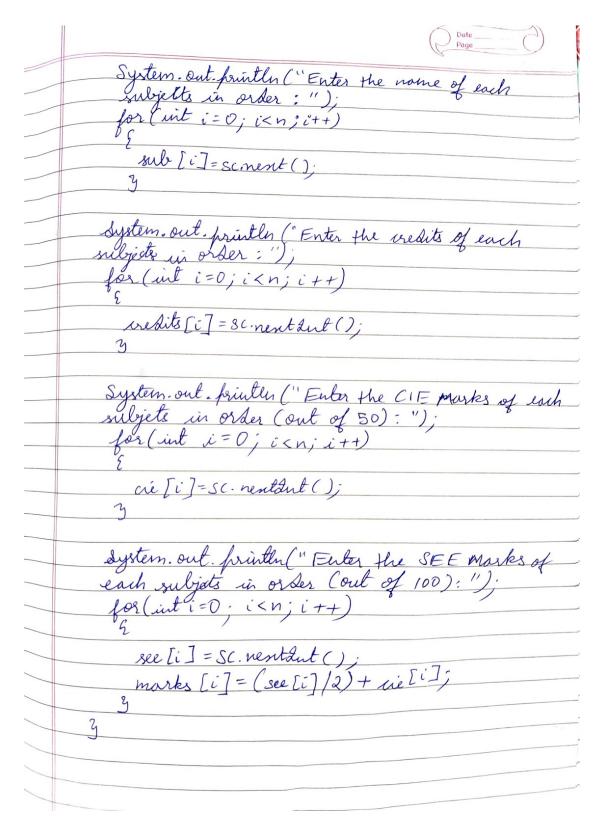# Lab Program 2

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.

2/12/'22

Program 2: Develop a java program that prints all real solutions to the quadratic equation 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.

```java
import java.util.Scanner;

class Student
{
    String usn;
    String name;
    String sub[] = new String[20];
    int credits[] = new int[20];
    int marks[] = new int[20];
    int cie[] = new int[20];
    int see[] = new int[20];
    int n;

    void accept()
    {
        System.out.println("Enter the USN of the Student :");
        Scanner sc = new Scanner(System.in);
        usn = sc.next();
        System.out.println("Enter the Name of the Student :");
        name = sc.next();
        System.out.println("Enter the number of subjects :");
        n = sc.nextInt();
```

```java
System.out.println("Enter the name of each
    subjects in order : ");
for(int i=0; i<n; i++)
{
    sub[i]=sc.next();
}


System.out.println("Enter the credits of each
    subjects in order : ");
for(int i=0; i<n; i++)
{
    credits[i]=sc.nextInt();
}


System.out.println("Enter the CIE marks of each
    subjects in order (out of 50): ");
for(int i=0; i<n; i++)
{
    cie[i]=sc.nextInt();
}


System.out.println("Enter the SEE marks of
    each subjects in order (out of 100): ");
for(int i=0; i<n; i++)
{
    see[i]=sc.nextInt();
    marks[i]=(see[i]/2)+cie[i];
}
}
```

```
double calculate ()
{
    int totalcre =0;
    int sum=0;
    double sgpa;
    for (int i=0; i<n; i++)
    {
        sum += check (marks[i], cie [i], see [i]) * credits[i];
        totalcre += credits[i];
    }
    sgpa = (double) sum/ totalcre;
    return sgpa;
}

int check (int m, int c, int s)
{
    if (c < 20)
    {
        return 0;
    }
    else if (s < 40)
    {
        return 0;
    }
    else
    {
        if ((m >=90) && (m <=100))
            return 10;

        else if ((m >=80) && (m < 90))
            return 9;
```

```java
        else if ((m >= 70) && (m < 80))
            return 8;

        else if ((m >= 60) && (m < 70))
            return 7;

        else if ((m >= 55) && (m < 60))
            return 6;

        else if ((m >= 50) && (m < 55))
            return 5;

        else if ((m >= 40) && (m < 50))
            return 4;

        else
            return 0;
    }
}


void display()
{
    double gpa;
    System.out.println("USN: " + usn);
    System.out.println("Name : " + name);
    System.out.println("Subject \t Credits \t Marks \t
    Grade Points");
    for(int i=0; i<n; i++)
    {
        System.out.println(sub[i] + "\t" + credits[i] + "\t"
        + marks[i] + "\t" + check(marks[i], cie[i], see[i]));
    }
}
```

```
        sgpa = calculate ();
        System. out. println ("SGPA = " + sgpa);
    }
}


class Main2
{
    public static void main (String args [])
    {
        double sgpa;
        Student s1 = new Student ();
        s1.accept ();
        s1.display ();
    }
}
```

Output :-

Enter the USN of the Student :
1BM21CS048
Enter the Name of the Student :
Deeksha
Enter the number of subjects :
9
Enter the name of each subjects in order :
PhyLab BEELab IDT PWS Math BEE ECM EVI PHY
Enter the credits of each subjects in order :
1   1   1   1   3   3   3   3   4
Enter the CIE Marks of each subjects in order
(out of 50) :

49 48   44 49 49 49   46   48 50
Enter the SEE Marks of each subjects in order (out of 100):

98 98 84   70 87 78 84 95 98

USN   :   1BM21CS048
Name   : Deeksha

Subject	Credits	Marks	Grade Points
PhyLab	1	98	10
BEELab	1	97	10
IDT	1	86	9
PWS	1	84	9
Math	3	92	10
BEE	3	88	9
ECM	3	88	9
EVI	3	95	10
PHY	4	99	10

SGPA = 9.6

02/12/22

Output:

```
Microsoft Windows [Version 10.0.19045.2251]
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C:\Users\bmsce>cd C:\Users\bmsce\Desktop\1BM21CS048\OOJ lab

C:\Users\bmsce\Desktop\1BM21CS048\OOJ lab>set path="C:\Program Files\Java\jdk-9.0.1\bin"

C:\Users\bmsce\Desktop\1BM21CS048\OOJ lab>javac Prog2.java

C:\Users\bmsce\Desktop\1BM21CS048\OOJ lab>java Main2
Enter the USN of the Student :
1BM21CS048
Enter the Name of the Student :
DEEKSHA
Enter the number of subjects :
9
Enter the name of each subjects in order :
PhyLab BEElab IDT PWS Math Bee ECM EVI PHY
Enter the credits of each subjects in order :
1 1 1 1 3 3 3 3 4
Enter the CIE Marks of each subjects in order(out of 50) :
49 48 44 49 49 49 46 48 50
Enter the SEE Marks of each subjects in order(out of 100):
98 98 84 70 87 78 84 95 98
USN : 1BM21CS048
Name : DEEKSHA
Subject Credits Marks    Grade Points
PhyLab  1        98       10
BEElab  1        97       10
IDT     1        86       9
PWS     1        84       9
Math    3        92       10
Bee     3        88       9
ECM     3        88       9
EVI     3        95       10
PHY     4        99       10
SGPA = 9.6
```