LAB - II

Date: 19/12/2023

[1] // SGPA & CGPA of Student.

```
import java.util.Scanner;

class Subject {
    int subjectMarks;
    int credits;
    int grade;
}
class Student {
    String name;
    String usn;
    double SGPA;
    Subject[] subjects;
    Scanner scanner;

    // constructor
    Student() {
        subjects = new Subject[8];
        for(int i=0; i<8; i++) {
            subjects[i] = new Subject();
        }
        Scanner = new Scanner(System.in);
    }

    // Method to get Student details
    void getStudentDetails() {
        System.out.println("Enter Student
                            name: ");
        name = scanner.nextLine();

        System.out.println("Enter student USN:");
        usn = scanner.nextLine();
    }
```

```
// Method to get subject marks & credits
void getMarks() {
    for (int i=0; i<8; i++) {
        System.out.println("Enter marks for
            subject " + (i+1) + " :");
        subjects[i].subjectMarks = scanner.
            nextInt();

        System.out.println("Enter credits for
            subject " + (i+1) + " :");
        subjects[i].credits = scanner.nextInt();

// calculate grade based on marks
        if(subject[i].subjectMarks >= 90) {
            subjects[i].grade = 10;
        } else if(subjects[i].subject marks >= 80)
        {
            subjects[i].grade = 9;
        } else if(subjects[i].subject marks >= 70) {
            subjects[i].grade = 8;
        } else if(subjects[i].subject marks >= 60) {
            subjects[i].grade = 7;
        } else if(subjects[i].subject marks >= 50)
        {
            subjects[i].grade = 6;
        } else if(subjects[i].subject marks >= 40) {
            subjects[i].grade = 5;
        } else {
            subjects[i].grade = 0;
        }
    }
}
```

```
// Method to compute SGPA
void computeSGPA() {
    double totalCredits = 0;
    double totalGradePoints = 0;

    for(int i=0; i<8; i++){
        totalCredits += subjects[i].credits;
        totalGradePoints += subjects[i].grade
                            * subjects[i].credits;
    }

    SGPA = totalGradePoints / totalCredits;
}
}
public class studentSGPA {
    Student S1 = new Student();
    S1.getStudentDetails();
    S1.getMarks();
    S1.computeSGPA();

    System.out.println("\n student details:");
    System.out.println("Name:" + S1.name);
    System.out.println("USN:" + S1.USN);
    System.out.println("SGPA:" + S1.SGPA);
}
}
```

Out Put :-

```
Enter studen name:
raghu
Enter student USN:
CS213
```

Enter Marks for Subject 1 :
68
Enter credits for subject 1 :
4
Enter Marks for subject 2 :
69
Enter credits for subject 2 :
4
Enter marks for subject 3 :
59
Enter credits for subject 3 :
3
Enter marks for subject 4 :
60
Enter ~~Marks~~ credits for subject 4 :
3
Enter Marks for subject 5 :
65
Enter credits for subject 5 :
3
Enter marks for subject 6 :
97
Enter credits for subject 6 :
1
Enter marks for subject 7 :
95
Enter credits for subject 7 :
1
Enter marks for subject 8 :
99
Enter ~~Marks~~ credits for subject 8 :
1

Student Details:

Name : raghu

USN : CS813

SGPA : 7.5

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