OOP : LAB 9-10 (*Final TP - 2012*)

Part A : CLASS ARTICLE

Write a class Article that contains the following attributes:

- **private String brand**
- **private float Code private Datetime ExpirationDate**
- **Private Foodtype Type**

Remarque :
*Le **Foodtype** is an enumerate type. It contains: (healthy, unhealthy, normal).*

Part B : CLASSES FOOD ET DRINK

There are two kinds of Article: **DRINK** and **FOOD**.

- **FOOD** contains an attribute: **weight** (g).
- **DRINK** contains an attribute: **volume** (L).

1. Create the classes. (attributes, properties displays objec*t*, constructors)
2. Write the method ***Display***() which displays the information of *.*
3. *Redefine the method ToString();*
4. Overload the operators **==** and **!=** in the class **Article** : knowing that A1==A2 if their code and their brand are the same**.**

PART C : CLASS SUPERMARKET

1. Create the class **Supermarket** which inherits from ArrayList and contains Articles
2. Create the following methods :
   - **ADDArticle(Article a)** : it adds the article a in the object supermarket.
   - **DisplayArticleBrand (string b):** display all articles which belong to the brand b in the object supermarket.
   - **this[int i] :** Redefine the indexer (it returns the article i from the object supermarket)
   - **DisplayFood**(***Foodtype t)*** which displays food that have the type t.
3. Overload the operator + : it allows to add an Article in the object supermarket. Example : S=S+ F1; S is an object of **Supermarket** and F1 is an object of **FOOD**.

PART D : APPLICATION

1. Create two instances of the class FOOD F1 and F2 and two instances of the class DRINK D1 and D2.
2. Write an independent function Display(**Article A**) which displays the information's of the article **A** given as parameter.
3. Create an object S of the class Supermarket. Add F1,F2,D1 and D2 to the supermarket S.
4. Ask for a brand and display all articles which belong to this brand.
5. Display the healthy foods in S.
6. Display **F1** and **D1** by using the function Display defined in 2.