```
package model;

public class Student {
	// RollNo, Name, Contact No, City, Email ID, Standard ]
	private int rollNo;
	private String name;
	private String contactNo;
	private String city;
	private String emailId;
	private int standard;

	public Student() {

	}

	public Student(int rollNo, String name, String contactNo, String city, String emailId,
int standard) {

		super();
		this.rollNo = rollNo;
		this.name = name;
		this.contactNo = contactNo;
		this.city = city;
		this.emailId = emailId;
		this.standard = standard;
	}

	public int getRollNo() {
		return rollNo;
	}

	public void setRollNo(int rollNo) {
		this.rollNo = rollNo;
	}

	public String getName() {
		return name;
	}

	public void setName(String name) {
		this.name = name;
	}

	public String getContactNo() {
```

```
		return contactNo;
	}

	public void setContactNo(String contactNo) {
		this.contactNo = contactNo;
	}

	public String getCity() {
		return city;
	}

	public void setCity(String city) {
		this.city = city;
	}

	public String getEmailId() {
		return emailId;
	}

	public void setEmailId(String emailId) {
		this.emailId = emailId;
	}

	public int getStandard() {
		return standard;
	}

	public void setStandard(int standard) {
		this.standard = standard;
	}

	@Override
	public String toString() {
		return "Student [rollNo=" + rollNo + ", name=" + name + ", contactNo=" +
contactNo + ", city=" + city
				+ ", emailId=" + emailId + ", standard=" + standard +
"]";
	}

}


package service;
```

```
import java.sql.SQLException;

import model.Student;

public interface StudentInterface {

		/*
		 * 1. Add 2. Display 3. Update 4. Delete 5. Exit
		 */
		void addStudent( Student s) throws SQLException;
		void displayStudent()throws SQLException;
		int updateStudent(Student s,int rollNo,String property)throws SQLException;
		int deleteStudent(int rollNo)throws SQLException;
		void findStudentByRollno(int rollNo)throws SQLException;
		void exit()throws SQLException;

}



package service;

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.regex.Pattern;

import jdbcpack.Connect;
import model.Student;

public class StudentInterfaceImpl implements StudentInterface {
		Connection conn=null;
		PreparedStatement pst=null;
		public  StudentInterfaceImpl() {
				conn=Connect.getMyConnection();
		}
		// RollNo, Name, Contact No, City, Email ID, Standard ]



		@Override
		public void addStudent(Student s) throws SQLException {
				// TODO Auto-generated method stub
```

```
                pst=conn.prepareStatement("insert into student values (?,?,?,?,?,?)");
                pst.setInt(1,s.getRollNo());
                pst.setString(2,s.getName());
                pst.setString(3, s.getContactNo());
                pst.setString(4,s.getCity());
                pst.setString(5, s.getEmailId());
                pst.setInt(6, s.getStandard());
                int str1=pst.executeUpdate();

                if(str1==1) {
                        System.out.println("Inserted");
                }
        }
        public static boolean isValid(String email)
{

  // String emailRegex1= "^[A-Za-z0-9+_.-]+@gmail(.+)com";
                String regex = "^(.+)@(.+)$";
   Pattern pat = Pattern.compile(regex);
   if (email == null||email.length()==0)
      return false;
   return pat.matcher(email).matches();
}

        @Override
        public void displayStudent() throws SQLException {
                // TODO Auto-generated method stub
                pst=conn.prepareStatement("select *from student");
                ResultSet rs = pst.executeQuery();
        while(rs.next())
        {
                int rollNo=rs.getInt("rollNo");
                String name=rs.getString("name");

                String contactNo=rs.getString("contactNo");
                String city=rs.getString("city");
                String emailId=rs.getString("emailId");
                int standard=rs.getInt("standard");
        Student student = new Student( rollNo,name,contactNo,city,emailId,standard);
        System.out.println(student);
        }

        }
```

```
	@Override
	public int updateStudent(Student s, int rollNo, String property) throws SQLException {
		// TODO Auto-generated method stub
		Student student1=new Student();
		((StudentInterface) student1).findStudentByRollno(rollNo);

		if(property.equals("name"))
			student1.setName(s.getName());
		if(property.equals("contactNo"))
			student1.setContactNo(s.getContactNo());
		if(property.equals("city"))
			student1.setCity(s.getCity());
		if(property.equals("emailId"))
			student1.setEmailId(s.getEmailId());
		if(property.equals("standard"))
			student1.setStandard(s.getStandard());

			pst=conn.prepareStatement("update student set
name=?,contactNo=? ,city=?,emailId=?,standard=? where rollNo=? ");
			pst.setString(1,student1.getName());
			pst.setString(2, student1.getContactNo());
			pst.setString(3, student1.getCity());
			pst.setString(4, student1.getEmailId());
			pst.setInt(5, student1.getStandard());

			pst.setInt(6, rollNo);
			int r=pst.executeUpdate();
			return r;

	}

	@Override
	public int deleteStudent(int rollNo) throws SQLException {
Student stu=new Student() ;
((StudentInterface) stu).findStudentByRollno(rollNo);

		pst=conn.prepareStatement("Delete from student where rollNo=?");
		pst.setInt(1,rollNo);
		int s=pst.executeUpdate();
		return s;



	}
```

```
	public void findStudentByRollno(int rollNo)  throws SQLException{
			pst=conn.prepareStatement("select *from student where rollNo=?");
			pst.setInt(1,rollNo);
			ResultSet rs=pst.executeQuery();
	//		Student student = null;
			while(rs.next())
			{
			int rollNo1=rs.getInt("rollNo");
			 String name=rs.getString("name");
			 String contactNo=rs.getString("contactNo");
			 String city=rs.getString("city");
			 String emailId=rs.getString("emailId");
			 int standard=rs.getInt("standard");
	Student	student=new Student(rollNo1,name,contactNo,city,emailId,standard);

	System.out.println(student);
			}

	}
	@Override
	public void exit() throws SQLException {
			// TODO Auto-generated method stub

	}




	public  void findStudentByName(String name) throws SQLException {
			// TODO Auto-generated method stub
			pst=conn.prepareStatement("select*from student where name=?");
			pst.setString(1, name);
			ResultSet rs=pst.executeQuery();

			while(rs.next()) {
			int rollNo1=rs.getInt("rollNo");
			 String name1=rs.getString("name");
			 String contactNo=rs.getString("contactNo");
			 String city=rs.getString("city");
			 String emailId=rs.getString("emailId");
			 int standard=rs.getInt("standard");
			Student student=new
Student(rollNo1,name1,contactNo,city,emailId,standard);
```

```
                System.out.println(student);

                }
        }
        public void findStudentByCity(String city) throws SQLException {
                // TODO Auto-generated method stub
                pst=conn.prepareStatement("select all *from student where city=?");
                pst.setString(1, city);
                ResultSet rs=pst.executeQuery();

                while(rs.next()) {
                int rollNo1=rs.getInt("rollNo");
                 String name=rs.getString("name");
                 String contactNo=rs.getString("contactNo");
                 String city1=rs.getString("city");
                 String emailId=rs.getString("emailId");
                 int standard=rs.getInt("standard");
                Student student=new
Student(rollNo1,name,contactNo,city,emailId,standard);
                System.out.println(student);
                }

        }
        public void findStudentByStandard(String standard) throws SQLException {
                // TODO Auto-generated method stub
                pst=conn.prepareStatement("select all *from student where standard=?");
                pst.setString(1, standard);
                ResultSet rs=pst.executeQuery();

                while(rs.next()) {
                int rollNo1=rs.getInt("rollNo");
                 String name=rs.getString("name");
                 String contactNo=rs.getString("contactNo");
                 String city=rs.getString("city");
                 String emailId=rs.getString("emailId");
                 int standard1=rs.getInt("standard");
                Student student=new
Student(rollNo1,name,contactNo,city,emailId,standard1);
                System.out.println(student);


        }

        }
```

```
}


package jdbcpack;

import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;

public class Connect {
	public static Connection getMyConnection()
	{


			Connection conn=null;
			try {

conn=DriverManager.getConnection("jdbc:mysql://localhost:3306/StudentDetails","root","paviS
QL123");

			}catch(SQLException ex)
			{
				System.out.println(ex.getMessage());

			}catch(Exception e)
			{
				System.out.println(e.getMessage());

			}
			return conn;
			}

}



package jdbcpack;

import java.sql.SQLException;
```

```
import java.util.Scanner;

import model.Student;
import service.StudentInterface;
import service.StudentInterfaceImpl;

public class TestStudentDetails {

	public static void main(String[] args) throws SQLException {
		// TODO Auto-generated method stub
		// 1. Add 2. Display 3. Update 4. Delete 5. Exit
		//// RollNo, Name, Contact No, City, Email ID, Standard ]
		StudentInterface studentInterface = new StudentInterfaceImpl();
		char ch = ' ';
		do {
			System.out.println("----------------------Menu--------------");
			System.out.println(" 1.Add \n 2.Display\n 3.Update \n 4.Delete
\n 5.Find student by roll no and name "
					+ "\n 6.Find student by city and Standard \n
7.exit");
			System.out.println("--------------------------");
			System.out.println("Enter the choice");
			Scanner sc = new Scanner(System.in);
			System.out.println("--------------------------");

			int option = sc.nextInt();
			int rolNo;
			String name;
			String contactNo = null;
			String city;
			String emailId = null;
			int standard = 0;
			String eid;
			String num;
			int len;
			switch (option) {
			case 1:
				do {
					System.out.print("Enter  Roll No:");

					rolNo = sc.nextInt();
					System.out.print("Enter Name: ");
					name = sc.next();
					do {
```

```
No:");
                                                        System.out.print("Enter Contact

                                                        num = sc.next();
                                                        len = num.length();
                                                        if (len == 10) {
                                                                contactNo = num;
                                                        } else {


System.out.println("enter 10 digit number");
                                                                // num=sc.next();
                                                                if (len == 10) {
num;
                                                                        contactNo =

                                                                }

                                                        }
                                                } while ((len) != 10);

                                                System.out.print("Enter City:");
                                                city = sc.next();
                                                do {

                                                        System.out.println(("enter
email"));
                                                        eid = sc.next();
                                                        if
(StudentInterfaceImpl.isValid(eid)) {
                                                                emailId = eid;
                                                        } else {

System.out.println(("enter valid Emaild:"));
                                                                eid = sc.next();
                                                                if
(StudentInterfaceImpl.isValid(eid)) {
                                                                        emailId =
eid;
                                                                }

                                                        }

                                                        /*
                                                         * System.out.print("Enter Email
Id:"); emailId = sc.next();
                                                         * System.out.println("invalid
```

```
email id");
                                                                        */
                                                                } while
(!StudentInterfaceImpl.isValid(emailId));

                                                                /*
                                                                 * System.out.println("Wrong emailId Enter
again"); emailId = sc.next();
                                                                 */

                                                                System.out.print("Enter Standard:");
                                                                standard = sc.nextInt();

System.out.println("----------------------------------------------------------------");
                                                                System.out.println(
                                                                                rolNo + ", " + name + ",
" + contactNo + ", " + city + ", " + emailId + ", " + standard);

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

                                                                Student stu = new Student(rolNo, name,
contactNo, city, emailId, standard);

                                                                try {

studentInterface.addStudent(stu);

                                                                } catch (SQLException e) {
                                                                        System.out.println("Adding
student" + e.getMessage());

                                                                }
                                                                System.out.println("Do you want to add
more  record(Y/N)");
                                                                ch = sc.next().charAt(o);
                                                        } while (ch == 'y' || ch == 'Y');

                                                        if (ch == 'N' || ch == 'n')
                                                                System.out.println(
                                                                                rolNo + ", " + name + ",
" + contactNo + ", " + city + ", " + emailId + ", " + standard);

                                                                break;
                                                case 2:
```

```
                                        try {
                                                studentInterface.displayStudent();
                                        } catch (SQLException e) {
                                                System.out.println("Displaying student -->"
+ e.getMessage());
                                        }
                                        break;
                                case 3:
                                        System.out.println("enter the student id to modify");
                                        int rollNum = sc.nextInt();
                                        System.out.println("enter the property you want to
change");
                                        String property = sc.next();
                                        Student mstudent = new Student();
                                        if (property.equals("name")) {
                                                System.out.println("enter the new name");
                                                mstudent.setName(sc.next());
                                        }
                                        if (property.equals("contactNo")) {
                                                System.out.println("enter the new
contactNo");
                                                mstudent.setContactNo(sc.next());
                                        }
                                        if (property.equals("city")) {
                                                System.out.println("enter the new city");
                                                mstudent.setCity(sc.next());
                                        }
                                        if (property.equals("emailId")) {
                                                System.out.println("enter the new emailId");
                                                mstudent.setEmailId(sc.next());
                                        }
                                        if (property.equals("standard")) {
                                                System.out.println("enter the new
standard");
                                                mstudent.setStandard(sc.nextInt());
                                        }
                                        try {
                                                int r =
studentInterface.updateStudent(mstudent, rollNum, property);
                                                if (r == 1)
                                                        System.out.println("Updated
successfuly");
                                        } catch (SQLException e) {
                                                System.out.println("update student -->" +
```

```
e.getMessage());
                                        }
                                        break;
                                case 4:

                                        System.out.println("enter the student id to delete");
                                        int rollNumber = sc.nextInt();

                                        try {
                                                System.out.println("Are you sure u want to
delete(Y/N)");

                                                ch = sc.next().charAt(0);
                                                if (ch == 'y' || ch == 'N') {
                                                        int r =
studentInterface.deleteStudent(rollNumber);
                                                        System.out.println("Deleted");
                                                } else if (ch == 'n' || ch == 'N') {

studentInterface.displayStudent();
                                                }

                                        } catch (SQLException e1) {
                                                // TODO Auto-generated catch block
                                                e1.printStackTrace();
                                        }

                                        break;
                                case 5:
                                        do {
                                                System.out.println("Want to search by Roll
No then 1 and 2 for searching by Name");

                                                int option1 = sc.nextInt();
                                                switch (option1) {

                                                case 1:

                                                        System.out.println("Enter  roll no
to find student ");

                                                        int rollNo = sc.nextInt();
                                                        try {

studentInterface.findStudentByRollno(rollNo);

                                                        } catch (SQLException e2) {
```

```
                                                e2.printStackTrace();
                                        }
                                        break;
                                case 2:
                                        System.out.println("Enter  name
to find student ");
                                        String name1 = sc.next();
                                        try {

((StudentInterfaceImpl) studentInterface).findStudentByName(name1);
                                        } catch (SQLException e2) {
                                                e2.printStackTrace();
                                        }
                                        break;
                                }
                                System.out.println("do you wish to continue
with  this operation, say yes");
                                ch = sc.next().charAt(0);
                        } while (ch == 'y' || ch == 'Y');
                        break;
                case 6:
                        do {
                                System.out.println("Want to search by City
then 1 and 2 for searching by Standard");
                                int option2 = sc.nextInt();
                                switch (option2) {
                                case 1:
                                        System.out.println("Enter the city
to list out the students of repective student");
                                        String city1 = sc.next();
                                        try {

((StudentInterfaceImpl) studentInterface).findStudentByCity(city1);
                                        } catch (SQLException e3) {
                                                e3.printStackTrace();
                                        }
                                        break;
                                case 2:
                                        System.out.println("Enter
standard to select all students");
                                        String st = sc.next();
                                        try {
```

```
((StudentInterfaceImpl) studentInterface).findStudentByStandard(st);

                                                                } catch (SQLException e4) {
                                                                        e4.printStackTrace();
                                                                }
                                                                break;
                                                        }
                                                        System.out.println("Do you want to
continue with this operation say yes");
                                                        ch = sc.next().charAt(0);
                                                } while (ch == 'y' || ch == 'Y');
                                                break;

                                        case 7:

                                                break;
                                        default:
                                                System.out.println("enter the valid option");
                                                break;

                                        }
                                        System.out.println("do you wish to continue say yes");
                                        ch = sc.next().charAt(0);
                                } while (ch == 'y' || ch == 'Y');

                }
}
```