

```
class Student {  
    String usn;  
    String name;  
    int[] credits;  
    int[] marks;  
    int num_Sub;  
  
    public Student(int num_Sub) {  
        this.num_Sub = num_Sub;  
        credits = new int[num_Sub];  
        marks = new int[num_Sub];  
    }  
  
    void Details() {  
        Scanner s = new Scanner(System.in);  
  
        System.out.print("Enter USN: ");  
        usn = s.nextLine();  
        System.out.print("Enter Name: ");  
        name = s.nextLine();  
  
        for (int i = 0; i < num_Sub; i++) {  
            System.out.print("Enter credits for subject " + (i + 1) + ": ");  
            credits[i] = s.nextInt();  
        }  
    }  
}
```

```

        System.out.print("Enter marks for subject " + (i + 1) + ": ");

        marks[i] = s.nextInt();
    }
}

void displayDetails() {
    System.out.println("USN: " + usn);

    System.out.println("Name: " + name);

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

    System.out.printf("SGPA: %.2f\n", calculateSGPA());
}

```

```

double calculateSGPA() {
    double totalPoints = 0;
    double totalCredits = 0;

    for (int i = 0; i < num_Sub; i++) {
        double gradePoint = (marks[i] >= 90) ? 10 :
            (marks[i] >= 80) ? 9 :
            (marks[i] >= 70) ? 8 :
            (marks[i] >= 60) ? 7 :
            (marks[i] >= 50) ? 6 :

```

```
(marks[i] >= 40) ? 5 : 0;
```

```
totalPoints += gradePoint * credits[i];
```

```
totalCredits += credits[i];
```

```
}
```

```
return (totalCredits > 0) ? (totalPoints / totalCredits) : 0;
```

```
}
```

```
}
```

```
class StudentTest {
```

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

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

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

```
        int num_Sub = scanner.nextInt();
```

```
        Student student = new Student(num_Sub);
```

```
        student.Details();
```

```
        student.displayDetails();
```

```
    }
```

```
}
```

```
D:\Suhas>java StudentTest
Enter number of subjects: 8
Enter USN: 1BM23CS345
Enter Name: suhas
Enter credits for subject 1: 4
Enter marks for subject 1: 88
Enter credits for subject 2: 4
Enter marks for subject 2: 87
Enter credits for subject 3: 3
Enter marks for subject 3: 87
Enter credits for subject 4: 3
Enter marks for subject 4: 84
Enter credits for subject 5: 3
Enter marks for subject 5: 65
Enter credits for subject 6: 1
Enter marks for subject 6: 98
Enter credits for subject 7: 1
Enter marks for subject 7: 97
Enter credits for subject 8: 1
Enter marks for subject 8: 87
USN: 1BM23CS345
Name: suhas
Subject 1: Credits = 4, Marks = 88
Subject 2: Credits = 4, Marks = 87
Subject 3: Credits = 3, Marks = 87
Subject 4: Credits = 3, Marks = 84
Subject 5: Credits = 3, Marks = 65
Subject 6: Credits = 1, Marks = 98
Subject 7: Credits = 1, Marks = 97
Subject 8: Credits = 1, Marks = 87
SGPA: 8.80
```