Lab - 2

```
import java.util.Scanner;
import java.util.Arrays;

class Student {
    String name;
    String USN;
    int [] credits;
    int [] marks;

    Student (String yourName, String yourUSN, int[]
                yourCredits, int [] yourMarks) {
        name = yourName;
        USN = yourUSN;
        credits = yourCredits;
        marks = yourMarks;
    }

public int [] getGradePoints (int [] marksArray) {
    int [] gradePoints = new int [marksArray.length];

for(int i=0; i < marksArray.length ; i++) {
    if (marksArray[i] >= 90) {
        gradePoints[i] = 10;
    }
    else if (marksArray [i] >= 80) {
        gradePoints [i] = 9;
    }
    else if (marksArray[i] >= 70) {
        gradePoints [i] = 8;
    }
    else if (marksArray[i] >= 60) {
        gradePoints [i] = 7;
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        }
        else if (marksArray[i] >= 50) {
            gradePoints[i] = 6;
        }
        else if (marksArray[i] >= 40) {
            gradePoints[i] = 5;
        }
        else {
            gradePoints[i] = 0;
        }
    }
    return gradePoints;
}

public float calcArraySum(int[] anyArray)
{
    float sum = 0;
    for(int j = 0; j < anyArray.length; j++) {
        sum += anyArray[j];
    }
    return sum;
}

public float calcCGPA(int[] creditsArray, int[]
                      marksArray) {
    int[] totalGradePoints = new int[marksArray
                                     .length];
    int[] gradePointsArray = getGradePoints(
                                marksArray);
    for(int k=0; k<marks_Array.length; k++){
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                    [k] = creditsArray[k] *
                          gradePointsArray[k];
        }
        float sumGradePoints = calcArraySum(totalGradePoints);
        float totalCredits = calcArraySum(creditsArray);
        float CGPA = sumGradePoints / totalCredits;
        return CGPA;
    }

public void displayDetails() {
    System.out.println("Name: " + name);
    System.out.println("USN: " + USN);
    System.out.println("Credits: " + Arrays.toString
                                    (credits));
    System.out.println("Marks: " + Arrays.to
                                    String(marks));
    System.out.println("CGPA: " + calcCGPA(
                                    credits, marks));
    }
}

class CalculateCGPA {
    public static int[] getArrayFromString(String
        stringedArray) {
        String[] stringValues = stringedArray.split(",")
            ;
        int[] arrayFromString = new int[stringValues.
                                    length];
        for(int i = 0; i < stringValues.length; i++) {
            arrayFromString[i] = Integer.parseInt(
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            stringValues[i]);
        }
        return arrayFromString;
    }
    public static void main(String[] args){
        Scanner gd = new Scanner(System.in);
        System.out.println("Enter num Students
          and num subjects: ");
        int numStudents = gd.nextInt();
        int numSubjects = gd.nextInt();
        Student studentList[] = new Student[num
          Students];
        for(int k=0; k<numStudents; k++){
            System.out.println("Enter the details of
                student" + k + "(Name, USN, Credits,
                  Marks): ");
            studentList[k] = new Student(gd.nextLine
            (), gd.nextLine(), getArrayFromString
            (gd.nextLine()), gdArrayFromString(gd.
              nextLine()));
        }
        System.out.println("\n*** STUDENT
                                DETAILS ***\n");
        for(int h=0; h<studentList.length; h++){
            studentList[h].dispDetails();
            System.out.println("\n");
        }
    }
}
```

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pranavsastry@Pranavs-iMac:~/Documents/OOJ-Lab/Lab 2$ compj CalculateCGPA
pranavsastry@Pranavs-iMac:~/Documents/OOJ-Lab/Lab 2$ runj CalculateCGPA
Enter the number of Students and number of Subjects:
2 3
Enter the details of student 0(Name,USN,Credits,Marks):
Pranav Sastry
1bm19cs228
2,3,3
90,75,100
Enter the details of student 1(Name,USN,Credits,Marks):
Pran
1bm19ei037
2,3,3
60,70,50

***** STUDENT DETAILS with CGPA *****

Name: Pranav Sastry
USN: 1bm19cs228
Credits: [2, 3, 3]
Marks: [90, 75, 100]
CGPA: 9.25


Name: Pran
USN: 1bm19ei037
Credits: [2, 3, 3]
Marks: [60, 70, 50]
CGPA: 7.0
```