

## Lab Program 2:

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.

```
import java.util.Scanner;
```

```
class Student {  
    String usn, name;  
    int n;  
    int marks[];  
    int credits[];  
    int grade[];  
    double Sgpa;
```

```
    void input() {  
        Scanner sc = new Scanner(System.in);  
        System.out.println("Enter the Name of the  
        student:");  
        name = sc.nextLine();  
        System.out.println("Enter the USN of the  
        student:");  
        usn = sc.nextLine();  
        System.out.println("Enter the number of  
        subjects:");  
        n = sc.nextInt();  
        marks = new int[n];  
        credits = new int[n];  
        grade = new int[n];
```

```
for (int i=1; i<=n; i++) {  
    system.out.println("Enter marks in  
    subject "+i+": ");  
    marks[i-1] = sc.nextInt();  
}
```

```
for (int i=1; i<=n; i++) {  
    system.out.println("Enter credits in  
    subject "+i+": ");  
    credits[i-1] = sc.nextInt();  
}
```

```
void display() {  
    system.out.println("The details of the  
    student are as follows: \n" + "Name: "  
    + name + "\n USN: " + usn);  
}
```

```
for (int i=0; i<n; i++) {  
    system.out.println("\n Marks in subject  
    " + (i+1) + ": " + marks[i] + "\n Credits  
    in subject " + (i+1) + credits[i]);  
}
```

```
void gradeCalculate() {  
    for (int i=0; i<n; i++) {  
        if (marks[i] >= 90)  
            grade[i] = 10;  
        else if (marks[i] >= 80 && marks[i] < 90)  
            grade[i] = 9;  
        else if (marks[i] >= 70 && marks[i] < 80)
```



```

        grade[i] = 8;
    else if (marks[i] >= 60 && marks[i] < 70)
        grade[i] = 7;
    else if (marks[i] >= 50 && marks[i] < 60)
        grade[i] = 6;
    else if (marks[i] >= 40 && marks[i] < 50)
        grade[i] = 4;
    else
    {
        grade[i] = 0;
    }
}

```

```

double sgpa() {
    double sum = 0;
    double totalCredits = 0;
    gradeCalculate();

    for (int i = 0; i < n; i++) {
        sum += grade[i] * credits[i];
        totalCredits += credits[i];
    }

    return (sum / totalCredits);
}

```

```

public static void main (String args[]) {
    student stu = new student();
    stu.input();
    stu.display();
    stu.Sgpa = stu.sgpa();
    System.out.println ("The SGPA of the
student is: " + stu.Sgpa);
}
}

```