

LAB 02:

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.

Q. 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;  
class Student {  
    String usn;  
    String name;  
    int [] credits;  
    int [] marks;  
    int numberOfSubjects;  
    Student (int numberOfSubject) {  
        this.numberOfSubject = numberOfSubject;  
        credits = new int [numberOfSubjects];  
        marks = new int [numberOfSubjects];  
    }  
    void acceptDetails () {  
        Scanner sc = new Scanner (System.in);  
        System.out.println ("Enter usn:");  
        usn = sc.nextLine();  
        System.out.println ("Enter name:");  
        name = sc.nextLine();  
        for (int i = 0; i < numberOfSubjects; i++) {  
            System.out.println ("Enter credits " + (i+1) + " :");  
            credits [i] = sc.nextInt();  
            System.out.println ("Enter marks for subject " + (i+1) + " :");  
            marks [i] = sc.nextInt();  
        }  
    }  
    void displayDetails () {  
        System.out.println ("In Student Details :");  
    }  
}
```

```

System.out.println("USN : " + usn);
System.out.println("NAME : " + name);
for (int i = 0; i < number of subjects; i++) {
    System.out.println("Subject " + (i+1) + " - Credits : " + credits[i] +
        " Marks : " + marks[i]);
}
System.out.println("SGPA : " + calculateSGPA());
double calculateSGPA() {
    double totalWeightedMarks = 0;
    int totalCredits = 0;
    for (int i = 0; i < number of subjects; i++) {
        totalWeightedMarks += marks[i] * credits[i];
        totalCredits += credits[i];
    }
    if (totalCredits == 0) return 0;
    return totalWeightedMarks / totalCredits;
}

```

```

Class StudentApp {
    public static void main (String ss[]) {
        Scanner sc = new Scanner (System.in);
        System.out.print ("Enter the number of Subjects ");
        int numSubject = sc.nextInt();
        Student student = new Student (numSubject);
        student.acceptDetails();
        student.displayDetails();
    }
}

```


Output

Enter the number of subjects: 3

Enter USN: 1BM23CS001

Enter Name: John Doe

Enter credits for subject 1: 4

Enter marks for subject 1: 90

Enter credits for subject 2: 3

Enter marks for subject 2: 85

Enter credits for subject 3: 3

Enter marks for subject 3: 88

Student Details:

USN: 1BM23CS001

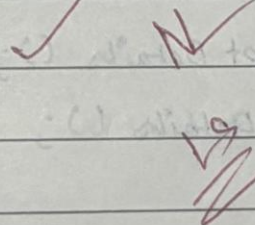
Name: John Doe

Subject 1 - Credits: 4, Marks: 90

Subject 2 - Credits: 3, Marks: 85

Subject 3 - Credits: 3, Marks: 88

SGPA: 88.6



```

import java.util.Scanner;

class Student{

String usn;

String name;

int[] credits;

int[] marks;

int numberOfSubjects;

Student(int numberOfSubjects){

this.numberOfSubjects=numberOfSubjects;

credits=new int[numberOfSubjects];

marks=new int[numberOfSubjects];

}

void acceptDetails(){

Scanner sc=new Scanner(System.in);

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

usn=sc.nextLine();

System.out.println("ENTER NAME:");

name=sc.nextLine();

for(int i=0;i<numberOfSubjects;i++){

System.out.println("ENTER CREDITS:"+i);

credits[i]=sc.nextInt();

System.out.println("ENTER MARKS:"+i);

marks[i]=sc.nextInt();

}}

void displayDetails(){

System.out.println("\n STUDENT DETAILS:");

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

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

for(int i=0;i<numberOfSubjects;i++){

System.out.println("SUBJECT"+i+" "+"CREDITS:"+credits[i]+" "+"MARKS:"+marks[i]);}

}

}

```

```

System.out.println("SGPA:"+calculateSGPA());}

double calculateSGPA(){
double totalWeightedMarks=0;
int totalCredits=0;
for(int i=0;i<numberOfSubjects;i++){
totalWeightedMarks+=marks[i]*credits[i];
totalCredits+=credits[i];}
if(totalCredits==0)
return 0;
return totalWeightedMarks/totalCredits;}
}

class StudentApp{
public static void main(String ss[]){
Scanner sc=new Scanner(System.in);
System.out.println("Enter the number of subjects:");
int numSubjects=sc.nextInt();
Student student=new Student(numSubjects);
student.acceptDetails();
student.displayDetails();
}
}

```

```

Command Prompt
C:\Users\thris>d:
D:\>cd 24BMSCE
D:\24BMSCE>javac StudentApp.java
D:\24BMSCE>java StudentApp
Enter the number of subjects:
2
ENTER USN:
1234
ENTER NAME:
anu
ENTER CREDITS:1
22
ENTER MARKS:1
30
ENTER CREDITS:2
25
ENTER MARKS:2
39

STUDENT DETAILS:
USN:1234
NAME:anu
SUBJECT1 CREDITS:22 MARKS:30
SUBJECT2 CREDITS:25 MARKS:39
SGPA:34.787234042553195
D:\24BMSCE>

```