

29/12/23

LAB Program 2

Q:- 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 a method to calculate SGPA of a Student.

Code:-

```

import java.util.Scanner;

class Student {
    String usn;
    String name;
    int [] credits = new int [8];
    int [] marks = new int [8];

    public void acceptDetails() {
        Scanner scanner = new Scanner (System.in);
        System.out.print ("Enter USN: ");
        usn = scanner.nextLine ();
        System.out.print ("Enter Name: ");
        name = scanner.nextLine ();
        System.out.println ("Enter details for each Subject: \n");
        for (int i=0; i < credits.length; i++)
            System.out.print ("In Enter credits for Subject "+(i+1));
            credits[i] = scanner.nextInt ();
            System.out.print ("In Enter marks for Subject "+(i+1));
            marks[i] = scanner.nextInt ();
        }
        scanner.close ();

    public void displayDetails() {
        System.out.println ("USN: " + usn);
        System.out.println ("Name: " + name);
    }
}

```



```
public void calculate SGPA () {
```

```
    int totalCredits = 0;
```

```
    int weightedSum = 0;
```

```
    double ans;
```

```
    for (int i = 0; i < credits.length; i++) {
```

```
        totalCredits += credits[i];
```

```
        int gradePoints;
```

```
        gradePoints = (marks[i] / 10) + 1;
```

```
        if (gradePoints == 11) {
```

```
            gradePoints = 10;
```

```
        }
```

```
        else if (gradePoints <= 4) {
```

```
            gradePoints = 0;
```

```
        }
```

```
        weightedSum += gradePoints * credits[i];
```

```
    }
```

```
    ans = (double) weightedSum / (double) totalCredits;
```

```
    return ans;
```

```
}
```

```
}
```

```
public class Sgpa {
```

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

```
        Scanner scanner = new Scanner (System.in);
```

```
        Student student = new Student ();
```

```
        student.acceptDetails ();
```

```
        System.out.println ("In Student Details :");
```

```
        student.displayDetails ();
```

```
        double sgpa = student.calculate SGPA ();
```

```
        System.out.println ("In SGPA: " + sgpa);
```

```
        scanner.close ();
```

```
}
```

```
}
```


Output :-

Enter USN: IBM22CS023

Enter Name: Agam

Enter credits for Subject 1: 4

Enter marks for Subject 1: 96

Enter credits for Subject 2: 4

Enter marks for Subject 2: 97

Enter credits for Subject 3: 3

Enter marks for Subject 3: 85

Enter credits for Subject 4: 3

Enter ~~Credits~~^{marks} for Subject 4: 88

Enter credits for Subject 5: 3

Enter marks for Subject 5: 96

Enter credits for Subject 6: 1

Enter marks for Subject 6: 94

Enter credits for Subject 7: 1

Enter marks for Subject 7: 86

Enter credits for Subject 8: 1

Enter marks for Subject 8: 84

Student Details :

Enter USN: IBM22CS023

Enter Name: Agam

GPA: 9.6