

Develop a java program to create a class student with members usn ,name an array of credits and array of marks include methods to accept and display details and a method to calculate sgpa of a student.

```
import java.util.Scanner;

class Student {

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

    void calculate() {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter student name: ");
        name = sc.nextLine();
        System.out.print("Enter student USN: ");
        usn = sc.nextLine();
        System.out.print("Enter the number of subjects: ");
        n = sc.nextInt();

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

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

    float sgpa() {
```

```
int result = 0;
int sum = 0;
for (int i = 0; i < n; i++) {
    result += grade(marks[i]) * credits[i];
    sum += credits[i];
}
return (float) result / sum;
}

int grade(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;
}

void display(float sgpa) {
    System.out.println("\nStudent name: " + name);
    System.out.println("USN: " + usn);
    System.out.printf("SGPA: %.2f\n", sgpa);
}

public class Sgpa {
    public static void main(String[] args) {
        Student s1 = new Student();
        s1.calculate();
        float r = s1.sgpa();
    }
}
```

```
s1.display(r);  
}  
}
```

Output:

The screenshot shows the Eclipse IDE interface with the following details:

- Project Explorer (left):** Shows three projects: `J quadratic.class`, `J quadratic.java`, and `J Sgpa.java`.
- Code Editor (center):** Displays the `Sgpa.java` file content. The code defines a `Student` class with a `grade` method and a `display` method. It also defines a `Sgpa` class.
- Terminal (bottom):** Shows the execution of the program. The user enters student name, USN, number of subjects, and marks for four subjects. The output shows the student details and the calculated SGPA.
- Run Configuration (right):** Shows two configurations: `Run quadratic` and `Run Sgpa`.

```
class Student {  
    int grade(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  
            return 5;  
    }  
    void display(float sgpa) {  
        System.out.println("Student name: " + name);  
        System.out.println("USN: " + usn);  
        System.out.printf("SGPA: %.2f\n", sgpa);  
    }  
}  
public class Sgpa {  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);  
        System.out.print("Enter student name: ");  
        String name = sc.nextLine();  
        System.out.print("Enter student USN: ");  
        String usn = sc.nextLine();  
        System.out.print("Enter the number of subjects: ");  
        int n = sc.nextInt();  
        sc.nextLine();  
        float sum = 0, credits = 0;  
        for (int i = 1; i <= n; i++) {  
            System.out.print("Enter subject " + i + " marks and credits: ");  
            int marks = sc.nextInt();  
            sc.nextLine();  
            int credit = sc.nextInt();  
            sc.nextLine();  
            sum += marks * credit;  
            credits += credit;  
        }  
        float sgpa = sum / credits;  
        System.out.println("Student name: " + name);  
        System.out.println("USN: " + usn);  
        System.out.println("SGPA: " + sgpa);  
    }  
}
```

```
PS : C:\Users\WISCHAL\OneDrive\Documents\Desktop\java_lab>
```