

```
package CIE
import java.util.Scanner;
public class Student
{
```

```
    protected String usn = new String();
```

```
    protected String name = new String();
```

```
    protected int sem;
```

```
    public void inputStudentDetails () {
```

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

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

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

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

```
        name = s.next();
```

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

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

```
    }
```

```
    public void displayStudentDetails () {
```

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

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

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

```
    }
```

```
}
```

//internals

```
package CIE;
```

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

```
public class internals extends Student
```

```
{
```

```
    protected int marks[] = new int[5];
```

```
    public void inputCIEmarks ()
```

```
{
```

```

Scanner s = new Scanner(System.in);
System.out.println("Enter the internal marks for " + name);
for (int i = 0; i < 5; i++)
{
    System.out.println("Enter the " + (i + 1) + " internal marks");
    marks[i] = s.nextInt();
}
}
}

```

// External

package SEE;

import CTF.internals;

import java.util.Scanner;

public class External extends internals

{

protected int marks[];

protected int finalMarks[];

public External()

{

marks = new int[5];

finalMarks = new int[5];

}

public void inputSEEmarks()

{

Scanner s = new Scanner(System.in);

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

{

System.out.println("subject " + (i + 1) + " marks: ");

marks[i] = s.nextInt();

}

}



```
public void calculateFinalMarks()
{
```

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

```
        finalMarks[i] = marks[i]/2 + super.marks[i];
    }

```

```
public void displayFinalMarks()
{
```

```
    displayStudentDetails();
```

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

```
        System.out.println("subject " + (i+1) + ": " + finalMarks[i]);
    }

```

```
}

```

```
import SEE.Externals;
```

```
class Main
```

```
{
```

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

```
        int n=2;
```

```
        Externals finalMarks[] = new Externals[n];
```

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

```
            finalMarks[i] = new Externals();
```

```
            finalMarks[i].inputStudentDetails();
```

```
            System.out.println("enter CIE marks: ");
```

```
            finalMarks[i].inputCIEmarks();
```

```
            System.out.println("enter SEE marks: ");
```

```
            finalMarks[i].inputSEEmarks();
        }

```

```
        System.out.println("displaying data: \n");
    }

```

```

        for(int i = 0; i < n; i++)
        {
            finalMarks[i].calculateFinalMarks();
            finalMarks[i].displayFinalMarks();
        }
    }
}

```

Output:

Enter USN: 777 Enter name: dhoni Enter sem: 2

Enter CIE marks:

Enter the internal marks for dhoni

enter the 1 internal marks ~~46~~ 46

enter the 2 internal marks 43

enter the 3 internal marks 49

enter the 4 internal marks 42

enter the 5 internal marks 43

enter SEE marks:

subject 1 marks: 87

subject 2 marks: 88

subject 3 marks: 76

subject 4 marks: 98

subject 5 marks: 99

Enter USN: 18 Enter name: Virat Enter sem: 3

Enter CIE marks

enter the internal marks for virat

enter the 1 internal marks 87

enter the 2 internal marks 78

enter the 3 internal marks 98

enter the 4 internal marks 69

enter the 5 internal marks 87



enter SEE marks

subject 1 marks : 97

subject 2 marks : 88

subject 3 marks : 68

subject 4 marks : 78

subject 5 marks : 97

displaying data:

USN : 777 Name: dhoni Sem : 2

subject 1 : 90

subject 2 : 92

subject 3 : 94

subject 4 : 97

subject 5 : 100

USN : 18 Name: Vireat Sem : 3

subject 1 : 94

subject 2 : 95

subject 3 : 96

subject 4 : 96

subject 5 : 100

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