

LAB-6

6. Create a package CIE which has two classes - student and Internal. The class Student has members like uen, name, sem. The class internal derived from Student has an array that stores the internal marks scored in five courses of the current semester of the student. Create another package SEE which has the class External which is a derived class of student. This class has an array that stores the SEE marks scored in five courses of the current semester of the student. Import two packages in a file that declares the final marks of n students in all five courses.

→ CIE :

Student.java

```
package CIE;
import java.util.Scanner;
public class student {
    protected String uen = new String();
    protected String name = new String();
    protected int sem;
    public void inputStudentDetails() {
        Scanner sc = new Scanner
            (System.in);
        System.out.print("Enter uen: ")
        name
        uen = sc.next();
    }
}
```

```

System.out.println("Enter name:");
name = sc.next();
System.out.println("Enter semester:");
sem = sc.nextInt();
}
public void displayStudentDetails () {
    System.out.println("Student
                           details:");
    System.out.println("USN: " +
                           usn);
    System.out.println("Name
                           : " + name);
    System.out.println("Sem: "
                           + sem);
}
}

```

### Internale.java

```

package CIE;
import java.util.Scanner;
public class Internale extends Student {
    protected int marks[] = new int[5];
    public void inputCIEmarks() {
        Scanner sc = new Scanner
            (System.in);
        System.out.println("Enter
            CIE marks:");
        for (int i = 0; i < 5; i++) {
            marks[i] = sc.nextInt();
        }
    }
}

```



## External.java

```
package SEE;
import CIE.Internal;
import java.util.Scanner;
public class External extends Internal {
    protected int marks[];
    protected int finalmarks[];
    public External() {
        marks = new int[5];
        finalmarks = new int[5];
    }
    public void inputSEEmarks() {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter SEE marks:");
        for (int i = 0; i < 5; i++) {
            marks[i] = sc.nextInt();
        }
    }
    public void calculateFinalMarks() {
        for (int i = 0; i < 5; i++) {
            finalmarks[i] = marks[i] +
                super.marks[i];
        }
    }
    public void displayFinalMarks() {
        displayStudentDetails();
        System.out.println("Final marks for 5 subjects:");
        for (int i = 0; i < 5; i++) {
            System.out.println
                ("subject " + (i + 1) + ": " +
```

```

        finalmarks[i]);
    }
}
}

```

main.java

```

import SEE.External;
import CE.*;
import java.util.Scanner;
class Main {
    public static void main(String args[])
    {
        Scanner sc = new Scanner(System.
            in);
        System.out.print("Enter the
            number of students: ");
        int n = sc.nextInt();
        External student[] = new
            External(n);
        for (int i = 0; i < n; i++) {
            student[i] = new External();
            student[i].inputStudent
                Details();
            student[i].inputCEmarks();
            student[i].inputSEemarks();
            student[i].calculateFinal
                Marks();
            student[i].displayFinal
                Marks();
        }
    }
}

```



O/p:

Enter the number of students: 2

Enter um: 101

Enter name: abc

Enter semester: 3

Enter CIE marks:

23

24

34

45

46

Enter SEE marks:

24

34

45

50

50

Student details:

USN: 101

Name: abc

Sem: 3

Final marks for 5 subjects:

Subject 1: 47

Subject 2: 58

Subject 3: 79

Subject 4: 95

Subject 5: 96

Enter um: 102

Enter name: xyz

Enter semester: 3

Enter CIE marks:

12

10

19

34

50

Enter SEE marks:

24

35

46

50

49

Student details:

USN : 102

Name : xyz

Sem : 3

Final marks for 5 subjects:

Subject 1 : 36

Subject 2 : 45

Subject 3 : 65

Subject 4 : 84

Subject 5 : 99