TASK 5

STUDENT MANAGEMENT SYSTEM

1. Create a Student class to represent individual students. Include attributes such as name, roll number, grade, and any other relevant details.

2. Implement a StudentManagementSystem class to manage the collection of students. Include methods to add a student, remove a student, search for a student, and display all students.

3 . Design the user interface for the Student Management System. This can be a console-based interface or a graphical user interface (GUI) using libraries like Swing or JavaFX.

4. Implement methods to read and write student data to a storage medium, such as a file or a database.

5. Allow users to interact with the Student Management System by providing options such as adding a new student, editing an existing student's information, searching for a student, displaying all students, and exiting the application.

6. Implement input validation to ensure that required fields are not left empty and that the student data is in the correct format.

Code:

import java.sql.\*;

import java.util.Scanner;

import java.util.\*;

public class StudentManagementSystem {

public static void main(String args[])

{

String database ="jdbc:mysql://localhost:3306/suhani\_agarwal";

String username="root";

String password="root";

Connection conn;

int ch=0;

int op=0;

Scanner sc=new Scanner(System.in);

try

{

conn=DriverManager.getConnection(database , username , password);

if(conn!=null)

{

System.out.println("Connected");

}

do

{

switch(op)

{

case 1:

do

{

Scanner s=new Scanner(System.in);

Scanner s\_nam = new Scanner(System.in);

Scanner s\_roll = new Scanner(System.in);

Scanner s\_mail= new Scanner(System.in);

Scanner s\_dep = new Scanner(System.in);

Scanner s\_grad = new Scanner(System.in);

System.out.println("Enter Student name:");

String nam=s\_nam.next();

System.out.println("Enter Student Roll Number:");

int roll = s\_roll.nextInt();

System.out.println("Enter Student Email Address::");

String mail=s\_mail.next();

System.out.println("Enter Student Department:");

String dep = s\_dep.next();

System.out.println("Enter Student Grade Obtained(in CGPA):");

String grad = s\_grad.next();

String sql = "INSERT INTO student\_management(name,roll\_no,email,dept,grade) VALUES (?,?,?,?,?)";

PreparedStatement statement = conn.prepareStatement(sql);

statement.setString(1, nam);

statement.setInt(2, roll);

statement.setString(3, mail);

statement.setString(4, dep);

statement.setString(5, grad);

int rowsInserted=statement.executeUpdate();

if(rowsInserted >0)

{

System.out.println("A new user has been inserted successfully");

}

System.out.println("Do you want to continue?");

ch=sc.nextInt();

}while(ch==1);

break;

case 2:

Scanner sca=new Scanner(System.in);

System.out.println("Enter the records to for updation");

System.out.println("Enter the Student roll number whose record are to be updated:");

int uroll\_no = sca.nextInt();

System.out.println("Enter the updated Name of student");

String uname=sca.next();

System.out.println("Enter the updated mail of student:");

String uemail=sca.next();

System.out.println("Enter the updated depatrment of student:");

String udept=sca.next();

System.out.println("Enter the updated grade of student:");

String ugrade = sca.next();

String sql2 = "UPDATE student\_management SET name=?, email=? , dept=? , grade=? WHERE roll\_no=?";

PreparedStatement statement1 = conn.prepareStatement(sql2);

statement1.setString(1,uname);

statement1.setString(2, uemail);

statement1.setString(3, udept);

statement1.setString(4, ugrade);

statement1.setInt(5, uroll\_no);

int rowsUpdated = statement1.executeUpdate();

if(rowsUpdated >0)

{

System.out.println("A student was updated successfully");

}

break;

case 3:

System.out.println("Enter the records for Deletion:");

System.out.println("Enter the Student roll number whose records are to be deleted");

int droll=sc.nextInt();

String sql3="DELETE FROM employee\_1 WHERE id=?";

PreparedStatement statement3 = conn.prepareStatement(sql3);

statement3.setInt(1, droll);

int rowsDeleted = statement3.executeUpdate();

if(rowsDeleted >0)

{

System.out.println("A student has been deleted successfully");

}

break;

case 4:

String sql1="SELECT \* FROM student\_management";

Statement stmt = conn.createStatement();

ResultSet result = stmt.executeQuery(sql1);

int count=0;

while(result.next())

{

String name=result.getString(1);

int roll\_no=result.getInt(2);

String email=result.getString(3);

String dept=result.getString(4);

int grade=result.getInt(5);

String output = "STUDENT #%d: -%s - %d - %s -%s -%d";

System.out.println(String.format(output, ++count,name,roll\_no,email,dept,grade));

}

break;

}

System.out.println("Enter your choice:1.Add Student Information 2.Update 3.Delete 4.Display\n");

op=sc.nextInt();

}while(op!=0);

}

catch(Exception ex)

{

ex.printStackTrace();

}

}

}

Output:

