

LAB PROGRAM – 8

Q. Create a package CIE which has two classes- Student and Internals- a subclass of Student. The class Student 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 Internals. 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.

//CIE Student class implement

```
package cie;

import java.util.*;

public class student
{
    Scanner sc=new Scanner(System.in);
    public String usn,name;
    public int sem;
    public void accept()
    {
        System.out.println("Enter USN, Name and Current semester: ");
        usn=sc.nextLine();
        name=sc.nextLine();
        sem=sc.nextInt();
    }
    public void display()
    {
        System.out.println("\nStudent Details");
        System.out.println("Name: "+name);
        System.out.println("USN: "+usn);
        System.out.println("Semester: "+sem);
    }
}
```

```
    }  
}
```

//CIE Internals Class implement

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

//SEE class implement

```
package see;  
import cie.*;  
import java.util.*;  
public class externals extends cie.student  
{  
    Scanner sc=new Scanner(System.in);
```

```

public int seem[]=new int[5];
public void accept()
{
    for(int i=0;i<5;i++)
    {
        System.out.println("Enter SEE marks of subject "+(i+1));
        seem[i]=sc.nextInt();
    }
}
}

```

//Main class implement

```

import cie.*;
import see.*;
import java.util.*;
class packages
{
    public static void main(String args[])
    {
        int i,j,n;
        Scanner sc=new Scanner(System.in);
        int total[]=new int[5];
        System.out.println("Enter number of students: ");
        n=sc.nextInt();
        cie.student s[]=new cie.student[n];
        cie.internals ci[]=new cie.internals[n];
        see.externals se[]=new see.externals[n];
        for(i=0;i<n;i++)
    }
}

```

```

{
    System.out.println("\nEnter student "+(i+1)+" details");
    s[i]=new cie.student();
    s[i].accept();
    ci[i]=new cie.internals();
    ci[i].accept();
    se[i]=new see.externals();
    se[i].accept();
}
for(i=0;i<n;i++)
{
    System.out.println("\nDetails of student "+(i+1));
    s[i].display();
    for(j=0;j<5;j++)
    {
        total[j]=ci[i].ciem[j]+se[i].seem[j];
        System.out.println("Total marks in subject "+(j+1)+" : "+total[j]);
    }
    System.out.println();
}
}
}

```

Lab Program - 8

- Q. Create a package CIE which has two classes - Student and Internals - a subclass of Student. The class Student 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 Internals. 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 declare the final marks of n students in all five courses.

⇒ // CIE ^{Student} class implement.

```
package cie;
import java.util.*;
public class student
{
    Scanner sc = new Scanner(System.in);
    public String usn, name;
    public int sem;
    public void accept()
    {
        System.out.println("Enter USN, Name and Current Semester:");
        usn = sc.nextLine();
        name = sc.nextLine();
    }
}
```

Student

class

marks

semester

Extend

has

five

import

d

```
sem = sc.nextInt();
}
```

```
public void display()
{
```

```
    System.out.println("In Student Details");
```

```
    System.out.println("Name : " + name);
```

```
    System.out.println("USN : " + usn);
```

```
    System.out.println("Semester : " + sem);
}
```

}

```
// CIE Internals Class implement.
```

```
package cie;
```

```
import java.util.*;
```

```
public class Internals extends cie.Student
{
```

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

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

```
    public void accept()
    {
```

```
        int i;
```

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

```
        {
```

```
            System.out.println("Enter CIE marks of subject " + (i+1));
```

```
            ciem[i] = sc.nextInt();
```

```
        }
    }
}
```

}

//SEE class implements.

```
package see;
import cie.*;
import java.util.*;
public class external extends cie.student
{
    Scanner sc = new Scanner(System.in);
    public int seem[] = new int[5];
    public void accept()
    {
        for(int i=0; i<5; i++)
        {
            System.out.println("Enter SEE marks of subject "+(i+1));
            seem[i] = sc.nextInt();
        }
    }
}
```

//Main class implement

```
import cie.*;
import see.*;
import java.util.*;
class packages
{
    public static void main(String args[])
    {
        int i, j, n;
        Scanner sc = new Scanner(System.in);
        int total[] = new int[5];
    }
}
```

```

System.out.print("Enter number of students: ");
n = sc.nextInt();
cie.student s[] = new cie.student[n];
cie.internals ci[] = new cie.internals[n];
see.externals se[] = new see.externals[n];
for (i = 0; i < n; i++)
{
    System.out.println("Enter student " + (i+1) + " details ");
    s[i] = new cie.student();
    s[i] s[i].accept();
    ci[i] = new cie.internals();
    ci[i].accept();
    se[i] = new see.externals();
    se[i].accept();
}
for (i = 0; i < n; i++)
{
    System.out.println("Enter Details of student " + (i+1));
    s[i].display();
    for (j = 0; j < 5; j++)
    {
        total[j] = ci[i].chem[j] + se[i].seem[j];
        System.out.println("Total marks in subject " + (j+1) +
            ": " + total[j]);
    }
    System.out.println();
}
}
}

```


Output

Enter number of students:

2

Enter student 1 details

Enter USN, Name and Current semester:

0210

Kabir

3

Enter CTE marks of subject 1

35

Enter CTE marks of subject 2

36

Enter CTE marks of subject 3

37

Enter CTE marks of subject 4

30

Enter CTE marks of subject 5

38

Enter SEE marks of subject 1

80

Enter SEE marks of subject 2

86

Enter SEE marks of subject 3

88

Enter SEE marks of subject 4

89

Enter SEE marks of subject 5

90

Enter student 2 details

Enter USN, Name and Current semester :

0215

Karan

3

Enter CIE marks of subject 1

29

Enter CIE marks of subject 2

28

Enter CIE marks of subject 3

27

Enter CIE marks of subject 4

30

Enter CIE marks of subject 5

35

Enter SEE marks of subject 1

82

~~Enter~~ SEE marks of subject 2

81

Enter SEE marks of subject 3

91

Enter SEE marks of subject 4

79

Enter SEE marks of subject 5

90

Details of student 1

Student Details

Name : Kabir

USN : 0210

Semester : 3

Total marks in subject 1: 115

Total marks in subject 2: 122

Total marks in subject 3: 125

Total marks in subject 4: 119

Total marks in subject 5: 128

Details of student 2

Student Details

Name: Karen

USN: 0215

Semester: 3

Total marks in subject 1: 111

Total marks in subject 2: 109

Total marks in subject 3: ~~108~~ 118

Total marks in subject 4: 109

Total marks in subject 5: 125

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\STUDENT>cd C:\Users\STUDENT\Desktop\1bm1cs034\packg
C:\Users\STUDENT\Desktop\1bm1cs034\packg>javac cie/*.java
C:\Users\STUDENT\Desktop\1bm1cs034\packg>javac cie/see/*.java
C:\Users\STUDENT\Desktop\1bm1cs034\packg>javac packages.java
C:\Users\STUDENT\Desktop\1bm1cs034\packg>java packages
Enter number of students:
2

Enter student 1 details
Enter USN, Name and Current semester:
0210
Kahir
3
Enter CIE marks of subject 1
35
Enter CIE marks of subject 2
36
Enter CIE marks of subject 3
37
Enter CIE marks of subject 4
30
Enter CIE marks of subject 5
38
Enter SEE marks of subject 1
80
Enter SEE marks of subject 2
86
Enter SEE marks of subject 3
88
Enter SEE marks of subject 4
89
Enter SEE marks of subject 5
90

Enter student 2 details
Enter USN, Name and Current semester:
0215
Karan
3
Enter CIE marks of subject 1
29
Enter CIE marks of subject 2
28
Enter CIE marks of subject 3
27
Enter CIE marks of subject 4
30
Enter CIE marks of subject 5
35
Enter SEE marks of subject 1
```



```
C:\WINDOWS\system32\cmd.exe

90
Enter student 2 details
Enter USN, Name and Current semester:
0215
Karan
3
Enter CIE marks of subject 1
29
Enter CIE marks of subject 2
28
Enter CIE marks of subject 3
27
Enter CIE marks of subject 4
30
Enter CIE marks of subject 5
35
Enter SEE marks of subject 1
82
Enter SEE marks of subject 2
81
Enter SEE marks of subject 3
91
Enter SEE marks of subject 4
79
Enter SEE marks of subject 5
90

Details of student 1

Student Details
Name: Kabir
USN: 0210
Semester: 3
Total marks in subject 1: 115
Total marks in subject 2: 122
Total marks in subject 3: 125
Total marks in subject 4: 119
Total marks in subject 5: 128

Details of student 2

Student Details
Name: Karan
USN: 0215
Semester: 3
Total marks in subject 1: 111
Total marks in subject 2: 109
Total marks in subject 3: 118
Total marks in subject 4: 109
Total marks in subject 5: 125

C:\Users\STUDENT\Desktop\1bm1cs034\packg>
```