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## Decorator Design Pattern

```
// Component interface
interface Food {
    String getDescription();
    double getCost();
}

// Concrete component
class Dish implements Food {
    public String getDescription() {
        return "Dish";
    }

    public double getCost() {
        return 1.0;
    }
}

// Decorator abstract class
abstract class FoodDecorator implements Food {
    protected Food food;

    public FoodDecorator(Food food) {
        this.food = food;
    }

    public String getDescription() {
        return food.getDescription();
    }

    public double getCost() {
        return food.getCost();
    }
}

// Concrete decorator
class Desert extends FoodDecorator {
    public Desert(Food food) {
        super(food);
    }

    public String getDescription() {
        return food.getDescription() + ", Desert";
    }
}
```

```

        public double getCost() {
            return food.getCost() + 1.0;
        }
    }

// Client code
public class DecoratorDP {
    public static void main(String[] args) {
        Food Dish = new Dish();
        System.out.println("Menu item: " + Dish.getDescription() + ", Cost: "
+ Dish.getCost());

        Food DishWithDesert = new Desert(new Dish());
        System.out.println("Menu item: " + DishWithDesert.getDescription() +
", Cost: " + DishWithDesert.getCost());
    }
}

```

Output:

```

PROBLEMS 19 OUTPUT DEBUG CONSOLE TERMINAL

PS D:\DP> cd "d:\DP\" ; if ($?) { javac DecoratorDP.java } ; if ($?) { java DecoratorDP }
Menu item: Dish, Cost: 1.0
Menu item: Dish, Desert, Cost: 2.0
PS D:\DP>

```