## LAB program 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.

CODE:

```
import java.util.Scanner;
class Student {
    String usn;
    String name;
    int numSubjects;
    int[] credits;
    int[] marks;
    public void acceptDetails() {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter USN: ");
        usn = sc.nextLine();
        System.out.println("Enter Name: ");
        name = sc.nextLine();
        System.out.println("Enter number of subjects: ");
        numSubjects = sc.nextInt();
        credits = new int[numSubjects];
        marks = new int[numSubjects];
        System.out.println("Enter credits and marks for each subject: ");
        for (int i = 0; i < numSubjects; i++) {</pre>
            System.out.println("Subject " + (i + 1) + ": ");
            System.out.print("Credits: ");
            credits[i] = sc.nextInt();
            System.out.print("Marks: ");
            marks[i] = sc.nextInt();
        }
```

LAB program 2

```
public void displayDetails() {
    System.out.println("\nStudent Details:");
    System.out.println("USN: " + usn);
    System.out.println("Name: " + name);
    System.out.println("Credits and Marks:");
    for (int i = 0; i < numSubjects; i++) {
        System.out.println("Subject " + (i + 1) + ": Credits = " + credits[i
    }
}
public double calculateSGPA() {
    int totalCredits = 0;
    int weightedSum = 0;
    for (int i = 0; i < numSubjects; i++) {</pre>
        int gradePoint = getGradePoint(marks[i]);
        weightedSum += gradePoint * credits[i];
        totalCredits += credits[i];
    }
    return (double) weightedSum / totalCredits;
}
private int getGradePoint(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; // Fail grade
    }
```

LAB program 2 2

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

        Student student = new Student();
        student.acceptDetails();
            student.displayDetails();

        double sgpa = student.calculateSGPA();
        System.out.printf("SGPA: %.2f\n", sgpa);
    }
}
```

## **OUTPUT:**

```
Enter USN:
1BM23CS324
Enter Name:
shrinanda
Enter number of subjects:
Enter credits and marks for each subject:
Subject 1:
Credits: 3
Marks: 70
Subject 2:
Credits: 4
Marks: 90
Subject 3:
Credits: 2
Marks: 99
Student Details:
USN: 1BM23CS324
Name: shrinanda
Credits and Marks:
Subject 1: Credits = 3, Marks = 70
Subject 2: Credits = 4, Marks = 90
Subject 3: Credits = 2, Marks = 99
SGPA: 9.33
PS E:\java lab>
```

## **OBSERVATION:**

LAB program 2

```
of pevelop a Java program to
                           icreate class student with using
   Lab program 2
                           name, an array oredits and array
                           marks. Include methods to accept
                           and display details and method
                            to calculate SEPA of a Student.
   Propost java. util. Scanner;
   class Student &
         Strong usno,
         String name;
         int neof Subjects;
         Pot [] wedits;
         int[] marks;
        Public void accept Details () 2
               Scanner SC = new Scanner (System. Pn);
               Sout ("Enter USN");
               USN = Sc. nextline O;
Sout ("Enter name");
              name = Sc. hext Line ();
              Sout ("Enter number of Subjects");
               no-grubjects = sc. nextInt();
              credits = new fort [norm no_ of subjects]:
               marks = new int [no_of Subjects];
              Sout ("Enter credits and marks for
                    each Subject");
             for (int i=0; i < no-of Subjects; i++)
                 South Subject: 2);
 Sout (" cudits: ");
                 credito [i] = Sc. rest Inter;
                 Sout (" Marks: 2);
                 marks[i] = Sc. rentInt ();
```

```
Public void display () {
                Sout (" Student Details: ");
                 Sout ("USN: "+ U&N);
                 Sout ("Name: " + name);
                 Sout (" credit and marks:");
            forlint i=1; ° <=no-of students; i++) {
Sout ("Subject" + (i) + ": credits="+
                          credits [i] + " Marks = "+ marks[i];
    return (desple) Sum Restal redite:
         proévate ent gradepoints (int marks) i
if (marks >90) i
                 Public Static Void main (string
        else if (marks >=80)1
                   Student, P. onwiter la
else if (marks > = 70) {
                       return 8;
               else if Conarks >= 60) {
                      return to
                else of (marks>=50) 1
                        return 6;
              else if Lmarks > = 40) 1

return 5;

ilse 1

ruturn 0;
```

```
Public double calculate SGIPACJ (
                  Pnt total credite = 0;
                ent numbertor =0;
              for (Int i=0; i < next Subjects; i+t) [
int gradepoint = get Grade Point (marks [i]);

Sund to t = gradepoint * vudito [i];

numerator + = gradepoint * vudito [i];
                  totaleredits + = credits [i];
District : - 2504 31 "
               return (double) Sum /total credits;
          4
Public class Main ?
             Public Static void main (String [] augs) of
                  Student student = new Student ();
                 Student accept Details ();
                 Student. display ();
                 double Sqpa = Student. calculate SGP ALD;
                 Sout (sgpa);
  4
                 / (May ka >= 50) (
                J (OHEK HARAN) K MA
```

11 output

enter USN:

1BM 23 CS 324

Enter Name:

Shrinanda

Enter number of subjects:

Enter credits and marks for each subject

OF P

credits: 4

marks: 95

Credits: 4

marks: 97

credits: 3

marks: 91

credits: 3

mours: 87

credits: 3

mourks: 86

reledits: 1

moures: 91

redity: 1

merk: 95

reality > 1

marks: 99

Student Dotalls

USN: 1 BM23CS324

Name: Shrinanda.

credits and Marks!

Subject 1: credits =4, Marks = 95 120 miles

Subject 2: credits = 4 = Marks = 91
Subject 3: credits = 3 Narks = 91

Entire Name:

Marks = 87 subject 4: credits = 3

Subject 5! credits=3 Marks = 86

subject 6: creditiz 1 Marks = 91

Subject 4: credits= 1 Moures = 95

Subject P: credit= 1 Marks = 99

24/10/24

9.70