Object-Oriented Programming
Tutorial 4

In this tutorial, we consider a stock of several products. Each product has a name and a reference (called ID). The stock stores a given amount of each product.

Question 0.1: Propose a class diagram to deal with the stock.

Exercise 1: Programming with an array of products

In this exercise, we store the products using an array.

Question 1.1: Program the classes of your class diagram. You have to ensure that it is possible:
- to create new products,
- to remove unused products,
- to add n times a given product to the stock,
- to remove n times a given product to the stock.

Question 1.2: Add exceptions to your program.

Question 1.3: How to deal with the case where the number of different products is very large?

Exercise 2: Programming with a list

In this exercise, we store the products using a list.

Question 2.1: Program the classes of your diagram (with the same features as in question 1.1).

Exercise 3: Programming with a hashtable

In this exercise, we store the products using a hashtable.

Question 3.1: Program the classes of your diagram (with the same features as in question 1.1).