

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 an IDE with a Java project named 'Sgpa.java'. The code defines a 'Student' class with methods 'grade' and 'display', and a 'Sgpa' class with a 'main' method. The output window shows the program's execution, including prompts for student name, USN, number of subjects, and marks/credits for each subject. The final output shows the student's name as 'aman', USN as '18Q20CS001', and SGPA as '9.64'.

```

class Student {
    int grade(int marks) {
        // ...
    }

    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 {
    // ...
}

```

```

es' '-cp' 'C:\Users\NISCHAL\AppData\Roaming\Code\User\workspaceStorage\F50C06BF167E510B81EF1D8A0A4E9D\redhat.java\jdk_ws\java_lab_3578653e\b
in' 'Sgpa'
es' '-cp' 'C:\Users\NISCHAL\AppData\Roaming\Code\User\workspaceStorage\F50C06BF167E510B81EF1D8A0A4E9D\redhat.java\jdk_ws\java_lab_3578653e\b
es' '-cp' 'C:\Users\NISCHAL\AppData\Roaming\Code\User\workspaceStorage\F50C06BF167E510B81EF1D8A0A4E9D\redhat.java\jdk_ws\java_lab_3578653e\b
in' 'Sgpa'
Enter student name: aman
Enter student USN: 18Q20CS001
Enter the number of subjects: 4
Enter subject 1 marks and credits: 92
4
Enter subject 2 marks and credits: 90
3
Enter subject 3 marks and credits: 88
2
Enter subject 4 marks and credits: 85
2

Student name: aman
USN: 18Q20CS001
SGPA: 9.64
PS C:\Users\NISCHAL\OneDrive\Documents\Desktop\java_lab>

```