

+ Create a Package CIE which has two classes Student and Internals, class student should have USN, Name, Sem. The class Internals derived from Student has an array that stores the internal marks scored in full courses of current sem of student's create a package ISE and import both packages.

+ 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 input student details() {
        make scanner's object,
        read S.USN
        read S.name
        read S.Sem
    }
    public void display student details() {
        display USN, name, Sem
    }
}
```

+ Internals.java

Package CIE;

import java.util.Scanner;

Public class Internals extends Internals {
protected int marks[] & new int[5];
protected int finalMarks[];

public void input (int marks[]) {

initializes objects

apply for logic and read 5 sets of
marks using 5 objects

+ Externals.java

package SGG;

import CIE.~~Internals~~.Internals;

import java.util.Scanner;

Public class Externals extends Internals {

protected int marks[];

protected int finalMarks[];

public Externals () {

marks = new int[5];

finalMarks = new int[5];

```
public void inputSEEMarks() {  
    Scanner s = new Scanner(System.in);  
    for (int i = 0; i < 5; i++) {  
        System.out.print("subject" + (i + 1) + "  
    "marks : ");  
    marks[i] = s.nextInt();  
}
```

```
public void calculateFinalMarks() {
```

```
    for (int i = 0; i < 5; i++) {  
        finalMarks[i] = marks[i] / 2 + supar.  
    marks[i];  
}
```

```
public void displayFinalMarks() {
```

```
    displayStudentDetails();  
    for (int i = 0; i < 5; i++)
```

```
        System.out.println("subject" + (i + 1) + "  
    " + finalMarks[i]);  
}
```

+ Main.java

```
import SEE.Externals;
```

```
class main {
```

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

```
}
```

```
    int numofStudents = 2;
```

```
    Externals finalMarks[] = new Externals[numof  
    students];
```

```
for (int i=0; i<num of students; i++)
```

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

```
    finalMarks[i].inputStudentDetails();
```

```
    System.out.println("Enter CIE marks");
```

```
    finalMarks[i].inputCIEMarks();
```

```
    System.out.println("Enter SEE marks");
```

```
    finalMarks[i].inputSEEMarks();
```

```
System.out.println("Display data: ");
```

```
for (int i=0; i<num of students; i++)
```

Finalmarks[i].calculateFinalMarks();

finalMarks[i].displayFinalMarks();

Sample output :-

Enter no of students for Internals : 2

Enter details of students 1

USN = 01BMA2CS001

Name = ANUSH, Boy, Marks : 80, 75, 90, 87, 90

Semester : 3

Enter internal marks for 5 courses of student
80, 75, 90, 87, 90.

Enter student details of 2.

USN: 113111111111111111.

Name: Abhishek
Student: 3.

Enter internal marks for 5 courses of student
85, 78, 92, 87, 90.

Final marks of students 2.1;

Student 1: 746

Student 2: 722.

Programme: Bachelor of Science (B.Sc)

Year: 2018-19

Roll No: 230121

Course: Partial Differential Equations

Grade: A+

Course: Numerical Methods

Grade: A

Course: Discrete Mathematics

Grade: A

Course: Data Structures and Algorithms

Grade: A

Course: Computer Organization

Grade: A

Course: Database Management Systems

Grade: A