package crud\_operation;

import java.sql.Connection;

import java.sql.PreparedStatement;

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);

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: ");

int n=sc.nextInt();

for(int i=0;i<n;i++)

{

System.out.print("Enter student sl no: ");

int sl\_no=sc.nextInt();

sc.nextLine();

System.out.print("Enter the student's name: ");

String name=sc.nextLine();

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

}

sc.close();

}

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

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

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

PreparedStatement ps=null;

try {

String query="insert into student values (?,?)";

ps=connection.prepareStatement(query);

ps.setInt(1, sl\_no);

ps.setString(2, name);

System.out.println(ps);

ps.executeUpdate();

} catch (Exception e) {

System.out.println(e);

}

}

}

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

}

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}

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

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ps=connection.prepareStatement(query);

ps.setInt(1, sl\_no);

ps.setString(2, name);

System.out.println(ps);

ps.executeUpdate();

} catch (Exception e) {

System.out.println(e);

}

}

}

package CRUD;

import java.sql.Connection;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

public class CRUD\_Test {

public static void main(String[] args) {

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

// 1. ALTER TABLE - Add new column 'phone'

System.out.println("=== ALTER TABLE ===");

objTest.alter\_table\_add\_column();

// 2. INSERT Operation

System.out.println("=== INSERT ===");

objTest.create\_data("5", "David", "david@example.com");

// 3. READ Operation

System.out.println("=== READ ===");

objTest.read\_data();

// 4. UPDATE Operation

System.out.println("=== UPDATE ===");

objTest.update\_data("5", "6", "David Miller", "david.miller@example.com");

// 5. DELETE Operation

System.out.println("=== DELETE ===");

objTest.delete\_data("6");

}

public void create\_data(String 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 = "INSERT INTO user(sl\_no, name, email) VALUES (?, ?, ?)";

ps = connection.prepareStatement(query);

ps.setString(1, sl\_no);

ps.setString(2, name);

ps.setString(3, email);

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

ps.executeUpdate();

System.out.println("Insert successful!");

} catch (Exception e) {

System.out.println(e);

}

}

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 user";

ps = connection.prepareStatement(query);

rs = ps.executeQuery();

System.out.println("Reading all users:");

while (rs.next()) {

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

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

System.out.println("Email: " + rs.getString("email"));

System.out.println("---------------");

}

} catch (Exception e) {

System.out.println(e);

}

}

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("Executing: " + ps);

ps.executeUpdate();

System.out.println("Update successful!");

} catch (Exception e) {

System.out.println(e);

}

}

public void delete\_data(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 user WHERE sl\_no=?";

ps = connection.prepareStatement(query);

ps.setString(1, sl\_no);

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

ps.executeUpdate();

System.out.println("Delete successful!");

} catch (Exception e) {

System.out.println(e);

}

}

public void alter\_table\_add\_column() {

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

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

PreparedStatement ps = null;

try {

String query = "ALTER TABLE user ADD phone VARCHAR(15)";

ps = connection.prepareStatement(query);

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

ps.executeUpdate();

System.out.println("Table altered successfully! Column 'phone' added.");

} catch (Exception e) {

if (e.toString().contains("Duplicate column name")) {

System.out.println("Column 'phone' already exists.");

} else {

System.out.println(e);

}

}

}

}