

Create a package CIE which has two classes - Personal 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 Personal. 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.

create a package cie having classes student and internal
 & another package see has external class which inherits
 student, internal has an array which stores
 marks of 5 subjects, student has usn, sem and name
 calculate the final marks of a student
 package cie;

```

class student
{
    public int usn;
    public String name;
    public int sem;
    int[] internalmarks = new int[5];

    public student(int usn, String name, int sem)
    {
        this.usn = usn;
        this.name = name;
        this.sem = sem;
    }

    public void get() show()
    {
        System.out.println("USN:" + usn + " " +
            "Name:" + name + " " + "sem" + sem);
    }
}

package cie;

class internal extends student
{
    int[] imark = new int[5];

    public internal(int usn, String name,
        int sem, int[] imark)
    {
        super(usn, name, sem);
        this.imark = imark;
    }
}

```

```
package SEE;
```

```
import cie.student;
```

```
public class external extends student {
```

```
    public int smask[] = new int[5];
```

```
    public external (int usn, String name, int sem,  
        int [] smask) {
```

```
        super (usn, name, sem);
```

```
        this.smask = smask;
```

```
    }
```

```
import cie.internal;
```

```
import see.external;
```

```
import java.util.Scanner;
```

```
public class test {
```

```
    public static void main (String[] args) {
```

```
        Scanner sc = new Scanner (System.in);
```

```
        int [] cmask = new int[5];
```

```
        int psmask = new int[5];
```

```
        System.out.println ("Enter number of students");
```

```
        int n = sc.nextInt();
```

```
        for (int k=0; k<n; k++) {
```

```
            System.out.println ("Enter usn, name, sem");
```

```
            String String
```

```
            int usn = sc.nextInt();
```

```
            String name = sc.nextLine();
```

```
            int sem = sc.nextInt();
```


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```

System.out.println("enter 5 subjects & mark for internal");
for(int i=0; i<5; i++)
{
    cmark[i] = nextInt();
}

System.out.println("Enter see marks of 5 subjects");
for(int i=0; i<5; i++)
{
    emark[i] = nextInt();
}

internal i1 = new internal(usn, name, sem,
    cmark);
external e1 = new external(usn, name, sem,
    emark);

System.out.println("details"); e1.show();
for(int i=0; i<=4; i++){ student s2 = new student(i);
    System.out.println("Total marks of student");
    // e1.show();
    System.out.println("- i1.imark[i] + e1.smark[i];
}
}
}

```

O/P

Enter no of students

1

Enter usn, name, sem

23

Rajay

3

enter 5 subject marks for internal

38

37

30

34

22

Enter see marks of 5 Subjects

78

89

96

98

60

Details

USN: 23 name: vijay Sem: 3

Total mark in subject

77

81

78

83

63

21/11/24

```
package CIE;
```

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

```
package CIE;
```

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

```
package SEE;
```

```
import CIE.Student;
```

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

```
import CIE.Internals;
```

```
import SEE.External;
```

```
import java.util.Scanner;
```

```
public class FinalMarks {  
    public static void main(String[] args) {  
        Scanner sx = new Scanner(System.in);  
        System.out.print("Enter number of students: ");
```

```
int n = sx.nextInt();
```

```
Internals[] internalStudents = new Internals[n];
```

```
External[] externalStudents = new External[n];
```

```
for (int i = 0; i < n; i++) {
```

```
    internalStudents[i] = new Internals();
```

```
    externalStudents[i] = new External();
```

```
    System.out.println("Enter details for student " + (i + 1));
```

```
    System.out.print("USN: ");
```

```
    internalStudents[i].usn = sx.next();
```

```
    externalStudents[i].usn = internalStudents[i].usn;
```

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

```
    internalStudents[i].name = sx.next();
```

```
    externalStudents[i].name = internalStudents[i].name;
```

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

```
    internalStudents[i].sem = sx.nextInt();
```

```
    externalStudents[i].sem = internalStudents[i].sem;
```

```
    System.out.println("Enter internal marks (max 50) for 5 subjects:");
```

```
    for (int j = 0; j < 5; j++) {
```

```
        int internalMark;
```

```
        do {
```

```
            System.out.print("Subject " + (j + 1) + ": ");
```

```
            internalMark = sx.nextInt();
```

```

        if (internalMark < 0 || internalMark > 50) {
            System.out.println("Invalid input! Marks should be between 0 and 50.");
        }
    } while (internalMark < 0 || internalMark > 50);
    internalStudents[i].internalMarks[j] = internalMark;
}

```

```

System.out.println("Enter semester marks (SEE) for 5 subjects:");
for (int j = 0; j < 5; j++) {
    System.out.print("Subject " + (j + 1) + ": ");
    externalStudents[i].seeMarks[j] = sx.nextInt();
}
}

```

```

System.out.println("Final Marks of Students:");
for (int i = 0; i < n; i++) {
    System.out.println("Student " + (i + 1) + " (" + internalStudents[i].usn + " - " +
internalStudents[i].name + ")");
    for (int j = 0; j < 5; j++) {
        // Calculate total marks as internal marks + semester marks / 2
        int totalMarks = internalStudents[i].internalMarks[j] +
        (externalStudents[i].seeMarks[j] / 2);
        System.out.println("Subject " + (j + 1) + " Total Marks: " + totalMarks);
    }
}
sx.close();
}
}

```



```
C:\Users\hp\Desktop\java>java FinalMarks
Enter number of students: 2
Enter details for student 1
USN: 12
Name: serine
Semester: 3
Enter internal marks (max 50) for 5 subjects:
Subject 1: 34
Subject 2: 45
Subject 3: 43
Subject 4: 34
Subject 5: 44
Enter semester marks (SEE) for 5 subjects:
Subject 1: 89
Subject 2: 90
Subject 3: 78
Subject 4: 66
Subject 5: 88
Enter details for student 2
USN: 13
Name: reser
Semester: 2
Enter internal marks (max 50) for 5 subjects:
Subject 1: 50
Subject 2: 43
Subject 3: 21
Subject 4: 34
Subject 5: 33
Enter semester marks (SEE) for 5 subjects:
Subject 1: 78
Subject 2: 55
Subject 3: 44
Subject 4: 34
Subject 5: 33
Final Marks of Students:
Student 1 (12 - serine)
Subject 1 Total Marks: 78
Subject 2 Total Marks: 90
Subject 3 Total Marks: 82
Subject 4 Total Marks: 67
Subject 5 Total Marks: 88
Student 2 (13 - reser)
Subject 1 Total Marks: 89
Subject 2 Total Marks: 70
Subject 3 Total Marks: 43
Subject 4 Total Marks: 51
Subject 5 Total Marks: 49
```