19/12/23

Lab Program - 2

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.

SGPA -

$$SGPA = \frac{\sum [(\text{Course Credits}_i)(\text{Grade Points}_i)]}{\sum [(\text{Course Credits}_i)]}$$

Considering all courses registered.

```
import java.util.Scanner;
class Subject
{
 int subjectMarks;
 int credits;
 int grade;
}
class Student
{
 Subject subject[];
 String name;
 String USN;
 double SGPA;
 Scanner s;
 Student()
 {
 int j;
 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.next();
System.out.println("Enter your USN");
USN = s.next();
}
void getMarks(){
for(int i=0; i<8; i++)
{
System.out.print("Enter marks for subject "+(i+1)+":");
Subject[i].subjectMarks = s.nextInt();
System.out.print("Enter your credits for subject "+(i+1)+":");
Subject[i].credits = s.nextInt();
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 effectiveScore=0;
int totalCredits=0;
for(int i=0; i<8; i++)
{
```

```
effectiveScore += (Subject[i].grade * Subject[i].credits);
totalCredits += Subject[i].credits;
}
SGPA = (double) effectiveScore / (double) totalCredits;
}
}
class Main
{
public static void main (String args[])
{
Student s1 = new Student();
s1.getStudentDetails();
s1.getMarks();
s1.computeSGPA();
System.out.println("Name: " + s1.name);
System.out.println("USN: " + s1.USN);
System.out.println("SGPA: " + s1.SGPA);
}
}
```

Output -

```
Enter your name: SHREYA
Enter your USN: 1BM22CS268
Enter marks for subject 1: 98
Enter your credits for subject 1: 4
Enter marks for subject 2: 90
Enter your credits for subject 2: 2
Enter marks for subject 3: 97
Enter your credits for subject 3: 2
Enter marks for subject 4: 98
Enter your credits for subject 4: 3
```

Enter marks for subject 5: 90
Enter your credits for subject 5: 3
Enter marks for subject 6: 82
Enter your credits for subject 6: 4
Enter marks for subject 7: 81
Enter your credits for subject 7: 3
Enter marks for subject 8: 80
Enter your credits for subject 8: 1

Name- SHREYA
USN: 1BM22CS268
SGPA: 9.2.

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