14/11/24

LAB-6

Q. Create a package CIE which has two classes Student and Internals. The class internals has an array that stores the internal marks scored in 5 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 5 courses of the current semester of the student. Import the two ~~semeste~~ packages in a file that declares the final marks of n students in all 5 courses.

```
package CIE;
import java.util.Scanner;
public class Student{
    protected String usn;
    protected String name;
    protected int sem;
    public void inputStudentDetails() {
        Scanner sc=new Scanner(System.in);
        S.O.P("Enter usn:");
        usn=sc.nextLine();
        S.O.P("Enter name:");
        name=sc.nextLine();
        S.O.P("Enter sem:");
        sem=sc.nextInt();
    }
    public void displaystudentDetails(){
        S.O.P("USN:"+usn);
        S.O.P("Name:"+name);
        S.O.P("Semester:"+sem);
    }
}
```

```
package CIE;
import java.util.Scanner;
public class Internals extends Student{
    protected int[] marks=new int[5];
```

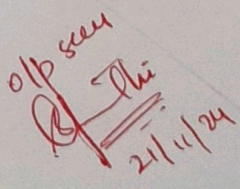
```
public void inputCIEMarks() {
    Scanner scanner = new Scanner(System.in);
    S.o.p("Enter internal marks for 5 courses:");
    for (int i=0; i<5; i++){
        S.o.p("Enter marks for course" + (i+1) + ":");
        marks[i] = scanner.nextInt();
    }
}
public void displayCIEMarks() {
    S.o.p("Internal marks for 5 courses:");
    for (int i=0; i<5; i++) {
        S.o.p("Course" + (i+1) + ": " + marks[i]);
    }
}
}
package SEE;
import java.util.Scanner;
import CIE.Internals;
public class Externals extends Internals {
    protected int[] externalMarks = new int[5];
    protected int[] finalMarks = new int[5];
    public Externals() {
        marks = new int[5];
        externalMarks = new int[5];
        finalMarks = new int[5];
    }
    public void inputSEEMarks() {
        Scanner sx = new Scanner(System.in);
        S.o.p("Enter external marks for 5 courses:");
        for (int i=0; i<5; i++) {
            S.o.p("Enter marks for course:" + (i+1) + ":");
            externalMarks[i] = sx.nextInt();
        }
    }
```

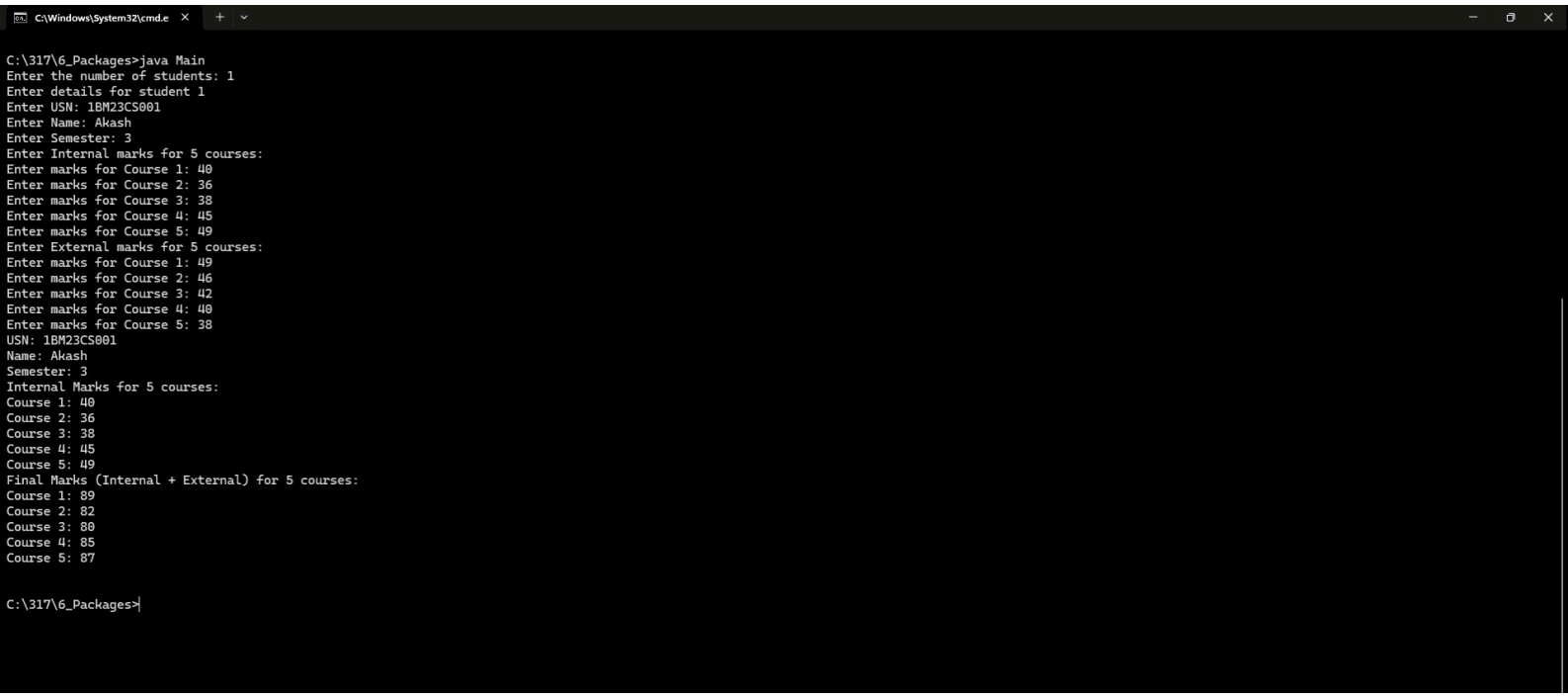
```
    calculateFinalMarks
public void inputStudentDetails() {
    Scanner sa=new Scanner(System.in);
    S.O.P("Enter usn: ");
    usn=sa.nextLine();
    for(int i=0;i<5;i++){
        finalMarks[i]=marks[i]+externalMarks[i];
    }
}
public void displayFinalMarks(){
    displayStudentDetails();
    displayCIEMarks();
    S.O.P("Final marks(Internal + External) for 5 courses:");
    for(int i=0;i<5;i++){
        S.O.P("Course"+(i+1)+": "+finalMarks[i]);
    }
}
}

import SEE.Externals;
import java.util.Scanner;
public class Main{
    psvm(String[] args){
        Scanner sv=new Scanner(System.in);
        S.O.P("Enter the number of students:");
        int n=sv.nextInt();
        Externals[] students=new Externals[n];
        for(int i=0;i<n;i++){
            Students[i]=new Externals();
            S.O.P("Enter details for students"+(i+1));
            students[i].inputStudentDetails();
            Students[i].inputCIEMarks();
            Students[i].inputSEEMarks();
            Students[i].calculateFinalMarks();
        }
    for(int i=0;i<n;i++){
        student[i].displayFinalMarks();
```

```
            S.O.p(C);
        }
    }
}
```

output:

```
Enter the number of students: 1
Enter details for student 1
Enter USN: 1BM23CS001
Enter name: Akash
Enter semester: 3
Enter Internal Marks for 5 courses:
Enter marks for course 1: 40
Enter marks for course 2: 36
                       3: 38
                       4: 45
                       5: 49
Enter External marks for 5 courses:
Enter marks for course 1: 49
                       2: 46
                       3: 42
                       4: 40
                       5: 38
USN: 1BM23CS001
Name: Akash
Semester: 3
Internal Marks for 5 courses:
Course 1: 40
Course 2: 36
Course 3: 38
Course 4: 45
Courses: 49
Final Marks (Internals + External) for 5 courses:
Course 1: 89
Course 2: 82
Course 3: 80
Course 4: 85
Courses: 87
```




C:\Windows\System32\cmd.e
C:\317\6_Packages>java Main
Enter the number of students: 1
Enter details for student 1
Enter USN: 1BM23CS001
Enter Name: Akash
Enter Semester: 3
Enter Internal marks for 5 courses:
Enter marks for Course 1: 40
Enter marks for Course 2: 36
Enter marks for Course 3: 38
Enter marks for Course 4: 45
Enter marks for Course 5: 49
Enter External marks for 5 courses:
Enter marks for Course 1: 49
Enter marks for Course 2: 46
Enter marks for Course 3: 42
Enter marks for Course 4: 40
Enter marks for Course 5: 38
USN: 1BM23CS001
Name: Akash
Semester: 3
Internal Marks for 5 courses:
Course 1: 40
Course 2: 36
Course 3: 38
Course 4: 45
Course 5: 49
Final Marks (Internal + External) for 5 courses:
Course 1: 89
Course 2: 82
Course 3: 80
Course 4: 85
Course 5: 87
C:\317\6_Packages>