19/12/23

Develop a java program to create a class student with member 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.

$$\longrightarrow$$

$$SGPA = \frac{\Sigma[(course\ credits)(grade\ points)]}{\Sigma(course\ credits)}$$

(including F grade)

$$CGPA = \frac{\Sigma[(course\ credits)(grade\ points)]}{\Sigma(course\ credits)}$$

(excluding F grade)

```java
import java.util.*;
class Subject
{
    int subjectmarks;
    int credits;
    int grade;
}
class Student
{
    Subject subject[];
    String name;
    String USN;
```

```java
    double SGPA;
    Scanner s;
    Student()
    {
        int i;
        Subject = new Subject[3];
        for(i=0; i<3; i++)
            subject[i] = new Subject();
        s = new Scanner(System.in);
    }
void getStudentDetails()
{
    System.out.println("Enter your name");
    name = s.next();
    System.out.println("Enter your USN");
    USN = s.next();
}
void getMarks()
{
    int i;
    for(i=0; i<3; i++)
    {
        System.out.println("Enter the marks of"
                + (i+1) + ":");
        subject[i].subjectmarks = s.nextInt();
        System.out.println("Enter credits "+(i+1)+
                        ":");
        subject[i].grade=(subject[i].subjectmark/10,
```

```java
        if (subject[i].grade == 11)
                subject[i].grade = 10;
        if (subject[i].grade <= 4)
                subject[i].grade = 0;
    }
}

void computeSGPA()
{
    int effectivescore = 0;
    int totalcredits = 0;
    int i;
    for (i = 0; i < 3; i++)
    {
        effectivescore += (subject[i].grade *
                                subject[i].credits);
        totalcredits += subject[i].credits;
    }
    SGPA = (double) effectivescore / (double) totalcredits;
}
}


public class Main
{
    public static void main (String args[])
    {
        Student s1 = new Student();
        s1.getStudentDetails();
        s1.getMarks();
        s1.computeSGPA();
```

```java
System.out.println("Name:" + S1.name);
System.out.println("USN" + S1.USN);
System.out.println("SGPA" + S1.SGPA);
}
}
```

Output:

Enter your name: Shreya.
Enter your USN: IBM22CS267
Enter marks of Subject 1: 83
Enter credits of subject 1: 4
Enter marks of subject 2: 50
Enter credits of subjed 2: 5
Enter maks of subject 3: 60
Enter credits of subjects 3: 2

Name: Shreya   — SHREYA S RUDAYA
USN: IBM22CS267   — IBM22CS267
SGPA: 5.623.