Lab 2 Program

1) Develop a java program to create a class Student with members usn, name, an array cred and an array marks. Include methods to a and display details and a method to calculate SGPA of a student.

```java
import java.util.Scanner;
class Student.
{
    private String usn;
    private String sname;
    private double sgpa;
    private int[] c;
    private int[] marks;
    private int size=5;

    void acceptDetails()
    {
        Scanner s1 = new Scanner(System.in)
        System.out.println("Enter the USN");
        usn = s1.next();
        System.out.println("Enter the name");
        sname = s1.next();
        c = new int[size];
        for(int i=0; i<size; i++)
        {
            System.out.println("enter the credits and
                        marks of the subject" + i);
            c[i] = s1.nextInt();
            marks[i] = s1.nextInt();
```

```java
    }
}

void calculate ()
{
    int num = 0, deno = 0, gradep = 0;
    for (int i = 0; i < size ; i++)
    {
        if (marks [i] >= 90)
        gradep = 10;
        else if (marks [i] >= 80)
        gradep = 9;
        else if (marks [i] >= 70)
        gradep = 8;
        else if (marks [i] >= 60)
        gradep = 7;
        else if (marks [i] >= 50)
        gradep = 5;
        else if (marks [i] >= 40)
        gradep = 4;
        else if (marks [i] <= 40)
        gradep = 0;
        num += gradep * c [i];
        deno += c [i];
    }

    sgpa = num / deno;
    System.out.println ("Student sgpa is : " + sgpa);
}

void printDetails ()
{
    System.out.println ("**** ** STUDENT DETAILS****
    **");
```

```java
System.out.print ("Student USN : " + usn);
System.out.println (" Student name :" + s name);
for (int i =0; i<size ; i++)
{
    System.out.println ("Credit is : " + c [i]);
    System.out.println ("Marks of subject " + i+"
                                    + marks [i]);
}
}
}


class StudentMain
{
    public static void main (String args [])
    {
        Student s1 = new Student ();
        s1. acceptDetails ();
        s1. printDetails ();
        s1. calculate ();
    }
}
```

ALGORITHM

Step 1 :- A class Student with numbers vsn, sname, credit array, array marks is created

Step 2 :- A method acceptDetails () to input name, vsn, credits and marks of subjects is created

Step 3 :- A method calculate () to calculate the SGPA of the student in which the conditions :-

If marks >= 90 , grade points is set as 10
If marks >= 80 , grade points = 9 and so on.

Then num = num + grade points is set
deno = deno + credits is set
SGPA = num / deno

Step 4 :- A method printDetails () is used to print all the Details of the Student

Step 5 :- A driver class with name StudentMain is created in which object S1 is created as follow :- Student S1 = new Student ();
Three methods are called as :-
       S1. acceptDetails ()
       S1 . printDetails ()
       S1. calculate ()

Step 6 :- END.