UY1 – *Dep info*
03 *January* 2025

Practice session **2024-2025**

INF 231: Object Oriented Programming

Examinator: Dr. Azanzi Jiomekong

Subjet:

Managing a supermarket's stock can be challenging, with numerous products, suppliers, and inventory processes to oversee. As a developer for Dovv Supermarket in Biyem-Assi, Yaounde you've been tasked with creating a stock management system. This system will organize products by categories, manage supplier and customer data, track product inventory, and streamline the ordering and restocking process.

Students Informations

Name*:* Kenwou Barthez
Matricule*:* 22T2959

UY1 – *Dep info*
03 *January* 2025

Exercise 1: Define Classes and Attributes

Here I Identify and define the main classes necessary for the stock management system. For each class, I'll list its attributes and methods

1 - **Supermaket**
- **Attributes:** id, name, location, addressInfo, suppliers, products, customers, orders.
- **Methods:** displayInfo().

2 - **Supplier**
- **Attributes:** id, name, contactInfo, gender, productsSupplied
- **Methods:** supplyProduct(), addSupplier(), getSupplierInfos(), deleteSupplier().

3 - **Customer**
- **Attributes:** id, name, contactInfo, gender, orderHistory
- **Methods:** placeOrder(), addCustomer(), getCustomerInfos(), deleteCustomer().
-

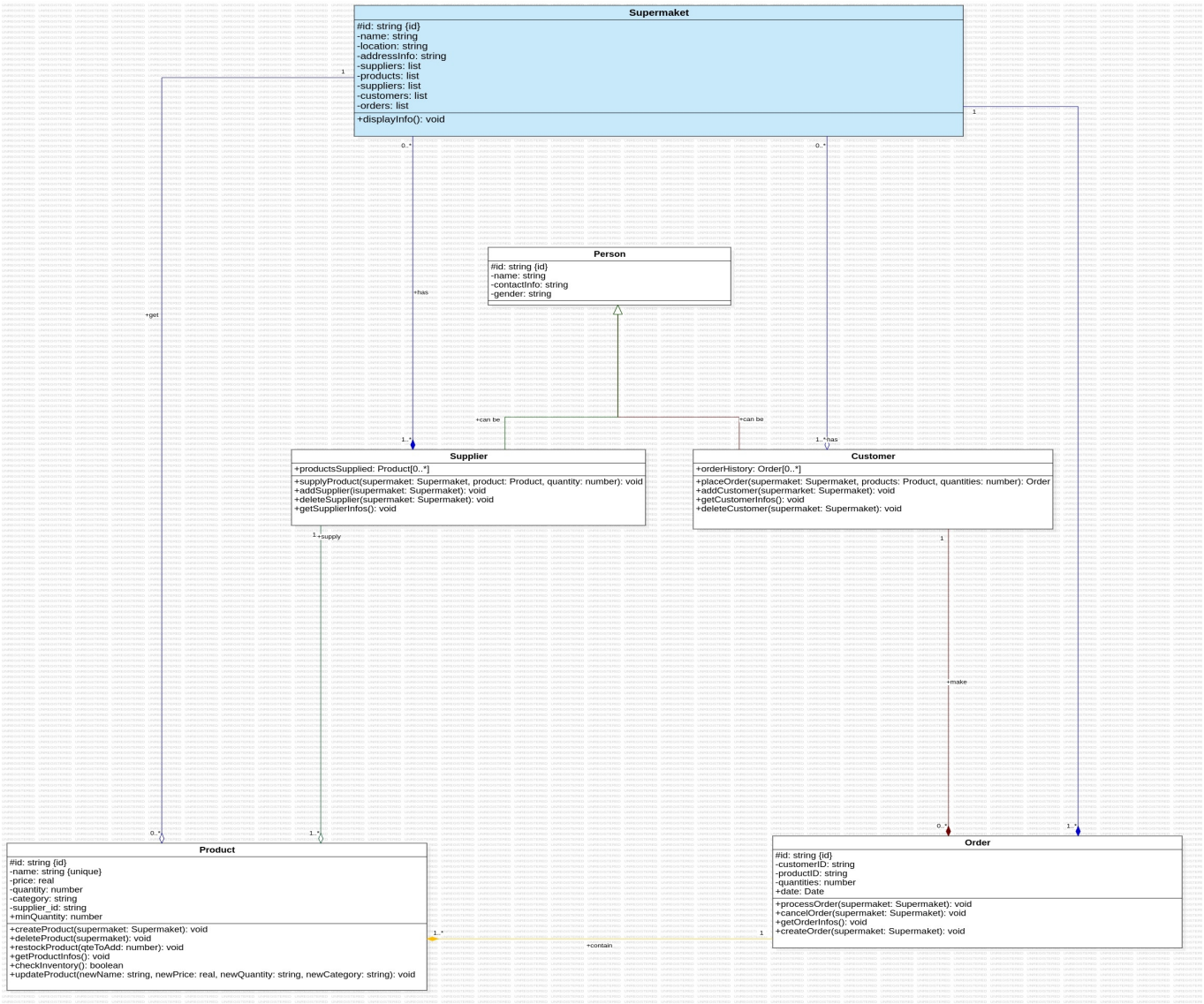
4 - **Product**
- **Attributes:** id, name, price, quantity, category, supplier_id,
- **Methods:** createProduct(), restockProduct(), getProductInfos(), updateProduct(), deleteProduct().

5 - **Order**
- **Attributes:** id, customer, products, quantities, totalPrice
- **Methods:** processOrder(), cancelOrder(), getOrder(), createOrder().

***Exercise 2*: Create a UML Diagram**

Here I create a UML class diagram based on the classes and relationships defined in Exercise 1 above; The diagram clearly show how the Product, Supplier, Customer, and Order classes relate to each other; Its Include inheritance, associations, and multiplicities; its also include key attributes and methods for each class.

The Diagramm was drawed with **starUML app**, and this picture show the result.
For mor information you can upload the model using the file "*UML-diagram-TP.mdj*" in a root folder.



Exercise 3: Create a UML Diagram

JavaScript Version :
For this version we have to begin by make sure that a node is install (execute ```node –version``` my result: “v22.12.0”), and after that, make sure that packet who automatically generate ID is present, if is not present, we’ll install it using the command ```npm install``` or ```npm install uuid```.

To execute and test my files, me have to run the command:
```node path_to_file/name_of_file.ext```

For example to run index file, the command is:
```node index.js```
For the Supermarket file, the command is:
```node models/Supermaket.js```
(NB: This command supposing that y’re on the root of the project).

Python Version :
For this version compliling file is more simple...Just make sure that y’ve python3 install on your computer on typing ```python3 –version``` for my own the result is ```Python 3.12.3```.
to execute some file, just type: ```python3 path_to_file/name_of_file.ext```
Just make sure that y’re on root dir.

C++Version :
Here is also relaively simple…
once in a root directory,
-switched to build folder by executing : ```cd build```.
-Genereate the build file: ```cmake ..```
-Compile the projet: ```make```
- Execute the projet: ```./supermarket_app```

It’s also important to make sure that y’ve install this in local to avoid mistakes:```sudo apt-get update
sudo apt-get install uuid-dev```
```

Java Version :

Here is also simple to run the file, just run the command:

Result:

For the test that I made, the result we be:
```

Supermarket Infos:
----------

ID: fdb66c5e-a314-44c1-8100-7b43d31dee15
Name: DOVV
Location: Odza B10
Address Info: dovv-suppermaket@store.cm
Suppliers: 0
Products: 0
Customers: 0
Orders: 0

20 units added. New stock: 120
Product is on stock !

Supplier Infos:
----------

ID: 7b022177-22db-4f65-bc2a-7d302106e075
Name: Supplier A
Contact Info: supplierA@example.com
Sexe: Male
Products Supplied: 0

Supplier "Supplier A" added to supermarket "DOVV".

Customer Infos:
----------

ID: 51dec104-aa5d-47f9-898e-84c830e5b593
Name: Customer B
Contact Info: customer@example.com
Sexe: Female
Order History: 0
```

Customer "Customer B" added to supermarket "DOVV".

Order Infos:

ID: bae302ed-789c-4584-b454-abe8e9368963
Customer ID: [CustomerID123]
Product ID: [undefined]
Quantity: 10

Product successful added to the supermaket "DOVV" !
Order have been placed succefully !
This order has just successfully been deleted!

End of my tests !!! 😄

```

We can add more actions, test, more methods or manage of differents maners…

**Conclusion**
Thanks for reading, thank for this work.
```