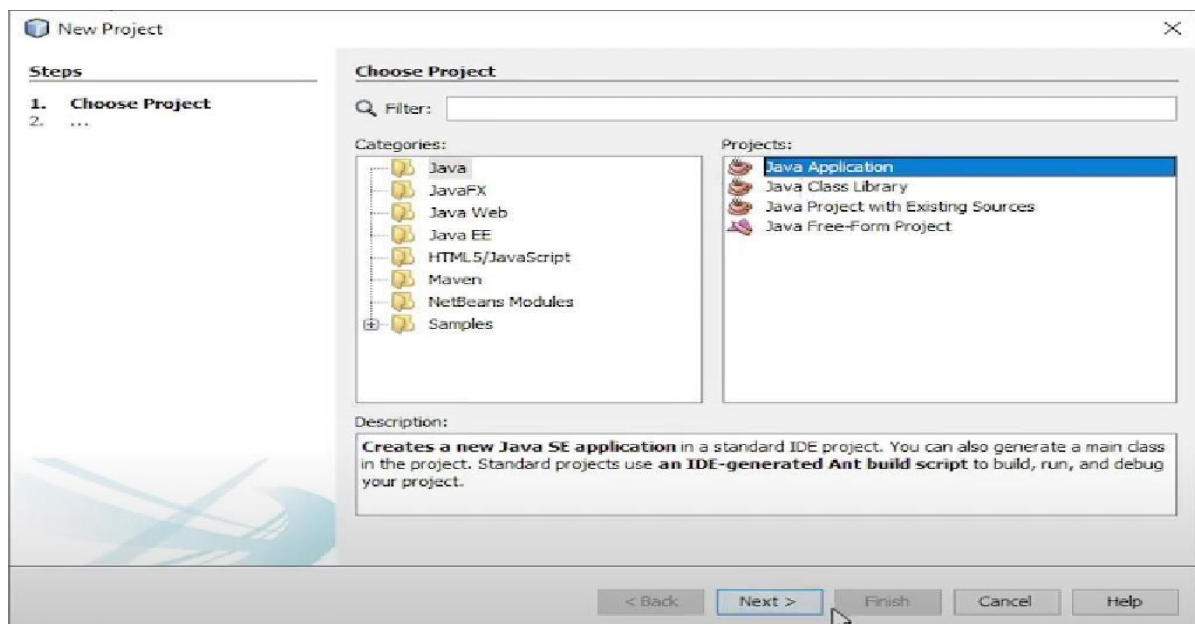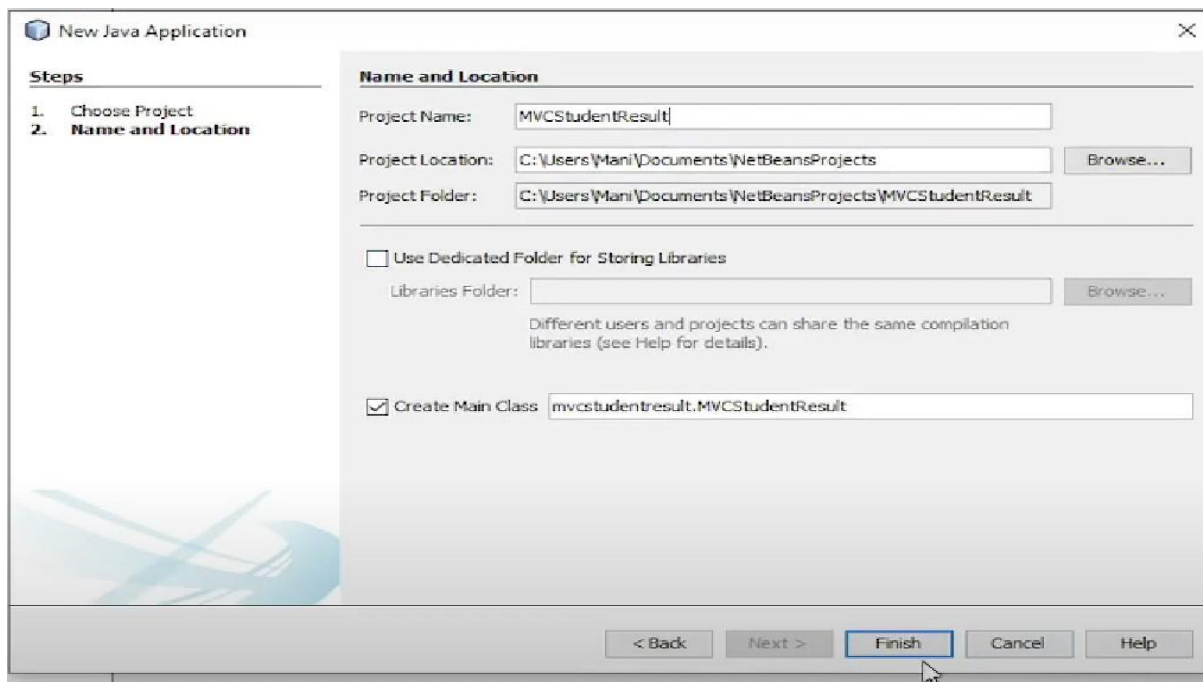# PART B

8)Implement a java application based on the MVC design pattern.
Input student Rolno, name ,marks in three subject calculate result and grade
and display the result in neat format.

Percentage of Marks	Grade
Above 90%	A
80% to 90%	B
70% to 80%	C
60% to 70%	D
Below 60%	E

MVCStudentResult.java

```
package mvcstudentresult;

import java.util.Scanner;

public class MVCStudentResult {
  public static void main(String[] args) {
    String rNo,sName;
    int m1,m2,m3;
    Scanner in=new Scanner(System.in);
    System.out.print("Enter Roll No: ");
    rNo=in.nextLine();
    System.out.print("Enter Name: ");
    sName=in.nextLine();
    System.out.println("Marks in three subjects: ");
    m1=in.nextInt();
```

```java
        m2=in.nextInt();

        m3=in.nextInt();

        StudentModel sm=new StudentModel(rNo, sName, m1, m2, m3);

        StudentView sv=new StudentView();

        StudentController sc=new StudentController(sm, sv);

        sc.UpdateView();
    }
}
```
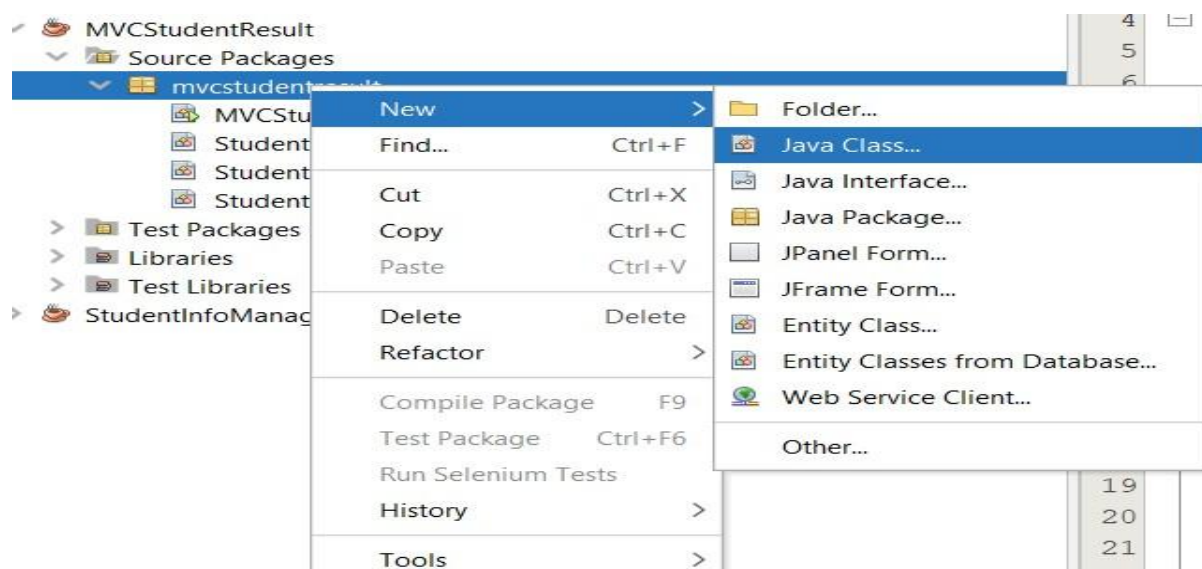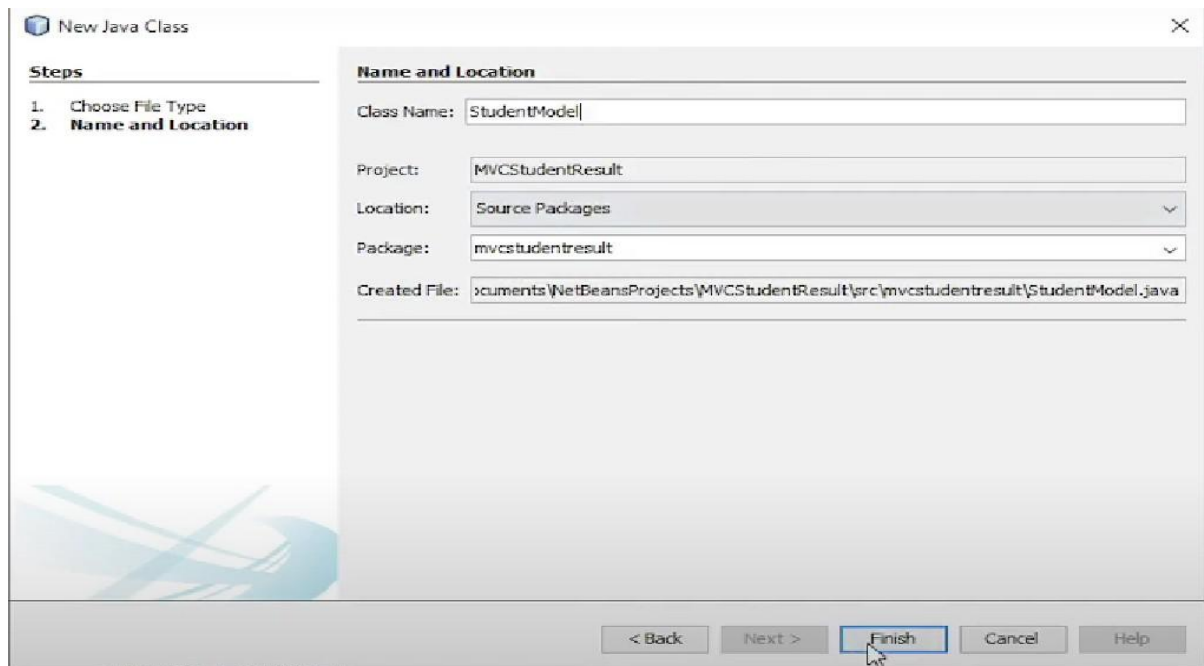
StudentModel.java

package mvcstudentresult;

public class StudentModel {
  private String rolno,name;
  private int m1,m2,m3;
 public StudentModel(String rolno, String name, int m1, int m2, int m3) {
    this.rolno = rolno;
    this.name = name;
   this.m1 = m1;
    this.m2 = m2;
    this.m3 = m3;
  }

```java
    public String getRolno() {

        return rolno;

    }
public void setRolno(String rolno) {

        this.rolno = rolno;

    }
    public String getName() {

        return name;

    }
    public void setName(String name) {

        this.name = name;

    }
    public int getM1() {

        return m1;

    }


    public void setM1(int m1) {

        this.m1 = m1;

    }
public int getM2() {

        return m2;

    }
    public void setM2(int m2) {

        this.m2 = m2;

    }
public int getM3() {
```
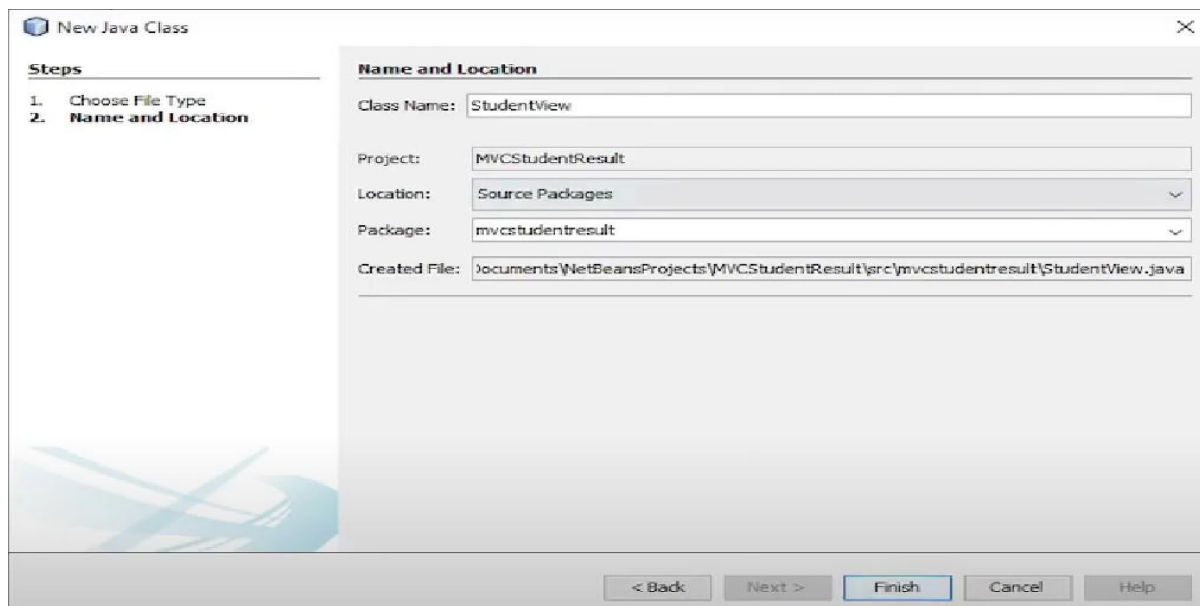
```java
        return m3;
    }
    public void setM3(int m3) {
        this.m3 = m3;
    }
    public String getResult(){
        String result="";
        if(m1<35||m2<35||m3<35){
            result="Fail";
        }else{
            double per=((m1+m2+m3)/3);
            if(per>=75){
                result="Distinction";
            }else if(per>=60){
                result="First Class";
            }else if(per>=50){
                result="Second Class";
            }else if(per>=35){
                result="Third Class";
            }else{
                result="Fail";
            }
        }
        return result;
    }
    public String getGrade(){
```

```java
        double per=((m1+m2+m3)/3);

        String grade="";

        if(per>=90){

            grade="A";

        }else if(per>=80){

            grade="B";

        }else if(per>=70){

            grade="C";

        }else if(per>=60){

            grade="D";

        }else{

            grade="E";

        }

    return grade;

  }

}
```
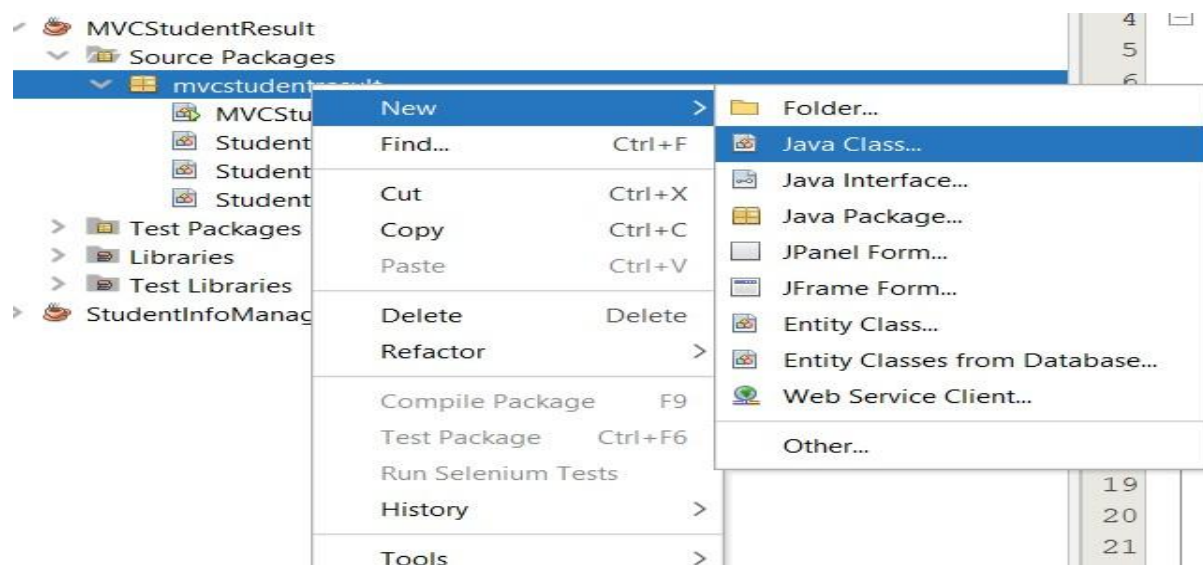
StudentView.java

```java
package mvcstudentresult;


public class StudentView {
    public void displayResult(String rNo,String sName,int m1,int m2,int m3,String result,String grade){
        System.out.println("-------------------------------------------");
        System.out.println("Roll No\tName\tMarks 1\tMarks 2\tMarks 3\tResult\tGrade");

System.out.println(rNo+"\t"+sName+"\t"+m1+"\t"+m2+"\t"+m3+"\t"+result+"\t"+grade);
        System.out.println("-------------------------------------------");
    }
}
```
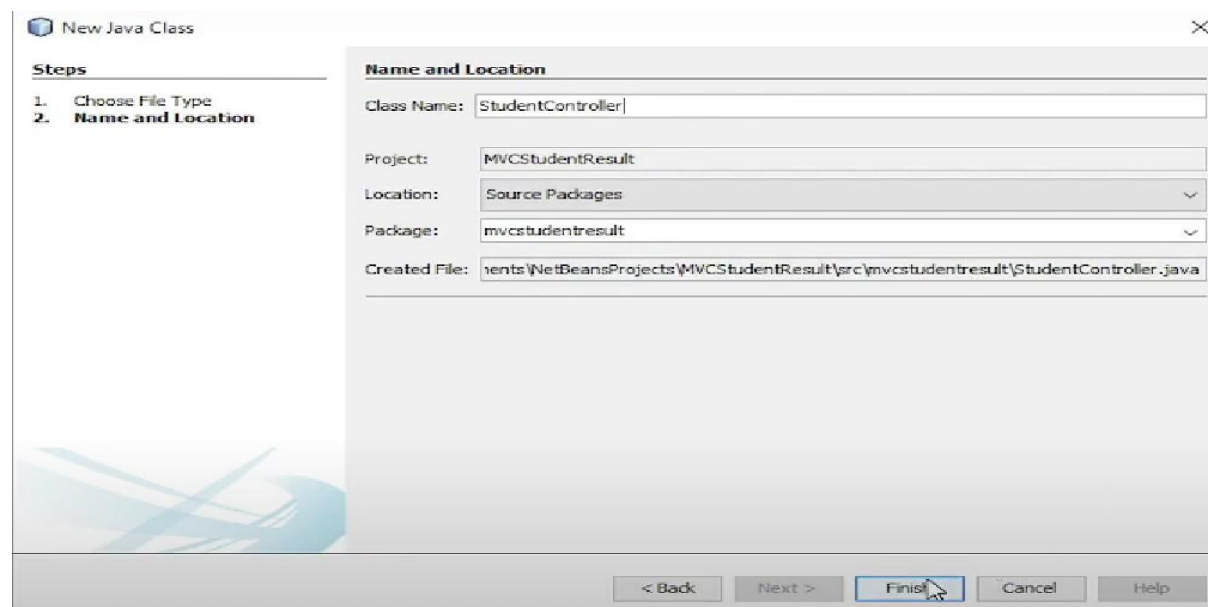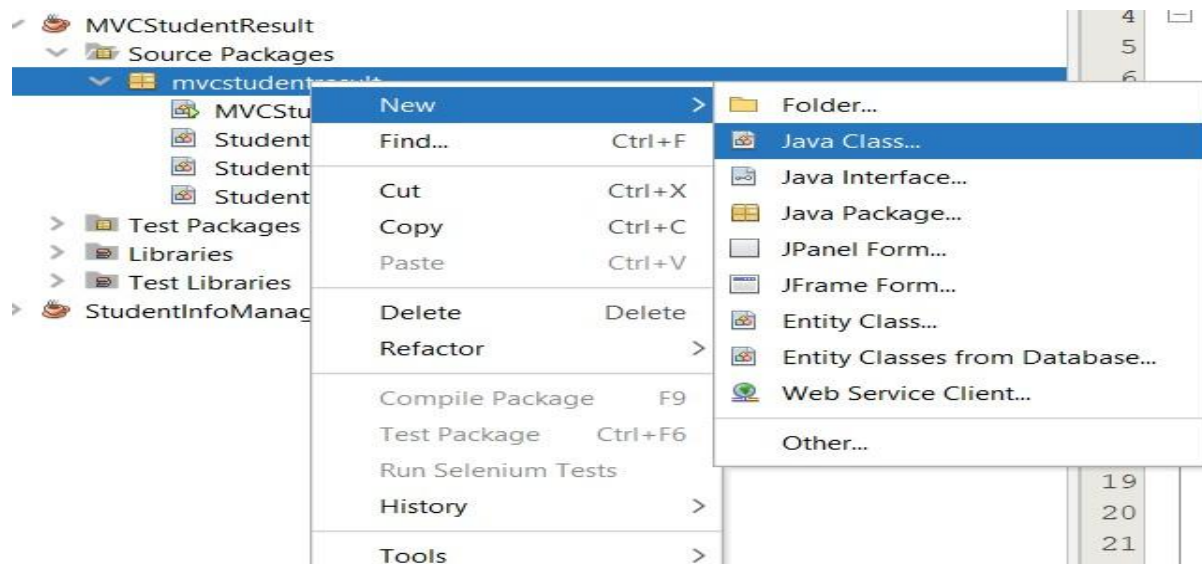
StudentController.java

package mvcstudentresult;

public class StudentController {

private StudentModel model;

private StudentView view;
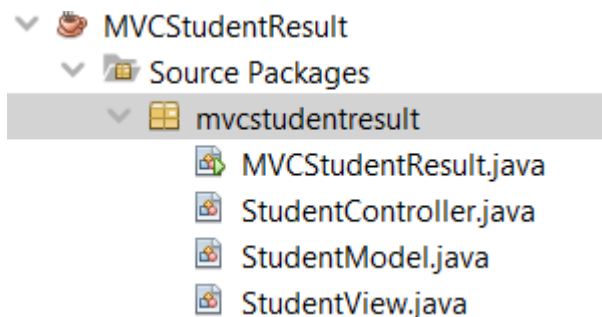
```java
    public StudentController(StudentModel model, StudentView view) {

        this.model = model;

        this.view = view;

    }

  public void UpdateView(){

      view.displayResult(model.getRolno(), model.getName(), model.getM1(),
model.getM2(), model.getM3(), model.getResult(), model.getGrade());


  }

}
```

•••

MVCStudentResult
  Source Packages
    mvcstudentresult
      MVCStudentResult.java
      StudentController.java
      StudentModel.java
      StudentView.java

Output:
Enter Roll No: 101
Enter Name: Anusha
Marks in three subjects:
90
89
85

Roll No Name   Marks 1Marks 2Marks 3Result   Grade
101   Anusha 90   89   85   Distinction   B