

Week 9-Lab Program 6

Create a package CIE which has two classes- Student and Internals. The class Personal has members like usn, name, sem. The class Internals has an array that stores the internal 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. This class has an array that stores the SEE marks scored in five courses of the current semester of the student. Import the two packages in a file that declares the final marks of n students in all five courses.

Below is two programs of class Student and class Internals.Both belong to a package named CIE. Class Internals extends from class Student.

```
package CIE;
import java.util.Scanner;

public class Student
{
    public String name;
    public String usn;
    public int sem;
    public void display()
    {
        Scanner s=new Scanner(System.in);
        System.out.println("Name:");
        name=s.next();
        System.out.println("USN:");
        usn=s.next();
        System.out.println("Semester:");
        sem=s.nextInt();
    }
}
```

```
package CIE;
import java.util.Scanner;

public class Internals extends Student
{
    public double ciem[];

    public void display()
    {
        ciem=new double[5];
        Scanner t=new Scanner(System.in);
        System.out.println("CIE Marks for 5 subjects(out of 50):");
        for(int i=0;i<5;i++)
            ciem[i]=t.nextDouble();
    }
}
```

Below is a program of class Externals which belongs to a package named SEE. Class Externals extends from class Student.

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

public class Externals extends CIE.Student
{
    public double seem[];

    public void display()
    {
        seem=new double[5];
```

```

        Scanner s=new Scanner(System.in);
        System.out.println("SEE Marks for 5 subjects(out of 100):");
        for(int i=0;i<5;i++)
            seem[i]=s.nextDouble();
    }
}

```

Below is a driven program with class Main which imports both the packages CIE and SEE.

```

import CIE.*;
import SEE.*;
import java.util.Scanner;
public class Main
{
    public static void main(String args[])
    {
        int n;
        Scanner s=new Scanner(System.in);
        System.out.println("Enter the number of students:");
        n=s.nextInt();
        CIE.Student st[]=new CIE.Student[n];
        CIE.Internals in[]=new CIE.Internals[n];
        SEE.Externals e[]=new SEE.Externals[n];
        for(int i=0;i<n;i++)
        {
            st[i]=new CIE.Student();
            in[i]=new CIE.Internals();

```

```

        e[i]=new SEE.Externals();
        st[i].display();
        in[i].display();
        e[i].display();
        System.out.println("Total marks of student
st[i].name+" in 5 subjects are:");
        for(int j=0;j<5;j++)
        {
            System.out.println(in[i].ciem[j]+(e[i].seem[j]/2));
        }
    }
}

```

OUTPUT:

```
C:\Users\win10\Documents\Java lab programs\Packages>javac Student.java
C:\Users\win10\Documents\Java lab programs\Packages>javac Internals.java
C:\Users\win10\Documents\Java lab programs\Packages>javac Externals.java
C:\Users\win10\Documents\Java lab programs\Packages>javac Main.java
C:\Users\win10\Documents\Java lab programs\Packages>java Main
Enter the number of students:
2
Name:
Ajay
USN:
1BM19CS001
Semester:
3
CIE Marks for 5 subjects(out of 50):
41
42
43
44
45
SEE Marks for 5 subjects(out of 100):
80
81
82
83
84
Total marks of student Ajay in 5 subjects are:
81.0
82.5
84.0
85.5
87.0
```

```
Name:
Vijay
USN:
1BM19CS002
Semester:
3
CIE Marks for 5 subjects(out of 50):
50
40
50
45
50
SEE Marks for 5 subjects(out of 100):
90
100
95
100
93
Total marks of student Vijay in 5 subjects are:
95.0
90.0
97.5
95.0
96.5
```
