Develop a Java program to create a class Student with member usn, name an array credits & an array marks. Include method to accept & display details & a method to calculate CGPA of a student.

```java
public class Student {
    String usn, name;
    int i = 0;
    private int[] credit = {4,4,3,3,3,1,1,1};
    public Student() {
        this.usn = "1BM04CS0017";
        this.name = "Aditya";
    }
    public double cal(int[] arr) {
        double marks = 0, gpa = 0;
        for(i=0; i<arr.length; i++) {
            marks = (credit[i] * (int) arr/10 + 1));
        }
        gpa = marks/20;
        return gpa;
    }
}

import java.util.Scanner;
public class Student {
    String usn;
    String name;
    int i = 0;
    private static int[] credit = {4,4,3,3,3,1,1,1};
    Scanner in = new Scanner(System.in);
    public void first() {
        System.out.println("Enter your USN: ");
        usn = in.next();
        System.out.print("Enter name: ");
        name = in.next();
    }
}
```

```java
public double res(int[] arr){
    double sgpa=0, marks;
    for(i=0; i < arr.length; i++){
        if (arr[i] >= 100){
            arr[i] = arr[i]-10;
        }
        else if (arr[i] < 40){
            arr[i] = 0;
        }
        marks += credit[i] * ((arr[i]/10)+1);
    }
    sgpa = marks/20;
    return sgpa;
}
public void display (double result){
    System.out.println("SGPA = " + result);
}
}
```

public class Main{

```java
import java.util.Scanner;
public class Main{
    public static void main(String[] args){
        Scanner in = new Scanner(System.in)
        int[] arr = new int[8];
        Student s1 = new Student;
        s1.first();
        System.out.println("Enter marks:
        for(int i=0; i<8; i++){
            arr[i] = in.nextInt();
        } s1.res(arr);
        double result = s1.res(arr);
        s1.display(result);
    }
}
```

Algorithm:

Step 1 : Start

Step 2 : Initialize variable arr[ ], marks, usn, name, sgpa.

Step 3 : Calling class Student in which calling function fout( );

Step 4 : Input: "Enter usn" + usn

Step 5 : Input: "Enter name" + name

Step 6 : Print "Enter marks"

Step 7 : Read for(i=0; i<8; i++){
    arr[i] = in.nextInt();
}

Step 8 : Read array credits as {4,4,3,3,3,1,1,1}

Step 9 : for(i=0; i< arr.length; i++){
    if(arr[i] >=100){
        arr[i] = arr[i]-10;
    }
    else if (arr[i]<40){
        arr[i] = 0;
    }
    marks += credit[i] * ((arr[i]/10)+1)
}

Step 10 : sgpa = marks/20

Step 11 : Print "SGPA = " + sgpa

Step 12 : Stop

Output:

Enter your usn : 1B22CS017

Enter name : Aditya.

Enter marks

90 93 84 87 83 90 96 100

SGPA : 9.55

29/12/23

```
D:\java>javac B.java

D:\java>java B
Name: Aditya Dinesh Netrakar
USN: 1BM22CS017
Enter your usn: 1BM22CS017
Enter your name: Aditya
Enter the total marks:
90 93 84 87 83 90 96 100
SGPA: 9.55

D:\java>
```