### APCS Unit 7 Lab 7.7 Shopping Cart

**Objectives**: Array Lists

**Preparation:**

You will be writing a program to implement a shopping cart. The file Item.java contains the definition of a class that models items to be purchased. Read through the file to familiarize yourself with the data fields and methods available. This class has been completely written for you.

Your task is to write the class Shop.java which will implement a shopping cart as an ArrayLlist that holds Item objects.

**[Partial] Software Design for Shop.java:**

* The shopping cart: declare and instantiate an ArrayList of Item objects to represent the shopping cart.
* Repeatedly prompt the user for the name, unit cost, and quantity of an item they're purchasing. Before each request, ask the user if they would like to continue shopping ("no" indicates they're done).
* Add each purchased item type to the cart.
* When the user is finished "shopping", do the following:
  + Use a traditional for loop to print the contents of the shopping cart and calculate the total cost of the items.
  + Print the total cost of the items, indicating what this is (see sample data)
  + Now remove the first item from the cart.
  + Use an enhanced for loop (for each loop) to print the updated cart contents and re-calculate the total cost of the items.
  + Print the new total.

**[Sample] Test Data:**

inputs:

|  |  |  |
| --- | --- | --- |
| apples | $0.45 each | 8 |
| oranges | $0.85 each | 5 |
| bananas | $0.19 each | 6 |
| spaghetti sauce | $2.49 each | 1 |
| pasta | $1.79 each | 2 |

outputs:

8 apples cost $3.60

5 oranges cost $4.25

6 bananas cost $1.14

1 spaghetti sauces cost $2.49

2 pastas cost $3.58

Order total is $15.06

5 oranges at $4.25

6 bananas at $1.14

1 spaghetti sauce at $2.49

2 pasta at $3.58

Order total is $11.46

|  |  |
| --- | --- |
| **Description** | **points** |
| Comments (name and date) on all submitted files | 1 |
| Uses methods provided by the Item class | 2 |
| variable names: descriptive. Not single letters. | 2 |
| declare and instantiate an ArrayList<Item> | 1 |
| repeatedly prompt user for inputs and add to cart until user is finished | 3 |
| print contents of cart using traditional for loop and get method and calculate total cost | 2 |
| print total cost once | 1 |
| remove first item from cart | 1 |
| print contents of cart using enhanced for loop and re-calculate total | 2 |
| print total cost once again | 1 |