/\*\*

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

\*/

import java.sql.\*;

import java.util.Scanner;

public class assign2 {

public static void main(String[] args) {

Connection con = null;

Scanner sc = new Scanner(System.in);

try {

/\*\*

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

\*/

con = DriverManager.getConnection("jdbc:mysql://localhost:3306/kaustubh?allowPublicKeyRetrieval=true&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");

// Some initial fixed insertion queries

insert(con, 1, "Kaustubh", "MCA II");

insert(con, 2, "Angad", "MCA II");

insert(con, 3, "Sagar", "MCA III");

insert(con, 4, "Rajesh", "MCA II");

// Some initial fixed insertion queries

selection(con, sc, stmt);

} catch (Exception e) {

e.printStackTrace();

}

}

static void selection(Connection con, Scanner sc, Statement stmt) {

System.out

.println("Select Operation to Perform :\n1.Insert\n2.Update\n3.Delete\n4.Select\n5.Drop Table\n6.Exit");

int choice = sc.nextInt();

switch (choice) {

case 1:

System.out.println("Enter Student id ,Student Name & Student Class");

int id=sc.nextInt();

sc.nextLine();

String sname=sc.nextLine();

String sclass=sc.nextLine();

insert(con, id, sname, sclass);

selection(con, sc, stmt);

break;

case 2:

System.out.println("Enter ID to Update & new Class");

int sid=sc.nextInt();

sc.nextLine();

String ssclass=sc.nextLine();

updateData(con, sid, ssclass);

selection(con, sc, stmt);

break;

case 3:

System.out.println("Enter ID to Delete");

delete(con, sc.nextInt());

selection(con, sc, stmt);

break;

case 4:

showData(con);

selection(con, sc, stmt);

break;

case 5:

try {

stmt.executeUpdate("DELETE from student");

System.out.println("Student Table DROPPED . Program needs to restart to fire initial queries");

sc.close();

con.close();

} catch (SQLException e) {

e.printStackTrace();

}

break;

case 6: System.exit(0);

break;

default:System.out.println("The option you selected was invalid\nPlease try again?");

selection(con, sc,stmt);

break;

}

}

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,Integer id,String sclass) {

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,Integer sid)

{

try {

String deleteSql = "DELETE FROM student WHERE id=?";

PreparedStatement deletestatement = con.prepareStatement(deleteSql);

deletestatement.setInt(1, sid);

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/Practicals/practicals/MCA/SEM III/JAVA/Practicals/assignment no7$ javac assign2.java

kaustubh@kaustubh-Lenovo-G50-80:/media/kaustubh/A/Practicals/practicals/MCA/SEM III/JAVA/Practicals/assignment no7$ java assign2

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!

Select Operation to Perform :

1.Insert

2.Update

3.Delete

4.Select

5.Drop Table

6.Exit

4

Student #1: 1 - Kaustubh - MCA II

Student #2: 2 - Angad - MCA II

Student #3: 3 - Sagar - MCA III

Student #4: 4 - Rajesh - MCA II

Select Operation to Perform :

1.Insert

2.Update

3.Delete

4.Select

5.Drop Table

6.Exit

1

Enter Student id ,Student Name & Student Class

5

Manoj

MCA III

A new student was inserted successfully!

Select Operation to Perform :

1.Insert

2.Update

3.Delete

4.Select

5.Drop Table

6.Exit

4

Student #1: 1 - Kaustubh - MCA II

Student #2: 2 - Angad - MCA II

Student #3: 3 - Sagar - MCA III

Student #4: 4 - Rajesh - MCA II

Student #5: 5 - Manoj - MCA III

Select Operation to Perform :

1.Insert

2.Update

3.Delete

4.Select

5.Drop Table

6.Exit

2

Enter ID to Update & new Class

5

MCAII

An existing student was updated successfully!

Select Operation to Perform :

1.Insert

2.Update

3.Delete

4.Select

5.Drop Table

6.Exit

4

Student #1: 1 - Kaustubh - MCA II

Student #2: 2 - Angad - MCA II

Student #3: 3 - Sagar - MCA III

Student #4: 4 - Rajesh - MCA I

Student #5: 5 - Manoj - MCA III

Select Operation to Perform :

1.Insert

2.Update

3.Delete

4.Select

5.Drop Table

6.Exit

3

Enter ID to Delete

5

A Student was deleted successfully!

Select Operation to Perform :

1.Insert

2.Update

3.Delete

4.Select

5.Drop Table

6.Exit

4

Student #1: 1 - Kaustubh - MCA II

Student #2: 2 - Angad - MCA II

Student #3: 3 - Sagar - MCA III

Student #4: 4 - Rajesh - MCA I

Select Operation to Perform :

1.Insert

2.Update

3.Delete

4.Select

5.Drop Table

6.Exit

5

Student Table DROPPED . Program needs to restart to fire initial queries





