

Digital Assignment-2

Program Course : B.Tech Computer Science and Engineering Java Programming

Title Course Code: CSE1007

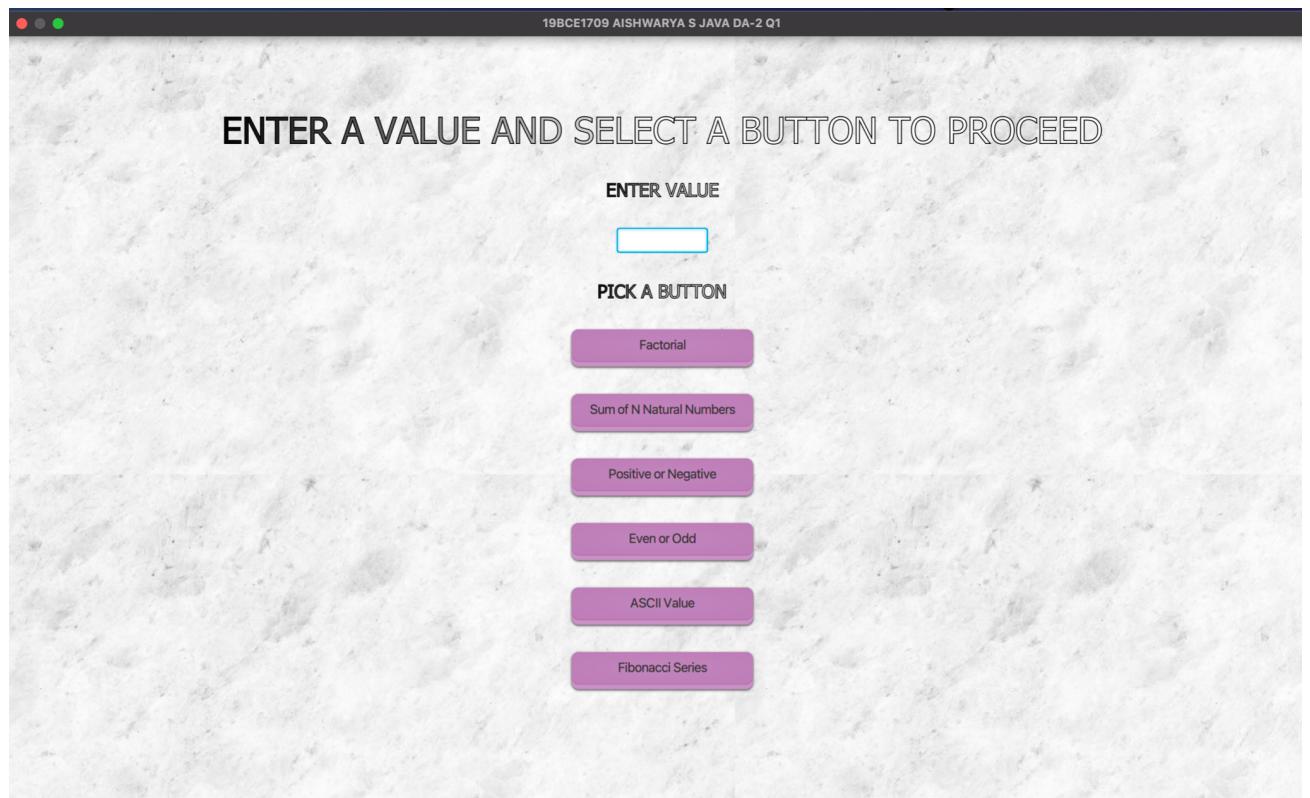
NAME: Aishwarya S

REGISTRATION NUMBER: 19BCE1709

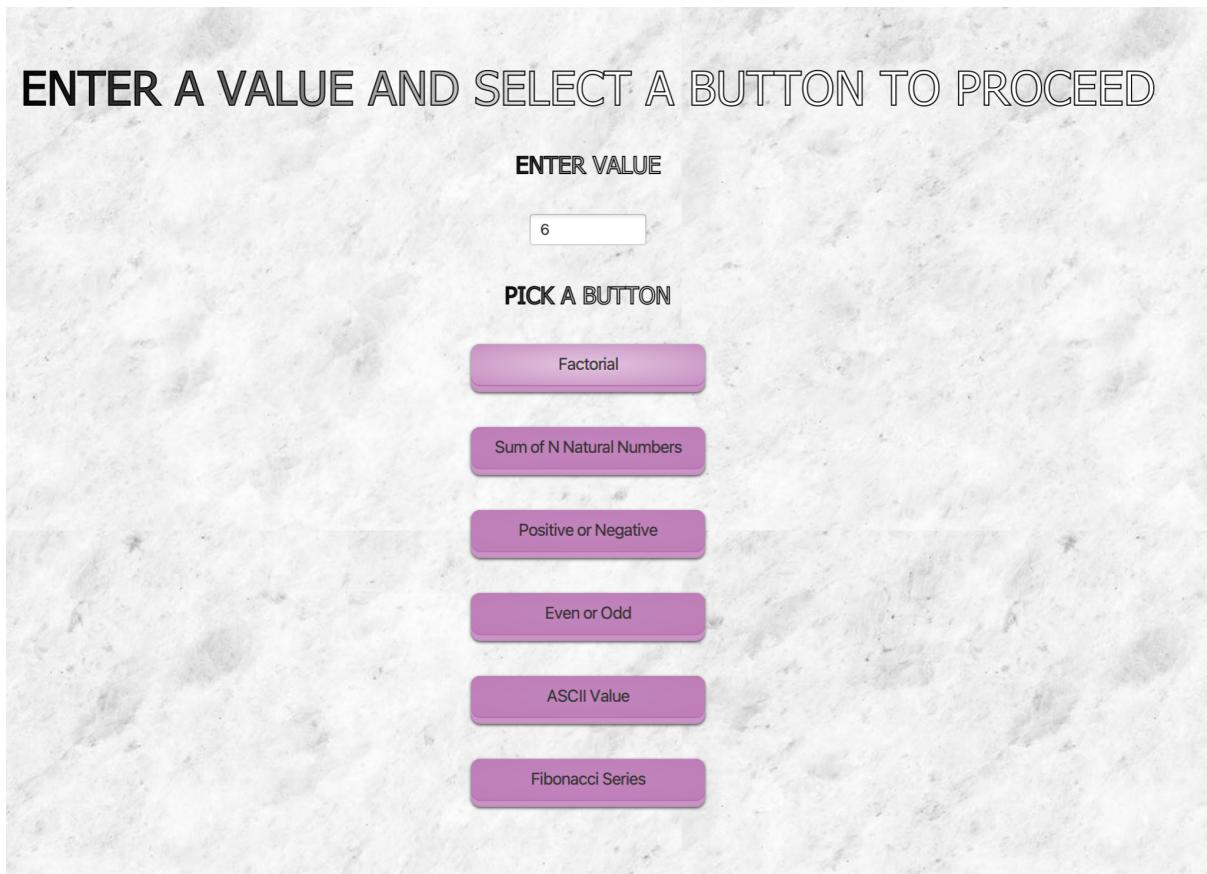
OUTPUT:

The user is presented with several buttons to pick from.

When the user enters a value and clicks on the desired button, the scene changes and the answer is displayed. The user can press back to go back to the main scene.



FACTORIAL:



SUM OF N INTEGERS:

ENTER A VALUE AND SELECT A BUTTON TO PROCEED

ENTER VALUE

PICK A BUTTON

Factorial

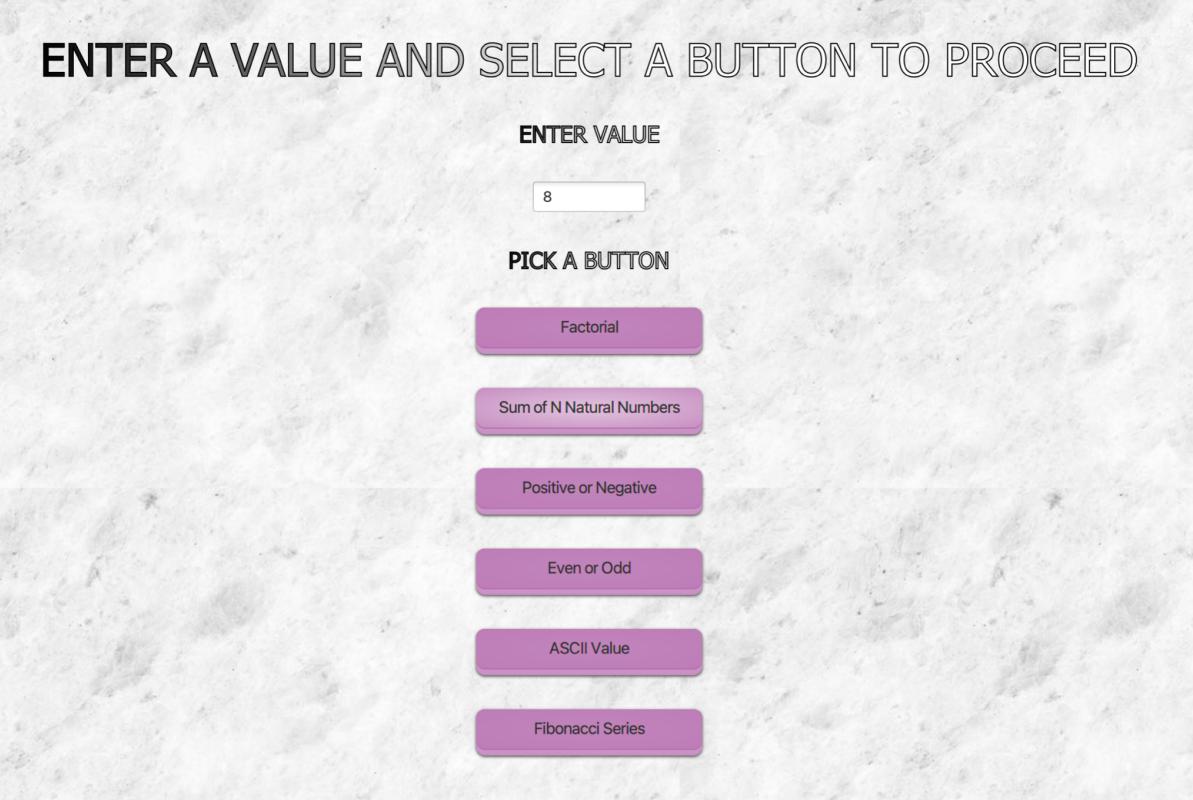
Sum of N Natural Numbers

Positive or Negative

Even or Odd

ASCII Value

Fibonacci Series

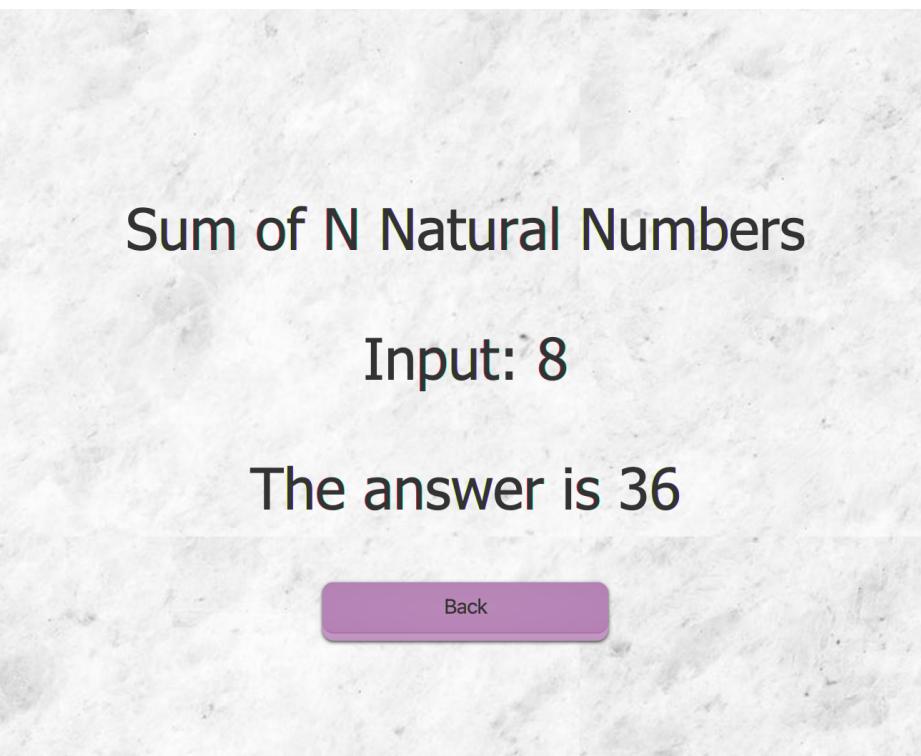


Sum of N Natural Numbers

Input: 8

The answer is 36

Back



POSITIVE OR NEGATIVE:

ENTER A VALUE AND SELECT A BUTTON TO PROCEED

ENTER VALUE

-12

PICK A BUTTON

Factorial

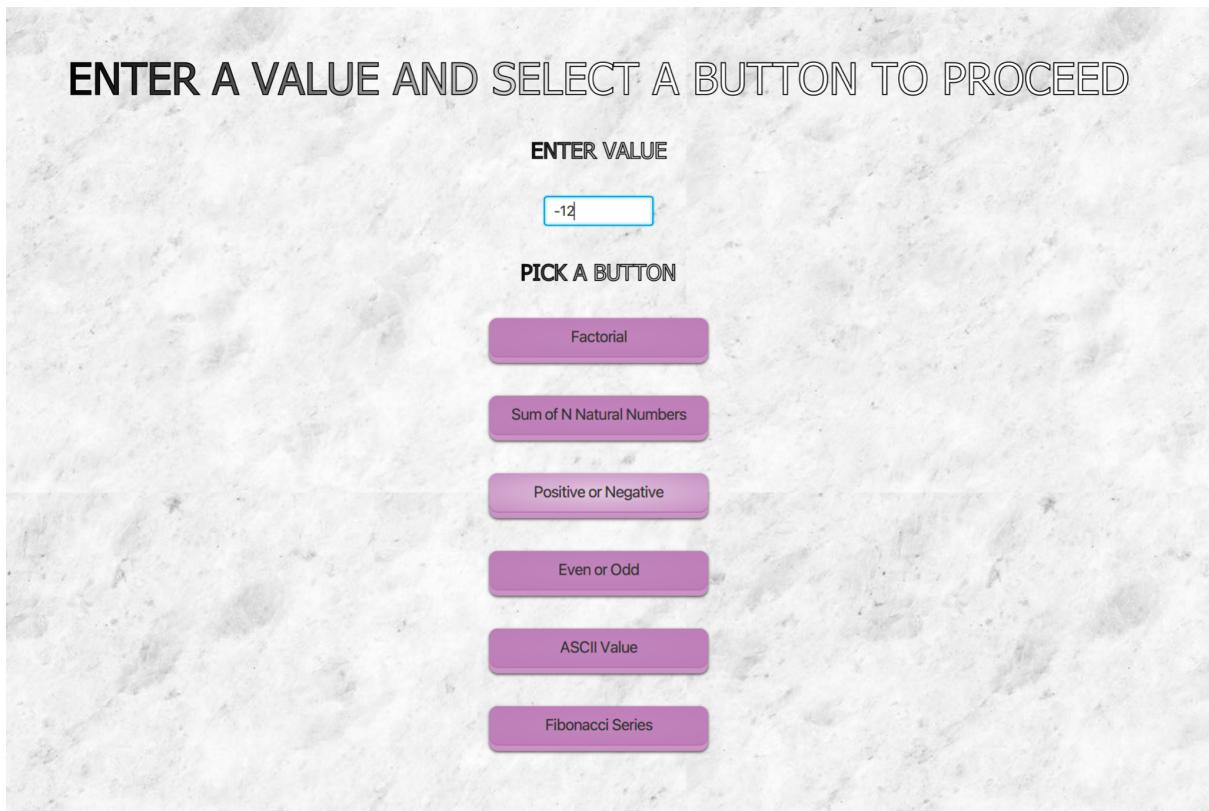
Sum of N Natural Numbers

Positive or Negative

Even or Odd

ASCII Value

Fibonacci Series



Positive or Negative

Input: -12

The answer is Negative

Back

EVEN OR ODD:

ENTER A VALUE AND SELECT A BUTTON TO PROCEED

ENTER VALUE

PICK A BUTTON

Factorial

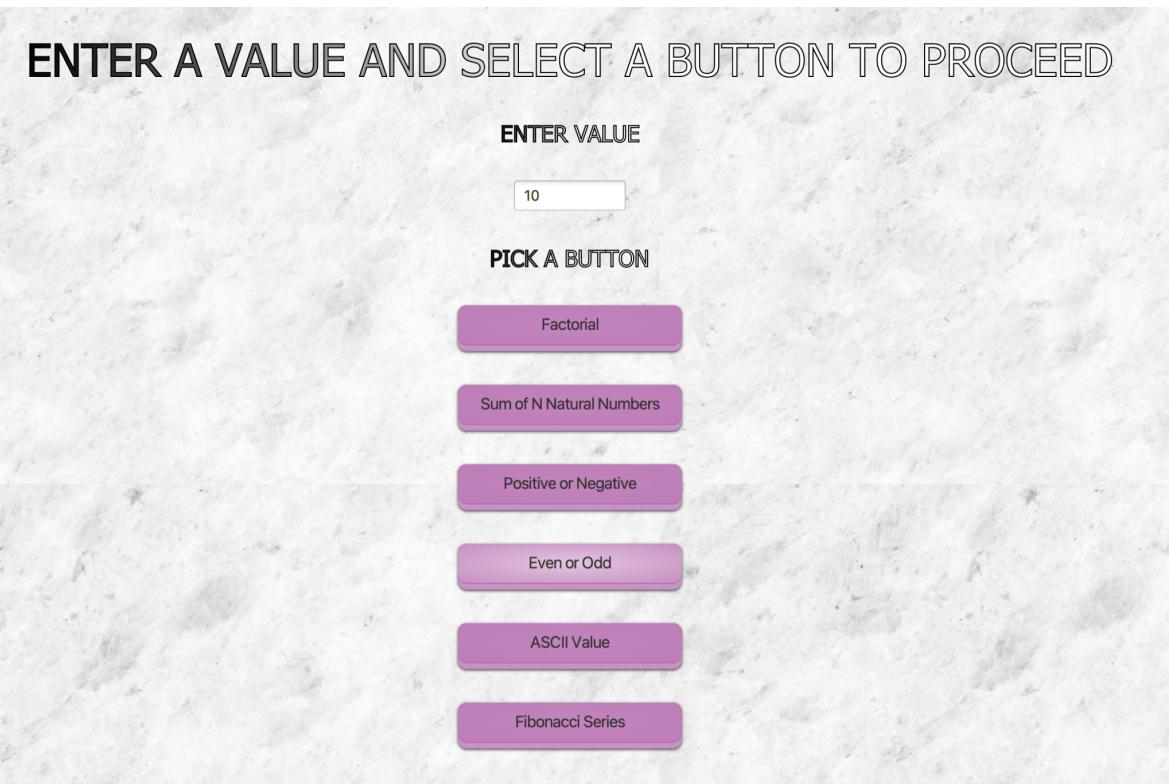
Sum of N Natural Numbers

Positive or Negative

Even or Odd

ASCII Value

Fibonacci Series



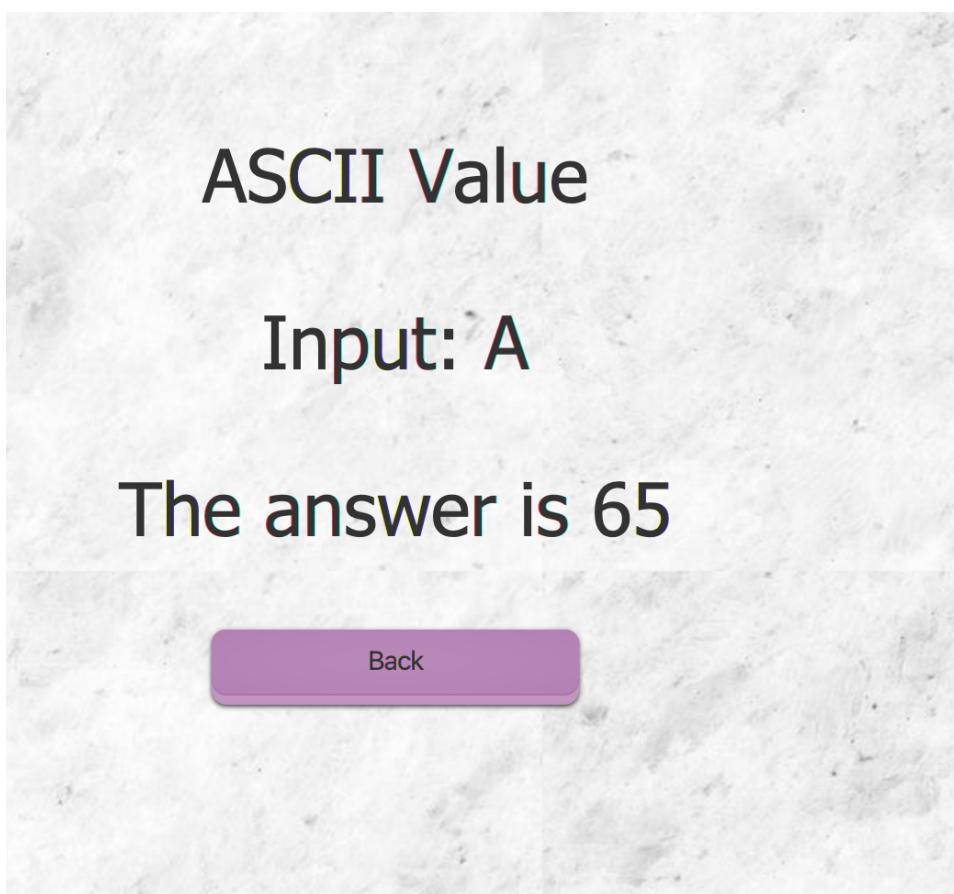
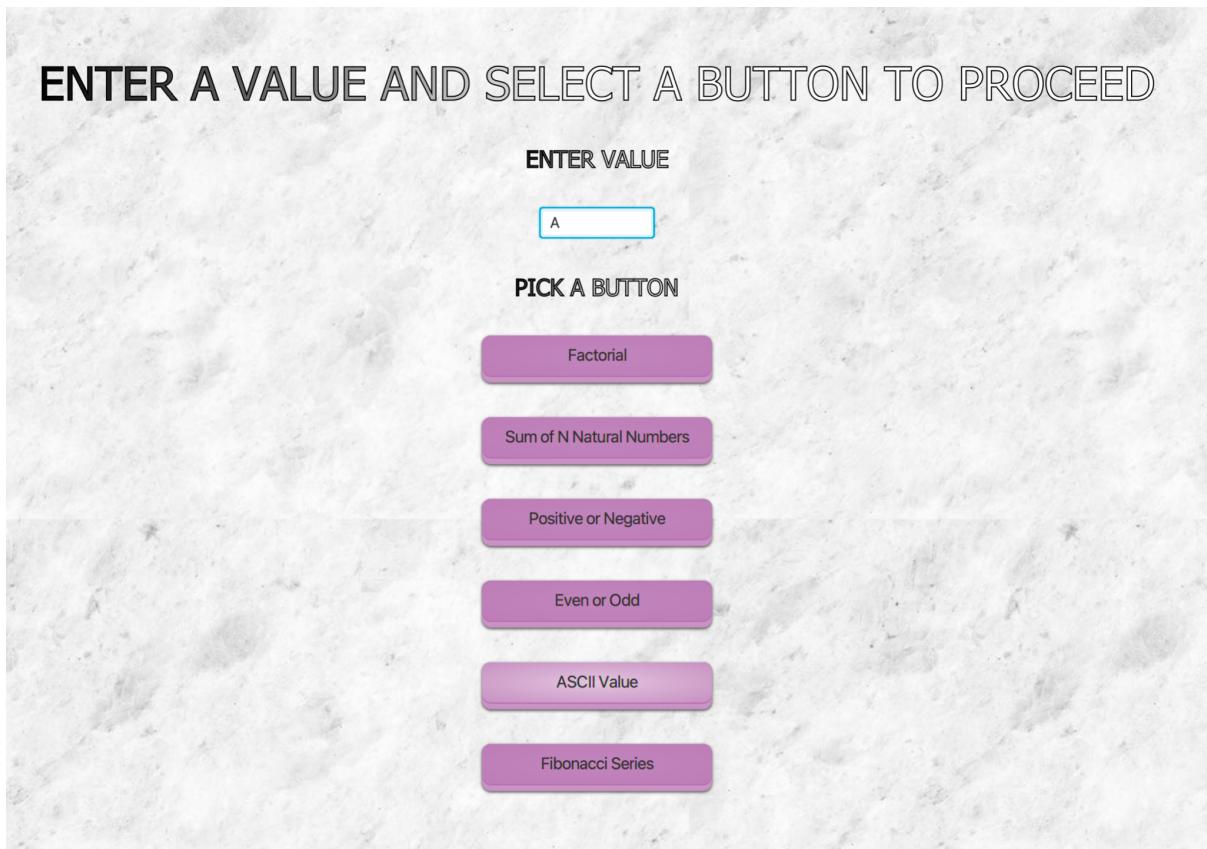
Even or Odd

Input: 10

The answer is Even

Back

ASCII VALUE:



FIBONACCI SERIES:

ENTER A VALUE AND SELECT A BUTTON TO PROCEED

ENTER VALUE

10

PICK A BUTTON

Factorial

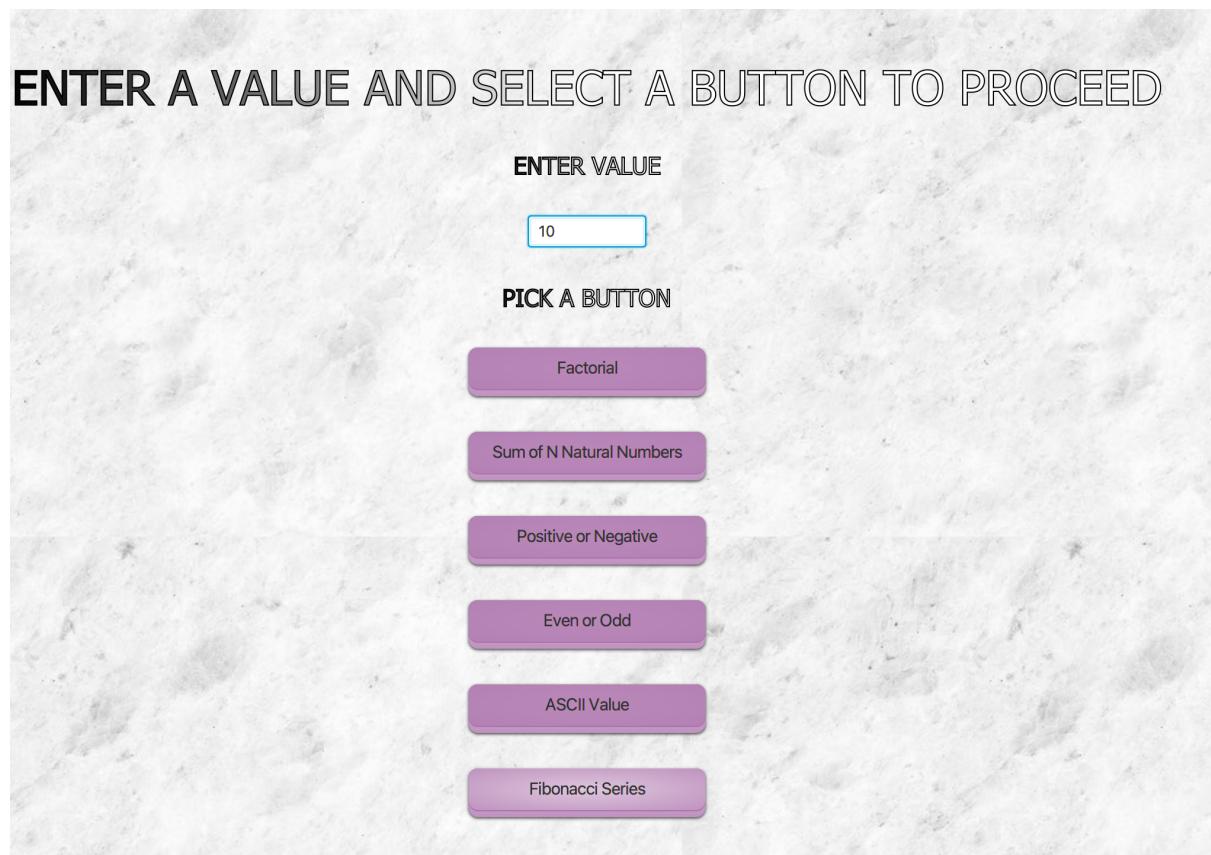
Sum of N Natural Numbers

Positive or Negative

Even or Odd

ASCII Value

Fibonacci Series



Fibonacci Series

Input: 10

The answer is 0 1 1 2 3 5 8 13 21 34

Back

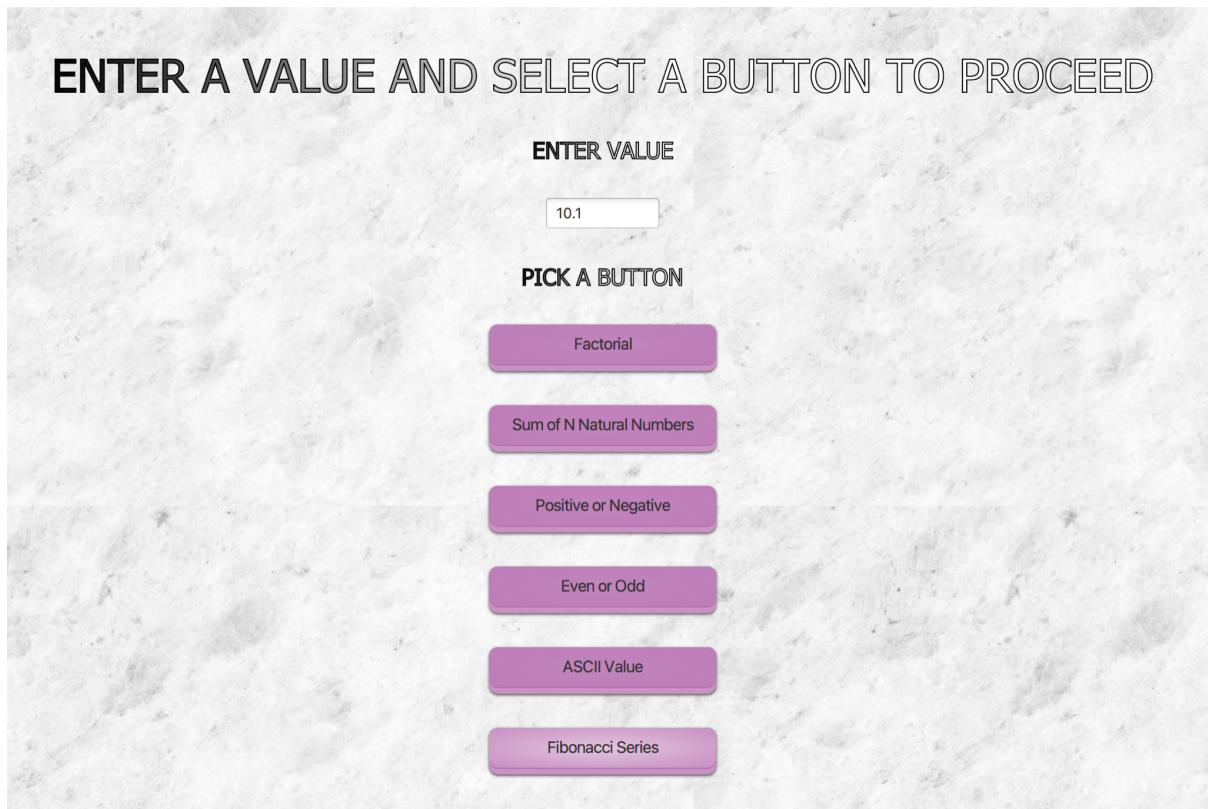
INVLAID INPUTS:

Input can't be an alphabet or special character or decimal or negative for fibonacci, factorial, sum of n natural numbers

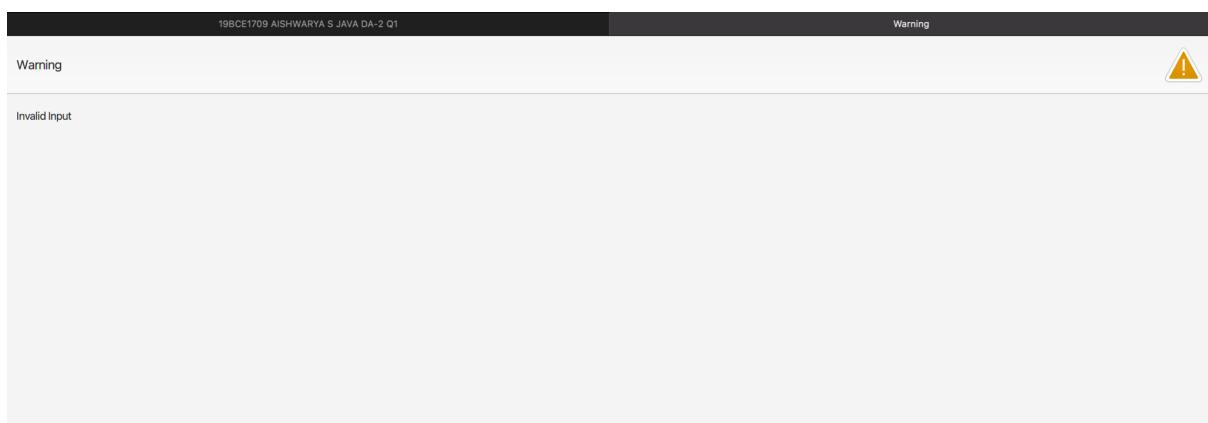
Input can't be an alphabet or special character or decimal for even or odd as it is applicable to only integers

Input can't be an alphabet or special character for positive or negative

EXAMPLE 1:



WARNING POPS UP:



EXAMPLE 2:

ENTER A VALUE AND SELECT A BUTTON TO PROCEED

ENTER VALUE

PICK A BUTTON

Factorial

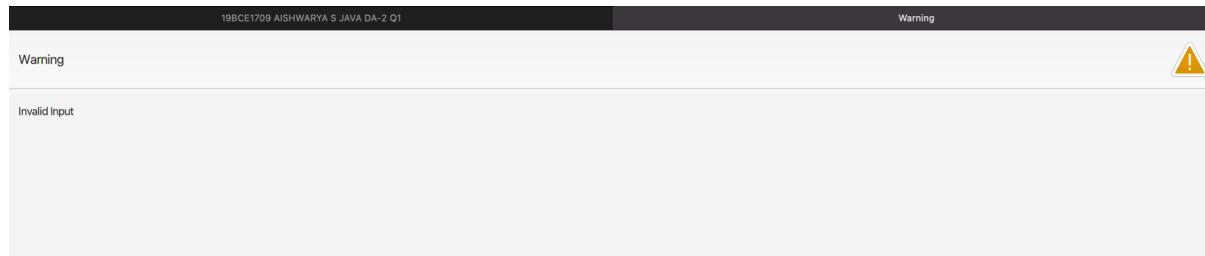
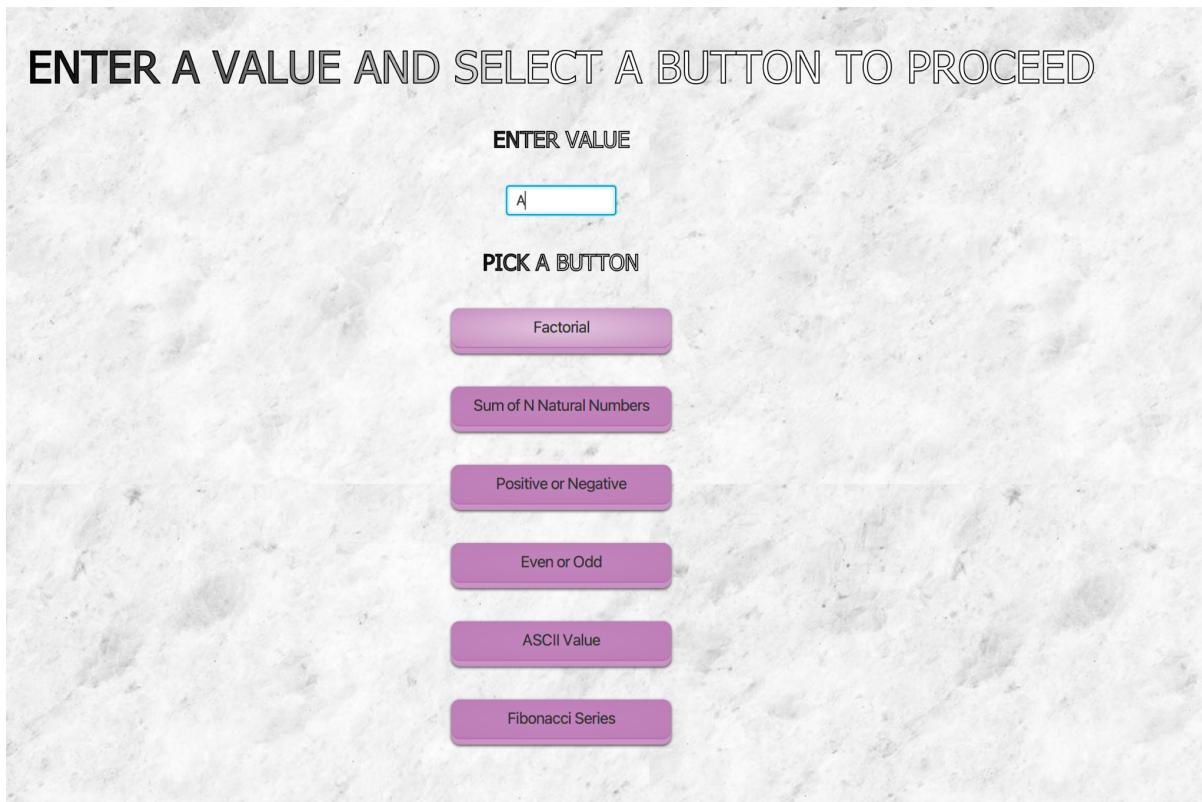
Sum of N Natural Numbers

Positive or Negative

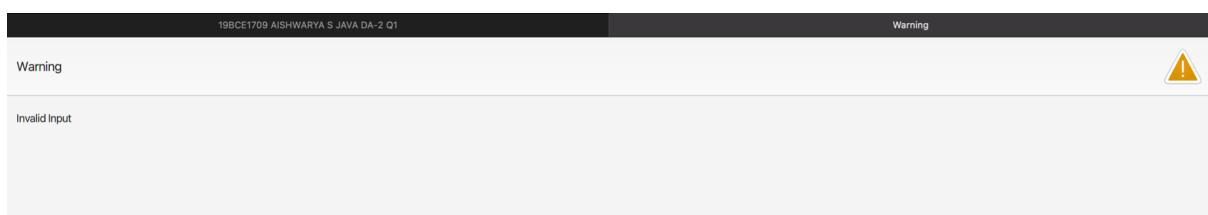
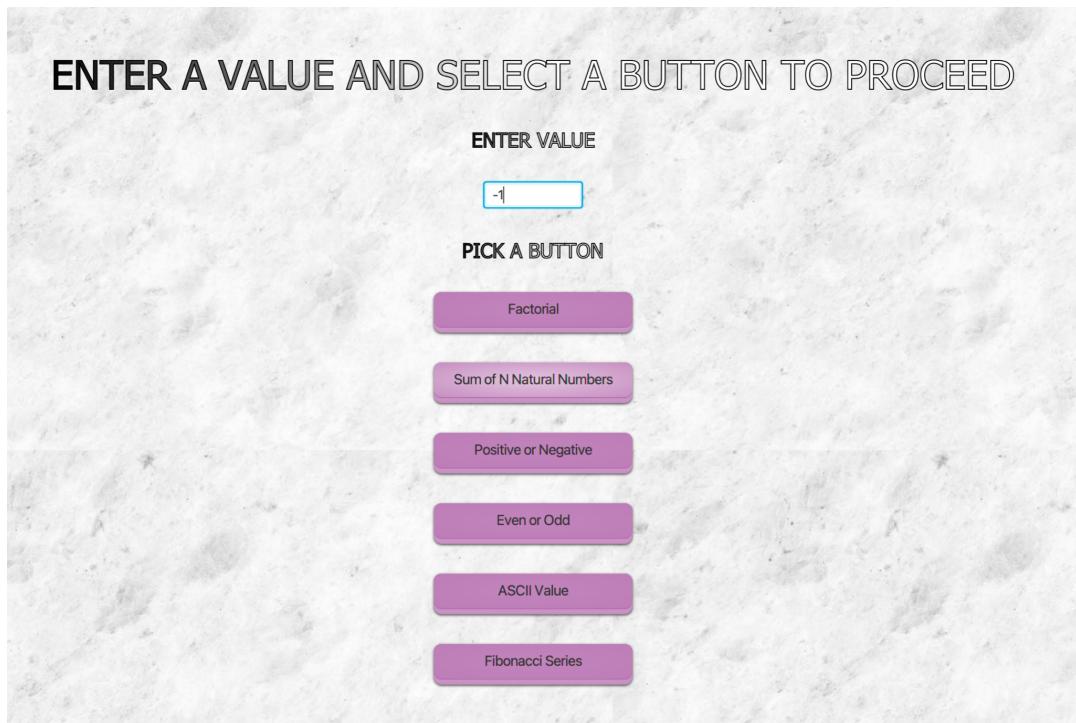
Even or Odd

ASCII Value

Fibonacci Series



EXAMPLE 3:



CODE:

```
package application;
```

```
import java.io.IOException;
import javafx.application.Application;
import javafx.geometry.Pos;
import javafx.stage.Stage;
import javafx.scene.Scene;
import javafx.scene.control.Alert;
import javafx.scene.control.Alert.AlertType;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.TextField;
import javafx.scene.layout.VBox;
import javafx.scene.text.Text;
```

```
public class Main extends Application {
```

```
    int fact(int n)
    {
```

```

if(n==0)
    return 1;

else
    return n*fact(n-1);

}

String pon(Double n)
{
    if(n>0)
        return "Positive";
    else if(n<0)
        return "Negative";
    else
        return "Zero";

}

String fibo(int n)
{
    String s="";
    int n1=0, n2=1, nxt;
    nxt=n1+n2;
    s=s+" "+Integer.toString(n1);
    s=s+" "+Integer.toString(n2);
    s=s+" "+Integer.toString(nxt);
    for(int i=0;i<n-3;i++)
    {
        n1=n2;
        n2=nxt;
        nxt=n1+n2;
        s=s+" "+Integer.toString(nxt);
    }
    return s;
}

int sum(int n)
{
    return (n)*(n+1)/2;
}

String func(int i, String s)
{
    int d;
    Double d1;
    String s1;

    if(i==4)
    {
        char c=s.charAt(0);
        d=c;
        return Integer.toString(d);
    }

    else if(i==2)
    {
        try {

            d1 = Double.parseDouble(s);
        } catch (NumberFormatException nfe) {
    }
}

```

```

        return "Invalid";
    }
    return pon(d1);

}

else
{
    try {

d = Integer.parseInt(s);
} catch (NumberFormatException nfe) {
    return "Invalid";
}

if(i==0)
    { if(d>=0)
        {s1=Integer.toString(fact(d));
        return s1;}
    else
        return "Invalid";
    }
else if(i==1)
{ if(d>=0)
    {s1=Integer.toString(sum(d));

return s1;}
else
    return "Invalid";
}
else if(i==3)
{
    if(d%2==0)
        return "Even";
    else
        return "Odd";
}
else

{ if(d>0)
    return fibo(d);
else
    return "Invalid";
}

}

}

@Override

```

```

public void start(Stage stage) throws IOException {
    String style = getClass().getResource("application.css").toExternalForm();
    Text tx= new Text("ENTER A VALUE AND SELECT A BUTTON TO PROCEED");
    VBox sp = new VBox();
    Text tx1= new Text("ENTER VALUE");
    Text tx2= new Text("PICK A BUTTON");
    TextField b1 = new TextField();
    b1.setMaxWidth(100);
    Alert a = new Alert(AlertType.NONE);
    sp.setId("pane");
    tx.setId("ftext");
    tx1.setId("btext");
    tx2.setId("ctext");
    sp.getChildren().add(tx);
    sp.getChildren().add(tx1);
    sp.getChildren().add(b1);
    sp.getChildren().add(tx2);
    Scene scene = new Scene(sp, 300, 275);

    Button[] barr= new Button[6];
    String[] s = {"Factorial", "Sum of N Natural Numbers", "Positive or Negative", "Even or Odd", "ASCII
Value", "Fibonacci Series" };
    VBox sp1 = new VBox();
    Label l = new Label();
    Label l1 = new Label();
    Label l2 = new Label();
    Button back= new Button("Back");

    sp1.getChildren().add(l);
    sp1.getChildren().add(l2);
    sp1.getChildren().add(l1);

    sp1.getChildren().add(back);
    back.setOnAction(e -> {
        stage.setScene(scene);
    });
    sp1.setId("pane2");
    sp1.setAlignment(Pos.CENTER);
    sp1.setSpacing(40);

    Scene scene2= new Scene(sp1, 300, 275);
    scene2.getStylesheets().addAll(style);

    for(int i=0;i<6;i++)
    {
        barr[i] = new Button(s[i]);
        sp.getChildren().add(barr[i]);
        int j=i;
        barr[i].setOnAction(e -> {

            String ans=func(j, b1.getText());
            if(ans.equals("Invalid"))
            {
                a.setAlertType(AlertType.WARNING);
                a.setContentText("Invalid Input");
                a.show();
            }
        });
    }
}

```

```
        }
    else {
        l1.setText("The answer is "+ans);
        l.setText(barr[j].getText());
        l2.setText("Input: "+b1.getText());
        stage.setScene(scene2);
    }
});
```

}

```
sp.setAlignment(Pos.CENTER);
sp.setSpacing(30);
stage.setTitle("19BCE1709 AISHWARYA S JAVA DA-2 Q1");
```

stage.setScene(scene);

```
stage.show();
scene.getStylesheets().addAll(style);
}
```

```
public static void main(String[] args) {
    launch(args);
}
```

CSS:

```
#ftext {  
    -fx-font: 40px Tahoma;  
    -fx-fill: linear-gradient(from 0% 0% to 100% 200%, repeat, black 0%, white 50%);  
    -fx-stroke: black;  
    -fx-stroke-width: 1;  
}  
.label  
{  
    -fx-font: 40px Tahoma;  
}
```

```

}

#btext, #ctext
{
    -fx-font: 20px Tahoma;
    -fx-fill: linear-gradient(from 0% 0% to 100% 200%, repeat, black 0%, white 50%);
    -fx-stroke: black;
    -fx-stroke-width: 1;
}

#pane, #pane2 {
    -fx-background-image: url("pf-misctexture01-006-jj-07_1_1.jpg");
    -fx-background-color: transparent;
}

.button
{
    -fx-pref-width: 200px;
    -fx-padding: 8 15 15 15;
    -fx-background-insets: 0,0 0 5 0, 0 0 6 0, 0 0 7 0;
    -fx-background-radius: 8;
    -fx-background-color:
        linear-gradient(from 0% 93% to 0% 100%, #c196c1 0%, #bf92bf 100%),
        #ac72ac
        #d86e3a,
        radial-gradient(center 50% 50%, radius 100%, #b989b9, #b27db2);
    -fx-effect: dropshadow( gaussian , rgba(0,0,0,0.75) , 4,0,0,1 );
    -fx-font-weight: bold;
    -fx-font-size: 1.1em;
}
.button:hover {
    -fx-background-color:
        linear-gradient(from 0% 93% to 0% 100%, #c196c1 0%, #bf92bf 100%),
        #ac72ac
        #d86e3a,
        radial-gradient(center 50% 50%, radius 100%, #dec7de, #b27db2);
}
.button:pressed {
    -fx-padding: 10 15 13 15;
    -fx-background-insets: 2 0 0 0,2 0 3 0, 2 0 4 0, 2 0 5 0;
}
.button Text {
    -fx-fill: white;
    -fx-effect: dropshadow( gaussian , #502f50 , 0,0,0,2 );
}

```

Q2.

OUTPUT:

DATABASE CREATION:

```
Algorithm: Default Lock Type: Default
1   CREATE TABLE `student`.`marks_table` (
2     `r_no` VARCHAR(100) NOT NULL,
3     `name` VARCHAR(100) NOT NULL,
4     `c1` VARCHAR(45) NULL,
5     `m1` DECIMAL(10,2) NULL,|  
6     `c2` VARCHAR(45) NULL,  
7     `m2` DECIMAL(10,2) NULL,  
8     `c3` VARCHAR(45) NULL,  
9     `m3` DECIMAL(10,2) NULL,  
10    `c4` VARCHAR(45) NULL,  
11    `m4` DECIMAL(10,2) NULL,  
12    `c5` VARCHAR(45) NULL,  
13    `m5` DECIMAL(10,2) NULL,  
14    `c6` VARCHAR(45) NULL,  
15    `m6` DECIMAL(10,2) NULL,  
16    `c7` VARCHAR(45) NULL,  
17    `m7` DECIMAL(10,2) NULL,  
18    `avg` DECIMAL(10,2) NULL,  
19    `total` DECIMAL(10,2) NULL,  
20    `grade` VARCHAR(4) NULL,  
21    PRIMARY KEY (`r_no`));
22
```

Apply SQL Script to Database

Review the SQL Script to be Applied on the Database

Review SQL Script
 Apply SQL Script

Please review the following SQL script that will be applied to the database.
Note that once applied, these statements may not be revertible without losing some of the data.
You can also manually change the SQL statements before execution.

Online DDL

```
Algorithm: Default Lock Type: Default
1   ALTER TABLE `student`.`marks_table`  
2     ADD COLUMN `g1` VARCHAR(45) NULL AFTER `grade`,  
3     ADD COLUMN `g2` VARCHAR(45) NULL AFTER `g1`,  
4     ADD COLUMN `g3` VARCHAR(45) NULL AFTER `g2`,  
5     ADD COLUMN `g4` VARCHAR(45) NULL AFTER `g3`,  
6     ADD COLUMN `g5` VARCHAR(45) NULL AFTER `g4`,  
7     ADD COLUMN `g6` VARCHAR(45) NULL AFTER `g5`,  
8     ADD COLUMN `g7` VARCHAR(45) NULL AFTER `g6`,  
9     ADD COLUMN `gpa` DECIMAL(10,2) NULL AFTER `g7`;  
10
```

The user is presented a landing page from which they can select an option

LANDING PAGE:

The landing page features a sidebar with information about VIT's engineering subjects and its ranking. The main area is titled "WELCOME TO THE DATABASE PORTAL" and contains buttons for "ENTER A NEW RECORD", "Click Here", "GENERATE MEMO", and "ENTER REGISTRATION NUMBER".

VIT engineering subjects among top eight in India

SPECIAL CORRESPONDENT
VELLORE

Engineering and technology subjects at the Vellore Institute of Technology (VIT) have been ranked among the top eight universities in India and among the top 50-600 universities in the world, according to the recently-released World University Rankings by Subject 2022 by the Times Higher Education (THE), U.K.

According to a release from the varsity, the subjects are general engineering, electrical and electronic engineering, mechanical engineering, civil engineering, and chemical engineering.

The VIT computer science course is ranked among the four universities in India, and in the band of 30-400 universities of the world in the ranking.

The weightage for subject rankings (in computer science and engineering and technology) are teaching (learning environment)

WELCOME TO THE DATABASE PORTAL

ENTER A NEW RECORD

Click Here

GENERATE MEMO

ENTER REGISTRATION NUMBER

SUBMIT

ENTERING RECORDS:

The form consists of two sections: "STUDENT DETAILS" and "MARK DETAILS". In the "STUDENT DETAILS" section, Name is Micah Bell and Registration Number is 19BCE1300. In the "MARK DETAILS" section, there are multiple rows of course codes and marks. The last mark entered, 79.00 for course CSE2002, is highlighted with a blue border.

STUDENT DETAILS

NAME: Micah Bell

REGISTRATION NUMBER: 19BCE1300

MARK DETAILS

COURSE CODE	CSE1007
MARKS	70.00
COURSE CODE	CSE3021
MARKS	72.00
COURSE CODE	CSE3025
MARKS	77.00
COURSE CODE	CSE2005
MARKS	76.00
COURSE CODE	CSE2006
MARKS	76.00
COURSE CODE	MAT2002
MARKS	79.00
COURSE CODE	STS2002
MARKS	79.00

SUBMIT **BACK**

The input is validated.

N= Number

A= Alphabet

Format for Registration Number: NNAAANNNN

Format for Course Code: AAANNNN

Name can't contain numbers or special characters(other than space)

Marks should be below or equal to 100 and must not be negative

Users are free to enter as many records as they want (under <6).

If they enter marks and not course code, it will be considered invalid.

They can enter course code and not marks, the default marks will be -1, but will not be

If you enter course code and net marks, the default marks will be 1, but will not be considered for calculation of total or average.

If the don't enter both course code will be taken.

If the validation fails, the user is alerted

EXAMPLE 1:

EXAMPLE 2:

STUDENT DETAILS

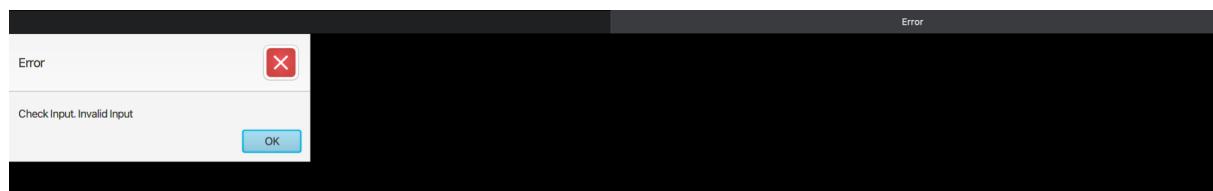
NAME

REGISTRATION NUMBER

MARK DETAILS

COURSE CODE

MARKS



GENERATING MEMO:

VIT engineering subjects among top eight in India

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According to a release from the varsity, the subjects are general engineering, electrical and electronic engineering, mechanical engineering, civil engineering, and chemical engineering.

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The weightage for subject rankings (in computer science and engineering and technology) are teaching (learning environment)

VELLORE INSTITUTE OF TECHNOLOGY

WELCOME TO THE DATABASE PORTAL

ENTER A NEW RECORD

[Click Here!](#)

GENERATE MEMO

ENTER REGISTRATION NUMBER

19BAI1122

[SUBMIT!](#)


Grade Sheet

Name: Arthur Morgan
Registration Number: 19BAI1122

Course Code	CSE1007	CSE3021	CSE3025	CSE2005	CSE2006	MAT2002	STS2002
Marks	98.0	97.0	87.0	86.0	96.0	99.0	89.0
Grade	S	S	A	A	S	S	A

Total: 652.0
Average: 93.14
Final Grade: S
GPA: 9.57

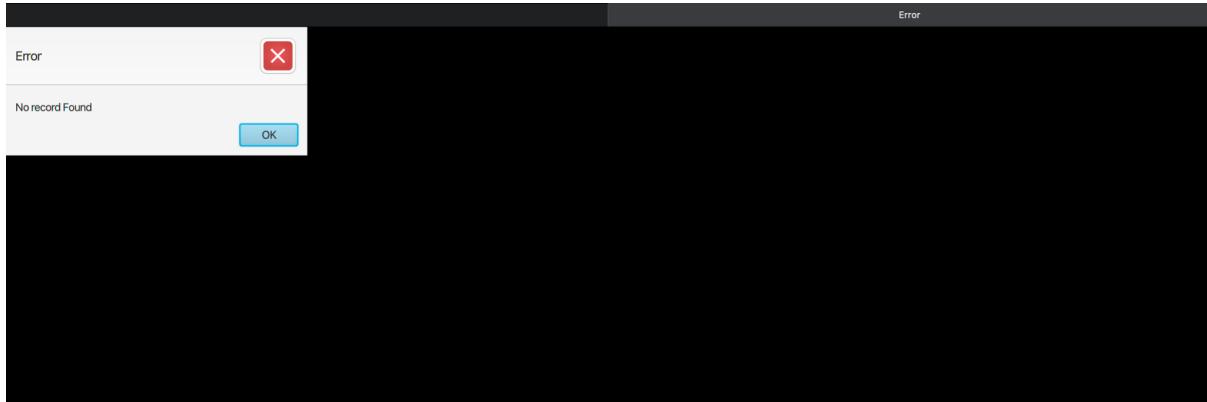
[Back](#)

If the record is not found, the user is alerted that the record does not exist.

RECORDS IN THE DATABASE:

EXAMPLE:

VELLORE INSTITUTE OF TECHNOLOGY



CODE:

```
package application;
import java.io.IOException;

import java.sql.*;
import java.util.regex.Matcher;
import java.util.regex.Pattern;

import javafx.application.Application;
import javafx.geometry.Orientation;
import javafx.geometry.Pos;
import javafx.geometry.VPos;
import javafx.stage.Stage;

import javafx.scene.Scene;
import javafx.scene.control.Alert;
import javafx.scene.control.Alert.AlertType;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.Separator;
import javafx.scene.control.TextField;
import javafx.scene.image.ImageView;
import javafx.scene.image.Image;
import javafx.scene.layout.BorderPane;
import javafx.scene.layout.GridPane;
import javafx.scene.layout.HBox;
import javafx.scene.layout.VBox;
import javafx.scene.text.Text;

public class Main2 extends Application{
    TextField[] tf = new TextField[22];
    TextField tf2 = new TextField();
    Double[] marks = new Double[7];
    String[] course = new String[7];
    String[] gs = new String[7];
    Label[] lb = new Label[30];
```

```

VBox[] gp3= new VBox[8];
VBox gp4= new VBox();
VBox vb3= new VBox();
HBox hb5= new HBox();
Button back1= new Button();
Separator[] sp = new Separator[7];

static double gpa=0;
static int count;
static int k,ind;

static double avg;
static double tot;
static String grade="F";
void calc()
{
    gpa=0;
int ct=0;
    for(int i=0;i<7;i++)
    {
        if(marks[i]>90)
            {gs[i]="S";
             gpa=gpa+10;
              ct++;
            }
        else if(marks[i]>=80&&marks[i]<90)
            {gs[i]="A";
             gpa=gpa+9;
              ct++;
            }
        else if(marks[i]>=70&&marks[i]<80)
            {gs[i]="B";
             gpa=gpa+8;
              ct++;
            }
        else if(marks[i]>=60&&marks[i]<70)
            {gs[i]="C";
             gpa=gpa+7;
              ct++;
            }
        else if(marks[i]>=50&&marks[i]<60)
            {gs[i]="D";
             gpa=gpa+6;
              ct++;
            }
        else if(marks[i]>=40&&marks[i]<50)
            {gs[i]="E";
             gpa=gpa+5;
              ct++;
            }
        else if(marks[i]<40&&marks[i]>=0)
            gs[i]="F";
    }

    else
        gs[i]="NA";
    }
if(ct>0)
    gpa= gpa/ct;

```

```

else
    gpa= 0;
}

boolean validate()
{
    k=0;
    ind=0;
    Pattern p = Pattern.compile("^[ A-Za-z]+$");
    Pattern p1 = Pattern.compile("[0-9]{2}[a-zA-Z]{3}[0-9]{4}$");
    Pattern p2 = Pattern.compile("^[A-Za-z]{3}[0-9]{4}$");
    Matcher m = p.matcher(tf[0].getText());
    Matcher m1 = p1.matcher(tf[1].getText());
    Matcher m2;

    boolean b = m.matches();
    boolean b1 = m1.matches();
    boolean b2;
    tot=0;
    avg=0;
    if(!b)
    {
        return false;
    }

    if(!b1)
    {
        return false;
    }

    for(int i=2;i<16;i++)
    {
        if(tf[i].getText() != null && !tf[i].getText().isEmpty() && tf[i+1].getText() != null
        && !tf[i+1].getText().isEmpty())
            {
                m2= p2.matcher(tf[i].getText());
                b2= m2.matches();

                if(!b2)
                    {
                        return false;
                    }
            }

        try
        {
            marks[k]= Double.parseDouble(tf[i+1].getText());
            if(marks[k]<0)

                {
                    return false;
                }

            tot=marks[k]+tot;
            course[k]=tf[i].getText();
        }

        ind++;
    }
}

```

```

        }

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

}

else if(tf[i].getText() == null || tf[i].getText().isEmpty() && tf[i+1].getText() != null
&& !tf[i+1].getText().isEmpty())
{
    return false;
}
else if(tf[i].getText() != null && !tf[i].getText().isEmpty() && tf[i+1].getText() ==
null || tf[i+1].getText().isEmpty())
{
    marks[k]=-1.0;

    m2= p2.matcher(tf[i].getText());
    b2= m2.matches();

    if(!b2)
    {
        return false;
    }
    course[k]=tf[i].getText();
}

}

else
{
    marks[k]=-1.0;
    course[k]="";
}

}

k++;
}

if(ind>0)
avg=tot/(ind);
else
avg=0.0;

if(avg>90)
    grade="S";
else if(avg>=80&&avg<90)
    grade="A";
else if(avg>=70&&avg<80)
    grade="B";

```



```

        j++;
    }
    preparedStmt.setDouble(j,gpa);

    preparedStmt.execute();

    con.close();

}

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

return false;

}

return true;

}

boolean display(String regis)
{
try
{
back1= new Button("Back");
hb5.setId("hb5");
int i=2;
int row=0;

Connection con= DriverManager.getConnection("jdbc:mysql://localhost:3306/student","root",
"Haloarenes");
String query = "select * from marks_table where r_no =?";
PreparedStatement preparedStmt = con.prepareStatement(query);
preparedStmt.setString (1, regis);
ResultSet rs = preparedStmt.executeQuery();
if(rs.next())
{
    String r_no = rs.getString("r_no");
    String name = rs.getString("name");
    lb[0].setText(r_no);

    lb[1].setText(name);

    gp3[row]= new VBox();
    gp3[row].getChildren().add(new Label("Course Code"));
    gp3[row].getChildren().add(new Label("Marks"));
    gp3[row].getChildren().add(new Label("Grade"));
}
}

```

```
gp3[row].setId("row0");
hb5.getChildren().add(gp3[row]);
sp[row]= new Separator();
sp[row].setOrientation(Orientation.VERTICAL);
sp[row].setVAlignment(VPos.CENTER);

hb5.getChildren().add(sp[row]);
```

```
String c1 = rs.getString("c1");
Double m1 = rs.getDouble("m1");
if(!c1.isEmpty()&&m1>=0)
{ gp3[row]= new VBox();
```

```
lb[i]= new Label(c1);
gp3[row].getChildren().add(lb[i]);
```

```
lb[i+1]= new Label(Double.toString(m1));
gp3[row].getChildren().add(lb[i+1]);
```

```
lb[i+2]= new Label(rs.getString("g1"));
gp3[row].getChildren().add(lb[i+2]);
```

```
hb5.getChildren().add(gp3[row]);
sp[row]= new Separator();
sp[row].setOrientation(Orientation.VERTICAL);
sp[row].setVAlignment(VPos.CENTER);

hb5.getChildren().add(sp[row]);

row++;
i=i+3;

}
```

```
String c2 = rs.getString("c2");
Double m2 = rs.getDouble("m2");
if(!c2.isEmpty()&&m2>=0)
{ gp3[row]= new VBox();
```

```
lb[i]= new Label(c2);
gp3[row].getChildren().add(lb[i]);
```

```
lb[i+1]= new Label(Double.toString(m2));
gp3[row].getChildren().add(lb[i+1]);
```

```

lb[i+2]= new Label(rs.getString("g2"));
gp3[row].getChildren().add(lb[i+2]);

i=i+3;
hb5.getChildren().add(gp3[row]);
sp[row]= new Separator();
sp[row].setOrientation(Orientation.VERTICAL);
sp[row].setValignment(VPos.CENTER);
hb5.getChildren().add(sp[row]);
row++;

}

```

```

String c3 = rs.getString("c3");
Double m3 = rs.getDouble("m3");
if(!c3.isEmpty()&&m3>=0)
{ gp3[row]= new VBox();

lb[i]= new Label(c3);
gp3[row].getChildren().add(lb[i]);

lb[i+1]= new Label(Double.toString(m3));
gp3[row].getChildren().add(lb[i+1]);

```

```

lb[i+2]= new Label(rs.getString("g3"));
gp3[row].getChildren().add(lb[i+2]);

i=i+3;
hb5.getChildren().add(gp3[row]);
sp[row]= new Separator();
sp[row].setOrientation(Orientation.VERTICAL);
sp[row].setValignment(VPos.CENTER);
hb5.getChildren().add(sp[row]);
row++;

}

```

```

String c4 = rs.getString("c4");
Double m4 = rs.getDouble("m4");
if(!c4.isEmpty()&&m4>=0)
{ gp3[row]= new VBox();

lb[i]= new Label(c4);
gp3[row].getChildren().add(lb[i]);

lb[i+1]= new Label(Double.toString(m4));

```

```

gp3[row].getChildren().add(lb[i+1]);

lb[i+2]= new Label(rs.getString("g4"));
gp3[row].getChildren().add(lb[i+2]);

i=i+3;
hb5.getChildren().add(gp3[row]);
sp[row]= new Separator();
sp[row].setOrientation(Orientation.VERTICAL);
sp[row].setVAlignment(VPos.CENTER);
hb5.getChildren().add(sp[row]);
row++;
}

String c5 = rs.getString("c5");
Double m5 = rs.getDouble("m5");
if(!c5.isEmpty()&&m5>=0)
{ gp3[row]= new VBox();

lb[i]= new Label(c5);
gp3[row].getChildren().add(lb[i]);

lb[i+1]= new Label(Double.toString(m5));
gp3[row].getChildren().add(lb[i+1]);

lb[i+2]= new Label(rs.getString("g5"));
gp3[row].getChildren().add(lb[i+2]);

i=i+3;
hb5.getChildren().add(gp3[row]);
sp[row]= new Separator();
sp[row].setOrientation(Orientation.VERTICAL);
sp[row].setVAlignment(VPos.CENTER);
hb5.getChildren().add(sp[row]);
row++;
}

String c6 = rs.getString("c6");
Double m6 = rs.getDouble("m6");
if(!c6.isEmpty()&&m6>=0)
{ gp3[row]= new VBox();

lb[i]= new Label(c6);
gp3[row].getChildren().add(lb[i]);

lb[i+1]= new Label(Double.toString(m6));

```

```

gp3[row].getChildren().add(lb[i+1]);

lb[i+2]= new Label(rs.getString("g6"));
gp3[row].getChildren().add(lb[i+2]);

i=i+3;
hb5.getChildren().add(gp3[row]);
sp[row]= new Separator();
sp[row].setOrientation(Orientation.VERTICAL);
sp[row].setVAlignment(VPos.CENTER);
hb5.getChildren().add(sp[row]);

row++;
}

String c7 = rs.getString("c7");
Double m7 = rs.getDouble("m7");
if(!c7.isEmpty()&&m7>=0)
{ gp3[row]= new VBox();

lb[i]= new Label(c7);
gp3[row].getChildren().add(lb[i]);

lb[i+1]= new Label(Double.toString(m7));
gp3[row].getChildren().add(lb[i+1]);


lb[i+2]= new Label(rs.getString("g7"));
gp3[row].getChildren().add(lb[i+2]);

i=i+3;
hb5.getChildren().add(gp3[row]);
sp[row]= new Separator();
sp[row].setOrientation(Orientation.VERTICAL);
sp[row].setVAlignment(VPos.CENTER);
hb5.getChildren().add(sp[row]);

row++;
}

Double total = rs.getDouble("total");
lb[i]= new Label(Double.toString(total));
HBox hb6= new HBox();
hb6.setId("hb6");

hb6.getChildren().add(new Label("Total: "));
hb6.getChildren().add(lb[i]);

gp4.getChildren().add(hb6);
i++;

```

```

        Double avg = rs.getDouble("avg");
        lb[i]= new Label(Double.toString(avg));

        HBox hb7= new HBox();
        hb7.setId("hb7");

        hb7.getChildren().add(new Label("Average: "));
        hb7.getChildren().add(lb[i]);
        gp4.getChildren().add(hb7);

        i++;

        String g = rs.getString("grade");
        lb[i]= new Label(g);
        HBox hb8= new HBox();
        hb8.setId("hb8");
        hb8.getChildren().add(new Label("Final Grade: "));
        hb8.getChildren().add(lb[i]);

        gp4.getChildren().add(hb8);

        i++;

        Double ga = rs.getDouble("gpa");
        HBox hb9= new HBox();
        hb9.setId("hb9");
        lb[i]= new Label(Double.toString(ga));
        hb9.getChildren().add(new Label("GPA: "));
        hb9.getChildren().add(lb[i]);

        gp4.getChildren().add(hb9);
        gp4.getChildren().add(back1);

    }

    else
    {
        return false;
    }
}

```

```

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

    }
    return true;
}

public void start(Stage stage) throws IOException {
    Alert alert = new Alert(AlertType.ERROR);
    Alert alert1= new Alert(AlertType.ERROR);
    //scene 1

    String style = getClass().getResource("application.css").toExternalForm();
    BorderPane bp = new BorderPane();
    Label l= new Label(" VELLORE INSTITUTE OF TECHNOLOGY");
    Label l1= new Label();
    Label l3= new Label("WELCOME TO THE DATABASE PORTAL");

    l3.setId("title2");
    l.setId("title");
    Image img = new Image(getClass().getResourceAsStream("vit.png"));
    Image img1 = new Image(getClass().getResourceAsStream("VIT-ranking-Oct31_cut.jpg"));

    ImageView view = new ImageView(img);
    ImageView view1 = new ImageView(img1);
    view.setFitWidth(160);
    view.setFitHeight(160);

    view1.setFitWidth(200);
    view1.setFitHeight(1000);

    l.setGraphic(view);
    l1.setGraphic(view1);

    bp.setTop(l);
    bp.setLeft(l1);

    VBox vb = new VBox();
    vb.setId("box");
    Button[] barr= new Button[3];
    String[] s = {"ENTER A NEW RECORD", "GENERATE MEMO"};
    vb.getChildren().add(l3);

    barr[0] = new Button("Click Here!");
    Label l5= new Label(s[0]);
    vb.getChildren().add(l5);
    vb.getChildren().add(barr[0]);

    barr[1] = new Button("SUBMIT!");
    Label l6= new Label(s[1]);
    Label l7= new Label("ENTER REGISTRATION NUMBER");
    l7.setId("l7");
}

```

```

TextField regis= new TextField();

vb.getChildren().add(l6);
vb.getChildren().add(l7);
regis.setMaxWidth(200);
vb.getChildren().add(regis);
vb.getChildren().add(barr[1]);

vb.setSpacing(30);

vb.setAlignment(Pos.TOP_CENTER);
bp.setCenter(vb);

Scene scene= new Scene(bp, 300, 275);
stage.setScene(scene);
stage.show();
scene.getStylesheets().addAll(style);

//scene 2
VBox vb1 = new VBox();
vb1.setId("vb1");
Label s2= new Label("STUDENT DETAILS");
s2.setId("s2");
GridPane gp = new GridPane();
GridPane gp2 = new GridPane();

vb1.getChildren().add(s2);
vb1.getChildren().add(gp);
vb1.setAlignment(Pos.CENTER);
String[] s1 = {"NAME", "REGISTRATION NUMBER", "COURSE CODE", "MARKS"};

for(int i=0;i<2;i++)
{
    tf[i]= new TextField();
    gp.add(tf[i], 1, i);
    gp.add(new Text(s1[i]), 0, i);
}
int j=0;
Label l4= new Label("MARK DETAILS");
l4.setId("l4");
vb1.getChildren().add(l4);
for(int i=2;j<16;i++)
{
    tf[i]= new TextField();
    gp2.add(tf[i], 1, i);
    gp2.add(new Text(s1[j+2]), 0, i);
    j=(j+1)%2;
}

vb1.getChildren().add(gp2);

```

```

gp.setVgap(10);
gp.setHgap(10);
gp2.setVgap(10);
gp2.setHgap(60);

gp.setAlignment(Pos.TOP_CENTER);
gp2.setAlignment(Pos.TOP_CENTER);
Button b1= new Button("SUBMIT");
Button b2 = new Button("BACK");
HBox hb = new HBox();
hb.getChildren().add(b1);
hb.getChildren().add(b2);
hb.setAlignment(Pos.CENTER);
hb.setSpacing(20);
vb1.setSpacing(20);

vb1.getChildren().add(hb);

Scene scene2 = new Scene(vb1,300, 275);

scene2.getStylesheets().addAll(style);
b2.setOnAction(e -> {

stage.setScene(scene);

});

b1.setOnAction(e -> {

if(validate())
{
    if(enter())
    { System.out.print("success\n");
        for(int i=0;i<16;i++)
        {
            tf[i].clear();
        }
    }
}
else
{ System.out.print("fail\n");
    alert.setContentText("Check Input. Invalid Input");
    alert.show();
}

}

```

```

});
```

barr[0].setOnAction(e -> {

```

    stage.setScene(scene2);
```

});
//scene 3

```

vb3.setId("vb3");
Label img= new Label();
img.setGraphic(view);

HBox hb3= new HBox();
HBox hb4= new HBox();
hb3.setId("hb3");
hb4.setId("hb4");

vb3.getChildren().add(img);
Label grs= new Label("Grade Sheet");
grs.setId("grs");
vb3.getChildren().add(grs);

Label nm= new Label("Name: ");
hb3.getChildren().add(nm);
lb[1]= new Label();
hb3.getChildren().add(lb[1]);

vb3.getChildren().add(hb3);

Label rn= new Label("Registration Number: ");
hb4.getChildren().add(rn);
lb[0]= new Label();
hb4.getChildren().add(lb[0]);

vb3.getChildren().add(hb4);

System.out.print(count);
vb3.getChildren().add(hb5);
vb3.getChildren().add(gp4);

vb3.setAlignment(Pos.TOP_CENTER);
Scene scene3 = new Scene(vb3,300, 275);
```

```
scene3.getStylesheets().addAll(style);

barr[1].setOnAction(e -> {
    hb5.getChildren().clear();
    gp4.getChildren().clear();
    if( display(regis.getText()))
    {
        stage.setScene(scene3);
        back1.setOnAction(e1 -> {
            stage.setScene(scene);
            });
    }
    else
    {
        alert1.setContentText("No record Found");
        alert1.show();
    }
});

}

});
```

```

public static void main(String[] args) {
    launch(args);

}

}

```

CSS:

```

#box
{
    -fx-border-color: darkblue;
    -fx-border-width: 3;
    -fx-border-insets: 35;
    -fx-font: 30px Tahoma;
    -fx-stroke: blue;
    -fx-text-fill: darkblue;
}

#title
{
    -fx-font: 60px Tahoma;
    -fx-stroke: blue;
    -fx-text-fill: darkblue;
}

}

#vb
{
    -fx-font: 40px Tahoma;
    -fx-stroke: blue;
    -fx-text-fill: darkblue;
}

}

#vb1
{
    -fx-border-color: darkblue;
    -fx-border-width: 3;
    -fx-border-insets: 35;
}

}

#title2, #s2, #l4
{
    -fx-font: 40px Tahoma;
    -fx-stroke: blue;
    -fx-text-fill: darkblue;
}

}

#s2, #l4
{
    -fx-font: 40px Tahoma;
    -fx-stroke: blue;
    -fx-text-fill: black;
}

```

```

}

#ftext {
  fx-font: 40px Tahoma;
  fx-fill: linear-gradient(from 0% 0% to 100% 200%, repeat, black 0%, white 50%);
  fx-stroke: black;
  fx-stroke-width: 1;
}
#hb4, #hb3, #row0, #hb6, #hb7, #hb8, #hb9
{
  fx-font: 35px 'Snell Roundhand', cursive;
}
#grs
{
  fx-font: 45px 'Snell Roundhand', cursive;
}
#hb5
{
  fx-font: 35px 'Courier New', monospace;
}
#btext, #ctext
{ fx-font: 20px Tahoma;
  fx-fill: linear-gradient(from 0% 0% to 100% 200%, repeat, black 0%, white 50%);
  fx-stroke: black;
  fx-stroke-width: 1;
}

#pane, #pane2 {
  fx-background-image: url("pf-misctexture01-006-jj-07_1_1.jpg");
  fx-background-color: transparent;
}
#vb3
{ fx-background-image: url("pf-misctexture01-006-jj-07_1_1.jpg");
  fx-border-color: darkblue;
  fx-border-width: 20;
}
.button {
  fx-background-color: #090a0c,
  linear-gradient(#38424b 0%, #1f2429 20%, #191d22 100%),
  linear-gradient(#20262b, #191d22),
  radial-gradient(center 50% 0%, radius 100%, rgba(114,131,148,0.9), rgba(255,255,255,0));
  fx-background-radius: 5,4,3,5;
  fx-background-insets: 0,1,2,0;
  fx-text-fill: white;
  fx-effect: dropshadow( three-pass-box , rgba(0,0,0,0.6) , 5, 0.0 , 0 , 1 );
  fx-font-family: "Arial";
  fx-text-fill: linear-gradient(white, #d0d0d0);
  fx-font-size: 12px;
  fx-padding: 10 20 10 20;
}
.button Text {
  fx-effect: dropshadow( one-pass-box , rgba(0,0,0,0.9) , 1, 0.0 , 0 , 1 );
}
.button:hover {
  fx-background-color: linear-gradient(from 0% 93% to 0% 100%, #96BCDE 0%, #A1CEE5 100%),
```

```
#9d4024,  
#d86e3a,  
radial-gradient(center 50% 50%, radius 100%, #96BCDE, #A1CEES);  
}
```