Algorithm for Lab Program-2 :-

step-1 : create a class named student

step-2 : In student class declare usn, name, SGPA and an array credits and marks of size 8.

step-3 : create an object accept Details.

step-4 : In object accept Details SET i=0.

step-5 : Repeat step-6 while i<8.

step-6 : SET i=i+1.

step-6 : Input credits and marks of the student using credits[i] and marks[i]

step-7 : Enter the student's USN and Name.

step-8 : Now create an object Print Details.

step-9 : Displa Print the credits, marks, USN, Name in the object Print Details.

step-10 : Now create another object named Calculate SGPA.

step-11 : SET grade_Points=0, Sum=0, deno=0.

step-12 : SET i=0

step-13 : Repeat step-14 while i<8.

step-14 : SET i=i+1.

step-15 : IF marks[i] >= 90.
PRINT
SET grade_Points = 10.

ELSE IF marks[i] >= 80 & AND marks[i]
SET grade_Points = 9.

ELSE IF marks[i] >= 70 AND marks[i] < 80.
SET grade_Points = 8.

ELSE IF marks[i] >= 60 AND marks[i] < 70.
SET grade_Points = 7.

ELSE IF marks[i] >= 50 AND marks[i] < 60
SET grade_Points = 6.

ELSE IF marks[i] >= 40 AND marks[i] < 50
SET grade_Points = 5.

ELSE
SET grade_Points = 0.

step-16 : SET sum += grade_Points x credits[i].

step-17 : SET deno += credits[i].

step-18 : SET SGPA = sum/deno

step-19 : SET PRINT SGPA.

step-20 : Create a main class student_main.

step-21 : call all the student details from
the accept details object.
method

step-22 : Print student details by calling Print
details object in student_main class.
method

step-33 : Display SGPA of the student by calling
calculate SGPA de method.

Lab - Program - 2

```
import Java. util. Scanner;
class student
{
    Private int usn;
    Private string name;
    Private double SGPA;
    Private int [] credits = new int[8];
    Private int [] marks = new int[8];

    Void accept Details ()
    {
        System.out. Println (" \n Accept student details \n"
        scanner S1 = new Scanner (System.in);
        system. out. Println("\n Enter the credits of
                        student for all subjects\n");
        for (int i=0 ; i<8 ; i++)
        {
            credits [i]= S1. next Int();
        }
        system. out. Println ("\n Enter the credits of
                        student for all subjects\n");
```

```java
for (int i=0; i<8; i++)
{
    credits[i] = s1.nextInt();
}
system.out.Println("\n Enter the Marks of
                    student for all Subjects\n");
for (int i=0; i<8; i++)
{
    marks[i] = s1.nextInt();
}
system.out.Println("\n Enter Student's USN\n");
usn = s1.nextInt();
System.out.Println("\n Enter Student's Name\n");
name = s1.nextInt();
}

void Print Details()
{
    System.out.Println("\n The Credits of the student
                        for all subjects are :\n");
    for (int i=0; i<8; i++)
    {
        system.out.Println(Credits[i]);
    }
    system.out.Println("\n the Marks of the student
                        for all subjects are :\n");
    for (int i=0; i<8; i++)
    system.out.Println(marks[i]);
    System.out.Println("USN : " + usn);
    system.out.Println("Name : " + name);
}
```

```
void calculate SGPA()
{
    int grade_Points = 0;
    int sum=0;
    int deno=0;
    for (int i=0; i<8; i++)
    {
        if (marks[i] >=90)
        {
            grade_Points =10;
        }
        else if (marks[i] >=80 && marks[i] <90)
        {
            grade_Points =9;
        }
        else if (marks[i] >=70 && marks[i]<80)
        {
            grade_Points =8;
        }
        else if (marks[i] >=60 && marks[i]>70)
        {
            grade_Points =7;
        }
        else if (marks[i] >=50 && marks[i]<60)
        {
            grade_Points =6;
        }
        else if (marks[i] >=40 && marks[i]<50)
        {
            grade_Points =5;
        }
```

```java
    else
    {
        grade_Points=0;
    }
        sum += grade_Points * credits[i];
        deno += credits[i];
    }
    SGPA =sum/deno;
    System.out.Println("SGPA : "+SGPA);
    }
}

class student_main
{
    Public static void main (string args[])
    {
        student s1=new student();
        s1.acceptDetails();
        s1.PrintDetails();
        s1.CalculateSGPA();
    }
}
```

<u>output</u>

Accept student Details

Enter the Credits of student for all subjects

4 4 4 4 33 2 2

Enter the Marks of student for all subjects

90 85 92 75 65 99 85 95

Enter Student's USN

12

Enter Student's Name

Rahul

The credits of the student for all subjects are:

4
4
4
4
3
3
2
2

The marks of the student for all subjects are:

90
85
92
75
65
99
85
95

USN: 12
Name: Rahul
SGPA: 9.0