Program 6

Q]Create a package CIE which has two classes- Student and Internals. The class Personal has members like usn, name, sem. The class internals 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

```
package CIE;

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

package CIE;

public class Internals {
    public int[] internalMarks = new int[5];
}

package SEE;

import CIE.Student;

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

```
}

import CIE.*;
import SEE.*;
import java.util.Scanner;

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

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

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

        for (int i = 0; i < n; i++) {
            students[i] = new Student();
            internals[i] = new Internals();
            externals[i] = new External();

            System.out.println("Enter details for student " + (i
            System.out.print("USN: ");
            students[i].usn = sc.next();
            System.out.print("Name: ");
            students[i].name = sc.next();
            System.out.print("Semester: ");
            students[i].sem = sc.nextInt();

            System.out.println("Enter internal marks for 5 cours
            for (int j = 0; j < 5; j++) {
                internals[i].internalMarks[j] = sc.nextInt();
            }

            System.out.println("Enter SEE marks for 5 courses: "
```

```
            for (int j = 0; j < 5; j++) {
                externals[i].seeMarks[j] = sc.nextInt();
            }
        }

        System.out.println("Final Marks:");
        for (int i = 0; i < n; i++) {
            System.out.println("Student " + (i + 1) + " ("
            + students[i].usn + ", " + students[i].name + "):");
            for (int j = 0; j < 5; j++) {
                int finalMark = (internals[i].internalMarks[j] +
                 externals[i].seeMarks[j]) / 2;
                System.out.println("Course " + (j + 1) + ": " +
            }
        }
    }
}
```

OUTPUT:

```
Enter the number of students: 2
Enter details for student 1:
USN: 1BM21CS001
Name: Alice
Semester: 5
Enter internal marks for 5 courses:
20 18 22 25 24
Enter SEE marks for 5 courses:
60 55 70 80 75
Enter details for student 2:
USN: 1BM21CS002
Name: Bob
Semester: 5
Enter internal marks for 5 courses:
19 21 20 23 22
Enter SEE marks for 5 courses:
```

```
65 60 75 85 80
Final Marks:
Student 1 (1BM21CS001, Alice):
Course 1: 40
Course 2: 36
Course 3: 46
Course 4: 52
Course 5: 49
Student 2 (1BM21CS002, Bob):
Course 1: 42
Course 2: 40
Course 3: 47
Course 4: 54
Course 5: 51
```

OBSERVATION:

Lab program VI

Create package CIE which has two classes - Student and Internals. The class personal has members USN, name, sem. Class internals has 5 courses. SEE class External derived class of student. This class has an array that stores the SEE marks scored in five courses of current Semester of student.

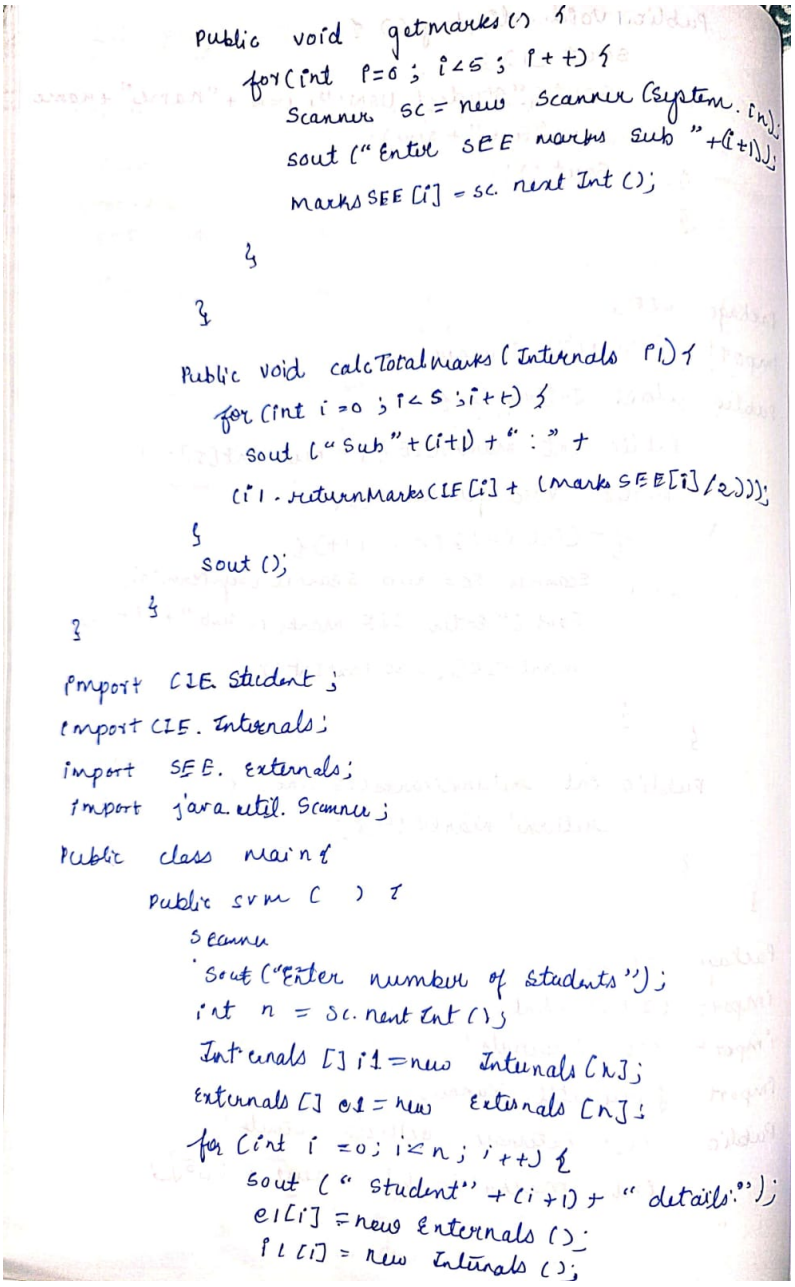
Import the two packages in a file that declares the final marks of n students in all five courses

```
package CIE;
import java.util.Scanner;
public class student {
        String name;
        String USN;
        int sem;
        Public void getd() {
            Scanner sc = new Scanner (System.in);
            Sout ("Enter USN");
            USN = sc.nextline();
            Sout ("Enter student name");
            name = sc.nextline();
            Sout ("Enter Sem");
            Sem = sc.nextInt();
```

```
    Public void display () {
        Sout ( );
        Sout ("Student USN:" + USN + "name" + name
            + "Sem" + sem);
        Sout ();
    }
```

```
Package CIE;
import java.util.Scanner;
Public class Internals {
    Public int marksCIE [] = new int[5];
    public void getmarks () {
        for (int i=0; i<5; i++) {
            Scanner sc = new Scanner (System.in);
            Sout ("Enter CIE marks in sub" + (i+1));
            marksCIE[i] = sc.nextINT ();
        }
    }
    Public int returnMarksCIE (int i) {
        return marksCIE[i];
    }
}
```

```
Package SEE;
Import CIE.Student;
import CIE.Internals;
Import java.util.Scanner;
Public class Externals extends student {
    int marksSEE [] = new int[5];
```



```
Public void getmarks() {
    for(int i=0; i<5; i++) {
        Scanner sc = new Scanner(System.in);
        sout("Enter SEE marks sub "+(i+1));
        MarksSEE[i] = sc.nextInt();
    }
}

Public void calcTotalMarks(Internals I1) {
    for(int i=0; i<5; i++) {
        sout("sub"+(i+1)+" : "+
        (i1.returnMarks(CIE[i] + (marksSEE[i]/2)));
    }
    sout();
}
}

import CIE.Student;
import CIE.Internals;
import SEE.Externals;
import java.util.Scanner;
Public class main{
    Public sym() {
        Scanner
        sout("Enter number of students");
        int n = sc.nextInt();
        Internals[] i1 = new Internals[n];
        Externals[] o1 = new Externals[n];
        for(int i=0; i<n; i++) {
            sout("student" + (i+1) + "details:");
            e1[i] = new Externals();
            I1[i] = new Internals();
```

```
        e1[i].getId();
        i1[i].getMarks();
        e1[i].getmarks();
    }

    for(int i=0; i<n; i++){
        e1[i].display();
        e1[i].calcTotalMarks[i1[i]];
    }
```

//output

Enter no. of students :

2

Student 1 details :

Enter student USN

324

Enter student name

Shrinanda

Enter Semester

3

~~Enter no of subjects:~~

2

Enter CIE marks in Subject 1

34

Enter CIE Marks in Subject2

37

Subject 5

~~Enter number of subjects~~

2

Enter SEE Marks in Subject 1

78

Enter SEE marks in Subject 2

89

Enter SEE marks in Subject5

99

Subject 5

Student 2 details

21/11/24