## WEEK 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.

## Source Code:

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

```
for (int i = 0; i < numSubjects; i++) {</pre>
            System.out.println("Subject " + (i + 1) + ": Marks = " + marks[i]
+ ", Credits = " + credits[i]);
    public void calculateSGPA() {
        int totalCredits = 0;
        int totalGradePoints = 0;
        for (int i = 0; i < numSubjects; i++) {</pre>
            int grade = calculateGrade(marks[i]);
            totalGradePoints += grade * credits[i];
            totalCredits += credits[i];
        sgpa = (double) totalGradePoints / totalCredits;
    private int calculateGrade(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;
   public void displaySGPA() {
       System.out.printf("SGPA:" + sgpa);
    public static void main(String[] args) {
        Student student = new Student();
        student.acceptDetails();
        student.displayDetails();
        student.calculateSGPA();
```

```
student.displaySGPA();
}
```

## Output:

```
C:\1BM23CS306>javac Student.java
C:\1BM23CS306>java Student
Enter USN: 1bm23cs306
Enter Name: sagar
Enter the number of subjects: 6
Enter credits for subject 1: 4
Enter marks for subject 1: 95
Enter credits for subject 2: 3
Enter marks for subject 2: 85
Enter credits for subject 3: 3
Enter marks for subject 3: 75
Enter credits for subject 4: 4
Enter marks for subject 4: 88
Enter credits for subject 5: 2
Enter marks for subject 5: 60
Enter credits for subject 6: 1
Enter marks for subject 6: 97
Student Details:
USN: 1bm23cs306
Name: sagar
Subjects and Marks:
Subject 1: Marks = 95, Credits = 4
Subject 2: Marks = 85, Credits = 3
Subject 3: Marks = 75, Credits = 3
Subject 4: Marks = 88, Credits = 4
Subject 5: Marks = 60, Credits = 2
Subject 6: Marks = 97, Credits = 1
SGPA:8.882352941176471
```

## Written Code & Output :

Develop a Java program to create a class student with members who, name, an away credits and an array marks. Tricked methods to accept and display details and a method to calculate sque of a student.  Import javal utel Scanner;  class student;  class student;  string name;  int numsubjects;  lat [] credits;  lat [] credits;  lat [] marks;  double sgpa;  public void accept Details () {  Scanner sc = new Scanner (System in);  System out println ("Enter name:");  name 2 sc next line();  System out println ("Enter usn:");  credits 2 new (redits (numsubjects);  marks : new marks (numsubjects);  marks : new marks (numsubjects);  tor (lat leo; le numsubjects; l++) {  System out print ("Enter credits for subject + (l++) + ':');  credits (i) = sc next Int();  System out plint ("Enter marks for subject + (l++) + ':');		classmate
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System. out. plent ("Enter marks for subject"  + (e+1)+":");		+ (1+1)+3
System. out. plent ("Enter marks for subject".  + (e+1)+":");		credits (e) = sc next Int():
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2 martie Per - er as LT ACI. 2		t (etr) + " o " );
- SUPSUPSUPSUPSUPSUPSUPSUPSUPSUPSUPSUPSUPS		2 marks[i] = sc.nertInt(); }

Page ( public void display Details (1 & System. Out printly ("Student details:"); system. out printin ("Usw: "+ usn);
system. out printin ("Name: "+ name); System. out. println (" subjects and Marks: "); for (int l=0; i < numsubjects; i+1) f

System. out. println ("subject" + (i+1) + ": Marks="
+ marks [i] +", Credets="+ credits [i]); public void calculate SGPA() { ent total (redits = 0; ent total Grade Points 200; for (int i=0; icnumsubjects; i++){ int grade = calculate Grade (marks (i)): total Grade Points += grade \* credits[i]; totar (redits += credits [i]; Sgpa = (double) total Grade Points / total Credit; private int calculate Grade (Int marks) { if (marks)=90){ return 10; } elsect (marks)=80){ return 9: 3 else if (marks >= 70)f return 8: 3 else if (marks >= 60) { neturn 7: } else if (marks >= 50) f return 6: } else if (marks > 2 (40) { return 5.

classmate MEEE-3 return o; water more more public void desplaysapa () {

System. out. printle ("sapa of the student is:" public stat Clair Macing public static void main (string[] avgs) { Student student = new student(): student. accept Details (); student display Details (); student: calculatesGPA(); student desplaysgra();

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	Enter USN: 4 bm 23 cs 306
	Enter Name: sagar
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	Enter credets for subject 1:4
	Enter marks for subject 1195
	Enter credits for subjects 2:3
	Enter marks for subject 2: 85
	Enter credits for subject 3:3
	Enter marks for subject 3: 75
	Enter credets for subject 4: 4
	Enter marks for subject 4: 88
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67	Enter credits for subjects: 2
	Enter marks for subject 5: 60
	Enter credits for subject 6:4
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	Student Details:
	USN: 16m 22ce206
	VSN: 16m23cs306 Name: sagar
	Subjects and Marks:
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ochil s	Subject 3: Marks = 75 (redits = 3) Subject 4: Marks = 75 (redits = 3)
20/1	Subject 4: Marks = 88 (redits = 3
	Subject 5: Marks = 60, Credits = 4 Subject 6: Marks = 60, Credits = 2
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