

LAB PROGRAM-8

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.

Clue:

All classes except the class with main method need to be public.

Create 4 files -

File 1 -> package CIE with class Student

File 2 -> package CIE with class Internals

File 3 -> package SEE with class External

File 4-> Default package - class with main method

Method 1:

Create two packages - CIE and SEE

Keep all .java files in the root. Compile Student.java, shift class file to CIE folder, then compile Internals.java, shift .class to CIE, Compile External.java and shift class file in SEE folder. Compile and execute the main class.

Use imports appropriately.

```
student.java
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);
    }
}

```

```

Internals.java
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();
        }
    }
}

```

```

Externals.java
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();
        }
    }
}

```

```

Packages.java
import CIE.*;
import SEE.*;
import java.util.*;
class total{
    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]/2);
        System.out.println("Total marks in subject "+(j+1)+" : "+total[j]);
    }
    System.out.println();
}
}
}
}

```

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Date _____
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Student.java

```
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("In Student Details");
        System.out.println("Name : " + name);
        System.out.println("USN : " + usn);
        System.out.println("Semester : " + sem);
    }
}
```

internals.java

```
package CTF;
import java.util.*;
public class internals extends CTF.Student {
    Scanner sc = new Scanner(System.in);
    public int client[] = new int[5];

    public void accept() {
        int i;
        for (i = 0; i < 5; i++) {
            System.out.println("Enter CTF number of student"
                               + (i + 1));
            client[i] = sc.nextInt();
        }
    }
}
```

external.java

```
package SFF;
import CTF.*;
import java.util.*;
public class external extends CTF.Student {
    Scanner sc = new Scanner(System.in);
    public int server[] = new int[5];

    public void accept() {
        int i;
        for (i = 0; i < 5; i++) {
            System.out.println("Enter SFF number of student"
                               + (i + 1));
            server[i] = sc.nextInt();
        }
    }
}
```

Lab04.java

```
import CTF.P;
import SEE.P;
import java.util.*;
```

class hotel {

public static void main(String args[]) {

int i, j, n;

Scanner sc = new Scanner(System.in);

int hotelCG = new int[5];

System.out.println("Enter number of students:");

n = sc.nextInt();

CTF.student s[] = new CTF.student[n];

CTF.student CG[] = new CTF.student[n];

SEE.student se[] = new SEE.student[n];

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

{

System.out.println("Enter student " + (i+1) + " details");

"CG";

se[i] = new SEE.student(i);

s[i] = new CTF.student(i);

CG[i] = new CTF.student(i);

CG[i].accept();

se[i] = new SEE.student(i);

se[i].accept();

}

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

{

System.out.println("In Details of students " + (i+1));

CG[i].display();

for (j = 0; j < 5; j++)

{

hotel[j] = CG[i].CG[j] + se[i].se[j];

System.out.println("Hotel marks in subject " +

(j+1) + " : " + hotel[j]);

}

System.out.println("\n");

}

}

}

Output

Enter number of students: 1

1

Enter student 1 details

11/02/2004

99999999

2

- 66 CIE mark of Subject 1
 - 33 " " Subject 2
 - 31 " " Subject 3
 - 24 " " Subject 4
 - 22 " " Subject 5

38 SEE marks of Subject 1
 90 " " " " 2
 88 " " " " 3
 78 " " " " 4
 79 " " " " 5
 99

Details of student 1

Student Details

Name: gagandeep
 USN: 17marcs064
 Semester: 3

Total marks in subject 1: 123

Total marks in subject 2: 119

Total marks in subject 3: 102

Total marks in subject 4: 106

Total marks in subject 5: 137

ALP
 12/1/2023


```
C:\Users\bmsce\Desktop\1BM21CS064>
C:\Users\bmsce\Desktop\1BM21CS064>javac packages.java

C:\Users\bmsce\Desktop\1BM21CS064>java total
Enter number of students:
1

Enter student 1 details
Enter USN, Name and Current semester:
1bm21cs064
gagandep
3
Enter CIE marks of subject 1
33
Enter CIE marks of subject 2
31
Enter CIE marks of subject 3
24
Enter CIE marks of subject 4
27
Enter CIE marks of subject 5
38
Enter SEE marks of subject 1
90
Enter SEE marks of subject 2
88
Enter SEE marks of subject 3
78
Enter SEE marks of subject 4
79
Enter SEE marks of subject 5
99

Details of student 1

Student Details
Name: gagandep
USN: 1bm21cs064
Semester: 3
Total marks in subject 1: 123
Total marks in subject 2: 119
Total marks in subject 3: 102
Total marks in subject 4: 106
Total marks in subject 5: 137

C:\Users\bmsce\Desktop\1BM21CS064>
```