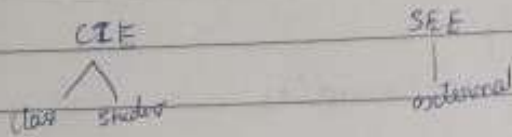


Lab - 6

Create a package CIE which has two classes Students & 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 current semester of the student. Import the two packages in a file that declares the final marks of n students in all five courses.

Program:-

// Internals.java

package CIE;

import java.util.Scanner;

public class Internals extends Student {
 protected int marks[] = new int[5];

public Internals() {
 }

public void inputCIEmarks () {

Scanner scanner = new Scanner(System.in);
 System.out.println("Enter Internal
 Marks for " + name);

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

System.out.println("Subject " + (i+1) +
 "marks: ");

marks[i] = scanner.nextInt();

}

}

}

// Student.java

package CIE;

import java.util.Scanner;

public class Student {

protected String usn = new String();

protected String name = new String();

protected int sem;

public void inputStudentDetails() {

Scanner scanner = new Scanner(System.in);

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

usn = scanner.next();

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

name = scanner.next();

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

sem = scanner.next();

}

public void displayStudentDetails() {

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

System.out.println("Name: " + name);

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

}

}

// External.java

package @BEE;

import CIE.internals;

import java.util.Scanner;

public class External extends Internals {


```
protected int marks[];  
protected int finalmarks[];
```

```
public External() {  
    marks = new int[5];  
    finalmarks = new int[5];  
}
```

```
public void inputSEEmarks() {  
    Scanner scanner = new Scanner(System.in);  
    System.out.println("Enter SEE marks for " + name);  
    for(int i=0; i<5; i++) {  
        System.out.print("Subject " + (i+1) +  
            "marks: ");  
        marks[i] = scanner.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 SE.Externals;

public class main {
    public static void main(String args[]) {
        int numofstudents = 3;
        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: bms001
 Enter Name: XXXX
 Enter Semester: 3
 Enter CIE marks:
 Enter External marks for XXXX

Subject 1 marks: 45
Subject 2 marks: 40
Subject 3 marks: 30
Subject 4 marks: 20
Subject 5 marks: 50

Enter SEE marks

Enter SEE marks for XXXX

Subject 1 marks: 44
Subject 2 marks: 39
Subject 3 marks: 47
Subject 4 marks: 38
Subject 5 marks: 50

Enter usn: bms002

Enter Name: YVVY

Enter Semester: 3

Enter CIE marks

Enter Internal marks for YVVY

Subject 1 marks: 39
Subject 2 marks: 47
Subject 3 marks: 42
Subject 4 marks: 28
Subject 5 marks: 40

For

Enter SEE marks

Enter SEE marks for YVVY

Subject 1 marks: 44
Subject 2 marks: 50
Subject 3 marks: 48
Subject 4 marks: 38
Subject 5 marks: 35

Displaying data :

USN : bms001

Name : XXXY

Semester: 3

Subject 1 : 67

Subject 2 : 59

Subject 3 : 53

Subject 4 : 39

Subject 5 : 75

USN : bms002

Name : YVVY

Semester: 3

Subject 1 : 61

Subject 2 : 72

Subject 3 : 66

Subject 4 : 47

Subject 5 : 57

~~30~~ 24