Homework 2
OOP & Software Architecture
Due to 25th of September

You are asked to design and implement a class model for the Shop. Shop sells goods of the following category:
- **Clothes**
- **Food**
- **Pharmacy**

For each category of the products there should be a separate Stock;

Shop should have the following fields:
- **Name**
- **Location**
- **List of Consumers**
- **List of Customers**
- **InventoryStocks**
- **List of Orders**

Stock has the following fields:
1. **Category**
2. **List of pairs: Inventory and the amount**

And the following behavior:
- **Add Consumer**
- **Add Customer**
- **Add inventory to the Stock**
- **Remove Inventory from the Stock**

Consumer and Customer have the following common fields:
- **Name (cannot be empty)**
- **Age (cannot be < 0 and >190)**
- **Gender**

Consumers can create an Order.

Order should have the following fields:
- **Date**
- **Inventory**
- **Consumer**

- **Customer**
- **Price**
- **Amount**

Order cannot be created if there is no enough inventory in the stock, or if inventory hit its expiration date (Food, Pharmacy)

Inventory:
- **Name**
- **CreateDate**
- **Size (clothes)**
- **ExpirationDate (Food, Pharmacy)**
- **Price**

1. **Please provide a testing method that creates a Shop with Inventories, Customers, Consumers and Inventories.**
2. **Implement class models using OOP concepts and contracts. Provide explanation of methods and classes in the comments.**
3. **Implement only what is asked. No additional features are required.**
4. **Ensure your code is compiling. Works with compile time errors will be graded as 0.**
5. **Submit your work to Moodle as a zip archive.**