EXPT:11

DATE: 15-10-2019

GPA AND CGPA CALCULATION

ABSTRACT

This student initiative mini project helps you to write a java code to find GPA and CGPA of Anna University examination. This program was developed with the intention to help engineering students find their GPA and CGPA easily .Although many online GPA and CGPA calculators are available, this program can help students understand the basic functioning logic behind them and create one by themselves.

INTRODUCTION

For the purpose of GPA and CGPA calculation one package and two classes have been used. The name of the package used is 'gradecalculator', the name of the class containing the main function is 'AnnaUniv', AnnaUniv makes use of the class 'Converter' to return the values of the respective grade obtained from the user using 'Float.parseFlopat()' method ,and also for cgpa computations and returns the corresponding float value. It uses simple 'switch' case and 'else if' statements to check with the logical conditions and performs the required computations .

SOFTWARES , WEB TOOLS AND REPOSITORY HOSTING SERVICE USED

- Coding was carried out in the software – "ECLIPSE IDE"

  Download link: *https://www.eclipse.org/downloads*

- The class diagram was created online using the "visual-paradigm" tool.

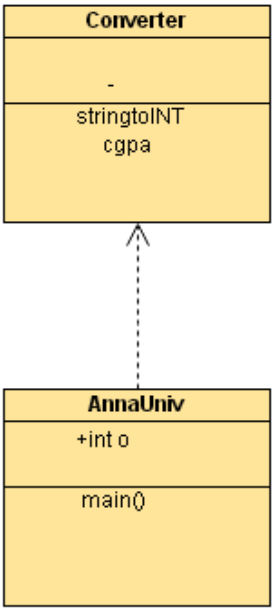
  Web link: https://online.visual-paradigm.com/diagrams/solutions/free-class-diagram-tool

- The repository hosting service used is : "GITHUB"

  Site link: *https://github.com*

  The entire project is available in the online repository – https://github.com/hariharan001/MINI-PROJECT

CLASS BODY DIAGRAM



SOURCE CODE

```
package gradecalculator;

import java.util.Scanner;


public class AnnaUniv

{

public static void main(String[]args)

{

int o=4;

do {
```

```
System.out.println("1. TO CALCULATE YOUR GPA FOR 3 SUBJECTS");
System.out.println("2. TO CALCULATE YOUR GPA FOR 8 SUBJECTS");
System.out.println("3. TO CALCULATE YOUR GPA FOR 9 SUBJECTS");
System.out.println("4. TO CALCULATE YOUR CGPA ");
System.out.print("\nEnter your choice:");
Scanner r = new Scanner(System.in);
int option=r.nextInt();
String spacing="--------------------------------------------------------------------------------";

switch(option)
{
case 1:
System.out.print("ENTER THE GRADE OF SUBJECT 1: ");
String  x1=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 1: ");
float x2=r.nextFloat();
float a11=Conversion.strtoINT(x1,x2);


System.out.print("ENTER THE GRADE OF SUBJECT 2: ");
String x4=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 2: ");
float x5=r.nextFloat();
float a12=Conversion.strtoINT(x4,x5);
```

```
System.out.print("ENTER THE GRADE OF SUBJECT 3: ");
String x7=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 3: ");
float x8=r.nextFloat();
float a13=Conversion.strtoINT(x7,x8);
float gpa=(a11+a12+a13)/(x2+x5+x8);
System.out.println("\n"+spacing+"\n"+"GPA :"+gpa+"\n"+spacing+"\n");
break;

case 2:
System.out.println("ENTER THE GRADE OF SUBJECT 1: ");
String  x10=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 1: ");
float x11=r.nextFloat();
float a14=Conversion.strtoINT(x10,x11);



System.out.print("ENTER THE GRADE OF SUBJECT 2: ");
String  x13=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 2: ");
float x14=r.nextFloat();
float a15=Conversion.strtoINT(x13,x14);
```

```
System.out.print("ENTER THE GRADE OF SUBJECT 3: ");
String x16=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 3: ");
float x17=r.nextFloat();
float a16=Conversion.strtoINT(x16,x17);

System.out.print("ENTER THE GRADE OF SUBJECT 4: ");
String  x19=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 4: ");
float x20=r.nextFloat();
float a17=Conversion.strtoINT(x19,x20);

System.out.print("ENTER THE GRADE OF SUBJECT 5: ");
String x22=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 5: ");
float x23=r.nextFloat();
float a18=Conversion.strtoINT(x22,x23);

System.out.print("ENTER THE GRADE OF SUBJECT 6: ");
String x25=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 6: ");
float x26=r.nextFloat();
float a19=Conversion.strtoINT(x25,x26);
```

```
System.out.print("ENTER THE GRADE OF SUBJECT 7: ");
String  x28=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 7: ");
float x29=r.nextFloat();
float a20=Conversion.strtoINT(x28,x29);

System.out.print("ENTER THE GRADE OF SUBJECT 8: ");
String  x31=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 8: ");
float x32=r.nextFloat();
float a21=Conversion.strtoINT(x31,x32);
double gpa1=(a14+a15+a16+x17+a18+a19+a20+a21)/(x11+x14+x17+x20+x23+x26+x29+x32);
System.out.println("\n"+spacing+"\n"+" GPA: "+gpa1+"\n"+spacing+"\n");
break;

case 3:
System.out.println("ENTER THE GRADE OF SUBJECT 1: ");
String  x37=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 1: ");
float x38=r.nextFloat();
float a22=Conversion.strtoINT(x37,x38);
System.out.print("ENTER THE GRADE OF SUBJECT 2: ");
String  x40=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 2: ");
float x41=r.nextFloat();
```

```
float a23=Conversion.strtoINT(x40,x41);

System.out.print("ENTER THE GRADE OF SUBJECT 3: ");
String x43=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 3: ");
float x44=r.nextFloat();
float a24=Conversion.strtoINT(x43,x44);

System.out.print("ENTER THE GRADE OF SUBJECT 4: ");
String  x46=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 4: ");
float x47=r.nextFloat();
float a25=Conversion.strtoINT(x46,x47);

System.out.print("ENTER THE GRADE OF SUBJECT 5: ");
String  x49=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 5: ");
float x50=r.nextFloat();
float a26=Conversion.strtoINT(x49,x50);

System.out.print("ENTER THE GRADE OF SUBJECT 6: ");
String x52=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 6: ");
float x53=r.nextFloat();
float a27=Conversion.strtoINT(x52,x53);
```

```
System.out.print("ENTER THE GRADE OF SUBJECT 7: ");
String  x55=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 7: ");
float x56=r.nextFloat();
float a28=Conversion.strtoINT(x55,x56);

System.out.print("ENTER THE GRADE OF SUBJECT 8: ");
String  x58=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 8: ");
float x59=r.nextFloat();
float a29=Conversion.strtoINT(x58,x59);

System.out.print("ENTER THE GRADE OF SUBJECT 9: ");
String  x61=r.next();
System.out.print("ENTER THE CREDITS OF SUBJECT 9: ");
float x62=r.nextFloat();
float a30=Conversion.strtoINT(x61,x62);
float gpa2=(a22+a23+a24+a25+a26+a27+a28+a29+a30)/
(x38+x41+x44+x47+x50+x53+x56+x59+x62);
System.out.println("\n"+spacing+"\n"+" GPA: "+gpa2+"\n"+spacing+"\n");
break;

case 4:
System.out.println("ENTER THE NUMBER OF COMPLETED SEMESTERS :");
```

```
float g=r.nextFloat();
float b1=Conversion.cgpa(g);
System.out.println("\n"+spacing+"\n"+"YOUR CGPA IS:"+b1+"\n"+spacing+"\n");
break;

default:
System.out.println("please enter a valid data!!!");
}
}while(o!=0);
}
}
```

```
//**************************//
package gradecalculator;
import java.lang.*;
import java.util.Scanner;

public class Conversion
        {
        public static float strtoINT(String x1,float x2)
        {
                float j1,x=0;
                if(x1.equals("b"))
                {
```

```
            j1=6.0f;
            x=j1*x2;
}

else if (x1.equals("bplus"))
{
            j1=7.0f;
    x=j1*x2;
}

else if (x1.equals("a"))
{
            j1=8.0f;
            x=j1*x2;
}

else if (x1.equals("aplus"))
{
            j1=9.0f;
            x=j1*x2;
}
else if (x1.equals("o"))
{
            j1=10.0f;
            x=j1*x2;
```

```
        }
        else
        {
                System.out.println("Enter a valid grade");
                return (Float) null;
        }
        return x;
}
public static float cgpa(float g)
{
        float f1=0;
        Scanner sc=new Scanner(System.in);
        if(g==2)
        {
                System.out.println("ENTER THE GPA OF SEM 1 :");
                 float q1=sc.nextFloat();
                System.out.println("ENTER THE GPA OF SEM 2 :");
                float q2=sc.nextFloat();
                 f1=(q1+q2)/2;
        }

        else if (g==3)
        {
                System.out.println("ENTER THE GPA OF SEM 1 :");
                 float q1=sc.nextFloat();
```

```
            System.out.println("ENTER THE GPA OF SEM 2 :");
            float q2=sc.nextFloat();
            System.out.println("ENTER THE GPA OF SEM 3 :");
             float q3=sc.nextFloat();
             f1=(q1+q2+q3)/3;
}
else if (g==4)
{
            System.out.println("ENTER THE GPA OF SEM 1 :");
             float q1=sc.nextFloat();
            System.out.println("ENTER THE GPA OF SEM 2 :");
            float q2=sc.nextFloat();
            System.out.println("ENTER THE GPA OF SEM 3 :");
             float q3=sc.nextFloat();
             System.out.println("ENTER THE GPA OF SEM 4 :");
             float q4=sc.nextFloat();
 f1=(q1+q2+q3+q4)/4;
}
else if (g==5)
{
            System.out.println("ENTER THE GPA OF SEM 1 :");
            float q1=sc.nextFloat();
            System.out.println("ENTER THE GPA OF SEM 2 :");
            float q2=sc.nextFloat();
            System.out.println("ENTER THE GPA OF SEM 3 :");
```

```
            float q3=sc.nextFloat();
             System.out.println("ENTER THE GPA OF SEM 4 :");
             float q4=sc.nextFloat();
            System.out.println("ENTER THE GPA OF SEM 5 :");
            float q5=sc.nextFloat();
             f1=(q1+q2+q3+q4+q5)/5;
}

else if (g==6)
{
            System.out.println("ENTER THE GPA OF SEM 1");
            float q1=sc.nextFloat();
            System.out.println("ENTER THE GPA OF SEM 2");
            float q2=sc.nextFloat();
            System.out.println("ENTER THE GPA OF SEM 3");
            float q3=sc.nextFloat();
             System.out.println("ENTER THE GPA OF SEM 4");
             float q4=sc.nextFloat();
            System.out.println("ENTER THE GPA OF SEM 5");
            float q5=sc.nextFloat();
            System.out.println("ENTER THE GPA OF SEM 6");
            float q6=sc.nextFloat();
             f1=(q1+q2+q3+q4+q5+q6)/6;
}
```

```
else if (g==7)
{
        System.out.println("ENTER THE GPA OF SEM 1 :");
        float q1=sc.nextFloat();
        System.out.println("ENTER THE GPA OF SEM 2 :");
        float q2=sc.nextFloat();
        System.out.println("ENTER THE GPA OF SEM 3 :");
        float q3=sc.nextFloat();
         System.out.println("ENTER THE GPA OF SEM 4 :");
         float q4=sc.nextFloat();
        System.out.println("ENTER THE GPA OF SEM 5 :");
        float q5=sc.nextFloat();
        System.out.println("ENTER THE GPA OF SEM 6 :");
        float q6=sc.nextFloat();
        System.out.println("ENTER THE GPA OF SEM 7 :");
        float q7=sc.nextFloat();
        f1=(q1+q2+q3+q4+q5+q6+q7)/7;
}

else if (g==8)
{
        System.out.println("ENTER THE GPA OF SEM 1 :");
        float q1=sc.nextFloat();
        System.out.println("ENTER THE GPA OF SEM 2 :");
        float q2=sc.nextFloat();
```

```
                System.out.println("ENTER THE GPA OF SEM 3 :");
                float q3=sc.nextFloat();
                 System.out.println("ENTER THE GPA OF SEM 4 :");
                 float q4=sc.nextFloat();
                System.out.println("ENTER THE GPA OF SEM 5 :");
                float q5=sc.nextFloat();
                System.out.println("ENTER THE GPA OF SEM 6 :");
                float q6=sc.nextFloat();
                System.out.println("ENTER THE GPA OF SEM 7 :");
                float q7=sc.nextFloat();
                System.out.println("ENTER THE GPA OF SEM 8 :");
                float q8=sc.nextFloat();
             f1=(q1+q2+q3+q4+q5+q6+q7+q8)/8;
            }
            return f1;
        }
}
```

OUTPUT

```
AnnaUniv [Java Application] /usr/lib/jvm/java-11-oracle/bin/java (17-Oct-2019, 12:43:40 am)
1. TO CALCULATE YOUR GPA FOR 3 SUBJECTS
2. TO CALCULATE YOUR GPA FOR 8 SUBJECTS
3. TO CALCULATE YOUR GPA FOR 9 SUBJECTS
4. TO CALCULATE YOUR CGPA

Enter your choice:1
ENTER THE GRADE OF SUBJECT 1: bplus
ENTER THE CREDITS OF SUBJECT 1: 4
ENTER THE GRADE OF SUBJECT 2: a
ENTER THE CREDITS OF SUBJECT 2: 3
ENTER THE GRADE OF SUBJECT 3: o
ENTER THE CREDITS OF SUBJECT 3: 2

--------------------------------------------------------------------------------
GPA :8.0
--------------------------------------------------------------------------------

1. TO CALCULATE YOUR GPA FOR 3 SUBJECTS
2. TO CALCULATE YOUR GPA FOR 8 SUBJECTS
3. TO CALCULATE YOUR GPA FOR 9 SUBJECTS
4. TO CALCULATE YOUR CGPA

Enter your choice:4
ENTER THE NUMBER OF COMPLETED SEMESTERS :
2
ENTER THE GPA OF SEM 1 :
8.9
ENTER THE GPA OF SEM 2 :
9.5

--------------------------------------------------------------------------------
YOUR CGPA IS:9.2
--------------------------------------------------------------------------------

1. TO CALCULATE YOUR GPA FOR 3 SUBJECTS
2. TO CALCULATE YOUR GPA FOR 8 SUBJECTS
3. TO CALCULATE YOUR GPA FOR 9 SUBJECTS
4. TO CALCULATE YOUR CGPA

Enter your choice:
```

CONCLUSION

Thus a java application was created and executed successfully to calculate the GPA and CGPA.