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import java.util.Scanner;

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

    void acceptDetails() {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter USN: ");
        usn = sc.next();
        System.out.print("Enter Name: ");
        name = sc.next();
        credits = new int[4];
        marks = new int[4];

        System.out.println("Enter credits and marks for 4 subjects:");
        for (int i = 0; i < 4; i++) {
            System.out.print("Enter credits for Subject " + (i + 1) + ": ");
            credits[i] = sc.nextInt();
            System.out.print("Enter marks for Subject " + (i + 1) + ": ");
            marks[i] = sc.nextInt();
        }
    }

    void display() {
        System.out.println("Student Details:");
        System.out.println("USN: " + usn);
        System.out.println("Name: " + name);
        for (int i = 0; i < 4; i++) {
            System.out.println("Subject " + (i + 1) + " - Credits: " + credits[i] + ", Marks: " + marks[i]);
        }
    }

    double calc() {
        int totalCredits = 0;
        double totalGradePoints = 0;
        for (int i = 0; i < 4; i++) {
            totalGradePoints += gradePoints(marks[i]) * credits[i];
            totalCredits += credits[i];
        }
        return totalCredits != 0 ? totalGradePoints / totalCredits : 0;
    }
}

```

```

int gradePoints(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;
}
}

public class SGPA {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter the number of students: ");
        int numStudents = sc.nextInt();

        Student[] students = new Student[numStudents];

        for (int i = 0; i < numStudents; i++) {
            students[i] = new Student();
            students[i].acceptDetails();
            students[i].display();
            System.out.printf("\nSGPA: "+ students[i].calc());
        }
    }
}

```

OUTPUT:

```

Enter the number of students: 1
Enter USN: 1WA24CS206
Enter Name: Koushik
Enter credits and marks for 4 subjects:
Enter credits for Subject 1: 1
Enter marks for Subject 1: 90
Enter credits for Subject 2: 2
Enter marks for Subject 2: 85

```

Enter credits for Subject 3: 4
Enter marks for Subject 3: 99
Enter credits for Subject 4: 4
Enter marks for Subject 4: 100

Student Details:

USN: 1WA24CS206

Name: Koushik

Subject 1 - Credits: 1, Marks: 90

Subject 2 - Credits: 2, Marks: 85

Subject 3 - Credits: 4, Marks: 99

Subject 4 - Credits: 4, Marks: 100

SGPA: 9.818181818181818