



Lab Program 6

Solve this program and write the procedure you have used to execute this in your observation. Create a package CIE which has two classes Student and Internals. 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. 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.

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

```
public class Student
{
```

```
    String name, usn;
```

```
    int sem;
```

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

```
    public void accept()
```

```
    {
```

```
        System.out.println("Enter name:");
```

```
        name = xx.nextLine();
```

```
        System.out.println("Enter usn:");
```

```
        usn = xx.next();
```

```
        System.out.println("Enter sem:");
```

```
        sem = xx.nextInt();
```



```
}  
public void display()  
{  
    System.out.println("Name : " + name);  
    System.out.println("Usn : " + usn);  
    System.out.println("Sem : " + sem);  
}  
}
```

```
package CIE;  
import java.util.Scanner;  
public class Internals extends CIE.Student  
{  
    public int ciem[] = new int[5];  
    Scanner xx = new Scanner(System.in);  
    public void accept()  
    {  
        for (int i=0; i<5; i++)  
        {  
            System.out.println("Enter the cie marks  
            of subject" + (i+1) + " out of 50");  
            ciem[i] = xx.nextInt();  
        }  
    }  
}
```




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

public class External extends CIE.Student
{
    public int seem[] = new int[5];
    Scanner xx = new Scanner(System.in);
    public void accept()
    {
        for (int i=0; i<5; i++)
        {
            System.out.println("Enter the see
                                marks of subject "+(i+1)+" out of 100");
            {
                seem[i] = xx.nextInt();
            }
        }
    }
}
```

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

```
class TotalMarks
{
```

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

```
        int i, j, n;
        int total [] = new int[5];
```




```
Scanner xx = new Scanner(System.in);  
System.out.println("Enter the number of student");
```

```
n = xx.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].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("Details 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) + " is " + total[j]);
```

```
}  
}  
}
```




Procedure to execute this program :-

1. Created two folders ~~at~~ ~~name~~ and named one folder as CIE and other as SEE.
2. Created one Super class file as Student.java and two sub class files (Internals.java and Externals.java) and one driver class named TotalMarks.java.
3. First, compiled Student.java and placed ~~it~~ the ~~in CIE folder~~ Student.class file in CIE folder.
4. Second, compiled Internals.java and placed the Internals.class again in CIE folder.
5. Third, compiled Externals.java and placed Externals.class file inside SEE folder.
6. Last, Compiled TotalMarks.java (~~main~~ driver class) and then executed the program.