29/12/23

P9. Develop a Java Program to create a class student with members usn, name, an array credits & an array marks. Include methods to accept and display details and a method to calculate SGPA of a student.

Algorithm

Start

1) Create a class Student.

2) Declare instance variables usn, name of string datatype.
Declare arrays credits & marks of size 8

3) Create a method Details.
Read input Name & USN.
Read subject credit and marks scored by student.

4) Create a method CalSGPA to calculate SGPA.
Initialise totalCredits & Sum to 0. Declare variable as

5) for i = 0 till i=credits.length
Read credits and marks. Add credits.
Increment i by 1. If i > credits.length exit the loop
If i> Compute gradeValue = (marks[i]/10) + 1

6) Create a method
if gradeValue = 11, consider it as 10
else if gradeValue = 4, consider it as 0

ans = totalSum / totalCredits

6) Create a method SGPA.
Create an object student of type Student
Call method Details
Print Student USN, Name
Print Call method CalSGPA.
Print SGPA.

7) Stop.

```
Import java.util.Scanner;

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

    public void Details() {
        Scanner input = new Scanner(System.in);
        System.out.println("Enter USN: ");
        usn = input.nextLine();
        System.out.println("Enter name: ");
        name = input.nextline();

        System.out.println("Enter details: \n");
        for (int i=0; i< credits.length; i++) {
        System.out.println("\n Enter the credits of subject" +
                           (i+1));
        credits[i] = input.nextInt();
        System.out.println("Enter the marks scored in that
                subject" + (i+1));
        marks[i] = input.nextInt(); }
}

public double CalSGPA() {
    int totalCredits =0;
    int sum = 0;
    double ans;
    for (int i=0; i< credits.length; i++) {
        totalCredits += credits[i];
        int gradevalue;
        gradevalue = (marks[i]/10) + 1;
```

```
if (gradeValue == 11)
    { gradeValue = 10; }

else if (gradeValue <= 4) {
        gradeValue = 0; }

} Sum += gradeValue * credits[i];


ans = (double) Sum / (double) totalCredits;
return ans;
}
}
```

```
public class SGPA {
    public static void main (String[] args) {
        Scanner input = new Scanner (System.in);

        Student student = new Student ();
        students . Details ();
        System.out.println ("\n Student Details:");
        System.out.println ("USN :" + student.usn);
        System.out.println ("Name:" + student.name);

        double SGPA = student.CalSGPA ();
        System.out.println ("\n SGPA = " + SGPA);
    }
}
```

Tue 29/12/23

```
Enter USN:
CS001
Enter Name:
Aakanksha.V.R
Enter details:

Enter the credits of subject1:
4
Enter the marks of subject1:
95
Enter the credits of subject2:
4
Enter the marks of subject2:
97
Enter the credits of subject3:
3
Enter the marks of subject3:
90
Enter the credits of subject4:
3
Enter the marks of subject4:
85
Enter the credits of subject5:
3
Enter the marks of subject5:
84
Enter the credits of subject6:
```

```
Enter the credits of subject3:
3
Enter the marks of subject3:
90
Enter the credits of subject4:
3
Enter the marks of subject4:
85
Enter the credits of subject5:
3
Enter the marks of subject5:
84
Enter the credits of subject6:
1
Enter the marks of subject6:
99
Enter the credits of subject7:
1
Enter the marks of subject7:
95
Enter the credits of subject8:
1
Enter the marks of subject8:
90
Student details:
USN: CS001
nAME: Aakanksha.V.R
SGPA: 9.7
```