

WEEK-05

```
\J Personal.java > ...
1 package CIE;
2
3 public class Personal {
4     protected String usn;
5     protected String name;
6     protected int sem;
7
8     public void getDetails(String usn, String name, int sem) {
9         this.usn = usn;
10        this.name = name;
11        this.sem = sem;
12    }
13
14    public void display() {
15        System.out.println("USN: " + usn);
16        System.out.println("Name: " + name);
17        System.out.println("Semester: " + sem);
18    }
19 }
```

```
J Internals.java > ...
1 package CIE;
2
3 public class Internals extends Personal {
4     public int[] internalMarks = new int[5];
5
6     public void setInternalMarks(int[] marks) {
7         for (int i = 0; i < 5; i++) {
8             internalMarks[i] = marks[i];
9         }
10    }
11
12    public void displayInternalMarks() {
13        System.out.print("Internal Marks: ");
14        for (int i = 0; i < 5; i++) {
15            System.out.print(internalMarks[i] + " ");
16        }
17        System.out.println();
18    }
19 }
```

J External.java > ...

```
1 package SEE;
2
3 import CIE.Personal;
4
5 public class External extends Personal {
6     public int[] seeMarks = new int[5];
7
8     public void setSEEMarks(int[] marks) {
9         for (int i = 0; i < 5; i++) {
10            seeMarks[i] = marks[i];
11        }
12    }
13
14    public void displaySEEMarks() {
15        System.out.print("SEE Marks: ");
16        for (int i = 0; i < 5; i++) {
17            System.out.print(seeMarks[i] + " ");
18        }
19        System.out.println();
20    }
21 }
```

```
J Main.java > ...
1 import CIE.*;
2 import SEE.*;
3 import java.util.Scanner;
4
5 public class Main {
6     Run | Debug
7     public static void main(String[] args) {
8         Scanner sc = new Scanner(System.in);
9         System.out.print("Enter number of students: ");
10        int n = sc.nextInt();
11
12        Internals[] internal = new Internals[n];
13        External[] external = new External[n];
14
15        for (int i = 0; i < n; i++) {
16            internal[i] = new Internals();
17            external[i] = new External();
18
19            System.out.println("\nEnter details for Student " + (i + 1));
20            System.out.print("USN: ");
21            String usn = sc.next();
22            System.out.print("Name: ");
23            String name = sc.next();
24            System.out.print("Semester: ");
25            int sem = sc.nextInt();
26
27            internal[i].getDetails(usn, name, sem);
28            external[i].getDetails(usn, name, sem);
29
30            int[] inMarks = new int[5];
31            int[] seeMarks = new int[5];
32
33            System.out.println("Enter 5 Internal Marks:");
34            for (int j = 0; j < 5; j++) inMarks[j] = sc.nextInt();
35            internal[i].setInternalMarks(inMarks);
36
37            System.out.println("Enter 5 SEE Marks:");
38            for (int j = 0; j < 5; j++) seeMarks[j] = sc.nextInt();
39            external[i].setSEEMarks(seeMarks);
40        }
41    }
42}
```

```
40     System.out.println("\n--- Final Marks of Students ---");
41     for (int i = 0; i < n; i++) {
42         System.out.println("\nStudent " + (i + 1) + " Details:");
43         internal[i].display();
44
45         int[] finalMarks = new int[5];
46         for (int j = 0; j < 5; j++) {
47             // Assuming SEE marks are out of 100 and internal out of 50 (scaled)
48             finalMarks[j] = internal[i].internalMarks[j] + (external[i].seeMarks[j] / 2);
49         }
50
51         System.out.print("Final Marks: ");
52         for (int j = 0; j < 5; j++) System.out.print(finalMarks[j] + " ");
53         System.out.println();
54     }
55     sc.close();
56 }
57 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\BMSCE\Desktop\SHIRISHA B R> javac CIE*.java SEE*.java Main.java
PS C:\Users\BMSCE\Desktop\SHIRISHA B R> java Main
Enter number of students: 3

Enter details for Student 1
USN: 01
Name: shirishabhr
Semester: 3
Enter 5 Internal Marks:
30 31 33 35 38
Enter 5 SEE Marks:
48 45 46 50 48

Enter details for Student 2
USN: 02
Name: sailikhitha
Semester: 3
Enter 5 Internal Marks:
30 34 31 32 31
Enter 5 SEE Marks:
40 39 46 41 46

Enter details for Student 3
USN: 03
Name: chaithanya
Semester: 3
Enter 5 Internal Marks:
31 34 33 35 32
Enter 5 SEE Marks:
47 43 45 41 40

--- Final Marks of Students ---

Student 1 Details:
USN: 01
Name: shirishabhr
Semester: 3
Final Marks: 54 53 56 60 62

Student 2 Details:
USN: 02
Name: sailikhitha
Semester: 3
Final Marks: 50 53 54 52 54

Student 3 Details:
USN: 03
Name: chaithanya
Semester: 3
Final Marks: 54 55 55 55 52
PS C:\Users\BMSCE\Desktop\SHIRISHA B R>
```