WEEK-6

JAVA LAB PROGRAM

Create a package CIE which has two classes- Student and Internals. The class Student has members like usn, name, sem. The class Internals 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 the two packages in a file that declares the final marks of n students in all five courses.

Code:

```java
package CIE;

import java.util.Scanner;

public class Student{
        String usn=new String();

        String name=new String();

        int sem;

        Scanner sc=new Scanner(System.in);

        public void inputstudentdetails(){
                System.out.println("Enter usn:");

                usn=sc.next();

                System.out.println("Enter Name:");

                name=sc.next();

                System.out.println("Enter Semester:");

                sem=sc.nextInt();

        }
        public void displaystudentdetails(){
                System.out.println("Name:"+name);

                System.out.println("USN:"+usn);
```

```java
                System.out.println("Semester:"+sem);

        }

}
package CIE;

import java.util.Scanner;

public class Internals extends Student{

        public int marks[] = new int[5];

        public void inputCIEmarks(){

                Scanner sc=new Scanner(System.in);

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

                        System.out.println("Enter CIE marks of subject "+(i+1)+":");

                        marks[i]=sc.nextInt();

                }

        }

}
package SEE;

import CIE.Internals;

import java.util.Scanner;

public class Externals extends Internals {

        protected int seemarks[]=new int[5];

        protected int finalMarks[]=new int[5];

    Scanner sc = new Scanner(System.in);

      public void inputSEEmarks(){

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

                System.out.println("Enter SEE marks of subject "+(i+1)+":");

                seemarks[i]=sc.nextInt();

        }
```

```java
        }
        public void calculateFinalMarks(){
        for(int i=0;i<5;i++){
                finalMarks[i]=(marks[i]+seemarks[i])/2;
        }
        }
        public void displayFinalMarks(){
        for(int i=0;i<5;i++){
                        System.out.println("Final marks in subject "+(i+1)+" is
:"+finalMarks[i]);
                }
        }


}
import SEE.Externals;
import CIE.*;
class Main {
public static void main(String args[]){
        Internals i=new Internals();
        Externals e=new Externals();
        i.inputstudentdetails();
        i.displaystudentdetails();
        i.inputCIEmarks();
        e.inputSEEmarks();
        e.calculateFinalMarks();
        e.displayFinalMarks();
}
}
```

Output:

```
D:\2nd year\Java\Packages>javac CIE/Student.java

D:\2nd year\Java\Packages>javac CIE/Internals.java

D:\2nd year\Java\Packages>javac SEE/Externals.java

D:\2nd year\Java\Packages>javac Main.java

D:\2nd year\Java\Packages>java Main
Enter usn:
1BM23CS022
Enter Name:
Akshay
Enter Semester:
3
Name:Akshay
USN:1BM23CS022
Semester:3
Enter CIE marks of subject 1:
96
Enter CIE marks of subject 2:
97
Enter CIE marks of subject 3:
98
Enter CIE marks of subject 4:
99
Enter CIE marks of subject 5:
100
Enter SEE marks of subject 1:
100
Enter SEE marks of subject 2:
99
Enter SEE marks of subject 3:
98
Enter SEE marks of subject 4:
97
Enter SEE marks of subject 5:
96
Final marks in subject 1 is :50
Final marks in subject 2 is :49
Final marks in subject 3 is :49
Final marks in subject 4 is :48
Final marks in subject 5 is :48
```