

Lab2

- **Deadline: 23:59, Saturday, April 23, 2016**
- Upload via *ftp* only!

In this lab, you are required to simulate a FamilyMart to get new commodities, sell them and drop the expired one(s). When completing your code, you will get a better understanding of constructor, destructor, overloading and default argument.

Release

You should code the lab all yourself. We just provide you two input files:

- `purchase.txt`
- `sell.txt`

Logics

To simulate the FamilyMart, you should maintain at least two class, one is the store and the other is commodity.

Commodity

A commodity contains four attributes:

- Name
- Price
- production date
- shelf life

A commodity name can distinguish two different kinds of commodity, that is, if I have two bottles of milk, once I invoke `get("milk")` function, I cannot know which is milk1 and the other is milk2, but I do know I have two bottles of milk.

Each kind of commodity has the same price and shelf life.

Every commodity may have a different production date with others.

Note: In your commodity class, you should write a destructor with an output **"[name] is dropped."**

FamilyMart

1. Your code should manage a FamilyMart. The FamilyMart open on 2016/4/23, and you will get a list of commodities you should product (Already in the file **"purchase.txt"**). The list shows the product date, meaning you will product it on that day. Just feel free to new the commodity when you product it (Assume there is no factory providing something for you, you should do everything yourself).

2. When run your store, you can sell your commodities. We will give you a list of sells, "**sell.txt**", which is required by the customer every day. Note that, the customer may ask a commodity that has been sold out.

Your FamilyMart may sell some commodities with discount. You have already learned the overload and default argument, you can use either of them to implement the function.

Question1: Please describe some differences between overload and default argument.

Question2: How do you implement your discount function, overload, default argument or other? Why?

3. After a day's running, you should check your commodities whether it is expired. If a commodity is expired, just drop it.
4. The FamilyMart will close when you sell out and drop all products. And when you close the FamilyMart you should print the money you've earned.

Handin

Package all files together with an *answer.txt* including all answers of questions into **<studentid>.zip**, and upload it to *ftp*.

Note: Be sure all your files are encoding in **UTF-8**, otherwise we may get messy code.