

LAB PROGRAM-2

Develop a Java program to create a class Student with member USN, name, array of marks and array marks. Include methods to accept and display details and a method to calculate SGPA of a student.

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

```
Class Student
```

```
{
```

```
    private String USN;
```

```
    private String Name;
```

```
    private int n;
```

```
    private double SGPA = 0;
```

```
    private int totalCredits = 0;
```

```
    private int credits[];
```

```
    private double Marks[];
```

```
    Scanner ss = new Scanner(System.in);
```

```
Void details()
```

```
{
```

```
System.out.print("Enter the USN of the Student");
```

```
USN = ss.nextInt();
```

```
System.out.print("Enter the Name of the Student");
```

```
name = ss.nextLine();
```

```
System.out.print("Enter No. of Subjects");
```

```
n = ss.nextInt();
```

```
credits = new int[n];
```

```
Marks = new int[n][n];
```

```
System.out.print("Enter details of the Subjects");
```

```
for (int i=0; i<n, i++)
```

```
{
```

System.out.println ("Enter credits allotted to the Subjects " + Ci + ");

Credits [i] = ss.nextInt() + Ci;

System.out.println ("Enter marks in the Subject " + (Ci + 1));

marks [i] = ss.nextInt();

Calculate Credits[i], marks[i], i);

}

}

void calculate (int credit, double mark, int j)

{

total Credits = total Credits + Credits;

if (marks >= 90 && mark <= 100)

SGPA = SGPA + (10 * credit);

else if (marks >= 80 && mark <= 89)

SGPA = SGPA + (9 * credit);

else if (marks >= 70 && mark <= 79)

SGPA = SGPA + (8 * credit);

else if (marks >= 60 && mark <= 59)

SGPA = SGPA + (6 * credit);

else if (marks >= 40 && mark <= 39).

SGPA = SGPA + (5 * credit);

else

System.out.println ("Failed in Subject " + (j + 1));

}

Void display ()

{

System.out.println ("Details of the Student");

System.out.println ("USN :" + USN);

System.out.println ("Name :" + name);

System.out.println ("SGPA of Student " + (SGPA /

total Credits));

3
3

Class Main!

{

public static void main (String args [])

{

Student s1 = new Student ();

s1 . details ();

s1 . display ();

3

3
Output :-

Enter Name of the Student

Sathanir

Enter USN of the Student

18TJ19CS161

Enter No. of Subjects

4

* Enter details of the Subjects : *

Enter the Credit allotted to Subject 1

2

Enter Marks in the Subject 1

80

Enter Credits allotted to the Subject 2

3

Enter Marks in the Subject 2

85

Enter Credits allotted to the Subject 3

5

Enter Marks in the Subject 3

90

Enter the credits allotted to the Subject &
5

Enter Marks in the Subject &
95.

Details of the Student

USN : (BAA110)CS161

Name : Sthanvir

SGPA of Student : 9.6666.....

*Main1 - Notepad

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```
import java.util.Scanner;
class Student
{
    private String USN;
    private String name;
    private int n;
    private double SGPA = 0;
    private int totalCredits = 0;
    private int credits[];
    private double marks[];
    Scanner ss = new Scanner(System.in);

    void Details()
    {
        System.out.println("Enter USN of the student");
        USN = ss.nextLine();
        System.out.println("Enter Name of the student");
        name = ss.nextLine();
        System.out.println("Enter no of subjects");
        n = ss.nextInt();
        credits = new int[n];
        marks = new double[n];
        System.out.println("*Enter details of the subjects:*");
        for(int i=0;i<n;i++)
        {
            System.out.println("Enter credits allotted to the subject "+(i+1));
            credits[i] = ss.nextInt();
            System.out.println("Enter marks in the subject "+(i+1));
            marks[i] = ss.nextInt();
            Calculate(credits[i],marks[i],i);
        }
    }

    void Calculate(int credit, double mark, int index)
    {
        SGPA += (credit * mark);
        totalCredits++;
    }

    void Display()
    {
        System.out.println("The USN of the student is " + USN);
        System.out.println("The Name of the student is " + name);
        System.out.println("The SGPA of the student is " + SGPA);
        System.out.println("The Total Credits of the student is " + totalCredits);
    }
}
```

*Main1 - Notepad

File Edit Format View Help

```
        System.out.println("Enter marks in the subject "+(i+1));
        marks[i] = ss.nextInt();
        Calculate(credits[i],marks[i],i);
    }
}

void Calculate(int credit,double mark,int j)
{
    totalCredits = totalCredits + credit;
    if(mark>=90&&mark<=100)
        SGPA = SGPA + (10*credit);
    else if(mark>=80 && mark<=89)
        SGPA = SGPA + (9*credit);
    else if(mark>=70&&mark<=79)
        SGPA = SGPA + (8*credit);
    else if(mark>=60&&mark<=69)
        SGPA = SGPA + (7*credit);
    else if(mark>=50 && mark<=59)
        SGPA = SGPA + (6*credit);
    else if(mark>=40&&mark<=49)
        SGPA = SGPA + (5*credit);
    else
        System.out.println("Failed in Subject "+(j+1));
}
void Display()
{
    System.out.println("Details of the Student");
System.out.println("USN: "+USN);
System.out.println("Name :" +name);
    System.out.println("SGPA of Student "+(SGPA/totalCredits));
}
```

File Edit Format View Help

```
        else if(mark>=80 && mark<=89)
            SGPA = SGPA + (9*credit);
        else if(mark>=70&&mark<=79)
            SGPA = SGPA + (8*credit);
        else if(mark>=60&&mark<=69)
            SGPA = SGPA + (7*credit);
        else if(mark>=50 && mark<=59)
            SGPA = SGPA + (6*credit);
        else if(mark>=40&&mark<=49)
            SGPA = SGPA + (5*credit);
        else
            System.out.println("Failed in Subject "+(j+1));
    }
    void Display()
    {
        System.out.println("Details of the Student");
        System.out.println("USN: "+USN);
        System.out.println("Name :" +name);
        System.out.println("SGPA of Student "+(SGPA/totalCredits));
    }
}
class Main1
{
    public static void main(String args[])
    {
        Student s1 = new Student();
        s1.Details();
        s1.Display();
    }
}
```

```
PS C:\Users\sarayu\Desktop\oop> javac Main1.java
PS C:\Users\sarayu\Desktop\oop> java Main1
Enter USN of the student
1bm19cs161
Enter Name of the student
sthavir
Enter no of subjects
4
*Enter details of the subjects:*
Enter credits allotted to the subject 1
2
Enter marks in the subject 1
80
Enter credits allotted to the subject 2
3
Enter marks in the subject 2
85
Enter credits allotted to the subject 3
5
Enter marks in the subject 3
90
Enter credits allotted to the subject 4
5
Enter marks in the subject 4
95
Details of the Student
USN: 1bm19cs161
Name :sthavir
SGPA of Student 9.666666666666666
PS C:\Users\sarayu\Desktop\oop>
```

LAB PROGRAM 2 Algorithm.

- (1) In class Student declare instance variable
- (2) Write a method to initialize details of the student.
- (3) In that method. Call another method to calculate SGPA
- (4) Write a method to display the details of student
- (5) In Main Class create object of Student class
- (6) Call the methods of Student Method.