

16/10/24

7

Lab program 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 create SGPA of a student.

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

```
class studentInfo {
```

```
    String usn;
```

```
    String name;
```

```
    int numSubjects;
```

```
    int [] credits;
```

```
    int [] marks;
```

```
    void acceptDetails() {
```

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

```
        System.out.println("Enter USN");
```

```
        USN = sc.nextLine();
```

```
        System.out.println("Enter name");
```

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

```
        System.out.println("Enter number of subjects");
```

```
        numSubjects = sc.nextInt();
```

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

```
        marks = new int[numSubjects];
```

```
        System.out.println("Enter the credits for each subjects");
```



```
for (int i = 0; i < numSubjects; i++) {
```

```
    System.out.println("Credits for subject" + (i+1) + ":");
```

```
    Credits[i] = sc.nextInt();
```

```
}
```

```
System.out.println("Enter the marks for each object");
```

```
for (int i = 0; i < numSubjects; i++) {
```

```
    System.out.println("Marks for subject " + (i+1) + ":");
```

```
    marks[i] = sc.nextInt();
```

```
}
```

```
}
```

```
void displayDetails () {
```

```
    System.out.println("Student details");
```

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

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

```
    System.out.println("Credits and marks for each subject");
```

```
    for (int i = 0; i < numSubjects; i++) {
```

```
        System.out.println("Subject" + (i+1) + "credits "
```

```
        + Credits[i] + "Marks" + marks[i]);
```

```
}
```

```
    System.out.println("SGPA " + calculateSGPA());
```

```
}
```

```
double calculateSGPA() {
```

```
    int totalCredits = 0;
```

```
    double totalGradePoints = 0.0;
```



```

for (int i = 0; i < numSubjects; i++) {
    int gradePoint = get gradePoint (marks[i]);
    totalGradePoint += gradePoint * credit[i];
    totalCredits += credits[i];
}

```

```

return totalGradePoints / totalCredits;
}

```

```

int getGradePoint(int marks) {
    if (marks >= 90) return 10;
    else if (marks >= 80) return 9;
    else if (marks >= 70) return 8;
    else if (marks >= 60) return 7;
    else if (marks >= 50) return 6;
    else if (marks >= 40) return 5;
    else return 0;
}

```

```

public class Student {
    public static void main (String [] args) {
        StudentInfo student = new StudentInfo ();
        student.acceptDetails ();
        student.displayDetails ();
        System.out.println ("Abhay");
        System.out.println ("24BECS404");
    }
}

```

Output :

USN: 24BECS404

Name: Abhay

Credits and marks for each subject

Subject 1: Credit = 5, marks = 60

Subject 2: Credit = 10, marks = 90

Subject 3: Credit = 6, marks = 75

SGPA = 8.71428

Abhay

24BECS404.