Lab-2

9

```
import java.util.Scanner;
class subject
{
    int subjectMarks;
    int credits;
    string grade;
}
class student
{ string
    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");
    System.out.println("Enter usn of the student");
}
```

```
void getMarks()
{
    int i;
    For(i=0; i<8; i++)
    {
        System.out.println("Enter the marks and
        credits for course" +i+ ":");
        System.out.println("marks:");
        int marks = s.nextInt();
        System.out.println("credits:");
        subject[i].subjectMarks = marks;
        subject[i].credits = credit;
        if (marks>=90 && marks<=100)
        {
            subject[i].grade = 'O';
        }
        else if( marks>=80 && marks<90)
        {
            subject[i].grade = "A+";
        }
        elseif(marks>=70 && marks<80)
        {
            subject[i].grade = "A";
        }
        else if(marks>=60 && marks<70)
        {
            subject[i].grade = "B+";
        }
```

```
else if(marks >= 50 && marks < 60)
{
    subject[i].grade = "C";
}
else if(marks >= 40
{
    subject[i].grade = 'F';
}
}
void computeSGPA()
{
  for(i=1;i<9;i++)
  {
    switch(subject[i].grade)
    {
      case 'O': totalgp += 10*subject[i].credits;
       break;
      case 'A+': totalgp += 9* subject[i].credits;
      break;
      case 'A': totalgp += 8*subject[i].credits;
       break;
      case 'B+': totalgp += 7*subject[i].credits;
      break;
      case 'B': totalgp += 6*subject[i].credits;
      break;
      case 'C': totalgp += 5*subject[i].credits;
      break;
      case 'F': totalgp += 4*subject[i].credits;
      break;
```

```
        }
    }
    SGPA = totalGradePoints / totalCredits;
    System.out.println
}
public class Sgpa
{
    public static void main(String[])
    {
        Student s1 = new Student();
        s1.getStudentDetails();
        s1.getMarks();
        s1.computeSGPA;
        s1.displayResult();
    }
}
```

Output

```
Enter your name;
Rushil
Enter your usn;
225
Enter marks and credits for course 0;
```

Week 2

```
import java.util.Scanner;

class Subject {
    int subjectMarks;
    int credits;
    int grade;

    // Constructor
    Subject() {
        // Default constructor
    }
}

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

    // Constructor
    Student() {
        int i;
        subject = new Subject[8]; // Corrected the array size to match the number of subjects
        for (i = 0; i < 8; i++)
            subject[i] = new Subject();
        s = new Scanner(System.in);
    }

    // Method to get student details
    void getStudentDetails() {
        System.out.println("Enter Name: ");
        name = s.next();
        System.out.println("Enter USN: ");
        usn = s.next();
    }
```

```
void getMarks() {
    int i;
    for (i = 0; i < 8; i++) {
        System.out.println("Enter marks for Subject " + (i + 1) + ": ");
        subject[i].subjectMarks = s.nextInt();

        // Assuming credits are fixed at 4 for each subject
        subject[i].credits = 4;

        // Calculate grade based on marks
        if (subject[i].subjectMarks >= 90) subject[i].grade = 10;
        else if (subject[i].subjectMarks >= 80) subject[i].grade = 9;
        else if (subject[i].subjectMarks >= 70) subject[i].grade = 8;
        else if (subject[i].subjectMarks >= 60) subject[i].grade = 7;
        else if (subject[i].subjectMarks >= 50) subject[i].grade = 6;
        else subject[i].grade = 0; // Assuming 0 grade points for marks below 50
    }
}

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

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

    SGPA = weightedTotal / totalCredits;

    System.out.println("SGPA: " + SGPA);
}
```

```
public class Main {
    public static void main(String[] args) {
        // Declare and initialize Student object
        Student s1 = new Student();

        // Call methods to get details, marks, and compute SGPA
        s1.getStudentDetails();
        s1.getMarks();
        s1.computeSGPA();
    }
}
```