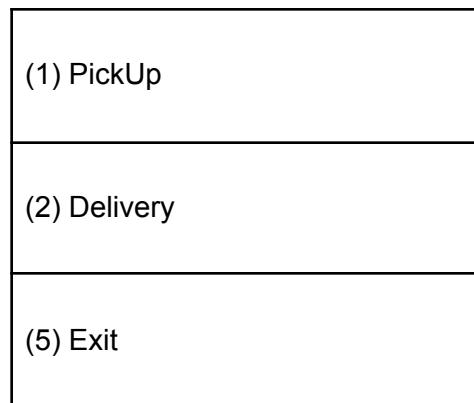


This project will create a console menu based application that will allow us to do online grocery shopping available for either pickup or delivery.

There will be 5 menus that allow the user to choose different items to purchase and checkout listed below.

Main Menu:



Fresh Produce:

(1) Gala apples\$3.99/lb
(2) Banana\$0.48/lb
(3) Grapes\$2.99/lb
(4) ReturntoMainMenu

Meat and Seafood:

(1) Whole chicken%6.99/lb
(2) Ground beef\$4.99/lb
(3) Salmon\$9.99/lb
(4) ReturntoMainMenu

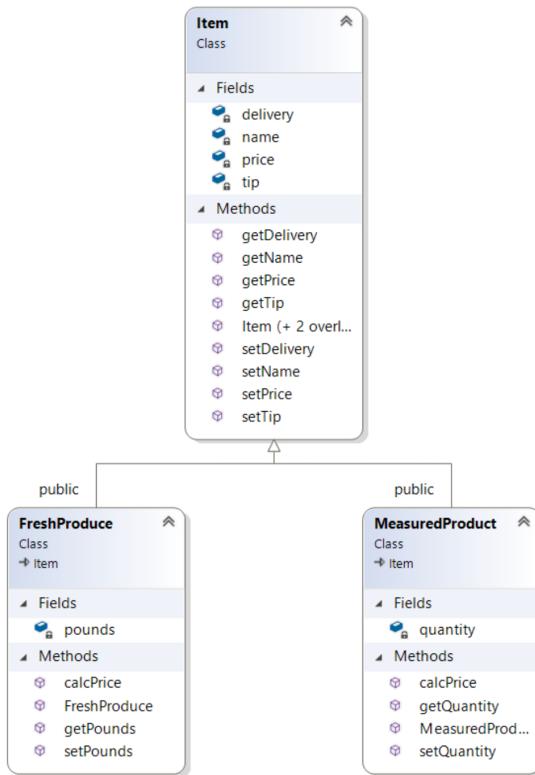
Frozen Foods:

(1) Waffles\$6.99
(2) Pizza\$4.99
(3) Popsicle\$2.99
(4) ReturntoMainMenu

The first menu will allow the user to either pick up or deliver. The delivery option has a \$20 fee and \$5 tip.

Once either pickup or delivery is selected the application will transition to the Main Menu, which is listed as the second menu above. The user will have a choice of selecting three menus. These menus are Fresh Produce, Meat and Seafood, Frozen Food, and once the user has all of the items there is the menu option of Check Out. All of the menus are listed above in order.

The application will utilize inheritance. There will be two types of grocery items the application will utilize, **FreshProduce**, which calculates price based on weight in pounds, and **MeasuredProduct**, which calculates price based on quantity of product. These two types will be child classes of a class **Items** that holds the name and price of the item, as well as the static data fields delivery and tip.



Item is the super class that holds the fields, **there will be no objects instantiated from this class**

- price - that holds the final calculated price
- name - this is either a string that will hold the name of the item such as “apples”, “pizza”
- ...
- **delivery -- is a static field** that holds the amount due to delivery. It will be 0 unless delivery is selected. It will be the default delivery fee if delivery is selected.
- **tip - is a static field** that holds the tip due along with delivery. It will be 0 unless delivery is selected. It will be the default delivery fee if delivery is selected.

FreshProduct is a child of Item and contains

- field pounds that holds the number of pounds a user has selected of an item
- function calculatePrice that will calculate the total price of the item based on the product of the per pound cost times the number of pounds
- functions getPounds and setPounds to get and set the field pounds
- the constructors for FreshProduct will pass to the super class the values for the name and the price.

MeasuredProduct is a child of Item and contains

- field quantity that holds the quantity of the items the user has selected
- function calculatePrice that will calculate the total price of the item based on product of
 - the total quantity of items and the item cost
- function getQuantity and setQuantity to get and set the field of quantity
- the constructors for FreshProduct that will pass to the super class the values for the name and the price.

The object that the user creates by selecting the items from the online grocery store will be stored in a **vector array of Item object pointers**. I have called mine cart below, It can be changed if desired.

```
vector<Item*> cart;
```

Once the user has selected to checkout the vector will be traversed and each selected item's name and price will be printed out to the console.

Things to Note:

- There should be no Item object created, all objects will be FreshProduce or MeasuredProduct
- The vector is an array of Item pointers not a vector array of FreshProduce or MeasuredProduct
- Remember that child classes are also parent classes
 - Example: If I have a parent class tree and a child class fern a fern is also a tree.
- The vector array of pointers can be declared as a global variable in the main.cpp
- All field data is private
- Private fields in parent classes cannot be access directly by child classes, but can be accessed indirectly
- Use .h files for class definition

- Use .ccp files for class implementation

Screenshots of completed application:

Menu:

```
*****  
(1) Pickup  
(2) Delivery  
  
(5) Exit  
*****  
2
```

```
*****  
(1) Fresh Product  
(2) Meat and Seafood  
(3) Frozen Foods  
  
(4) Check out  
*****  
1.
```

Fresh Product:

```
*****  
(1) gala apple $3.99/lb  
(2) bannanna   $0.48/lb  
(3) grapes      $2.99/lb  
  
(4) Return to Main Menu  
*****  
1.  
weight of selected item in pounds  
5
```

```
*****
(1) gala apple $3.99/lb
(2) bannanna   $0.48/lb
(3) grapes     $2.99/lb

(4) Return to Main Menu
*****
```

2
weight of selected item in pounds
1.

```
*****
(1) gala apple $3.99/lb
(2) bannanna   $0.48/lb
(3) grapes     $2.99/lb

(4) Return to Main Menu
*****
```

3
weight of selected item in pounds
.5.

Meat and Seafood:

```
*****
(1) Fresh Product
(2) Meat and Seafood
(3) Frozen Foods

(4) Check out
*****
```

2.

```
*****
(1) whole chicken      $6.99/lb
(2) ground beef        $4.99/lb
(3) salmon              $9.99/lb

(4) Return to Main Menu
*****
```

1
weight of selected item in pounds
8.

```
*****
(1) whole chicken      $6.99/lb
(2) ground beef        $4.99/lb
(3) salmon              $9.99/lb

(4) Return to Main Menu
*****
```

2
weight of selected item in pounds
2

```
*****
(1) whole chicken      $6.99/lb
(2) ground beef        $4.99/lb
(3) salmon              $9.99/lb

(4) Return to Main Menu
*****
```

3
weight of selected item in pounds
1

Frozen Foods:

```
*****
(1) Fresh Product
(2) Meat and Seafood
(3) Frozen Foods

(4) Check out
*****
```

3

```
*****
(1) waffles      $6.99
(2) pizza        $4.99
(3) popsicles    $2.99

(4) Return to Main Menu
*****
```

1
quantity of item.
1

```
*****
(1) waffles      $6.99
(2) pizza        $4.99
(3) popsicles    $2.99

(4) Return to Main Menu
*****
2
quantity of item.
2
```

```
*****
(1) waffles      $6.99
(2) pizza        $4.99
(3) popsicles    $2.99

(4) Return to Main Menu
*****
3
quantity of item.
3.
```

Checkout Output Screen:

```
*****
(1) Fresh Product
(2) Meat and Seafood
(3) Frozen Foods

(4) Check out
*****
4
```

```
*****
GALA APPLES   $ 19.95
BANANNAS     $  0.49
GRAPES        $  1.50
CHICKEN       $ 55.92
GROUND ROUND  $  9.98
SALMON        $  9.99
WAFFLES       $  6.99
PIZZA         $  9.98
POPSICLES    $  8.97

TIP           $  5.00
DELIVERY      $ 20.00
TOTAL         $ 148.76

*****
Application closing
```

*DO NOT FORGET ABOUT: (4) Return to Main Menu