

Mocking

Test Driven Development

Outside-In TDD

Object Oriented Design

**Emmanuel Valverde**[See author's bio and posts](#)

What do we want to build?

We are building a shopping cart for an online grocery shop. The idea of this kata is to build the product in an iterative way.

Technical requirements

- The price per unit is calculated based on the product cost and the percentage of revenue that the company wants for that product.
- The price has to be rounded up; so if a price per unit calculated is 1.7825, then the expected price per unit for that product is 1.79
- The final price of the product is then calculated as the **price per unit with the VAT rounded up**.
- Products are not allowed to have the same name.

List of products

Name	Cost	% Revenue	Price per unit	Tax	Final price
Iceberg 🥬	1.55 €	15 %	1,79 €	Normal (21%)	2.17 €
Tomato 🍅	0.52 €	15 %	0.60 €	Normal (21%)	0.73 €

Bread 🍞	0.71 €	12 %	0.80 €	First necessity (10%)	0.88 €
Corn 🌽	1.21 €	12 %	1.36 €	First necessity (10%)	1.50 €

List of discounts

Discounts code	Amount
PROMO_5	5%
PROMO_10	10%

Use cases

List the shopping cart

As customer

I want to see my shipping cart

Empty cart

Product name	Price with VAT	Quantity
-----	-----	-----

Promotion:		

Total productos: 0		
Total price: 0.00 €		

As customer

I want to add Iceberg 🥬 to my shipping cart

I want to add Tomatoe 🍅 to my shipping cart

I want to add Chicken 🍗 to my shipping cart

I want to add Bread 🍞 to my shipping cart

I want to add Corn 🌽 to my shipping cart

I want to see my shipping cart

Product name	Price with VAT	Quantity
Iceberg 🥬	2.17 €	1
Tomatoe 🍅	0.73 €	1
Chicken 🍗	1.83 €	1
Bread 🍞	0.88 €	1
Corn 🌽	1.50 €	1
Promotion:		
Total productos: 5		
Total price: 7.11 €		

Add product to shopping cart

As customer

I want to add Iceberg 🥬 to my shipping cart

I want to add Iceberg 🥬 to my shipping cart

I want to add Iceberg 🥬 to my shipping cart

I want to add Tomatoe 🍅 to my shipping cart

I want to add Chicken 🍗 to my shipping cart

I want to add Bread 🍞 to my shipping cart

I want to add Bread 🍞 to my shipping cart

I want to add Corn 🌽 to my shipping cart

I want to see my shipping cart

Iceberg 🥬	2.17 €	3	
Tomatoe 🍅	0.73 €	1	
Chicken 🍗	1.83 €	1	
Bread 🍞	0.88 €	2	
Corn 🌽	1.50 €	1	

Promotion:			

Total productos: 8			
Total price: 12.33 €			

Apply discount to the shopping cart

As customer

I want to add Iceberg 🥬 to my shipping cart

I want to add Iceberg 🥬 to my shipping cart

I want to add Iceberg 🥬 to my shipping cart

I want to add Tomatoe 🍅 to my shipping cart

I want to add Chicken 🍗 to my shipping cart

I want to add Bread 🍞 to my shipping cart

I want to add Bread 🍞 to my shipping cart

I want to add Corn 🌽 to my shipping cart

I want to apply my coupon code PROMO_5

I want to see my shipping cart

Product name	Price with VAT	Quantity	
-----	-----	-----	
Iceberg 🥬	2.17 €	3	
Tomatoe 🍅	0.73 €	1	
Chicken 🍗	1.83 €	1	
Bread 🍞	0.88 €	2	
Corn 🌽	1.50 €	1	

Promotion: 5% off with code PROMO_5			

Possible API for the ShoppingCart

You could change this API this is only for example purposes.

Approach 1 passing objects as arguments could be DTO

```
public interface ShoppingCart {  
    public void addItem(Product product);  
    public void deletItem(Product product);  
    public void applyDiscount(Discount discount)  
    public void printShoppingCart();  
}
```

Approach 2 passing primitives as arguments

```
public interface ShoppingCart {  
    public void addItem(String productName);  
    public void deletItem(String productName);  
    public void applyDiscount(Double discount)  
    public void printShoppingCart();  
}
```

Approach 3 passing primitives as arguments and returning a DTO

```
public interface ShoppingCart {  
    public void addItem(String productName);  
    public void deletItem(String productName);  
    public void applyDiscount(Double discount)  
    public ShoppingCartList getShoppingCart();  
}
```

Disclaimer

The graphic examples that you see on the kata are not there to be implemented if you don't want to, are there as a reference of how the

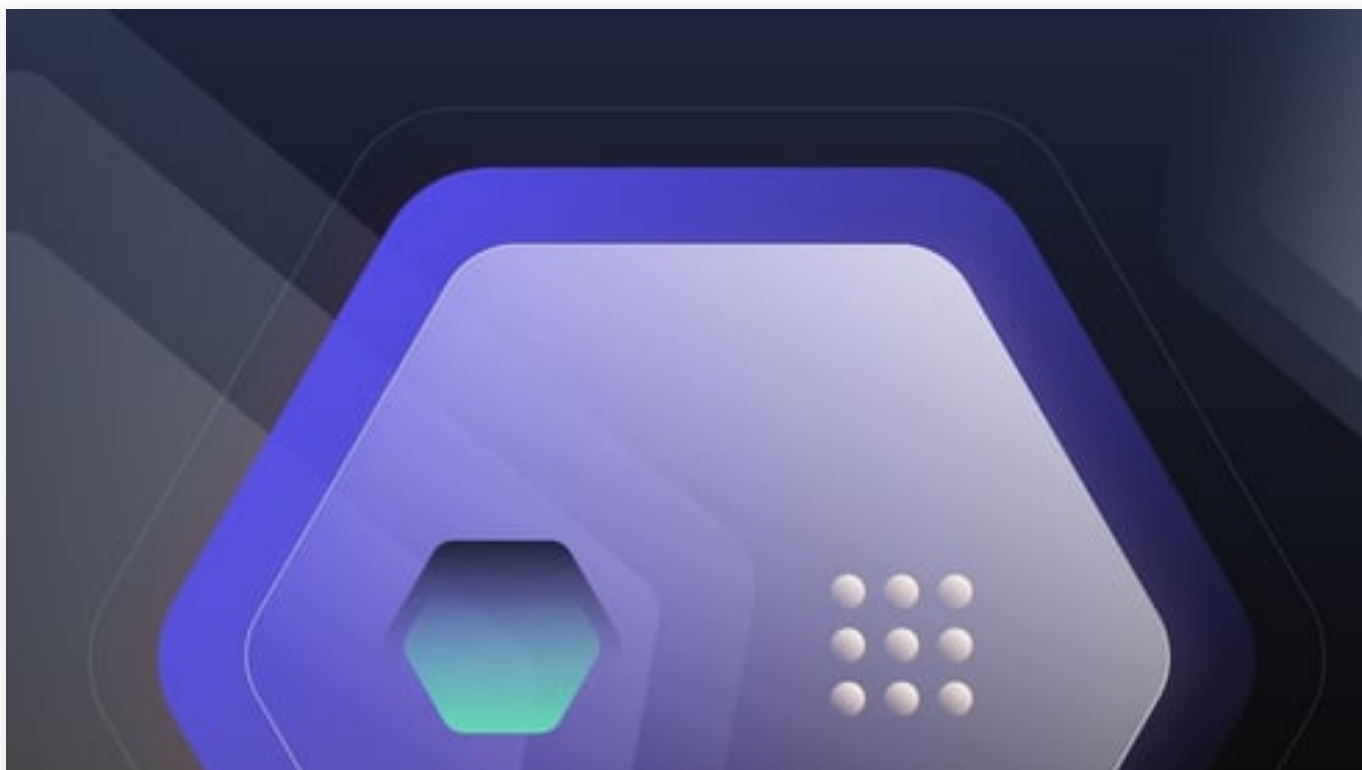


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ATM machine

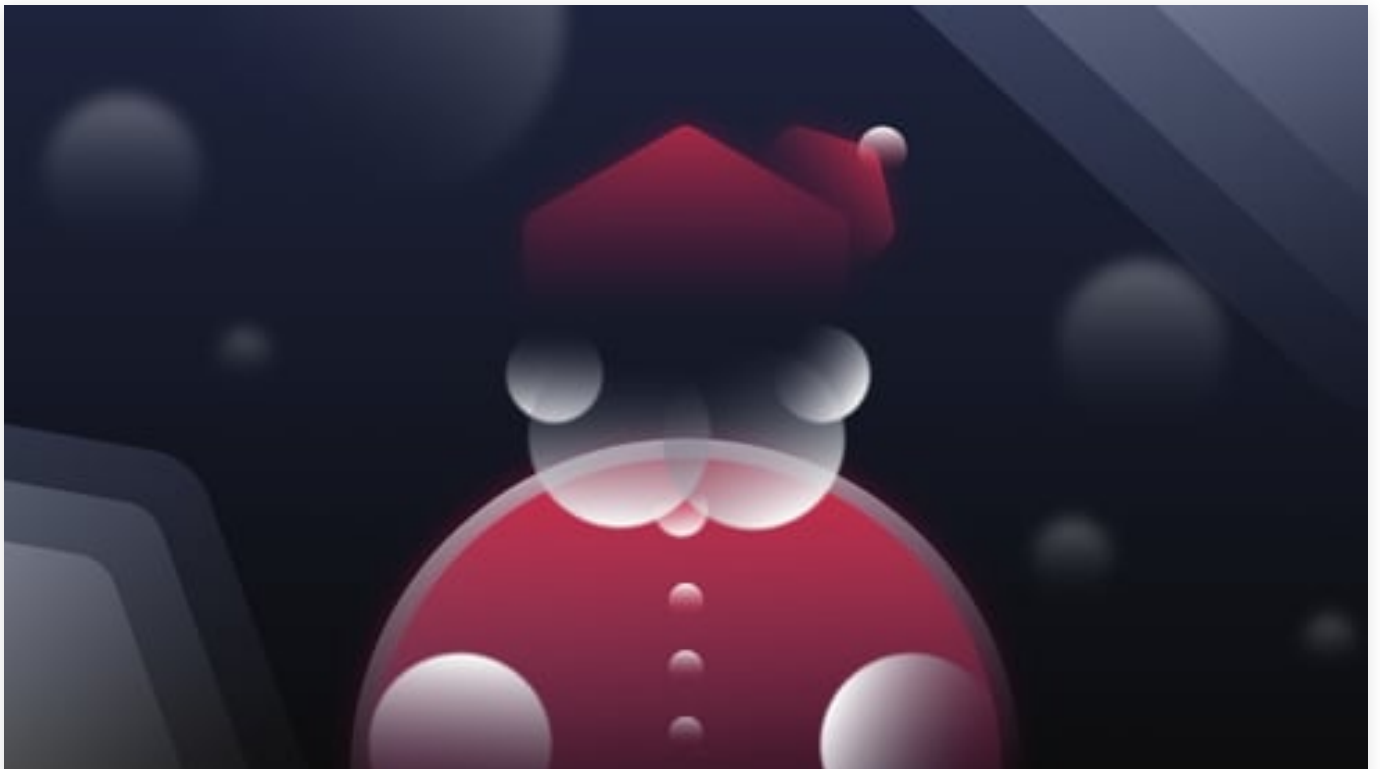
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Object Oriented Design

Beginner



By Mattsi Jansky · Posted Dec 17, 2022 9:30:00 AM

Santa's Allotment

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