Date :
Page No :

Lab Program no. 2

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 Subject
{
  int subjectMarks;
  int credits;
  int grade;
}
class Student
{
  Subject subject[];
  String name;
  String usn;
  double SGPA;
  int totalCredits = 0;
  Scanner s;
  Student(int n)
  {
  subject = new Subject[n];
  for(int i=0; i<n; i++)
    subject[i] = new Subject();
```

```
    s= new Scanner (System.in);
}
void getStudentDetails()
{
 Scanner s = new Scanner (System.in);
 System.out.println ("Enter student's
                        name:");
 name = s.nextLine();
 System.out.println ("Enter usn no.:");
 usn = s.nextLine();
}
void getMarks (int n)
{
  int i;
 Scanner s = new Scanner(System.in);
 System.out.println("Enter "+n+
                "suliject marks along
                        with credits:");
 for(i=0; i<n; i++)
 {
  System.out.println("Enter marks
        and credits for suliject"
            + (i+1) + ":");
  suliject[i].sulijectMarks = s.nextInt();
  suliject[i].credits = s.nextInt();
  if (suliject[i].sulijectMarks >100 ||
      suliject[i].sulijectMarks <0)
  {
   System.out.println("Invalid input");
   i--; // Re-enter marks and credits
        for the current suliject
  }
```

```
        else
            total_credits += subject[i].credits;
    }
}
}

void computeSGPA(int n)
{
int i;
int totalscore=0;
subject[0].grade=0;
for(i=0; i<n; i++)
 {
 if(subject[i].subjectMarks>=90 &&
     subject[i].subjectMarks<=100)
 {
   subject[i].grade=10;
   totalscore+=(subject[i].grade*
                subject[i].credits);
 }
else if(subject[i].subjectMarks>=80 &&
        subject[i].subjectMarks<=89)
 {
   subject[i].grade=9;
   totalscore+=(subject[i].grade*
                subject[i].credits);
 }
else if(subject[i].subjectMarks>=70 &&
        subject[i].subjectMarks<=79)
 {
   subject[i].grade=8;
   totalscore+=(subject[i].grade*
                subject[i].credits);
}
```

```
else if (subject[i].subjectMarks >= 60 &&
         subject[i].subjectMarks <= 69)
{
  subject[i].grade = 7;
  totalscore += (subject[i].grade *
                 subject[i].credits);
}
else if (subject[i].subjectMarks >= 50 &&
         subject[i].subjectMarks <= 59)
{
  subject[i].grade = 6;
  totalscore += (subject[i].grade *
                 subject[i].credits);
}
else if (subject[i].subjectMarks >= 40 &&
         subject[i].subjectMarks <= 49)
{
  subject[i].grade = 5;
  totalscore += (subject[i].grade *
                 subject[i].credits);
}
else if (subject[i].subjectMarks < 40
         && subject[i].subjectMarks >= 0)
{
  subject[i].grade = 0;
  totalscore += (subject[i].grade *
                 subject[i].credits);
}
}
SGPA = (double) totalscore / totalcredits;
}
```

Date :
Page No :

```
public static void main(String args[])
{
    Scanner ss = new Scanner(System.in);
    System.out.println("Enter number
                        of subjects:");
    int n = ss.nextInt();
    Student s1 = new Student(n);
    s1.getStudentDetails();
    s1.getMarks(n);
    s1.computeSGPA(n);
    System.out.println("Name = " + s1.name);
    System.out.println("Usn = " + s1.usn);
    System.out.println("SGPA = " + s1.SGPA);
}
}
```

Output:

1. Enter number of subjects:
4
Enter student's name:
Sita
Enter usn no.:
1BM22EE080
Enter 4 subject marks along with credits:
Enter marks and credits for subject1:
94 4
Enter marks and credits for subject2:
87 3
Enter marks and credits for subject3:
75 3

Enter marks and credits for subject4:
90 2
Name = Sita
Usn = 1BM22EE080
SGPA = 9.25

2. Enter number of subjects:
3
Enter students name:
Azhar
Enter usn no.:
1BM22EE100
Enter 3 subject marks along with credits:
Enter marks and credits for subject1:
101 4
Invalid input
Enter marks and credits for subject1:
78 3
Enter marks and credits for subject2:
85 2
Enter marks and credits for subject3:
-16 3
Invalid input
Enter marks and credits for subject3:
65 3
Name: Azhar
Usn: 1BM22EE100
SGPA = 7.875

24/24