LAB-6 (PACKAGES)-24/11/25

CIE-package1:

```java
CIE > J Student.java > Java > {} CIE
1    package CIE;
2
3    public class Student {
4        public String usn, name;
5        public int sem;
6
7        public Student() {}
8
9        public Student(String usn, String name, int sem) {
10           this.usn = usn;
11           this.name = name;
12           this.sem = sem;
13       }
14   }
```

```java
CIE > J Internals.java > Java > Internals
1    package CIE;
2
3    public class Internals extends Student {
4        public int[] internal = new int[5]; // marks of 5 courses
5
6        public Internals(String usn, String name, int sem, int[] marks) {
7            super(usn, name, sem);
8            for (int i = 0; i < 5; i++) {
9                internal[i] = marks[i];
10           }
11       }
12   }
```

SEE (package2):

```java
package SEE;

import CIE.Student;

public class External extends Student {
    public int[] see = new int[5]; // SEE marks of 5 courses

    public External(String usn, String name, int sem, int[] marks) {
        super(usn, name, sem);
        for (int i = 0; i < 5; i++) {
            see[i] = marks[i];
        }
    }
}
```

Main Function (code):
-> FinalMarks

```java
import CIE.*;
import SEE.*;
import java.util.*;

public class FinalMarks {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print(s: "Enter number of students: ");
        int n = sc.nextInt();

        Internals[] ci = new Internals[n];
        External[] se = new External[n];

        for (int i = 0; i < n; i++) {
            System.out.println("\n--- Enter details of Student " + (i+1) + " ---");

            System.out.print(s: "USN: ");
            String usn = sc.next();

            System.out.print(s: "Name: ");
            String name = sc.next();

            System.out.print(s: "Semester: ");
            int sem = sc.nextInt();

            int[] internals = new int[5];
            System.out.println(x: "Enter 5 internal marks:");
            for (int j = 0; j < 5; j++)
                internals[j] = sc.nextInt();

            int[] externals = new int[5];
            System.out.println(x: "Enter 5 SEE marks:");
            for (int j = 0; j < 5; j++)
                externals[j] = sc.nextInt();

            ci[i] = new Internals(usn, name, sem, internals);
            se[i] = new External(usn, name, sem, externals);
        }

        System.out.println(x: "\n==================== FINAL MARKS ====================");

        for (int i = 0; i < n; i++) {
            System.out.println("\nStudent: " + ci[i].name + " (" + ci[i].usn + ")");
            System.out.println("Semester: " + ci[i].sem);

            System.out.println(x: "Course\tInternal\tSEE\tFinal");
            for (int j = 0; j < 5; j++) {
                int finalMarks = ci[i].internal[j] + se[i].see[j];
                System.out.println((j+1) + "\t\t" + ci[i].internal[j] +
                                "\t\t" + se[i].see[j] +
                                "\t\t" + finalMarks);
            }
        }

        sc.close();
    }
}
```

Output:

```
PS C:\Users\student\Downloads\lp6> cd "c:\Users\student\Downloads\lp6\" ; if ($?) { javac FinalMarks.java } ; if ($?) { java FinalMarks }
Enter number of students: 2

--- Enter details of Student 1 ---
USN: 1WN24CS120
Name: Hrishikesh
Semester: 3
Enter 5 internal marks:
45 48 48 49 47
Enter 5 SEE marks:
50 49 47 48 48

--- Enter details of Student 2 ---
USN: 1WN24CS133
Name: Yashwanth
Semester: 3
Enter 5 internal marks:
49 43 48 48 47
Enter 5 SEE marks:
49 50 50 43 49

=================== FINAL MARKS ====================

Student: Hrishikesh (1WN24CS120)
Semester: 3
Course  Internal        SEE     Final
1            45               50              95
2            48               49              97
3            48               47              95
4            49               48              97
5            47               48              95

Student: Yashwanth (1WN24CS133)
Semester: 3
Course  Internal        SEE     Final
1            49               49              98
2            43               50              93
3            48               50              98
4            48               43              91
5            47               49              96
PS C:\Users\student\Downloads\lp6>
```