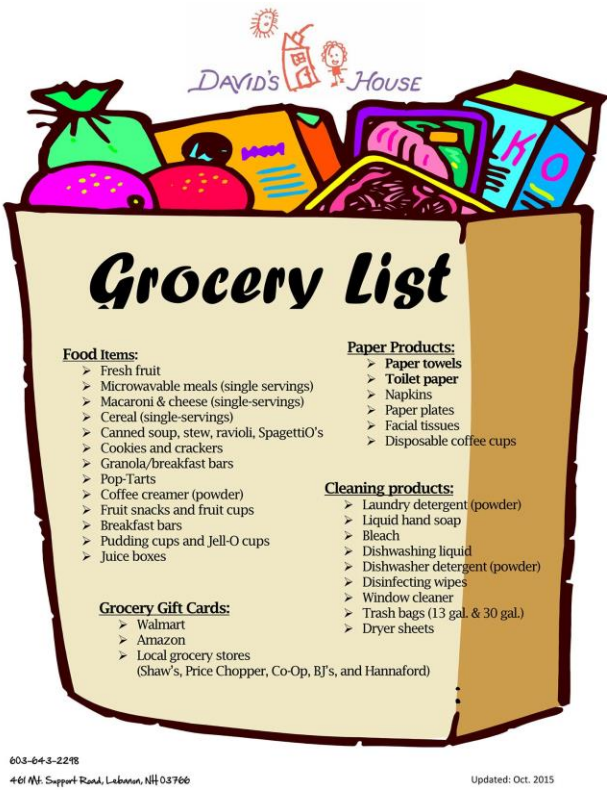
Brush-up Project: Grocery List

(in groups of 2 students)



Write a class named `GroceryList` that represents a list of items to buy from the supermarket, and another class named `GroceryItemOrder` that represents a request to purchase a particular item in a given quantity (example: four boxes of cookies).

The `GroceryList` class should use an array to store the grocery item orders. Assume that a grocery list will have no more than 10 item orders. The `GroceryList` class should have an `add` method that will add a given item order to the list if the list has fewer than 10 items, and a `getTotalCost` method that will return the total sum cost of all grocery item orders in this list, printed out to the console (formatted nicely! containing name, quantity and total price). It should also have a `toString` method.

The `GroceryItemOrder` class should have an item name, a quantity, and a price per unit, all incapsulated, and it should have a constructor setting all these values, and one only setting the name (the default quantity should be one). It should have a `getCost` method returning the total cost of the item in its given quantity, and a `toString` method returning a String with the name, quantity, and total cost. All fields should have getter and setter methods.

Make a test class with a `main` method that instantiates the `GroceryList`, fills it with `GroceryItemOrder` objects, and prints it. Test what happens if you try to add a grocery item order when the list is filled.

Extra features:

A) Instead of writing the names of the items when instantiating them in the test class, try to read them from a file. Make a .txt file with a number of grocery names in it, to test it.

B) Make a new version of `GroceryList` and change the implementation to an ArrayList instead of an array.

C) Refactor `GroceryItemOrder` class into 2 classes: `GroceryProduct` which contains item name and unit price) and `ItemOrder` which holds a reference to a `GroceryProduct` and a quantity.

If you finish fast: Make more improvements to your program!

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