Lab-Program -2

Q] Develop a Java Program to create a class Student with members vsn, name; an array credits and an array marks . Include methods to accept and display details and a method to calculate SGPA of a student.

A: import java.util.Scanner;

```java
class Student {
    String usn;
    String name;
    int[] credits;
    int [] marks;
    int numsubjects;

    public void acceptdetails () {
        Scanner sx = new Scanner (System.in);
        System.out. println ("Enter USN : ");
        usn = sx.nextline ();
        System.out. println ("Enter Name:");
        name = sx. nextline ();
        System. out. println ("Enter no. of subjects :);
        numsubjects = sx. nextInt ();
        credits = new int [numsubjects];
        marks = new int [numsubjects];
        for (int i=0; i < numsubjects; i++) {
            System. out. println ("Enter credits for sub" + (i+1)+":");
            credits[i] = sx. nextInt ();
            System. out. println ("Enter marks for Sub" + (i+1) +":");
            marks [i] = sx. nextInt ();
        }
    }
}
```

```java
public void Display (){
    System.out.println ("Student VSN:" + usn);
    System.out.println ("Student Name:" + name);
    for (int i =0; i < numSubjects; i++) {
        System.out.println ( "subject " + (i+1) + "; credits = 4
        + credits[i] + "; Marks = " + marks[i]);
    }
    System.out.println ("SGPA: " + calculateSGPA ());
}


public double calculateSGPA (){
    int t_credits =0;
    int t_gradepoints =0;
    for (int i =0; i<numSubjects ; i++){
        int gradepoint = getGradePoint (marks[i]);
        t_gradepoints += gradepoint * credits[i];
        t_credits += credits[i];
    }

    return (double) t_gradepoints /t_credits;
}

public int getGradePoint (int marks){
    if (marks>=90) return 10;
    else if (marks >=80) return 9;
    else if (marks >=70) return 8;
    else if (marks >=60) return 7;
    else if (marks >=50) return 6;
    else if (marks>=40) return 5;
    else return 0;
}
} // End of class Student
```

```
public class StudentDetails {
    public static void main (String[] args) {
        Student S1 = new student();
        S1. acceptDetails ();
        S1. display Details ();
    }
}
```

O/P

```
Enter  USN : IBM23IS 007
Enter Name : Eshwar Mayank
Enter number of subjects: 3
Enter credits for subject 1: 4
Enter  marks for subject 1: 85
Enter credits for subject 2: 3
Enter marks for subject 2: 75
Enter credits for subject 3: 3
Enter marks for  subject 3: 65

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Student   USN : IBMIS 007
Student  Name : Eshwar Mayank
Subject 1 : Credits = 4 ,  Marks = 85
Subject 2 : Credits = 3 ,  Marks = 75
Subject 3 : Credits = 3 ,  Marks = 65
SGPA : 8.0
```