Create a fackage CIE wolved student two classes - Personal and Internals. The class ferronal chas mankers like using name, sem-The class Internals has an away that stores the cinternal marks scared in 5 courses of the current semester of the student. Geate another package SEE which has the class External which is derived class of Reisonal. This class has an away first stores the SEE marks stored in 5 courses of distrent semester of the student. Imfalt the two packages in a file that declares the final marks of 'n'students in all five Courses fackage Cil;

public class Internals of

int[] marks = new int[5]; chublic internals (int[] marks) this marks = marks; fublic void display () } System. Out. printly ("CIE Marks: In"),

Jor (int num: marks) &

System. Out. printly (Mum); public int get Total CIE ptouls(1) \$

int total = 0;

for (int num: malks) \$

total + = num;

y

Return total;

Date Page No. fackage sees; impost cie student; fublic class External extends Students int[] seemasks = new int[5]; fublic External (String USN, String mame)
int Sem, int [] Seemarks) Super (USN, name, sem), His. Seemarks = seemarks, fublic void display() & Jyskin, Out printly ("SEE marks are: ""),
for (int mum: seemarks)

S System. Out piently (nam). fatte since just public int gethalf () } int total = 0. for (int mum! see marks) total + = nam; Setum total (2)

Date public class Student & fublic String USN; fublic String mame; fublic int sem; Student (String USN, String name, int services & this USN = USN; this sem = sem; Soublic void display (15 System out printly ("Student Details:");

System out printly ("USN:" + USN);

System out printly ("Name:" + manne);

System out printly ("Semester:" + Sem);

import sie. Student import Cil. Internals import see . External fublic Class lab 6 9. fublic static void main (Stung [] ags) Scanner S- new Scanner (System. in); System. Out. plintln ("Enter number of Students:"); int n = S. next Int(); S. next line().

Jos (inti=1; ix=m; i+1) System. Out flint In ("Enter details
of Steedent" + i + i': "); System. out. printly ("Enter USN:"),
String USN = s. neutline(); System out punlly ("Enter mare:");
String name = S-ment Int();
S-ment Line(); Student stud = new Student (USN, name, sern); 8tud. displays);

System. out. printly ("Enter CIE marks for 5 subjects:"), External external marks = new External (USN, name, Sem, Smarks). external mocks. displayer; S. next line (); 3. close(), Outful: - Enter number of studency. Enter Osn: Freder 1: 1 bm 23 cs 222 Dance Enter Name! Enter semester:

Oate Page Na	VISION Date Page No.
Student Delails:	Date VISION Page No.
USN: 16m23CS 222	
Name: 242	Encles dolptes las Chile a 2.
Semester 43	Enler detalls for Student 2:
Enter CEC March 1 Earl	1 bm 2305123
Enter (IE marks for 5 subjects!	Enler Name:
46	abc
47	Ender Semester:
49	3
49	Student Details:
	USN: 16m23(5123
Markey a demolerable harted	Name abc
CIE Harley:	Semester: 3
	Hemesta . 3
45	21,050
46	Enter CIE mortes for 5 subjects:
47	00
48	45
49	34
47	23
	48
Enter the SEE marks for 5 subjects!	X-0.
89	0 ** ()
9	CIE Marks:
90	50
16	/ 45
	1 . 34
78	
	23
CC = 1 BITT ALIA	48
SEE marks are as follows!	Enter SEE Marks for S Subjects:
	90
89	92
96	
190	38
	78
199	49
71	- V

VISION Page No. SEE mostas are as follows! Emples 189

```
package cie;
public class Internals {
  int[] marks = new int[5];

public Internals(int[] marks) {
    this.marks = marks;
}

public void display() {
    System.out.println("CIE Marks: \n");
    for (int num : marks) {
        System.out.println(num);
    }
}

public int getTotalCieMarks() {
    int total = 0;
    for (int num : marks) {
        total += num;
    }
    return total;
}
```

```
package cie;
public class Student {
    public String USN;
    public String name;
    public int sem;

public Student(String USN, String name, int sem) {
        this.USN = USN;
        this.name = name;
        this.sem = sem;
    }

public void display() {
        System.out.println("Student Details:");
        System.out.println("USN: " + USN);
        System.out.println("Name: " + name);
        System.out.println("Semester: " + sem);
    }
}
```

```
package see;
import cie.Student;
public class External extends Student {
  int[] seemarks = new int[5];
  public External(String USN, String name, int sem, int[] seemarks) {
     super(USN, name, sem);
     this.seemarks = seemarks;
  }
  public void display() {
     System.out.println("SEE Marks are: \n");
     for (int num : seemarks) {
         System.out.println(num);
     }
  }
  public int getHalfOfSeeMarks() {
     int total = 0;
     for (int num : seemarks) {
        total += num;
     }
     return total / 2;
  }
}
```

```
import java.util.Scanner;
import cie.Student;
import cie.Internals;
import see.External;
public class lab6 {
   public static void main(String[] args) {
        Scanner s = new Scanner(System.in);
                System.out.println("Enter the number of students:");
int n = s.nextInt();
s.nextLine();
                 for (int i = 1; i <= n; i++) {
    System.out.println("\nEnter details for Student " + i + ":");</pre>
                         System.out.println("Enter USN: ");
String USN = s.nextLine();
                         System.out.println("Enter Name: ");
String name = s.nextLine();
                         System.out.println("Enter Semester: ");
int sem = s.nextInt();
s.nextLine();
                         Student stud = new Student(USN, name, sem);
                          stud.display();
                         int[] marks = readMarks(s, "CIE");
Internals internalMarks = new Internals(marks);
internalMarks.display();
                         int[] smarks = readMarks(s, "SEE");
External externalMarks = new External(USN, name, sem, smarks);
externalMarks.display();
                         int[] finalMarks = new int[5];
System.out.println("Final Marks (CIE + 1/2 SEE) for each subject:");
for (int j = 0; j < 5; j++) {
    finalMarks[j] = marks[j] + (smarks[j] / 2);
    System.out.println("Subject " + (j + 1) + ": " + finalMarks[j]);</pre>
                 s.close();
        public static int[] readMarks(Scanner s, String examType) {
   System.out.println("Enter the " + examType + " marks (5 subjects): ");
   int[] marks = new int[5];
   for (int i = 0; i < 5; i++) {
        marks[i] = s.nextInt();
   }
}</pre>
                }
return marks;
```

Enter details for student 1: USN: 1bm23 Name: sam Semester: 3 Enter internal marks for 5 courses: 30 39 29 28 30 Enter SEE marks for 5 courses: 86 87 89 90 99 Enter details for student 2: USN: 1bm24 Name: xyz Semester: 2 Enter internal marks for 5 courses: 39 34 35 36 34 Enter SEE marks for 5 courses: 99 98 87 86 80 Final Marks of Students: USN: 1bm23 Name: sam Semester: 3 Internal Marks: 30 39 29 28 30 SEE Marks: 86 87 89 90 99 Final Marks: 116 126 118 118 129 USN: 1bm24 Name: xyz Semester: 2 Internal Marks: 39 34 35 36 34 SEE Marks: 99 98 87 86 80

Final Marks: 138 132 122 122 114

Enter the number of students: 2