DAO PACKAGE ==========
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DAO StudentDao
==========

```
package com.masai.dao;
import java.util.List;
import com.masai.exceptions.StudentException;
import com.masai.model.Student;
public interface StudentDao {

 public String insertStudentDetails(int roll, String name, String address, int marks);

 public String insertStudentDetails2(Student student);

 public Student getStudentDetailsByRoll(int roll)throws StudentException;

 public List<Student> getAllStudentDetails()throws StudentException;

 //public int getStudentMarksByRoll(int roll)throws StudentException;

 //public String deleteStudentByRoll(int roll)throws StudentException;

 //public Student givetheGraceMarks(int roll, int gMarks)throws StudentException;
}
```

DAO SudentDaoImpl
==========

```
package com.masai.dao;
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.ArrayList;
import java.util.List;
import com.masai.exceptions.StudentException;
import com.masai.model.Student;
import com.masai.utility.DBUtil;

public class StudentDaoImpl implements StudentDao{

 @Override
 public String insertStudentDetails(int roll, String name, String address, int marks) {
  String result= "Not inserted....";

  try(Connection conn= DBUtil.provideConnection()){
   PreparedStatement ps= conn.prepareStatement("insert into student values(?,?,?,?)");

   ps.setInt(1, roll);
   ps.setString(2, name);
   ps.setString(3, address);
   ps.setInt(4, marks);
```

```
 int x= ps.executeUpdate();

 if(x > 0)
  result="Inserted Sucessfully ! ";

 }catch (SQLException e) {
  result= e.getMessage();
 }

 return result;
}
@Override
public String insertStudentDetails2(Student student) {
 String result= "Not inserted....";

 try(Connection conn= DBUtil.provideConnection()){
  PreparedStatement ps= conn.prepareStatement("insert into student values(?,?,?,?)");

  ps.setInt(1, student.getRoll());
  ps.setString(2, student.getName());
  ps.setString(3, student.getAddress());
  ps.setInt(4, student.getMarks());
  int x= ps.executeUpdate();

  if(x > 0)
   result="Inserted Sucessfully ! ";

 }catch (SQLException e) {
  result= e.getMessage();
 }
 return result;
}
@Override
public Student getStudentDetailsByRoll(int roll)throws StudentException {
 Student student=null;

 try(Connection conn= DBUtil.provideConnection()) {
  PreparedStatement ps= conn.prepareStatement("select * from student where roll=?");
  ps.setInt(1, roll);
  ResultSet rs= ps.executeQuery();

  if(rs.next()) {
   int r= rs.getInt("roll");
   String n= rs.getString("name");
   String a= rs.getString("address");
   int m= rs.getInt("marks");

   student=new Student();
   student.setRoll(r);
   student.setName(n);
   student.setAddress(a);
   student.setMarks(m);

  }else
   throw new StudentException("Student does not exist with Roll :"+roll);
```

```
  } catch (SQLException e) {
   //exception rethrowing
   throw new StudentException(e.getMessage());
  }
  return student;
 }
 @Override
 public List<Student> getAllStudentDetails() throws StudentException{

  List<Student> students= new ArrayList<>();
   try(Connection conn= DBUtil.provideConnection()) {

   PreparedStatement ps= conn.prepareStatement("select * from student");
   ResultSet rs= ps.executeQuery();

   while(rs.next()) {
    int r= rs.getInt("roll");
    String n= rs.getString("name");
    String a= rs.getString("address");
    int m= rs.getInt("marks");
    Student student=new Student(r, n, a, m);

    students.add(student);
   }

    if(students.size() == 0)
     throw new StudentException("No student found..");

   } catch (SQLException e) {
    throw new StudentException(e.getMessage());
   }

  return students;

 }

}
```

EXCEPTIONS PACKAGE ==========

StudentEception

==========

```
package com.masai.exceptions;
public class StudentException extends Exception{
 public StudentException() {
  // TODO Auto-generated constructor stub
 }
 public StudentException(String message) {
  super(message);
 }
```

```
}
```

MODEL PACKAGE ==========

Student
==========

```
package com.masai.model;

public class Student {
 private int roll;
 private String name;
 private String address;
 private int marks;

 public Student() {
  // TODO Auto-generated constructor stub
 }
 public Student(int roll, String name, String address, int marks) {
  super();
  this.roll = roll;
  this.name = name;
  this.address = address;
  this.marks = marks;
 }

 public int getRoll() {
  return roll;
 }
 public void setRoll(int roll) {
  this.roll = roll;
 }
 public String getName() {
  return name;
 }
 public void setName(String name) {
  this.name = name;
 }
 public String getAddress() {
  return address;
 }
 public void setAddress(String address) {
  this.address = address;
 }
 public int getMarks() {
  return marks;
 }
 public void setMarks(int marks) {
  this.marks = marks;
 }

 @Override
 public String toString() {
  return "Student [roll=" + roll + ", name=" + name + ", address=" + address + ", marks=" + marks + "]";
```

```
 }
}
```

USECASES PACKAGE ==========

GetAllStudentDemo
==========

```
package com.masai.usecases;
import java.util.List;
import com.masai.dao.StudentDao;
import com.masai.dao.StudentDaoImpl;
import com.masai.exceptions.StudentException;
import com.masai.model.Student;

public class GetAllStudentDemo {
 public static void main(String[] args) {

  StudentDao dao = new StudentDaoImpl();
  try {
   List<Student> students= dao.getAllStudentDetails();

   students.forEach(s ->{
    System.out.println(s);
   });
  } catch (StudentException e) {
   System.out.println(e.getMessage());
  }
 }
}
```

GetStudentDemo
==========

```
package com.masai.usecases;
import java.util.Scanner;
import com.masai.dao.StudentDao;
import com.masai.dao.StudentDaoImpl;
import com.masai.exceptions.StudentException;
import com.masai.model.Student;

public class GetStudentDemo {

 public static void main(String[] args) {
  Scanner sc=new Scanner(System.in);

  System.out.println("Enter roll");
  int roll= sc.nextInt();

  StudentDao dao=new StudentDaoImpl();
  try {
   Student student= dao.getStudentDetailsByRoll(roll);
```

```
   System.out.println(student);
  } catch (StudentException e) {
   System.out.println(e.getMessage());
  }
 }

}
```

InsertStudent1Demo

==========

```
package com.masai.usecases;
import java.util.Scanner;
import com.masai.dao.StudentDao;
import com.masai.dao.StudentDaoImpl;

public class InsertStudent1 {
 public static void main(String[] args) {

  Scanner sc=new Scanner(System.in);
  System.out.println("Enter roll");
  int roll= sc.nextInt();
  System.out.println("Enter name");
  String name= sc.next();
  System.out.println("Enter address");
  String address= sc.next();
  System.out.println("Enter marks");
  int marks= sc.nextInt();

//  StudentDaoImpl dao=new StudentDaoImpl();
  StudentDao dao=new StudentDaoImpl();

  String result= dao.insertStudentDetails(roll, name, address, marks);
  System.out.println(result);
 }

}
```

InsertStudent2Demo

==========

```
package com.masai.usecases;
import java.util.Scanner;
import com.masai.dao.StudentDao;
import com.masai.dao.StudentDaoImpl;
import com.masai.model.Student;

public class InsertStudent2 {
 public static void main(String[] args) {

  Scanner sc=new Scanner(System.in);
  System.out.println("Enter roll");
  int roll= sc.nextInt();
  System.out.println("Enter name");
```

```
  String name= sc.next();
  System.out.println("Enter address");
  String address= sc.next();
  System.out.println("Enter marks");
  int marks= sc.nextInt();

  Student student= new Student();
  student.setRoll(roll);
  student.setName(name);
  student.setAddress(address);
  student.setMarks(marks);

  StudentDao dao=new StudentDaoImpl();

  String result= dao.insertStudentDetails2(student);
  System.out.println(result);

 }

}
```

UTILITY PACKAGE ==========

DBUtil
==========

```
package com.masai.utility;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;
public class DBUtil {

 public static Connection provideConnection() {
  Connection conn = null;
  try {
   Class.forName("com.mysql.cj.jdbc.Driver");
  } catch (ClassNotFoundException e) {
   // TODO Auto-generated catch block
   e.printStackTrace();
  }

  String url="jdbc:mysql://localhost:3306/ratandb";
  try {
   conn= DriverManager.getConnection(url, "root","root");
  } catch (SQLException e) {
   // TODO Auto-generated catch block
   e.printStackTrace();
  }
  return conn;
 }
}
```