```java
t java.util.*;
 student

private String usn,name;
private int credits[];
private double marks[],sgpa;
private int size;
private double gp[];
Scanner sc=new Scanner(System.in);
student()
{
    System.out.println("Enter number of subjects");
    size=sc.nextInt();
    credits=new int[size];
    marks=new double[size];
    gp=new double[size];
    usn="";
    name="";
}
void accept()
{
    System.out.println("Enter the name of the student");
    name=sc.next();
    System.out.println("enter usn of students");
    usn=sc.next();
    for(int i=0;i<size;i++)
    {
        System.out.println("enter marks obtained and credits sub"+(i+1));
        marks[i]=sc.nextDouble();
        credits[i]=sc.nextInt();
    }
}
void display()
{
    System.out.println("name:"+name);
    System.out.println("usn:"+usn);
    System.out.println("------marks obtained-----");
    for(int i=0;i<size;i++)
        System.out.println("sub "+(i+1)+": marks="+marks[i]+" ; credits="+credits[i]+"; grade_points="+gp[i]+";");
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```java
        System.out.printf("sgpa:%.2f\n",sgpa);


}
void calc()
{
    double sum=0,total=0;
    for(int i=0;i<size;i++)
    {
        sum=sum+credits[i];
        if(marks[i]>=90)
        {
            total=total+(10*credits[i]);
            gp[i]=10*credits[i];

        }
        else if(marks[i]>=80)
        {
            total=total+(9*credits[i]);
            gp[i]=9*credits[i];
        }
        else if(marks[i]>=70)
        {
            total=total+(8*credits[i]);
            gp[i]=8*credits[i];
        }
        else if(marks[i]>=60)
        {
            total=total+(7*credits[i]);
            gp[i]=7*credits[i];
        }
        else if(marks[i]>=50)
        {
            total=total+(5*credits[i]);
            gp[i]=5*credits[i];
        }
        else if(marks[i]>=40)
        {
            total=total+(4*credits[i]);
            gp[i]=4*credits[i];
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```java
            }
            else
            {
                    total=total+(0*credits[i]);
                    gp[i]=0*credits[i];
            }

        }
        sgpa=total/sum;
    }

}
class student1
{
public static void main(String args[])
{
student s=new student();
s.accept();
s.calc();

s.display();
}
}
```

```
C:\workspace>java student1
Enter number of subjects
6
Enter the name of the student
Rahul
enter usn of students
1BM19CS204
enter marks obtained and credits sub1
80 4
enter marks obtained and credits sub2
70 3
enter marks obtained and credits sub3
65 2
enter marks obtained and credits sub4
75 4
enter marks obtained and credits sub5
78 5
enter marks obtained and credits sub6
56 5
name:Rahul
usn:1BM19CS204
------marks obtained-----
sub 1: marks=80.0 ; credits=4; grade_points=36.0;
sub 2: marks=70.0 ; credits=3; grade_points=24.0;
sub 3: marks=65.0 ; credits=2; grade_points=14.0;
sub 4: marks=75.0 ; credits=4; grade_points=32.0;
sub 5: marks=78.0 ; credits=5; grade_points=40.0;
sub 6: marks=56.0 ; credits=5; grade_points=25.0;
sgpa:7.43

C:\workspace>
```