

LAB 3

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 & display details & a method to calculate SGPA of a student

Ans

$$SGPA = \frac{\sum (\text{course credits}) (\text{grade pts})}{\sum (\text{course credits})}$$

(considering all courses in that sem including those with F grade)

$$CGPA = \frac{\sum (\text{course credits}) (\text{grade pts})}{\sum (\text{course credits})}$$

(considering all courses until that sem excluding F grade)

```
import java.util.Scanner;

class Subject {
    int SubjectMarks;
    int credits;
    int grade;
}

class Student {
    String name;
    String usn;
    double SGPA;
    Scanner S;
    Subject Subject[];

    Student() {
        int i;
        Subject = new Subject[9];
        for (i = 0; i < 9; i++) {
            Subject[i] = new Subject();
        }
        S = new Scanner(System.in);
    }

    void getStudentDetails() {
        System.out.println("Enter your name:");
        name = S.nextLine();
        System.out.println("Enter your USN:");
        usn = S.nextLine();
    }

    void getMarks() {
        int i;
        for (i = 0; i < 8; i++) {
            System.out.println("Enter marks and credits for  
course " + (i + 1) + ":");
            System.out.println("Marks:");
        }
    }
}
```

```
int marks = s.nextInt();
System.out.println("Credits:");
int credits = s.nextInt();
subject[i].subjectMarks = marks;
subject[i].credits = credits;
subject[i].grade = (subject[i].subjectMarks)/(10)+1;
if (subject[i].grade == 11){
    subject[i].grade = 10;
}
if (subject[i].grade <= 4){
    subject[i].grade = 0;
}
}
}
}

void computeSGPA(){
    int totalCredits = 0;
    int i;
    for(i=0; i<8; i++){
        totalCredits += subject[i].credits;
    }
    int totalGradeandCredit = 0;
    for(i=0; i<8; i++){
        totalGradeandCredit += subject[i].credits * subject[i].grade;
    }
    double SGPA = (float)totalGradeandCredit/totalCredits;
    System.out.println("Your SGPA is " + SGPA);
}
```



```
class Main {  
    public static void main (String args[]) {  
        Student s1 = new Student();  
        s1.getStudentDetails();  
        s1.getMarks();  
        s1.computeSGPA();  
    }  
}
```

o/p:

Enter your name:

Sanjeet

Enter your USN:

1BN22CS241

Enter the marks and credits for course 1:

Marks:

98

Credits:

4

Enter the marks and credits for course 2:

Marks:

98

Credits:

4

Enter the marks and credits for course 3:

Marks:

93

Credits:

3

Enter the marks and credits for course 4:

Marks:

99

Credits:

3

Enter the marks and credits for course 5:

Marks:

94

Credits:

3

Enter the marks and credits for course 6:

Marks:

91

Credits:

1

Enter the marks and credits for course 7:

Marks:

93

Credits:

1

Enter the marks and credits for course 8:

Marks:

99

Credits:

1

Your GPA is 10.0

~~Due~~
19-12-22