

6. Create a package CIE which has two classes - Student and Internal. The class Personal has members like usn, name, sem. The class Internal has an array that stores the internal marks scored in five courses of the current sem of the student. Create another package IEE which has the class Exam which is derived class of Student. This class has an array that stores the semarks scored in five courses of the current semester of the student. Import the two packages in a file that

```
package CIE;
import java.util.Scanner;
public class Student
{
    private String name, usn;
    private int semester;

    public Student() {}
    public Student(String usn, String name, int semester)
    {
        this.usn = usn; this.name = name; this.semester = semester;
    }
    public String getName() { return name; }
    public String getUsn() { return usn; }
    public int getSemester() { return semester; }
    public Student(Student s)
    {
        this.name = s.name; this.usn = s.usn;
        this.semester = s.semester;
    }
}
```



```

Package CIE;
import java.util.Scanner;

Public class Internals extends Student
{
    Private int[] marks;
    Private Internals (String usn, String name,
    int semester, int marks[])
    {
        Super (usn, name, semester);
        this.marks = marks;
    }
    Public Static Internals getInstanceOf()
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter student details
        & array of CIE marks");

        String usn = sc.next().strip().toUpperCase();
        String name = sc.next();
        int semester = sc.nextInt();
        int[] marks = new int[5];
        for(int i=0; i<marks.length; i++){
            marks[i] = sc.nextInt();
        }
        sc.nextLine();
        return new Internals(usn, name, semester,
        marks);
    }
    Public Static Internals getInstanceOf(
    Student s)
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter CIE marks details");
        int marks[] = new int[5];
        for(int i=0; i<marks.length; i++){
            marks[i] = sc.nextInt();
        }
        sc.nextLine();
        return new Internals(s, marks);
    }
    Public int getmarks(int i) { return
    marks[i]; }
}

```



```
private Internal (Student s, int[] marks)
```

```
{  
    super(s);
```

```
    this.marks = marks;
```

```
}
```

```
public Internal (int[] marks)
```

```
{  
    this.marks = marks;
```

```
}
```

main class

External

```
package see;
```

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

```
import CTE.*;
```

```
public class External extends Student {
```

```
    private int[] marks;
```

```
    private External (String usn, String name, int  
semester, int[] marks) {
```

```
        super(s);
```

```
        this.marks = marks;
```

```
}
```

```
    public static void main (getNewInstanceOf()) {
```

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

```
        System.out.println ("Enter student details and  
array of SEE marks");
```

```
        String usn = sc.next().strip().toUpperCase();
```

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

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

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

```
        for (int i = 0; i < marks.length; i++)
```

```
        { marks[i] = sc.nextInt();
```

```
        }
```

```
        sc.nextLine();
```

```
        return new External (usn, name, semester, ma  
-arks);
```

```
}
```

```
    public static External getNewInstanceOf (stud  
Scanner sc) {
```

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

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

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

```
        for (int i = 0; i < marks.length; i++)
```

```
        { marks[i] = sc.nextInt();
```

```
        }
```

```
        sc.nextLine();
```

```
        return new External (s, marks)
```

```
    }  
    public int getmarks (int i) { return marks[i];
```



## main class

```
import CIE.*;
import SEE.*;
import java.util.Scanner;

class main {
    public static void main(String args[]) {
        Scanner sc = new Scanner(System.in);
        S.O.P("Enter the number of students:");
        int n = sc.nextInt();
        Internal[] ai = new Internal[n];
        External[] ae = new External[n];
        int[] result = new int[n];
        for(int i=0; i<n; i++) {
            ai[i] = Internal.getNewInstance(i);
            ae[i] = External.getNewInstance(ai[i]);
        }
        for(int i=0; i<n; i++) {
            S.O.P("USN: " + ai[i].getUSN() + " Name: " + ai[i].getName() + " Semester: " + ai[i].getSemester());
            S.O.P("Internal: ")
            for(int j=0; j<5; j++) {
                S.O.P(ai[i].getmarks(j) + " ");
                result[i] = ai[i].getmarks(j);
            }
            S.CLOSE();
        }
    }
}
```

## O/P

Enter the number of students: 1  
Enter Student details and array of CIE marks:  
Enter USN: 24BEC5415  
Enter Name: Surhanth  
Enter Semester: 5  
Enter CIE marks: 20 18 15 22 19  
Enter 5 SEE marks: 60 70 65 55 75

## Student marks details

USN: 24BEC5415	Name: John	Semester: 5
CIE marks: 20	18	15 22 19
SEE marks: 60	70	65 55 75
Final marks: 50	53	58 49 56