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++) {
         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:");
```

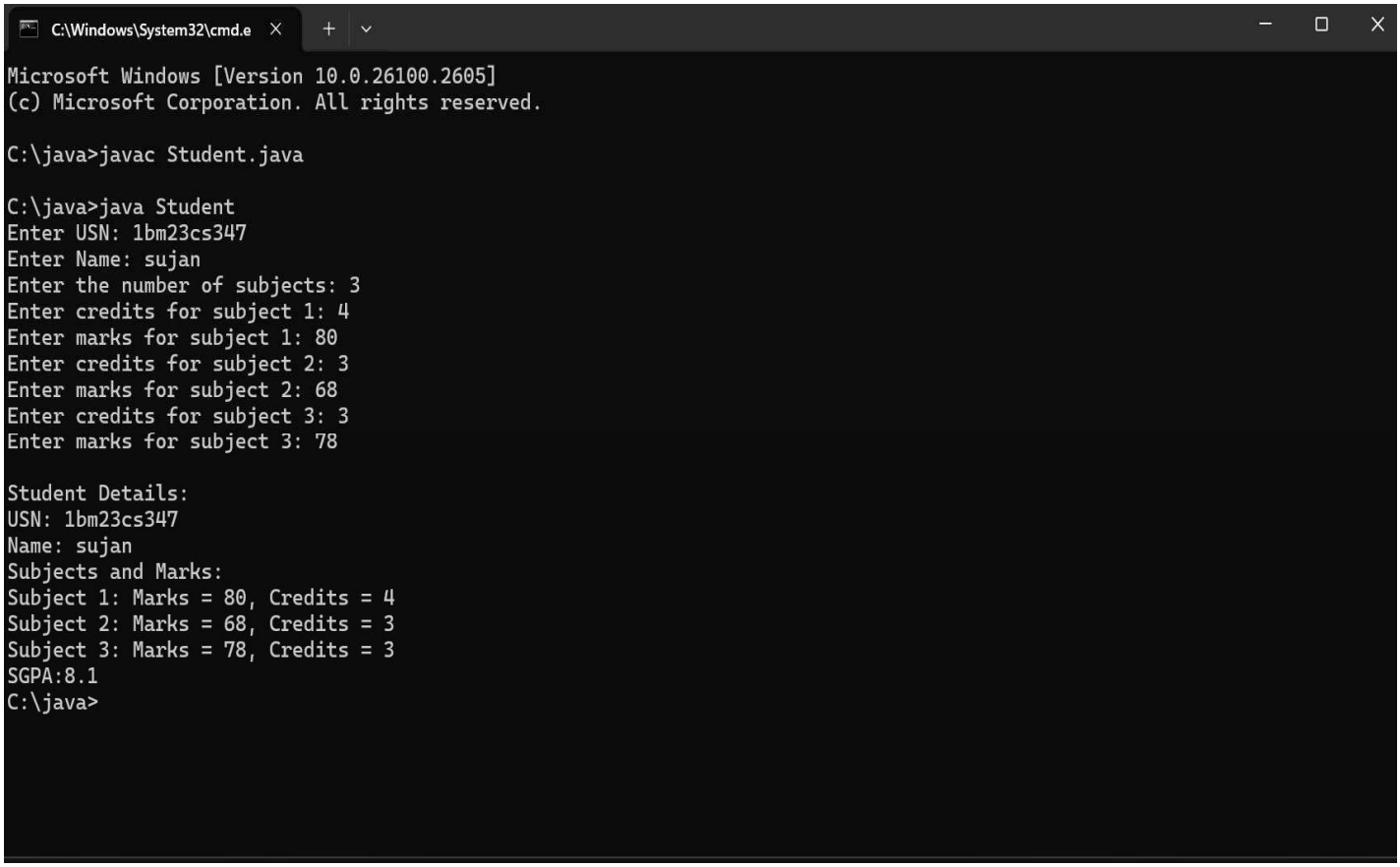
```
        System.out.println("USN: " + usn);
        System.out.println("Name: " + name);
        System.out.println("Subjects and Marks:");

        for (int i = 0; i < numSubjects; i++) {
            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++) {              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 :




OBSERVATION:

Prgm 2 03/10/24

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;
public class SGPA_cal {
public static void main(String[] args){
    Scanner scanner = new Scanner(System.in);
    System.out.println("Enter name, USN ");
    System.out.println("Enter the number of subjects : ");
    int num = scanner.nextInt();

    double[] credits = new double[num];
    double[] grades = new double[num];

    for(int i=0; i<num; i++){
        System.out.println("Enter credit hours "+(i+1)+":");
        credits[i] = scanner.nextDouble();
        System.out.println("Enter grade "+(i+1)+" 0 to 10":);
        grades[i] = scanner.nextDouble();
    }
double totalcredits=0;
double gradesum=0;
```

```
for(int i=0; i<num; i++) {
        gradesum += grades[i] * credits[i];
        totalcredits += credits[i];
    }

double sgpa = gradesum/totalcredits;
System.out.println("SGPA is %.2f %n", sgpa);

scanner.close()
}
}
```

```
Enter USN: 1BM23CS292
Enter name: Sameksha
Enter the number of subjects: 4
Enter the credits for subject 1: 4
Enter the marks for subject 1: 10
Enter the credits for subject 2: 3
Enter the marks for subject 2: 9
Enter the credits for subject 3: 2
Enter the marks for subject 3: 9
Enter the credits for subject 4: 1
Enter the marks for subject 4: 10

SGPA is 9.50
```