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.*;
class Student{
	String usn;
	String name;
	int credits[] = new int[10];
	int marks[] = new int[10];
	int total_credits = 0;
	int sum = 0;
	int i;
	double SGPA;
	void initialize(String usn, String name)
	{
		this.usn = usn;
		this.name = name;
	}
	void display()
	{
		System.out.println("The name of the student is: " + name);
		System.out.println("The usn of the student is: " + usn);
	}
	 void calculate(int credits[],int marks[],int n)
	{
		for(i = 0;i<n;i++)
		{
			total_credits+=credits[i];
			if(marks[i] > 89)
			{
				sum+=credits[i]*10;
			}
```

```
                if(marks[i] > 79 && marks[i] < 90)
                {
                        sum+=credits[i]*9;
                }
                if(marks[i] > 69 && marks[i] < 80)
                {
                        sum+=credits[i]*8;
                }
                if(marks[i] > 59 && marks[i] < 70)
                {
                        sum+=credits[i]*7;
                }
                if(marks[i] > 54 && marks[i] < 60)
                {
                        sum+=credits[i]*6;
                }
                if(marks[i] > 49 && marks[i] < 55)
                {
                        sum+=credits[i]*5;
                }
                if(marks[i] > 39 && marks[i] < 50)
                {
                        sum+=credits[i]*4;
                }
        }
        System.out.println("Total credits in this course is " + total_credits);
        System.out.println("sum of grade points multiplied by credis is " + sum);
        SGPA = (double)sum/total_credits;
        System.out.println("SGPA is " + SGPA);
    }
}


class Main
```

```
{
	public static void main(String args[])
	{
		int i,n;
		String name,usn;
		int credits[] = new int[10];
		int marks[] = new int[10];
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter your name:");
		name = sc.next();
		System.out.println("Enter your USN: ");
		usn = sc.next();
		System.out.println("Enter number of courses");
		n = sc.nextInt();
		System.out.println("Enter marks");
		for(i=0;i<n;i++)
		{
			marks[i] = sc.nextInt();
		}
		System.out.println("Enter the credits");
		for(i=0;i<n;i++)
		{
			credits[i] = sc.nextInt();
		}
		Student s1 = new Student();
		s1.initialize(name,usn);
		s1.display();
		s1.calculate(credits,marks,n);
	}
}
```

WRITTEN CODE:

2/12/2022

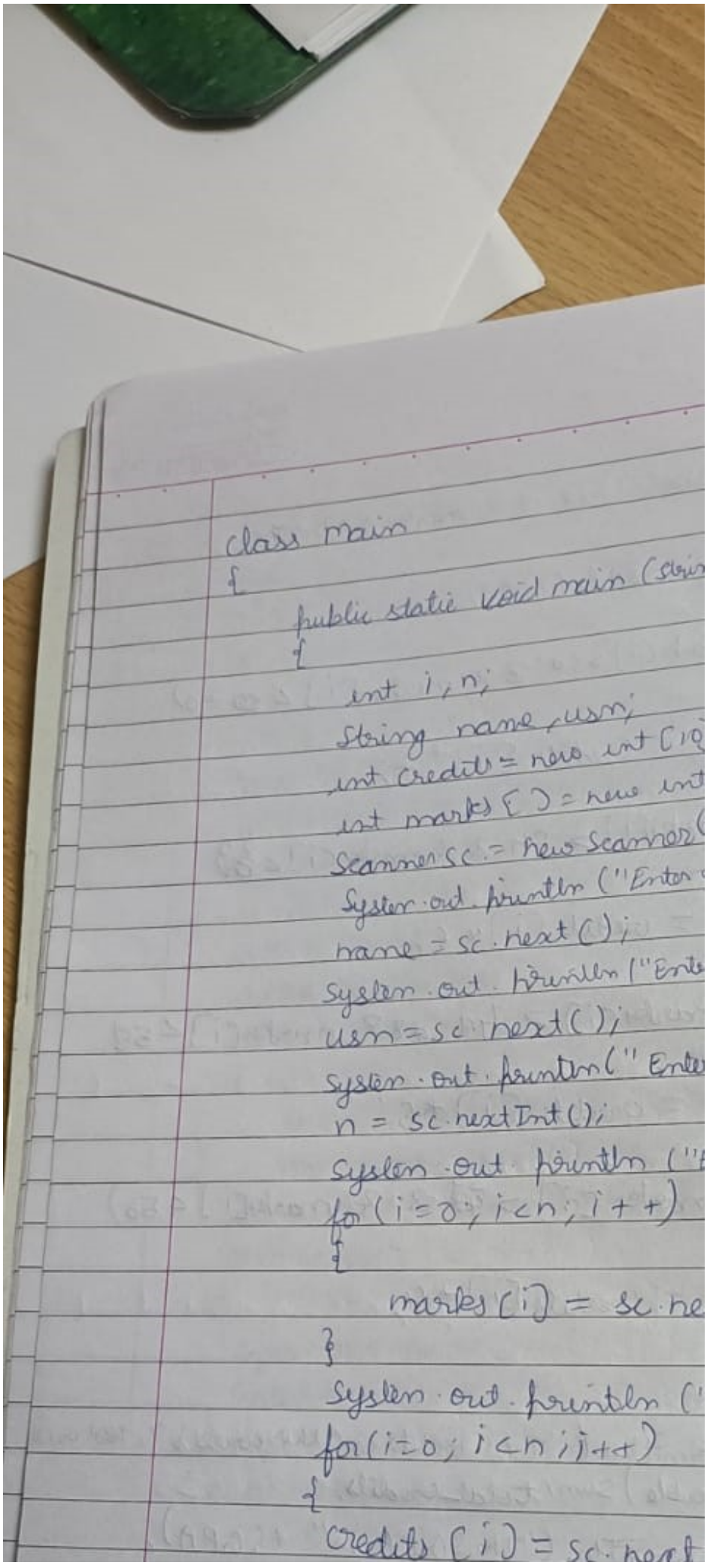
SGPA Calculator

Q Write A Java Program to calculate S

```
import java.util.*

class student {
    String usn;
    String name;
    int credits[] = new int[10];
    int marks[] = new mark[10];
    int total_credits = 0;
    int sum = 0;
    int i;
    double SGPA;
    void initialize(String name, Stri
    {
        this.usn = usn;
        this.name = name;
    }
    void display()
    {
        System.out.println("The name of st
        System.out.println("The usn of
    }
    void calculate(int credits[]
    {
```

```
else if (marks[i]>69 && m
 {
     sum += credits[i]*8;
 }
else if ( marks[i]>59 && m
 {
     sum += credits[i]*
 }
else if (marks[i] > 54 &&
 {
     sum += credits[i] * 6
 }
else if ( marks[i] > 49
 {
     sum += credits[i] *
 }
else if ( marks[i] > 39/40 &
 {
     sum += credits[i] * 4
 }
}
System.out.println ("Tota credit
SGPA = (double) sum/total_cre
System.out.println ("The SGP
```



```
class Main
{
    public static void main (Strin
    {
        int i, n;
        String name, usn;
        int Credits = new int [10
        int marks [ ] = new int
        Scanner sc = new Scanner(
        System.out.println ("Enter
        name = sc.next();
        System.out.println("Ente
        usn = sc.next();
        System.out.println(" Ente
        n = sc.nextInt();
        System.out.println ("
        for (i=0; i<n; i++)
        {
            marks [i] = sc.ne
        }
        System.out.println ("
        for(i=0; i<n; i++)
        {
        Credits [i] = sc.next
```

Output

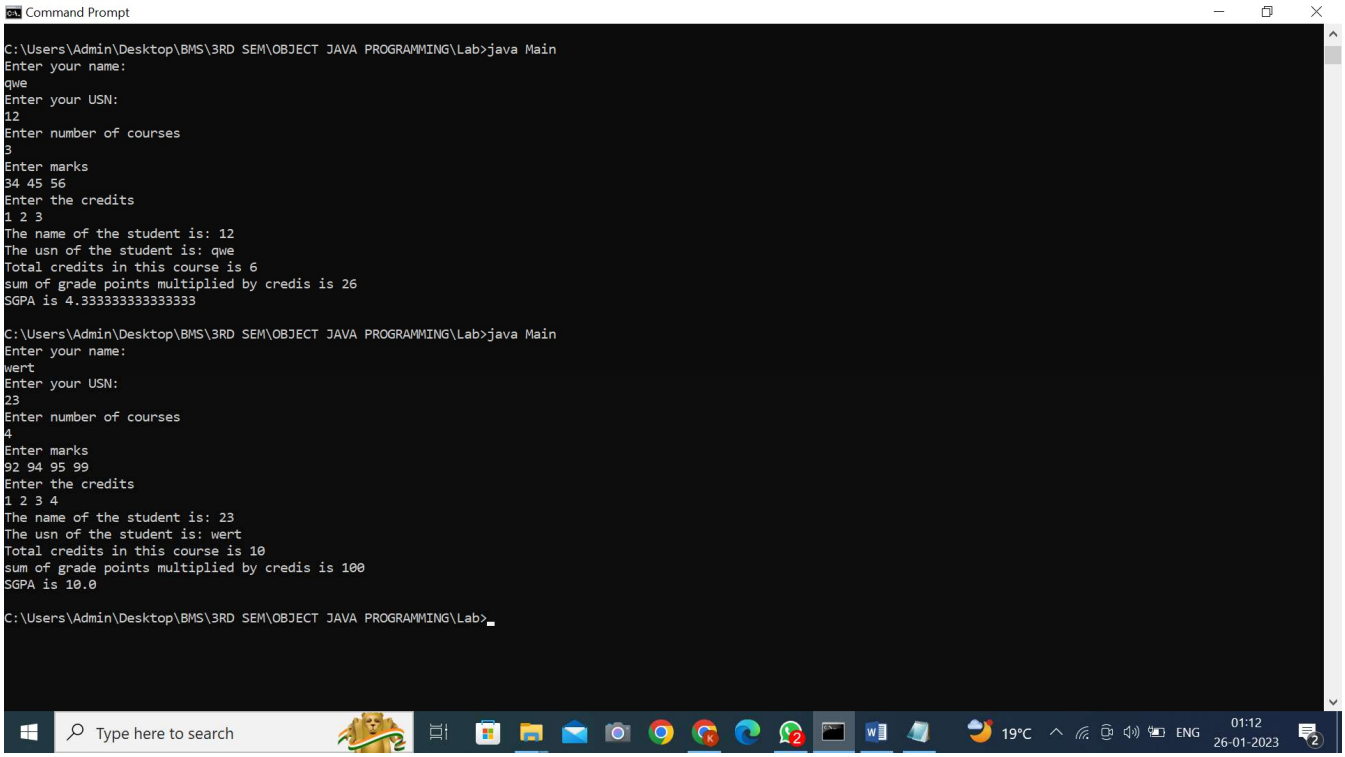
1) Enter your name
Abc
Enter your USN
184
Enter number of courses
3
Enter marks
20 50 90
Enter credits
3 4 4

Total credits for this courses is

The name of student is: Abc
the usn of student is: 184
Total credits for this course is
SGPA is 6.54

2. Enter your name
PQR
Enter your USN
160
Enter number of course
3
Enter marks
90 89 78
Enter Credits
4 3 2

OUTPUT:


Command Prompt
C:\Users\Admin\Desktop\BMS\3RD SEM\OBJECT JAVA PROGRAMMING\Lab>java Main
Enter your name:
qwe
Enter your USN:
12
Enter number of courses
3
Enter marks
34 45 56
Enter the credits
1 2 3
The name of the student is: 12
The usn of the student is: qwe
Total credits in this course is 6
sum of grade points multiplied by credis is 26
SGPA is 4.333333333333333
C:\Users\Admin\Desktop\BMS\3RD SEM\OBJECT JAVA PROGRAMMING\Lab>java Main
Enter your name:
wert
Enter your USN:
23
Enter number of courses
4
Enter marks
92 94 95 99
Enter the credits
1 2 3 4
The name of the student is: 23
The usn of the student is: wert
Total credits in this course is 10
sum of grade points multiplied by credis is 100
SGPA is 10.0
C:\Users\Admin\Desktop\BMS\3RD SEM\OBJECT JAVA PROGRAMMING\Lab>
Type here to search
19°C
ENG
01:12
26-01-2023

LAB Program 2

2/12/22

```
import java.util.Scanner;

class student {
    String usn;
    String name;
    int credits[];
    double marks[];

    void getstd() {
        Scanner x = new Scanner(System.in);
        System.out.println("enter usn, name, credits, marks");
        usn = x.nextLine();
        name = x.nextLine();
        for(int i=0; i<6; i++)
            credits[i] = x.nextInt();
        for(int i=0; i<6; i++)
            marks[i] = x.nextDouble();
    }

    void putstd() {
        System.out.println("USN: "+ this.usn);
        System.out.println("Name: "+ this.name);
        for(int i=0; i<6; i++) {
            System.out.println("Credit, Marks");
            System.out.println(this.credit[i] + " " + this.marks[i]);
        }
    }
}

                                    //Default constructor
    student() {
        System.out.println("no. of subjects: ");
        Scanner s = new Scanner(System.in);
        int n;
        n = s.nextInt();
        this.credits = new int[n];
        this.marks = new double[n];
    }
```

```
class smain {

    public static void main (String ss[])

        Student S1 = new Student();
        S1. getsd();
        S1. putsd();
        S1. sgpa();
    }
}
```

Test case: Enter no. of subjects
> 6
1BM21CS024
Anushor B Paul
1 2 2 3 3 4
88 88 90 76 70 99

USN: 1BM21CS024
Name: Anushor B. Paul
Marks: 88.0 88.0 90.0 76.0 70.0 99.0
Credits: 1 2 2 3 3 4

Your SGPA is: 9.0

```
void sgpa() {

    double marks = 0
    double t_credits = 0;

    for (int i = 0; i < 6; i++) {

        if (this.marks[i] >= 90) {

            marks = marks + (10 * (this.credits[i]));
        }
        else if (this.marks[i] >= 80) {
            marks = marks + (9 * (this.credits[i]));
        else if (this.marks[i] >= 70) {
            marks = marks + (8 * (this.credits[i]));
        else if (this.marks[i] >= 60) {
            marks = marks + (8 * (this.credits[i]));
        else if (this.marks[i] >= 50) {
            marks = marks + (7 * (this.credits[i]));
        else if (this.marks[i] >= 40) {
            marks = marks + (6 * (this.credits[i]));
        else {
            marks += 0;
        }
        t_credits += this.credits[i];
    }
    double sgp = (marks / t_credits);
    System.out.println("Your SGPA is " + sgp);
}

}
```