

// Component Interface

```
interface Coffee {  
  
    String getDescription();  
  
    double cost();  
  
}
```

// Concrete Component

```
class BasicCoffee implements Coffee {  
  
    @Override  
  
    public String getDescription() {  
  
        return "Basic Coffee";  
  
    }  
  

```

```
    @Override  
  
    public double cost() {  
  
        return 5.0;  
  
    }  
  
}
```

// Decorator Abstract Class

```
abstract class CoffeeDecorator implements Coffee {  
  
    protected Coffee decoratedCoffee;  
  
  
    public CoffeeDecorator(Coffee decoratedCoffee) {  
  
        this.decoratedCoffee = decoratedCoffee;  
  
    }  
  

```

```
    public String getDescription() {  
        return decoratedCoffee.getDescription();  
    }  
  
    public double cost() {  
        return decoratedCoffee.cost();  
    }  
}  
  
// Concrete Decorators  
class MilkDecorator extends CoffeeDecorator {  
    public MilkDecorator(Coffee decoratedCoffee) {  
        super(decoratedCoffee);  
    }  
  
    @Override  
    public String getDescription() {  
        return decoratedCoffee.getDescription() + ", Milk";  
    }  
  
    @Override  
    public double cost() {  
        return decoratedCoffee.cost() + 1.0;  
    }  
}  
  
class SugarDecorator extends CoffeeDecorator {
```

```
public SugarDecorator(Coffee decoratedCoffee) {

    super(decoratedCoffee);

}

@Override

public String getDescription() {

    return decoratedCoffee.getDescription() + ", Sugar";

}

@Override

public double cost() {

    return decoratedCoffee.cost() + 0.5;

}

}

// Client code

public class DecoratorPatternDemo {

    public static void main(String[] args) {

        Coffee coffee = new BasicCoffee();

        System.out.println(coffee.getDescription() + " $" + coffee.cost());

        Coffee milkCoffee = new MilkDecorator(new BasicCoffee());

        System.out.println(milkCoffee.getDescription() + " $" + milkCoffee.cost());

        Coffee sugarMilkCoffee = new SugarDecorator(new MilkDecorator(new BasicCoffee()));

        System.out.println(sugarMilkCoffee.getDescription() + " $" + sugarMilkCoffee.cost());

    }

}
```