# LAB PRGM - 6
## Packages - CIE & SEE Marks

CIE Package :- On CIE folder :-

Student.java :-

```java
package CIE;
public class Student
{
    public String usn, name;
    public int sem;

    public Student(String usn, String name, int sem)
    {
        this.usn = usn;
        this.name = name;
        this.sem = sem;
    }
}
```

Internals.java :-

```java
package CIE;
import CIE.Student;

public class Internals extends Student
{
    public double[] internalMarks = new double[5];
    public Internals(String usn, String name, int sem, double[]
                internalMarks)
    {   super(usn, name, sem);
    }   this.internalMarks = internalMarks;
```

**SEE Package : In SEE folder :**

**External.java :-**

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

public class External extends Student
{
    public double [] seeMarks = new double [5];
    public Internal (String usn, String name, int sem,
                        double [] seeMarks)
    {
        super (usn, name, sem);
        this.seeMarks = seeMarks;
    }
}
```

**FinalMarks.java :-**

```java
import CIE.Internals;
import SEE.External;
import java.util.Scanner;

public class FinalMarks
{
    public static void main (String[] args)
    {
        Scanner input = new Scanner (System.in);
        System.out.print ("Enter number of students : ");
        int n = input.nextInt (); input.nextLine ();
```

```java
Internals [] internals = new Internals [n];
Internals [] externals = new Internal [n];

for (int i = 0; i < n; i++)
{
    System.out.println(" Enter details for ~~present marks~~ of student "
                        + (i+1));
    System.out.print ("Enter USN : ");
    String usn = input.next();
    System.out.print ("Enter name : ");
    String name = input.next();
    System.out.print (" Enter semester : ");
    int sem = input.nextInt();      input.nextLine();

    double [] internal Marks = new double [5];
    System.out.print (" Enter Internal Marks for 5 courses : ");
    for (int j = 0; j < 5; j++)
    {
        internalMarks [j] = input.nextDouble();
    }

    internals [i] = new Internals (usn, name, sem, internalMarks);
}

for (int i = 0; i < n; i++)
{
    System.out.println (" Enter SEE marks ");
    String usn = internals [i].usn;
    String name = internals [i].name;
    int sem = internals [i].sem;

    double [] ee Marks = new double [5];
```

```java
            for (int j = 0; j < 5; j++)
            {
                secMarks [j] = input . nextDouble ();
            }

            externals [i] = new Internal (usn, name, iums, secMarks);

        }


        System . out . println ("\n Find Marks of Student : ");

        for (int i = 0; i < n; i++)
        {
            System . out . println ("Student " + (i+1) + "\n" +
                "USN : " + internals [i] . usn + "\nName : "
                + internals [i] . name + "\nIumchu : " +
                internals [i] . ium );


            for (int j = 0; j < 5; j++)
            {
                System . out . println ("Subject " + (j+1) + ": " +
                ( (internals [i] . internalMarks [j] / 2) +
                    (externals [i] . seMarks [j] / 2)) + "\n");
            }
            System . out . println ();

        }
    }
}
```

OUTPUT :-

Enter the number of students : 2
Enter details of Student 1
  Enter USN : 078
  Enter Name : Charan Y
  Enter semester : 3
  Enter Internal Marks for 5 courses : 80
    90
    80
    85
    100

Enter details of Student 2
  Enter USN : 086
  Enter name : Dhanush C
  Enter semester : 3
  Enter Internal Marks for 5 courses : 80
    90
    90
    80
    80

Enter SEE Marks for 5 courses of Student 1
    80
    80
    90
    95
    100

Enter SEE Marks for 5 courses of Student 2
    90
    90
    95
    100
    75

Find Marks of students :
Student 1 :
USN : 078
Name : Charan G
Semester : 3
Subject 1 : 80.0
Subject 2 : 85.0
Subject 3 : 85.0
Subject 4 : 90.0
Subject 5 : 100.0

Student 2 :
USN : 086
Name : Dharnish C
Semester : 3
Subject 1 : 85.0
Subject 2 : 90.0
Subject 3 : 92.5
Subject 4 : 90.0
Subject 5 : 77.5

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1. Package CIE – Student.java

```java
package CIE;

public class Student {
    public String usn, name;
    public int sem;

    public Student(String usn, String name, int sem) {
        this.usn = usn;
        this.name = name;
        this.sem = sem;
    }
}
```

2. Package CIE – Internals.java

```java
package CIE;
import CIE.Student;

public class Internals extends Student {
    public double[] internalMarks = new double[5];
```

```java
    public Internals(String usn, String name, int sem, double[] internalMarks) {
        super(usn, name, sem);
        this.internalMarks = internalMarks;
    }
}
```

3. Package SEE – External.java

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

public class External extends Student {
    public double[] seeMarks = new double[5];

    public External(String usn, String name, int sem, double[] seeMarks) {
        super(usn, name, sem);
        this.seeMarks = seeMarks;
    }
}
```

4. FinalMarks.java – outside the package folders

```java
import CIE.Internals;
import SEE.External;
import java.util.Scanner;

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

        System.out.print("Enter the number of students: ");
        int n = input.nextInt();
        input.nextLine();

        Internals[] internals = new Internals[n];
        External[] externals = new External[n];

        // Input Internal Marks
        for (int i = 0; i < n; i++) {
            System.out.println("Enter details of Student " + (i + 1));
            System.out.print("Enter USN: ");
            String usn = input.nextLine();
            System.out.print("Enter Name: ");
            String name = input.nextLine();
//input.nextLine();
```

```java
System.out.print("Enter Semester: ");

int sem = input.nextInt();

input.nextLine();

double[] internalMarks = new double[5];

System.out.print("Enter Internal Marks for 5 courses: ");

for (int j = 0; j < 5; j++) {

    internalMarks[j] = input.nextDouble();

}
input.nextLine();


    internals[i] = new Internals(usn, name, sem, internalMarks);

}


// Input SEE Marks

for (int i = 0; i < n; i++) {

System.out.println("Enter SEE Marks for 5 courses of Student " + (i+1) + "
" + internals[i].name);

String usn = internals[i].usn;

String name = internals[i].name;

int sem = internals[i].sem;

double[] seeMarks = new double[5];


for (int j = 0; j < 5; j++) {

    seeMarks[j] = input.nextDouble();

}


externals[i] = new External(usn, name, sem, seeMarks);
```

```java
        }

        // Display Final Marks

        System.out.println("\nFinal Marks of Students:");

        for (int i = 0; i < n; i++) {

            System.out.println("Student " + (i + 1) + " : USN: " + internals[i].usn + "\nName: " +

                    internals[i].name + "\nSemester: " + internals[i].sem);


            for (int j = 0; j < 5; j++) {

                System.out.println("Subject " + (j + 1) + ": " +

                        ((internals[i].internalMarks[j]) + (externals[i].seeMarks[j] / 2)) + "\n");

            }

            System.out.println();

        }

    }

}
```

Compilation:

javac CIE/Student.java CIE/Internals.java SEE/External.java FinalMarks.java

java FinalMarks

Output:

Enter the number of students: 2

Enter details of Student 1

Enter USN: 1BM22CS078

Enter Name: Charan G

Enter Semester: 3

Enter Internal Marks for 5 courses: 48

47

49

45

50

Enter details of Student 2

Enter USN: 1BM22CS456

Enter Name: Vibinn Noothan

Enter Semester: 3

Enter Internal Marks for 5 courses: 49

48

49

49

49

Enter SEE Marks for 5 courses of Student 1 Charan G

85

89

90

95

99

Enter SEE Marks for 5 courses of Student 2 Vibinn Noothan

95

98

99

97

98


Final Marks of Students:

Student 1 : USN: 1BM22CS078

Name: Charan G

Semester: 3

Subject 1: 90.5


Subject 2: 91.5


Subject 3: 94.0


Subject 4: 92.5


Subject 5: 99.5


Student 2 : USN: 1BM22CS456

Name: Vibinn Noothan

Semester: 3

Subject 1: 96.5

Subject 2: 97.0

Subject 3: 98.5

Subject 4: 97.5

Subject 5: 98.0