

```

1  import java.util.Scanner;
2
3  class Student{
4      String usn,name;
5      int sem;
6
7      void acceptDetails1(){
8          Scanner sc = new Scanner(System.in);
9          System.out.print("Enter your Name: ");
10         this.name = sc.nextLine();
11
12         System.out.print("Enter your USN: ");
13         this.usn = sc.next();
14
15         System.out.print("Enter Semester: ");
16         this.sem = sc.nextInt();
17     }
18 }
19
20 class Test extends Student{
21     int[] cie = new int[5];
22     int[] credits = new int[5];
23
24     void acceptDetails2(){
25         for(int i=0;i<credits.length;i++)
26         {
27             Scanner sc = new Scanner(System.in);
28             System.out.print("Enter cie marks in Subject " + (i+1) + " (out of 50): ");
29             this.cie[i] = sc.nextInt();
30
31             System.out.print("Enter credits of Subject " + (i+1) + ": ");
32             this.credits[i] = sc.nextInt();
33
34             System.out.println();
35         }
36     }
37 }
38
39 class Exam extends Test{
40     int[] see = new int[5];
41
42     void acceptDetails3(){
43         for(int i=0;i<credits.length;i++)
44         {

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45 Scanner sc = new Scanner(System.in);
46 System.out.print("Enter see marks in Subject " + (i+1) + " (out of 100): ");
47 this.see[i] = sc.nextInt();
48
49 System.out.println();
50 }
51 }
52 }
53
54 class Result extends Exam{
55     int[] grade = new int[5];
56     int[] marks= new int[5];
57
58     void calcMarks(){
59         for(int i=0;i<credits.length;i++)
60         {
61             marks[i] = cie[i] + see[i]/2;
62         }
63     }
64     public void calcGrade(){
65         calcMarks();
66         for(int i=0;i<marks.length;i++)
67         {
68             if(marks[i] >= 90)
69                 grade[i] = 10;
70             else if(marks[i] >= 80 && marks[i] < 90)
71                 grade[i] = 9;
72             else if(marks[i] >= 70 && marks[i] < 80)
73                 grade[i] = 8;
74             else if(marks[i] >= 60 && marks[i] < 70)
75                 grade[i] = 7;
76             else if(marks[i] >= 50 && marks[i] < 60)
77                 grade[i] = 6;
78             else if(marks[i] >= 40 && marks[i] < 50)
79                 grade[i] = 4;
80             else
81                 grade[i] = 0;
82         }
83     }
84 }
85 public void SGPA(){
86     double sum = 0,totalCred = 0;
87     calcGrade();
88
89     for(int i=0;i<credits.length;i++)
90     {
91         sum+= grade[i]*credits[i];
92         totalCred+= credits[i];
93     }
94
95     System.out.print("Sgpa is: "+(sum/totalCred));
96 }
97 public void display(){
98     System.out.println("USN: "+ usn);
99     System.out.println("Name: "+name);
100     for(int i=0;i<credits.length;i++)
101     {
102         System.out.println("SUBJECT " + (i+1) + " CREDITS: " + credits[i] + " CIE: " + cie[i] + " SEE: " + see[i]);
103     }
104     SGPA();
105 }
106 }
107
108 class StudentTester{
109     public static void main(String[] args){
110         int n;
111         Scanner sc = new Scanner(System.in);
112         System.out.print("How many student details do you want to enter? ");
113         n = sc.nextInt();
114         Result[] r = new Result[n];
115
116         for(int i=0;i<n;i++){
117             r[i] = new Result();
118             r[i].acceptDetails1();
119             r[i].acceptDetails2();
120             r[i].acceptDetails3();
121         }
122         System.out.println("\nHere are your details:");
123         for(int i=0;i<n;i++){
124             System.out.println("Student"+(i+1));
125             r[i].display();
126         }
127     }
128 }

```

Output:

```
Process started (PID=41648) >>>
How many student details do you want to enter? 1
Enter your Name: Medha
Enter your USN: 1BM19EC074
Enter Semester: 3
Enter cie marks in Subject 1 (out of 50): 47
Enter credits of Subject 1: 3

Enter cie marks in Subject 2 (out of 50): 46
Enter credits of Subject 2: 4

Enter cie marks in Subject 3 (out of 50): 48
Enter credits of Subject 3: 3

Enter cie marks in Subject 4 (out of 50): 44
Enter credits of Subject 4: 4

Enter cie marks in Subject 5 (out of 50): 45
Enter credits of Subject 5: 3

Enter see marks in Subject 1 (out of 100): 88

Enter see marks in Subject 2 (out of 100): 87

Enter see marks in Subject 3 (out of 100): 90

Enter see marks in Subject 4 (out of 100): 92

Enter see marks in Subject 5 (out of 100): 85

Here are your details:
Student1
USN: 1BM19EC074
Name: Medha
SUBJECT 1 CREDITS: 3 CIE: 47 SEE: 88
SUBJECT 2 CREDITS: 4 CIE: 46 SEE: 87
SUBJECT 3 CREDITS: 3 CIE: 48 SEE: 90
SUBJECT 4 CREDITS: 4 CIE: 44 SEE: 92
SUBJECT 5 CREDITS: 3 CIE: 45 SEE: 85
Sgpa is: 9.588235294117647<<< Process finished (PID=41648). (Exit code 0)
===== READY =====
```