Design

Program being designed: Grocery List program

Files needed: List, Item, and Main

Classes needed: Item; List

**Item class:**

* item name
  + String
* unit (i.e. cans or ponds)
  + String
* number to buy
  + Integer
* price of the item
  + Double
* Will need getters and setters for all four above ^.

**List Class:** needs an array to store Item objects in your List. When an item is added an Item object must be created with the information and added to the list object.

* Add Items to array
  + Get name, unit, quantity, and price. Make that a new item then add that to the List array.
* Dynamically double the size of the array when the array gets filled
  + Check to see if the array count equals capacity and if it does make a new array twice the size and transfer the items over.
* Remove an Item
  + This can be done for checking for the name of the item that you want removed and removing an item with that name
* Display the List
  + Set the precision of the cost to two here instead of at input. That way if that want to see how the cost would be with tenths of a penny they could and the math will still work out to the value they would actually pay. They can also always remove the item if it was an error in their input.
  + Also will display the total cost for each item and their total purchase.

**The main:**  Set up four options in the UI. Set up input validation to make sure that they cannot choose something other than the options given.

* Add an Item
* Remove an Item
* Display List
* Exit