

Display a .

Lab 6 : Display a package CIE which has 12 classes - Students & internals. Student has name, user, sem. The class internals derived from Student has an array that stores internal marks in 5 courses of current semester. Create another package SEE which has the class External which is derived of Student. This class also has an array to store marks of 5 subjects. Import 2 packages in a file and declare final marks in all 5 subjects of n students.

Student.java

```
package cie ;
import java.util.* ;
public class Student {
    protected String user = new String ( ) ;
    protected String name = new String ( ) ;
    protected int sem ;

    public void inputStudentDetails ( ) {
        Scanner s = new Scanner ( System.in ) ;
        System.out.println ( "Enter user : " ) ;
        user = s.nextLine ( ) ;
        System.out.println ( "Enter name : " ) ;
        name = s.nextLine ( ) ;
        System.out.println ( "Enter sem : " ) ;
        sem = s.nextInt ( ) ;
    }

    public void displayStudentDetails ( ) {
        System.out.println ( "\n User : " + user ) ;
        System.out.println ( "\n Name : " + name ) ;
        System.out.println ( "\n Sem : " + sem ) ;
    }
}
```

Internals.java

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

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

Externals.java

```
package cie;
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 input SEE marks() {
    Scanner s = new Scanner(System.in);
}
```

```
for (int i = 0; i < 5; i++) {
    System.out.println ("Enter marks of
    subject : " + (i+1));
    marks[i] = s.nextInt();
}
```

```
}
public void calculate Final Marks() {
    for (int i = 0; i < 5; i++)
        finalMarks[i] = marks[i] / 2
        + super.marks[i];
}
```

```
public void display Final Marks() {
    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
[numofStudents];

for (int i = 0; i < numofStudents; i++) {
final Marks[i] = new Externals();
final Marks[i].input Student details();

System.out.println ("Enter IE marks :");

final Marks[i].input (IE marks());

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

final Marks[i].input SEE marks();

}

System.out.println ("displaying data :\n");

for (int i = 0; i < numofStudents; i++) {

final Marks[i].calculate Final Marks();

final Marks[i].display Final marks();

}

}

}

Output :

Enter usn : 136

Enter name : Sam

Enter sem : 2

Enter CIE marks :

Enter marks of subject 1 : 41

Enter marks of subject 2 : 42

Enter marks of subject 3 : 43

Enter marks of subject 4 : 44

Enter marks of subject 5 : 45

Enter SEE marks :

Enter marks of subject 1 : 91

Enter marks of subject 2 : 92

Enter marks of subject 3 : 93

Enter marks of subject 4 : 94

Enter marks of subject 5 : 95

Displaying data :

USN : 136

Name : Sam

Sem : 2

Subject 1 : 86

Subject 2 : 88

Subject 3 : 90

Subject 4 : 92

Subject 5 : 93