception e) {

e.printStackTrace();
}
}

static void updateData(Connection con) {
try {
String updateSql = "UPDATE student SET sclass=? WHERE id=?";
PreparedStatement updateStatement = con.prepareStatement(updateSql);
updateStatement.setString(1, "MCA I");
updateStatement.setInt(2, 4);
int rowsUpdated = updateStatement.executeUpdate();
if (rowsUpdated > 0) {
System.out.println("An existing student was updated successfully!");
}

} catch (Exception e) {
e.printStackTrace();
}
}

static void delete(Connection con)
{
try {
String deleteSql = "DELETE FROM student WHERE id=?";
PreparedStatement deletestatement = con.prepareStatement(deleteSql);
deletestatement.setInt(1, 4);
int rowsDeleted = deletestatement.executeUpdate();
if (rowsDeleted > 0) {
System.out.println("A Student was deleted successfully!");
}
} catch (Exception e) {
e.printStackTrace();
}
}

}

```

Output:

```
kaustubh@kaustubh-Lenovo-G50-80: /media/kaustubh/A/Practi...
root@kaustubh-Lenovo-G50-80: ~
kaustubh@kaustubh-Lenovo-G50-80: /media/kaustubh/A/Practicals/practicals/MCA/SEM
III/JAVA/Practicals/assignment no7$ java assign
Connection is successful !!!!!
Table created
A new student was inserted successfully!
A new student was inserted successfully!
A new student was inserted successfully!
A new student was inserted successfully!
Student #1: 1 - Kaustubh - MCA II
Student #2: 2 - Angad - MCA II
Student #3: 3 - Sagar - MCA III
Student #4: 4 - Rajesh - MCA II
An existing student was updated successfully!
Student #1: 1 - Kaustubh - MCA II
Student #2: 2 - Angad - MCA II
Student #3: 3 - Sagar - MCA III
Student #4: 4 - Rajesh - MCA I
A Student was deleted successfully!
Student #1: 1 - Kaustubh - MCA II
Student #2: 2 - Angad - MCA II
Student #3: 3 - Sagar - MCA III
Student Table DROPPED
kaustubh@kaustubh-Lenovo-G50-80: /media/kaustubh/A/Practicals/practicals/MCA/SEM
III/JAVA/Practicals/assignment no7$
```