PAGE NO :
DATE :

Week-7 (Lab-7)

1. Create a package CIE which has two classes Student & internals. The class student has members like USN, name, sem. The class internals derived from Student has an array that stores the internals 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 Student.

student.java:

```
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);
    System.out.println("Enter USN:");
    String usn = sc.next();
    System.out.println("Enter name:");
    String name =sc.next();
    System.out.println("Enter sem:");
    int sem = sc.nextInt();
    this.usn = usn;
    this.name = name;
    this.sem = sem;
}
public void displayStudentDetails(){
    System.out.println("USN:" + this.usn);
```

```
        System.out.println("Name :" + this.name);
        System.out.println("Sem :" + this.sem);
    }
}
```

internals.java :

```
package CIE;
import java.util.Scanner;
import CIE.student;
public class internals extends student {
    protected int marks[] = new int[5];
    public void InputCIEMarks(){
        Scanner sc = new Scanner(System.in);
        for(int i=0; i<5; i++) {
            Syst
            System.out.println("Enter marks of subject"+(i+1)+
            marks[i] = sc.nextInt();
        }
    }
}
```

externals.java :

```
package SEE;
import CIE.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 sc = new Scanner(System.in);

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

public void calculateFinalMarks() {
    displayStudentDetails();

    for(int i=0; i<5; i++){
    System.out.println("Subject" +(i+1)+":" +
                finalMarks[i]);
    }
}

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

public void displayFinalMarks(){
    displayStudentDetails();

    for(int i=0; i<5; i++) {
    System.out.println("Subject "+(i+1)+":"+ finalMarks[i]);
    }
}
}
```

PAGE NO :
DATE :

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++) {
            finalMarks[i] = new externals();
            finalMarks[i].InputStudentDetails();
            System.out.println("Enter CIE marks :");
            finalMarks[i].InputCIEMarks();
            System.out.println("Enter SEE marks :");
            finalMarks[i].inputSEEMarks();
        }

        System.out.println("Displaying data :\n");
        for(int i=0; i<numOfStudents; i++) {
            finalMarks[i] = new externals();
            finalMarks[i].InputStudentDetails();
            System.out.println("Enter CIE marks :");
            finalMarks[i].InputCIEMarks();
            System.out.println("Enter SEE marks :");
            finalMarks[i].inputSEEMarks();
        }
    }
}
```

O/P:

Enter USN:
1BM22CS196
Enter Name:
Prabhanjan
Enter sem:
3
Enter CIE marks:
Enter Marks of Subject 1:
45
Enter Marks of Subject 2:
46
Enter Marks of Subject 3:
47
Enter Marks of Subject 4:
49
Enter SEE Marks of Subject 5:
48
Enter SEE Marks:
Enter marks of Subject 1: 92
" " " 2: 85
" " " 3: 76
" " " 4: 89
" " " 5: 82

Enter USN:
1BM22CS200
Enter name:
Prabhan Pranav
Enter sem:
3
Enter CIE Marks:
Enter Marks of subject 1: 49
2: 48

" " " 3:48
" " " 4:42
" " " 5:49

Enter SEE marks:
Enter marks of subject 1:89
2:78
3:99
4:92
5:85

Displaying data:

USN: ~~1BM22CS181~~ 1BM22CS196
Name: ~~Pradeep~~ P
Sem: 3
Subject 1:91
~~2~~:88
3:85
4:93
5:89

USN: 1BM22CS200
Name: Pranav
Sem: 3
Subject 1:93
2:88
3:97
4:88
5:91

24-01-24