~~Display~~ a .

Lab 6 : Display a package CIE which has 2 classes - Students & internals . Student has name, usn , sem . The class internals derived from Student has an array that stores internal marks in 5 courses of current semester. Create another package SEE which has the class External which is derived of student . This class also has an array to store marks of 5 subjects. Import 2 packages in a file and declare final marks in all 5 subjects of n students.

Student . java

```
package cie ;
import java . util . * ;
public class Student {
        protected String usn = new String ( );
        protected String name = new String ( );
        protected int sem ;

        public void inputStudentDetails ( ) {
                Scanner s = new Scanner ( System . in ) ;
                System . out . println ( " Enter usn : " ) ;
                usn = s . nextLine ( ) ;
                System . out . println ( " Enter name : " ) ;
                name = s . nextLine ( ) ;
                System . out . println ( " Enter sem : " ) ;
                sem = s . nextInt ( ) ;
        }

        public void displayStudentDetails ( ) {
                System . out . println ( "\n USN : " + usn ) ;
                System . out . println ( "\n Name : " + name ) ;
                System . out . println ( "\n Sem : " + sem ) ;
        }
```

Internals.java

```
package cie;
import java.util.Scanner;
public class Internals extends Student {
    protected int marks[] = new int[5];

    public void inputCIEmarks(){
        int i;
        Scanner s = new Scanner(System.in);
        for(i=0; i<5; i++){
            System.out.println("Enter marks in subject " + (i+1));
            marks[i] = s.nextInt(); }
    }
}
```

Externals.java

```
package see;
import cie.*;
import java.util.Scanner;
public class Externals extends Internals {
    protected int marks[];
    protected int finalMarks[];

    public Externals {
        marks = new int[5];
        finalMarks = new int[5];
    }

    public void inputSEEmarks(){
        Scanner s = new Scanner(System.in);
```

```
        for (int i = 0; i < 5; i++) {
            System.out.println("Enter marks of
        subject :" + (i+1));
            marks[i] = s.nextInt();
        }
    }
    public void calculateFinalMarks() {
        for (int i = 0; i < 5; i++)
            finalMarks[i] = marks[i]/2
        + super.marks[i];
    }

    public void displayFinalMarks() {
        displayStudentDetails();
        for (int i = 0; i < 5; i++)
        {
            System.out.println("Subject
        +(i+1) + " : " + finalMarks[i]);
        }
    }
}
```

Main.java

```
import see.Externals;
class Main {
    public static void main(String args[])
    {
        int numOfStudents = 2;
        Externals finalMarks[] = new Externals
                                 [numOfStudents];

        for(int i = 0; i < numOfStudents; i++){
            finalMarks[i] = new Externals();
            finalMarks[i].inputStudentDetails();

            System.out.println("Enter CIE marks:");
            finalMarks[i].inputCIEmarks();
            System.out.println("Enter SEE marks:");
            finalMarks[i].inputSEEmarks();
        }

        System.out.println("Displaying data:\n");
        for(int i = 0; i < numOfStudents; i++){
            finalMarks[i].calculateFinalMarks();
            finalMarks[i].displayFinalMarks();
        }
    }
}
```

Output:

Enter usn : 136

Enter name : Sam

Enter sem : 2

Enter CIE marks:

Enter marks of subject 1 : 41

Enter marks of subject 2 : 42

Enter marks of subject 3 : 43

Enter marks of subject 4 : 44

Enter marks of subject 5 : 45

Enter SEE marks:

Enter marks of subject 1 : 91

Enter marks of subject 2 : 92

Enter marks of subject 3 : 93

Enter marks of subject 4 : 94

Enter marks of subject 5 : 95

Displaying data:

USN : 136

Name : Sam

Sem : 2

Subject 1 : 86

Subject 2 : 88

Subject 3 : 90

Subject 4 : 92

Subject 5 : 93

20.1.24