

```
import java.util.*;
class Student
{
    private int n, credit[], marks[], gp[];
    private String name, usn;
    double sum, sgpa;

    Student()
    {
        name = "";
        usn = 0;
    }

    void accept()
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("enter the number of the subjects:");
        n = sc.nextInt();
        credit = new int[n+1];
        marks = new int[n+1];
        System.out.println("enter usn and name of the student ");
        usn = sc.next();
        name = sc.next();

        System.out.println("enter credit and marks in each subject");
        for(int i = 1; i <= n; i++)
        {
            System.out.println("enter subject " + i + " credit and marks");
            credit[i] = sc.nextInt();
            marks[i] = sc.nextInt();
        }
    }

    void calculate()
    {
        gp = new int[n+1];
        int cre = 0;
        for(int i = 1; i <= n; i++)
        {
            if(marks[i] >= 90)
                gp[i] = 18;
            else if (marks[i] >= 80 && marks[i] < 90)
                gp[i] = 9;
            else if (marks[i] >= 70 && marks[i] < 80)
                gp[i] = 7;
            else if (marks[i] >= 60 && marks[i] < 70)
                gp[i] = 6;
            else if (marks[i] >= 50 && marks[i] < 60)
                gp[i] = 5;
            else if (marks[i] >= 40 && marks[i] < 50)
                gp[i] = 4;
            else if (marks[i] >= 30 && marks[i] < 40)
                gp[i] = 3;
            else if (marks[i] >= 20 && marks[i] < 30)
                gp[i] = 2;
            else if (marks[i] >= 10 && marks[i] < 20)
                gp[i] = 1;
            else if (marks[i] >= 0 && marks[i] < 10)
                gp[i] = 0;
        }
        sum = 0;
        for(int i = 1; i <= n; i++)
            sum += credit[i] * gp[i];
        sgpa = sum / n;
    }
}
```

```

gp=new int[n+1];
int cre=0;
for(int i=1;i<=n;i++)
{
    if(marks[i]>=90)
        gp[i]=10;
    else if (marks[i]>=80&&marks[i]<90)
        gp[i]=9;
    else if (marks[i]>=70&&marks[i]<80)
        gp[i]=8;
    else if (marks[i]>=60&&marks[i]<70)
        gp[i]=7;
    else if (marks[i]>=50&&marks[i]<60)
        gp[i]=5;
    else if (marks[i]<40)
        gp[i]=0;
    sum=(double)(credit[i]*gp[i])+sum;
    cre=cre+credit[i];
}
sgpa=sum/cre;

```

void display()

```

System.out.println("usn:"+usn+" name:"+name);
for(int i=1;i<=n;i++)
System.out.println("marks:"+marks[i]+" grade points:"+gp[i]);
System.out.println("sgpa="+sgpa);

```

Studentmain

public static void main(String[] args)

```

Student s1=new Student();
s1.accept();
s1.calculate();
s1.display();

```