CSC 2110 Computer Science I
Programming Project / Winter 2019
Due Date: 04/11/2019 11:00 PM
80 points + 10 points extra credit = 90 points

Submission Format:

1. The project should be submitted using Canvas.
2. Include all files in one folder and compress your folder.
3. Includes all the following files:
    A. The **code** and the files necessary to compile and test the project.
    B. **Test Plan**: Showing how you tested the program (show the steps of your testing procedure along with screen shots). **(5 points)**
    C. A **short description** of the design plan and general comments. **(5 points)**

Final Project:

Write a C++ program to manage a **Point of Sale System for a Supermarket**. The main user is an employee at the **Supermarket**.

Build Specifications (36 points)

1. The system should **load a catalog** of all items that the store sells.

2. A user can **search the inventory**: The user of the system can search the inventory by using the name of the item or by category.

3. A user can sell items once they are found. Or can sell items by navigating through a tree of categories.

4. A user can **return** an item that has been bought into the inventory.

5. **Add** new items to the inventory.

6. The user can update existing items.

The program must have the following properties <u>(20 points)</u>:

- You should do error handling (Ex: An employee cannot sell an item that is sold out)
- You should use inheritance, and polymorphism. Example: You can design a generic item class, then design derived classes for different kinds of items. The item class may have the following data members: *Name* (string), *Category* (string), *price* (floating number), quantity (integer number). An example of an inherited class can be Fruits, where you can add *Best By* (date time).

Also, **design a menu** (should still appear until the exit option is chosen) in the Main program that has the following options implemented to test your classes' functionality **<u>(14 points)</u>:**

1. Search Inventory
2. Sell items.
3. Return items.
4. Add new items to inventory
5. Update items.
6. Exit

<u>Extra Credit: (10 points)</u>

- Show a list of items that will expire within a certain time. For example, show all the items that will expire in 10 days.