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Composite Design Pattern

```java
import java.util.ArrayList;

import java.util.List;


interface Component{

    void ShowRating();

    float getRating();

}


class Leaf implements Component{

    int Rating;

    String Name;

    Leaf(String Name , int Rating){

        this.Name = Name;

        this.Rating = Rating;

    }

    public void ShowRating(){

        System.out.println("Component : " +Name+"Rating :"+Rating);

    }

    public float getRating(){

        return Rating;

    }

}

class Composite implements Component{

    String Name;

    List<Component> Components = new ArrayList<>();

    public Composite(String Name){
```

```java
        super();
        this.Name=Name;
    }
    public void addComponent(Component com){
        Components.add(com);
    }
    public float getRating(){
        float p=0,x=0;
        for(Component c : Components){
            p+=c.getRating();
            x++;
        }
        p=p/x;
        return p;
    }


    public void ShowRating(){
        System.out.println("Composite ->"+Name+" :rating "+getRating());
        System.out.println("Leaf of "+Name);
        for(Component c : Components){
            c.ShowRating();
        }

    }

}
public class Main{
    public static void main(String[] args) {
        Component fq = new Leaf("Food Quality ", 8);
        Component fq1 = new Leaf("Food Qantity ",7);
```

```java
        Component pr = new Leaf("Price ",6);

        Component vr = new Leaf("Vaitor ",7);

        Component sa = new Leaf("Seating Arrangements ",10);

        Component mr = new Leaf("Management ",8);


        Composite f = new Composite("Food ");

        Composite s = new Composite("Service ");

        Composite r = new Composite("Review ");



        f.addComponent(fq);

        f.addComponent(fq1);

        s.addComponent(vr);

        s.addComponent(sa);

        s.addComponent(mr);


        r.addComponent(pr);

        r.addComponent(s);

        r.addComponent(f);



        r.ShowRating();

    }
}
```

Output:

```
> cd "d:\DP\" ; if ($?) { javac Main.java } ; if ($?) { java Main }
Composite ->Review  :rating 7.277777
Leaf of Review
Component : Price Rating :6
Composite ->Service  :rating 8.333333
Leaf of Service
Component : Vaitor Rating :7
Component : Seating Arrangements Rating :10
Component : Management Rating :8
Composite ->Food  :rating 7.5
Leaf of Food
Component : Food Quality Rating :8
Component : Food Qantity Rating :7
PS D:\DP>
```