

Lab Program - 6

Create a package CIE which has two classes - Student and Internals. The class Student has members like USN, name, sem. The class Internals derived from Student 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 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.

⇒ Input →

In CIE package, Student.java →
package CIE;
public class Student

```
public String USN;  
public String name;  
public int sem;  
public Student (String USN, String name, int sem) {  
    this.USN = USN;  
    this.name = name;  
    this.sem = sem;  
}
```

In CIE package, Internals.java →
package CIE;
import java.util.Scanner;

```
public class Internals extends Student
```

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

```
    public int[] CIE = new int[5];
```

```
    public Internals(String usn, String name, int sem)
```

```
{  
        Super(usn, name, sem);
```

```
    public void get-data()
```

```
{  
        for (int i=0; i<s; i++)
```

```
{  
            System.out.print("Enter CIE marks of the student  
            in Subject "+(i+1)+" (out of 50): ");
```

```
            CIE[i] = in.nextInt();
```

```
        }
```

```
    }
```

```
}
```

```
in SEE package, External.java →
```

```
package SEE;
```

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

```
public class External extends CIE.Student
```

```
{  
    public External(String usn, String name, int sem)
```

```
{  
        Super(usn, name, sem);
```

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

```
    public int[] see = new int[5];
```

```
    public void get-data()
```

```
{
```



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

```
System.out.print("Enter SEE marks of the student in  
Subject " + (i+1) + "(Out of 100) :");  
see[i] = in.nextInt();
```

```
}
```

```
}
```

In default package, final-marks.java →

```
import CIE.*;
```

```
import SEE.*;
```

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

```
class final-marks
```

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

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

```
    System.out.print("Enter the number of students:");
```

```
    int n = in.nextInt();
```

```
    CIEInternals obj[] = new CIEInternals[5];
```

```
    SEEExternals obj[] = new SEEExternals[5];
```

```
    int total = 0;
```

```
    for (int i = 0; i < n; i++)
```

```
{
```

```
        System.out.println("Enter details of Student  
        " + (i+1) + " :");
```

```
        System.out.print("USN:");
```

```
        String USN = in.next();
```

```
        System.out.print("Name:");
```

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

```

System.out.print("Semester:");
int sem=in.nextInt();
obj[i]=new CIE.Internals(usr,name,sem);
obj[i].get-data();
obj[i]=new SEE.External(usr,name,sem);
obj[i].get-data();
}
for(int i=0; i<n; i++)
{
    System.out.println("\nTotal marks of Student
    + (i+1) + "Out of 100 in:");
    for(int j=0; j<5; j++)
    {
        total=(obj[i].cie[j]+(obj[i].see[j]/2));
        System.out.println("Subject "+(j+1)+" : "+total);
    }
}
}
}
}

```

Output -

Enter the number of Students: 2

Enter details of Student 1:

USN: (04190139)

Name: Shreya

Semester: 3

Enter CIE marks of Student in Subject 1: 48

Enter CIE marks of Student in Subject 2: 50

Enter CIE marks of Student in Subject 3: 48

Enter CIE marks of Student in Subject 4: 39

Enter CIE marks of Student in Subject 5: 36

Enter SEE marks of the student Subject 1: 89

Enter SEE marks of the student Subject 2: 85

Enter SEE marks of the student Subject 3: 97

Enter SEE marks of the student Subject 4: 94

Enter SEE marks of the student Subject 5: 91

Enter details of Student 2:

USN: 10M ISC164

Name: Nidhi

Semester: 4.

Enter CIE marks of the student in Subject 1: 43

Enter CIE marks of the student in Subject 2: 34

Enter CIE marks of the student in Subject 3: 45

Enter CIE marks of the student in Subject 4: 42

Enter CIE marks of the student in Subject 5: 37

Enter SEE marks of the student in Subject 1: 78

Enter SEE marks of the student in Subject 2: 76

Enter SEE marks of the student in Subject 3: 87

Enter SEE marks of the student in Subject 4: 98

Enter SEE marks of the student in Subject 5: 91

Total marks of Student 1 (Out of 100) is:

Subject 1: 86

Subject 2: 72

Subject 3: 42

Subject 4: 88

Subject 5: 62

Total marks of Student 2 (Out of 100)

Subject 1: 42

Subject 2: 88

Subject 3: 92

Subject 4: 87

Subject 5: 83

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