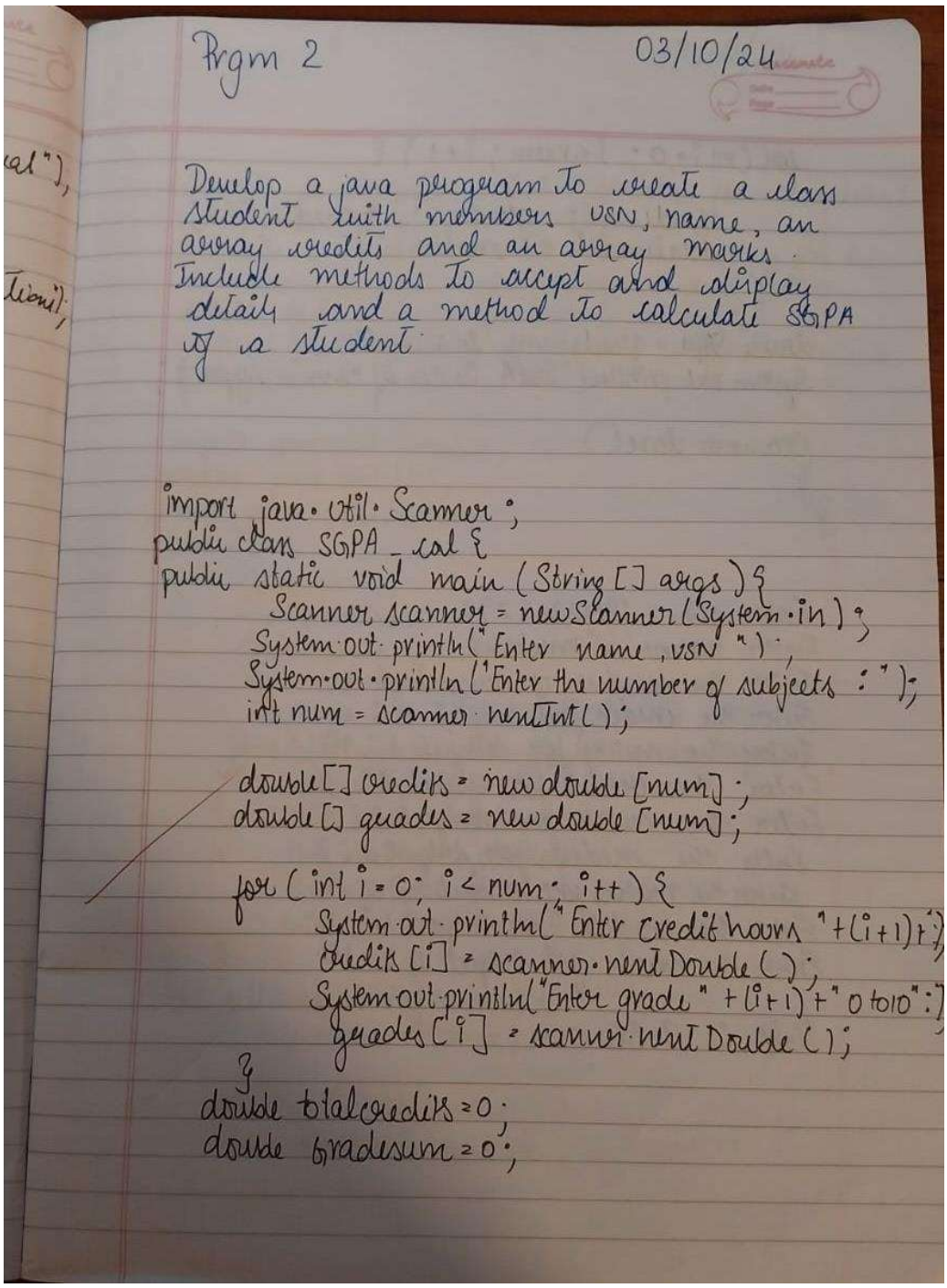
WEEK 2:

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.



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
```

```
import java.util.Scanner;
class Student_SGPA {
    String usn;
    String name;
    int n;
    int[] credits;
    int[] marks;

    public void acceptDetails() {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter USN:");
        usn = sc.next();
        System.out.println("Enter Name:");
        name = sc.next();
        System.out.println("Enter number of subjects:");
        n = sc.nextInt();
        credits = new int[n];
        marks = new int[n];
        System.out.println("Enter credits and marks for each subject:");
        for (int i = 0; i < n; i++) {
            System.out.print("Credits for subject " + (i + 1) + ": ");
            credits[i] = sc.nextInt();
            System.out.print("Marks for subject " + (i + 1) + ": ");
            marks[i] = sc.nextInt();
        }
    }

    public void display() {
        System.out.println("Student's details:");
        System.out.println("USN: " + usn);
        System.out.println("Name: " + name);
        System.out.println("Credits and marks of each subject are:");
```

```
        for (int i = 0; i < n; i++) {
            System.out.println("Subject " + (i + 1) + ": credits = " + credits[i] + ", marks = "
+ marks[i]);
        }
    }

    private int getGradePoint(int mark) {
        if (mark >= 90) {
            return 10;
        }


 else if (mark >= 80) {
            return 9;
        } else if (mark >= 70) {
            return 8;
        } else if (mark >= 60) {
            return 7;
        } else if (mark >= 50) {
            return 6;
        } else if (mark >= 40) {
            return 5;
        } else {
            return 0;
        }
    }

    public double calculateSGPA() {
        int totalCredits = 0;
        int sum = 0;
        for (int i = 0; i < n; i++) {
            int gradePoint = getGradePoint(marks[i]);
            sum += gradePoint * credits[i];
            totalCredits += credits[i];
        }
        return (double) sum / totalCredits;
    }
}
```

```
public class Sgpa {
   public static void main(String[] args) {
      Student_SGPA student = new Student_SGPA();
      student.acceptDetails();
      student.display();
      double SGPA = student.calculateSGPA();
      System.out.printf("SGPA = "+ SGPA);
   }
}
```