PROGARM 2

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.

CODE:

```java
import java.util.Scanner;

class Student {

    String usn;
    String name;
    int[] credits;
    int[] marks;

    public void acceptDetails(int numberOfSubjects) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter USN: ");
        usn = scanner.nextLine();

        System.out.print("Enter Name: ");
        name = scanner.nextLine();

        credits = new int[numberOfSubjects];
        marks = new int[numberOfSubjects];


        for (int i = 0; i < numberOfSubjects; i++) {
```

```java
            System.out.print("Enter credits for subject " + (i + 1) + ":
");
            credits[i] = scanner.nextInt();

            System.out.print("Enter marks for subject " + (i + 1) + ": ");
            marks[i] = scanner.nextInt();
        }
    }

    public void displayDetails() {
        System.out.println("\nStudent Details:");
        System.out.println("USN: " + usn);
        System.out.println("Name: " + name);
        System.out.println("Credits and Marks:");

        for (int i = 0; i < credits.length; i++) {
            System.out.println("Subject " + (i + 1) + " - Credits: " +
credits[i] + ", Marks: " + marks[i]);
        }
    }


    public double calculateSGPA() {
        int totalCredits = 0;
        double weightedMarks = 0;

        for (int i = 0; i < credits.length; i++) {
            totalCredits += credits[i];
            weightedMarks += credits[i] * (marks[i] / 10.0); // Assuming
marks are out of 100
        }


        return weightedMarks / totalCredits;
    }
}

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

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


        System.out.print("Enter the number of subjects: ");
        int numberOfSubjects = scanner.nextInt();


        Student student = new Student();


        student.acceptDetails(numberOfSubjects);


        student.displayDetails();


        double sgpa = student.calculateSGPA();
        System.out.println("\nThe SGPA of " + student.name + " is: " +
sgpa);


        scanner.close();
    }
}
```

OUTPUT:

```
Enter the number of subjects: 4
Enter USN: 1BM23CS329
Enter Name: SINCHANA
Enter credits for subject 1: 4
Enter marks for subject 1: 99
Enter credits for subject 2: 3
Enter marks for subject 2: 98
Enter credits for subject 3: 2
Enter marks for subject 3: 97
Enter credits for subject 4: 3
Enter marks for subject 4: 99

Student Details:
USN: 1BM23CS329
Name: SINCHANA
```
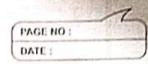
```
Credits and Marks:
Subject 1 - Credits: 4, Marks: 99
Subject 2 - Credits: 3, Marks: 98
Subject 3 - Credits: 2, Marks: 97
Subject 4 - Credits: 3, Marks: 99


The SGPA of SINCHANA is: 9.841666666666667
```

NOTES:

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

→
```java
import java.util.Scanner;


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

    void acceptdetails( int numsubjects) {
        Scanner sc = new Scanner(System.in);
        System.out.print ("Enter USN");
        USn = sc.nextLine();
        System.out.print ("Enter name");
        name = sc.nextLine();


        credits = new int (numsubjects]
        marks = new int (numsubjects];


        for (int i=0; i<numsubjects; i++) {
        System.out.print ("Enter credits for subject"
        + (i+1) + " ");
        credits[i] = sc.nextInt();
        System.out.print("Enter marks for subject"
        + (i+1) + " ");
```

```
void display details(){
System.out.println("USN" + usn);
System.out.println("uNamen + name);
System.out.print ln ("credits and marks");
for (int i=0; i<credits length; i++){
System.out.println ("subject" + (i+1) + "(red/
+ "credits (i)+ "marks" + marks(i]);
}
}


double calculateSGPA(){
    int total credits=0;
    double weightedsum=0.0;
for (int i=0; i<credits.length; i++){
    int gradepoint= getgrade point (marks[i
    weighted sum+= (redits [i] * grade point;
    totalcredits+= credits[i];
}
return weighted sum / totalcredits;
}


int getgradepoint (int marks) {
    if (marks>=90) return10.
    else if (marks>=80) return 9:
    else if (marks>=70) return 8
    else if (marks>=60) return7;
    else if (marks >= 50) return 6;
    else if (marks>=40) return 5;
    else return 0.
```

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

    System.out.print ("Enter number of subjects");

    int numsubjects = s.nextInt ();

    Student st = new Student();

    st.acceptdetails (numsubjects);
    st.display details ();
    System.out.println ("SGPA" + st.calculateSg
                                          A());
}
}
```

Output

Enter USN:
1BM23CS329
Enter name
Srichang
Enter number of subjects:
3
Enter credits and marks for each subject

Credits: 4
marks: 96
credits: 4

Student details
USN : 1BM23CS329
name : Sinchana
credits and marks :

Subject 1 : credits = 4, marks : 96
Subject 2 : credits = 4, marks : 96
Subject 3 : credits = 3, marks = 91

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