Shri Dharmast
hala Manjunatheshwara College of Engineering, Dharwad
Department of Computer Science & Engineering

OOP Activities Submission Report

Course:	Object-Oriented Programming	Course Code:	21UCSC401
Semester & Division:	IV & A	Academic Year:	2022-23

Report submitted by:

USN:	2SD21CS097	Name:	SHRISOUMYA PURANIK

1. Problem Definition:

<Copy and paste the problem definition here>

You are hired as an **Associate Software Engineer** in a reputed Multi-National Company (MNC). Your company has received a software requirement from **Shri Dharmasthala Manjunatheshwara College of Engineering and Technology, Dharwad**, a software that computes and publishes the examination results.

~~You are assigned to work on~~ **Students' Grading System** ~~project. As~~ part of this project, you are asked by your team lead to write a GUI based Java program to compute the grade obtained by a student in a single course.

2. Java Program:

<In this page, copy and paste the java program that implements the problem mentioned in the problem definition section (point no.1). The program must be well documented and indented to increase the readability.>

package sdmcet.cse.oop;

```java
import java.awt.*;

import javax.swing.*;

import java.awt.event.*;


class Grade extends JFrame implements ActionListener {

        JFrame f;

        JButton b;

        Container contentPane;

        JPanel p;

        JLabel l1, l2, l3, l4, l5, l6,l7, l8,l9;

        JTextField t1, t2, t3, t4, t5;


        Grade(String title) {

            super(title);


            b = new JButton("                    Calculate
        ");

            b.addActionListener(this);


            l1 = new JLabel("             Grade Calculator");

            l2 = new JLabel("Enter IA1 Marks:");

            l3 = new JLabel("Enter IA2 Marks:");

            l4 = new JLabel("Enter IA3 Marks:");
```

```
l5 = new JLabel("Enter CTA Marks:");

l6 = new JLabel("Enter SEE Marks:");

l7 = new JLabel();

l8 = new JLabel();


t1 = new JTextField(15);

t2 = new JTextField(15);

t3 = new JTextField(15);

t4 = new JTextField(15);

t5 = new JTextField(15);

p = new JPanel();


p.add(l1);


p.add(l2);

p.add(t1);

p.add(l3);

p.add(t2);

p.add(l4);

p.add(t3);

p.add(l5);

p.add(t4);

p.add(l6);

p.add(t5);
```

```
            p.add(b);

            p.add(l7);

            p.add(l8);

            add(p);


            contentPane = this.getContentPane(); // Instantiate
content pane

            contentPane.add(p, BorderLayout.CENTER);

            contentPane.add(l1, BorderLayout.NORTH);


        }


        @Override
        public void actionPerformed(ActionEvent e) {
            if (e.getSource() == b) {



                    int cta = Integer.parseInt(t4.getText());

                    int ia1 = Integer.parseInt(t1.getText());

                    int ia2 = Integer.parseInt(t2.getText());

                    int ia3 = Integer.parseInt(t3.getText());

                    int see = Integer.parseInt(t5.getText());
```

```
                              int cie,total = 0;

            try{

                    if (ia1>20 || ia2>20 || ia3>20 || cta>10 ||
see>100 ||ia1<0 || ia2<0 || ia3<0 || cta<0 || see<0) {

                            throw new
ArithmeticException();

                    }

            }catch (ArithmeticException ae) {

                    JOptionPane.showMessageDialog(f, l9,
"Enter the marks within the range",

    JOptionPane.ERROR_MESSAGE);

                    return;

            }


            if( ia1>=ia2 ) {

                    if(ia2>ia3) {

                            cie = ia1 +ia2 + cta;

                    }

                    else {

                            cie= ia1 +ia3 +cta;

                    }

            }

            else if (ia2>=ia3) {
```

```
                                        cie = ia2 + ia3+cta ;


                        }

                        else {

                                cie = ia1 + ia3+ cta  ;



                        } if(cie <20) {

                                JOptionPane.showMessageDialog(this,
        "Student is Detained from writing SEE", "message",

            JOptionPane.PLAIN_MESSAGE);

                                System.exit(0);

                                ;




                        }




                        if (see == 38 || see== 39) {

                                see = 40;




}
```

```
                        if(see <38) {

                                JOptionPane.showMessageDialog(this,
"Student has failed in SEE exam and hence the grade is F", "message",


        JOptionPane.PLAIN_MESSAGE);

                                System.exit(0);

                                ;

                        }

                        if((see%2 )!=0 ) {

                                see= see+1;

                        }



                        total = cie + (see/2);
                        String grade;




                        if (total <= 100 && total>= 90)

                                grade = "S";




                        else if (total < 90 && total >= 80)

                                grade = "A";




                        else if (total < 80 && total >= 70)

                                grade = "B";
```

```
                                else if (total < 70 && total >= 60)

                                        grade = "C";


                                else if (total < 60 && total >= 50)

                                        grade = "D";

                                else if (total < 50 && total>= 40)

                                        grade = "E";

                                else

                                        grade = "F";

                                l7.setText("Total Marks: " + total + "
");



                                l8.setText("Grade: " + grade);



                        }

                }

        }



        public class GradeCalculationDemo {



        public static void main(String[] args) {

                        // TODO Auto-generated method stub
```

~~JFrame f = new Grade("CALCULATION OF GRADE");~~

```
        f.setDefaultCloseOperation(WindowConstants.EXIT_ON_CLOSE);

                f.setBounds(200, 200, 350, 400);


                f.setVisible(true);

            }

    }
```
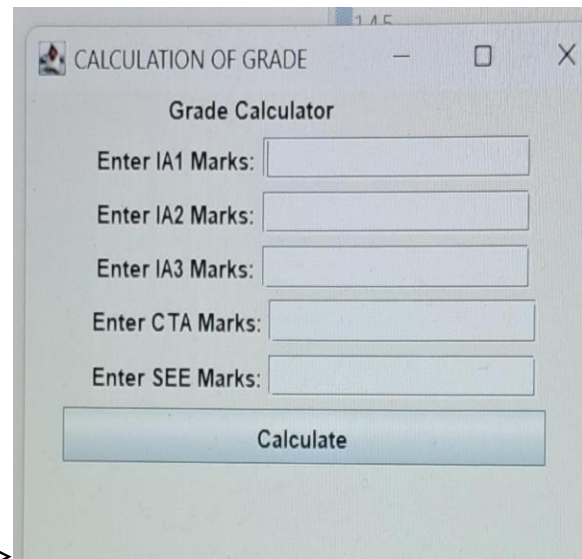
3. Screen shots of the program execution:
<In this page, paste the screen shots of the program execution>
<The pasted screen shots should be legible and clear>

~~<After completion of the report, convert the report into PDF format and upload~~ the PDF report into your Google Drive, and paste the public URL of the PDF report in Google Form>

<Also upload the source code of the problem definitions to GitHub public repository, and paste the URL of the repository in Google Form>

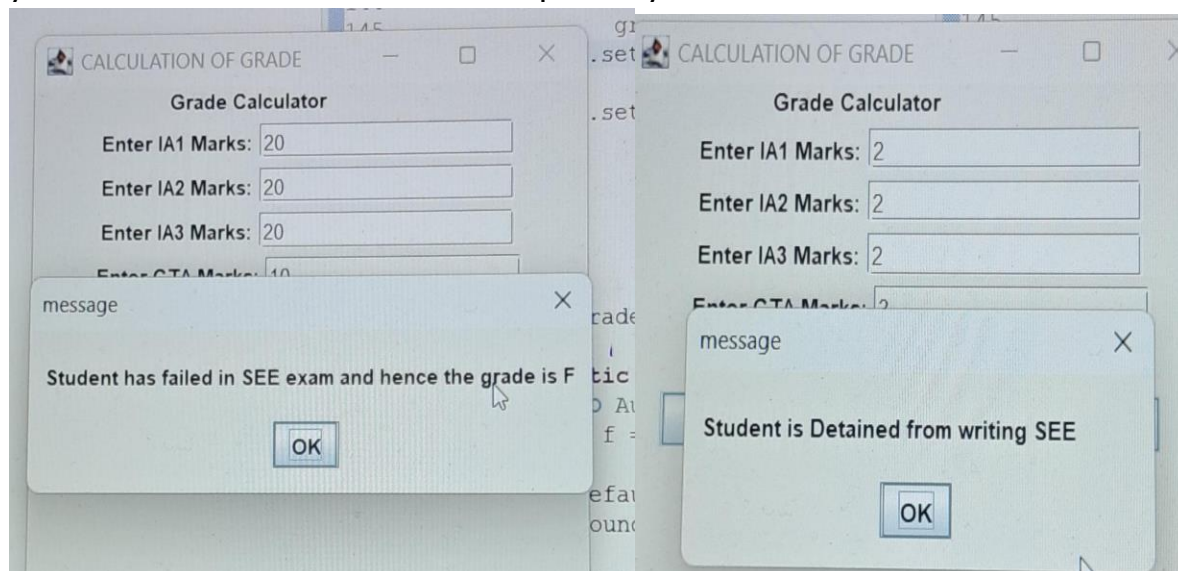<You are required to take the printout of this report; bind it by putting the transparent coversheet on front and back of the report, and submit the hard copy of the report on or before the mentioned deadline>

<After the deadline, you will be individually called to demonstrate your program. The marks will be allotted as per the evaluation rubrics, which will be shared with

you   separately>

CALCULATION OF GRADE

Grade Calculator

Enter IA1 Marks: 20
Enter IA2 Marks: 20
Enter IA3 Marks: 20
Enter CTA Marks: 10
Enter SEE Marks: 99

Calculate

Total Marks: 100   Grade: S

CALCULATION OF GRADE

Grade Calculator

Enter IA1 Marks: 2
Enter IA2 Marks: 2
Enter IA3 Marks: 2
Enter CTA Marks: 3
Enter SEE Marks: 66

Calculate

CALCULATION OF GRADE

Grade Calculator

Enter IA1 Marks: -3
Enter IA2 Marks: 4
Enter IA3 Marks: 28
Enter CTA Marks: 55
Enter SEE Marks: 23

Calculate

```
grade = "F";
.setText("Total Marks: " + total + "
.setText("Grade: " + grade);

radeCalculat  Enter the marks within the range    X

tic void mai
o Auto-gener    X
 f = new Gra
                        OK
efaultCloseC
ounds(200, 200, 350, 400);
```

CALCULATION OF GRADE

Grade Calculator

Enter IA1 Marks: 20
Enter IA2 Marks: 20
Enter IA3 Marks: 20
Enter CTA Marks: 14
Enter SEE Marks: 99

Calculate

Total Marks: 100   Grade: S

```
grade = "F";
.setText("Total Marks: " + total + "
.setText("Grade: " + grade);

radeCalculat  Enter the marks within the range    X

tic void mai
o Auto-gener    X
 f = new Gra
                        OK
efaultCloseC
ounds(200, 200, 350, 400);
```