package crud\_operation;

import java.sql.Connection;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.util.Scanner;

public class CRUD\_Operation {

public static void main(String[] args) {

CRUD\_Operation objTest = new CRUD\_Operation();

Scanner sc=new Scanner(System.in);

/\* Adding the Data to the Table

\* System.out.println("Enter the number of students to insert: "); int

\* n=sc.nextInt();

\*

\* for(int i=0;i<n;i++) { System.out.print("Enter student sl no: "); String

\* sl\_no=sc.next(); sc.nextLine();

\* System.out.print("Enter the student's name: "); String name=sc.nextLine();

\* System.out.print("Enter the student's mark: "); int mark=sc.nextInt();

\* objTest.create\_data(sl\_no, name,mark); }

\*/

//Reading the user data

//objTest.read\_data();

//Reading the user data using the serial number

/\*

\* System.out.print("Enter sl\_no to search: "); String sl\_no = sc.nextLine();

\*

\* obj.read\_data\_by\_slno(sl\_no);

\*/

/\*Update the details

\* System.out.print("Enter current sl\_no to update: "); String sl\_no =

\* sc.nextLine();

\*

\* System.out.print("Enter new sl\_no: "); String new\_sl\_no = sc.nextLine();

\*

\* System.out.print("Enter new name: "); String name = sc.nextLine();

\*

\* System.out.print("Enter new email: "); String email = sc.nextLine();

\*

\* objTest.update\_data(sl\_no, new\_sl\_no, name, email);

\*/

/\*Add a new Column

\* System.out.print("Enter new column name: "); String columnName =

\* sc.nextLine();

\*

\* System.out.print("Enter column data type (e.g., VARCHAR(100), INT): ");

\* String columnType = sc.nextLine();

\*

\* objTest.alter\_table\_add\_column(columnName, columnType);

\*/

/\*

\* //Delete a user by serial number System.out.print("Enter sl\_no to delete: ");

\* String sl\_no = sc.next();

\*

\* objTest.deleteBySlNo(sl\_no);

\*/

sc.close();

}

public void read\_data\_by\_slno(String sl\_no) {

DB\_Connection obj\_DB\_Connection = new DB\_Connection();

Connection connection = obj\_DB\_Connection.get\_connection();

PreparedStatement ps = null;

ResultSet rs = null;

try {

String query = "SELECT \* FROM student WHERE sl\_no = ?";

ps = connection.prepareStatement(query);

ps.setString(1, sl\_no);

System.out.println("Executing Query: " + ps);

rs = ps.executeQuery();

boolean found = false;

while (rs.next()) {

found = true;

System.out.print("Sl No: " + rs.getString("sl\_no") + " - ");

System.out.print("Name: " + rs.getString("name") + " - ");

System.out.println("Mark: " + rs.getInt("mark"));

}

if (!found) {

System.out.println(" No record found with sl\_no: " + sl\_no);

}

} catch (Exception e) {

System.out.println(" Error: " + e.getMessage());

}

}

public void read\_data() {

DB\_Connection obj\_DB\_Connection = new DB\_Connection();

Connection connection = obj\_DB\_Connection.get\_connection();

PreparedStatement ps=null;

ResultSet rs = null;

try {

String query = "SELECT \* FROM student";

ps = connection.prepareStatement(query);

System.out.println("Executing Query: " + ps);

rs = ps.executeQuery();

while (rs.next()) {

System.out.print("Sl No: " + rs.getString("sl\_no") + " - ");

System.out.print("Name: " + rs.getString("name") + " - ");

System.out.println("Mark: " + rs.getInt("mark"));

}

} catch (Exception e) {

System.out.println("Error: " + e.getMessage());

}

}

public void create\_data(String sl\_no, String name, int mark) {

DB\_Connection obj\_DB\_Connection = new DB\_Connection();

Connection connection = obj\_DB\_Connection.get\_connection();

PreparedStatement ps = null;

try {

String query = "INSERT INTO student (sl\_no, name, mark) VALUES (?, ?, ?)";

ps = connection.prepareStatement(query);

ps.setString(1, sl\_no);

ps.setString(2, name);

ps.setInt(3, mark);

ps.executeUpdate();

System.out.println("Record inserted successfully!");

} catch (Exception e) {

System.out.println(" Error: " + e.getMessage());

}

}

public void update\_data(String sl\_no, String new\_sl\_no, String name, String email){

DB\_Connection obj\_DB\_Connection = new DB\_Connection();

Connection connection = obj\_DB\_Connection.get\_connection();

PreparedStatement ps = null;

try {

String query = "update user set sl\_no=?, name=?, email=? where sl\_no=?";

ps = connection.prepareStatement(query);

ps.setString(1, new\_sl\_no);

ps.setString(2, name);

ps.setString(3, email);

ps.setString(4, sl\_no);

System.out.println(ps);

ps.executeUpdate();

} catch (Exception e) {

System.out.println(e);

}

}

public void alter\_table\_add\_column(String columnName, String columnType) {

DB\_Connection obj\_DB\_Connection = new DB\_Connection();

Connection connection = obj\_DB\_Connection.get\_connection();

PreparedStatement ps = null;

try {

String query = "ALTER TABLE student ADD " + columnName + " " + columnType;

ps = connection.prepareStatement(query);

ps.executeUpdate();

System.out.println("Column added successfully!");

} catch (Exception e) {

System.out.println(" Error: " + e.getMessage());

}

}

public void deleteBySlNo(String sl\_no) {

DB\_Connection obj\_DB\_Connection = new DB\_Connection();

Connection connection = obj\_DB\_Connection.get\_connection();

PreparedStatement ps = null;

try {

String query = "DELETE FROM student WHERE sl\_no = ?";

ps = connection.prepareStatement(query);

ps.setString(1, sl\_no);

int rowsAffected = ps.executeUpdate();

if (rowsAffected > 0) {

System.out.println("Record with sl\_no " + sl\_no + " deleted successfully.");

} else {

System.out.println("No record found with sl\_no " + sl\_no + ".");

}

} catch (Exception e) {

e.printStackTrace();

}

}

}