

Develop a Java program to create a class Student with members usn, name, an array credits and an array marks. Include methods to accept and display details and a method to calculate SGPA of a student.

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20. Develop a java program to create a class Student with members usn, name, an array credits and an array marks. Include methods to accept and display details and a method to calculate SGPA of a student.

```
import java.util.Scanner;

class Student
{
    String usn, name;
    int credit
    int credits = new int[25];
    int marks = new int[25];
    int n;
    (int cre = new int[25], sec = new int[25]);
    String subject[] = new String[25];
    void accept()
    {
        System.out.println("Enter the USN, Name, number of subjects in the semester: ");
        Scanner s = new Scanner(System.in);
        usn = s.next();
        name = s.next();
        n = s.nextInt();
        System.out.println("Enter the name of the each subjects and credit respectively");
        for (int i = 0; i < n; i++)
        {
            subject[i] = s.next();
            credits[i] = s.nextInt();
        }
    }
}
```



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```
System.out.println("Enter the marks obtained ");  
for(int i=0; i<n; i++)  
{  
    marks[i] = s.nextInt();  
}
```

```
double calculate()  
{  
    int totalcredit=0;  
    double sgpa, sum=0;  
    for(int i=0; i<n; i++)  
    {  
        sum = sum + grade(marks[i]) * credits[i];  
        totalcredit = totalcredit + credits[i];  
    }  
    sgpa = sum / totalcredit;  
    return sgpa;  
}
```

```
int grade(int int mark)  
{  
    if ((mark > 0) && (mark < 40))  
    {  
        return 0;  
    }  
    else  
    {  
        if ((mark <= 100) && (mark >= 90))  
        {  
            return 10;  
        }  
        else if ((mark >= 80) && (mark < 90))  
        {  
            return 9;  
        }  
    }  
}
```




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```
else if ((mark >= 90) && (mark < 80))
{
    return 8;
}
else if ((mark >= 80) && (mark < 70))
{
    return 7;
}
else if ((mark >= 70) && (mark < 60))
{
    return 6;
}
else if ((mark >= 60) && (mark < 50))
{
    return 5;
}
else if ((mark >= 50) && (mark < 40))
{
    return 4;
}
else
{
    return 0;
}
}
```

```
void display()
```

```
{
```

```
    double sgpa;
```

```
    system.out.println("USN: " + usn +  
        "\n Name: " + name);
```

```
    system.out.println("subject \t  
        credits \t Marks \t Grade Points");
```



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```
for (int i=0; i<n; i++) {  
    System.out.println(subject[i]+" "+credits[i]+" "+marks[i]  
        + " "+grade(marks[i]));  
    sgpa = calculate();  
    System.out.println("SGPA = " + sgpa);  
}
```

```
}  
class Main  
{  
    public static void main (String args[])  
    {  
        double sgpa;  
        Student s1 = new Student();  
        s1.accept();  
        s1.display();  
    }  
}
```

output:

Enter the USN, name, number of subjects in the semester
16m21cs045 Chinmayi 7

Enter the name of each subjects and credits respectively
ECM 3 EVI 3 IDT 1 PWE 1 ACN 3
PHY 4 BEE 3

Enter marks obtained in each subject:

95 92 90 85 92 99 82

USN : 16m21cs045

Name : Chinmayi

Subject	Credits	Marks	Grade Points
ECM	3	95	10
EVI	3	92	10
IDT	1	90	10
PWE	1	85	9
ACN	3	92	10
PHY	4	99	10
BEE	3	82	9

SGPA = 9.777777777777777

Out put:

```
Command Prompt
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\Student>cd C:\Users\Student\Desktop\1BM21CS045\00J
C:\Users\Student\Desktop\1BM21CS045\00J>javac Sgpa.java
C:\Users\Student\Desktop\1BM21CS045\00J>java Sgpa
Enter the USN, Name, number of subjects in the semester :
1bm21cs045
Chinmayi
7
Enter the name of the each subjects and credits respectively
ECM 3
EVI 3
IDT 1
PWE 1
ACN 3
PHY 4
BEE 3
Enter the Marks obtained in each subject:
95
92
90
85
92
99
82
USN : 1bm21cs045
Name : Chinmayi
Subject Credits Marks Grade Points
ECM 3 95 10
EVI 3 92 10
IDT 1 90 10
PWE 1 85 9
ACN 3 92 10
PHY 4 99 10
BEE 3 82 9
SGPA = 9.777777777777779

C:\Users\Student\Desktop\1BM21CS045\00J>
```