

CS118 Programming Choose only **ONE** of these two programs to prepare! Thanksgiving

It's coming up on Thanksgiving, and being the geeky programmer that you are you naturally decide to prepare for it by writing a Python program. Before you can make all of your delicious food you need an inventory of your pantry. Then you'll need to figure out what's missing so that you can go shopping.

Write a Python program that asks the user to provide items that are in the pantry along with the quantity of that item (without units). Continue collecting these items until the quantity of any item is 0 or negative. For all items which have a positive quantity, store the item description as a string and the quantity as a float in a single list, alternating description and quantity: ['Bread', 1, 'Peanut Butter', 3, ...]

Prepare a **single** hardcoded list (same format as above) with these items and quantities.

Bread	2
Rolls	2
Turkey	1
Green Beans	3
Mushroom soup	2
Cranberry sauce	1
Gravy	2
Stuffing	4

Your program should compare the two lists and provide a pantry list and a shopping list in the format shown to the right.

PLEASE NOTE: It is not sufficient to test if an item is not in the pantry – it may be there but not in sufficient quantity!

When testing, be sure that there are items in your pantry list that are not in the hardcoded list.

```
>>>
Pantry item: Bread
Quantity? 1
Pantry item: Gravy
Quantity? 1
Pantry item: Stuffing
Quantity? 2
Pantry item: Cranberry sauce
Quantity? 1
Pantry item: Green Beans
Quantity? 1
Pantry item: Chocolate
Quantity? 3
Pantry item: None
Quantity? 0
```

```
Pantry list:
Qty          Item
-----
1.0 Bread
1.0 Gravy
2.0 Stuffing
1.0 Cranberry sauce
1.0 Green Beans
3.0 Chocolate
```

```
Shopping list:
Qty          Item
-----
1.0 Bread
2.0 Rolls
1.0 Turkey
2.0 Green Beans
2.0 Mushroom soup
1.0 Gravy
2.0 Stuffing
```

```
>>>
```

Alternative Program (worth 125% of the other program)

Prepare a menu of the hardcoded items: the menu itself must NOT be hardcoded – the program must use the hardcoded item list and provide a menu from what is in that list. **Submitting work that does not attempt to do this will result in a possible score that is only 95% of the other program option.**

The menu will provide all of the hardcoded items as options. In addition to those items, the last menu item should be to exit the program. If the user selects an item from the menu, the quantity in the pantry is then obtained from the user. You may assume the user will enter only non-negative values for the quantity.

If the quantity in the pantry is insufficient (as compared to the hardcoded list) the item is added to the shopping list with a shopping quantity being the difference between the amount in the pantry and the amount in the hardcoded list.

Choosing an item already in the shopping list removes the existing item and then processes the choice as if the item were NOT in the list (in other words, this choice replaces any previous choices of the same item).

After processing the user's choice, the menu should re-appear for another choice until the user chooses to exit. Upon exit the shopping list should be displayed as shown to the right.

```
1: Bread ( 2.0 needed)
2: Rolls ( 2.0 needed)
3: Turkey ( 1.0 needed)
4: Green Beans ( 3.0 needed)
5: Mushroom soup ( 2.0 needed)
6: Cranberry sauce ( 1.0 needed)
7: Gravy ( 2.0 needed)
8: Stuffing ( 4.0 needed)
```

0. Exit the program

Your choice: 1

How much is in the pantry ?1

```
1: Bread ( 2.0 needed)
2: Rolls ( 2.0 needed)
3: Turkey ( 1.0 needed)
4: Green Beans ( 3.0 needed)
5: Mushroom soup ( 2.0 needed)
6: Cranberry sauce ( 1.0 needed)
7: Gravy ( 2.0 needed)
8: Stuffing ( 4.0 needed)
```

0. Exit the program

Your choice: 8

How much is in the pantry ?1

```
1: Bread ( 2.0 needed)
2: Rolls ( 2.0 needed)
3: Turkey ( 1.0 needed)
4: Green Beans ( 3.0 needed)
5: Mushroom soup ( 2.0 needed)
6: Cranberry sauce ( 1.0 needed)
7: Gravy ( 2.0 needed)
8: Stuffing ( 4.0 needed)
```

0. Exit the program

Your choice: 0

Shopping list:

Qty	Item
1.0	Bread
3.0	Stuffing