Joining Data (Part 2)

Objectives: Join Concepts

Now let's add in the situation of a customer with no orders. This might seem odd, but it will have application further on when we deal with getting data from a database. Update your list so it looks like this:

Customer	Item	Price	Quantity
Acme Hardware	Mouse	25	3
Acme Hardware	Keyboard	45	2
Falls Realty	Macbook	800	2
Joe's Chicago Pizza			
Julie's Morning Diner	iPad	525	1
Julie's Morning Diner	Credit Card Reader	45	1

Notice there's one order that's a little different; Joe's Chicago Pizza did not actually have any orders. As such, we still included an instance for Joe's Chicago Pizza, but with the order information left blank or null.

Exercise 4: Loop through the data, keeping track of the "current customer" and print out a header for each customer, and under the header, that customer's orders in a tabular format. If the customer has no orders, instead of the orders print "No orders." Example:

```
Acme Hardware
     Item                Price      Quantity      Total
     Mouse               25         3             75
     Keyboard            45         2             90
Falls Realty
     Item                Price      Quantity      Total
     Macbook             800        2             1600
Joe's Chicago Pizza
     **No Orders**
Julie's Morning Diner
     Item                Price      Quantity      Total
     iPad                525        1             525
     Credit Card Reader  45         1             45
```

Exercise 5: Repeat the steps of Exercise 1, but now add in a total dollar amount for each customer, like this:

```
Acme Hardware
     Item                Price      Quantity      Total
     Mouse               25         3             75
     Keyboard            45         2             90
     Total                                        165
Falls Realty
     Item                Price      Quantity      Total
     Macbook             800        2             1600
     Total                                        1600
Joe's Chicago Pizza
     **No Orders**
Julie's Morning Diner
     Item                Price      Quantity      Total
     iPad                525        1             525
     Credit Card Reader  45         1             45
     Total                                        570
```

Exercise 6: Loop through the data, but instead of using headers with each customer, only print the customer name for the first of all the orders for that customer. For the remaining orders, leave the customer field blank. Do not include totals. Example:

```
Customer                 Item                Price   Quantity  Total
Acme Hardware            Mouse               25      3         75
                         Keyboard            45      2         90
Falls Realty             Macbook             800     2         1600
Joe's Chicago Pizza      **No Orders**
Julie's Morning Diner    iPad                525     1         525
                         Credit Card Reader  45      1         45
```

Extended Challenge

Repeat both this lab and Part 1, but with one major change: Create two classes, one called Customer and one called Order. Put the customer name in Customer and the order information in Order. Give each customer a unique number starting with 1. Give each order a unique number as well, but also give each order a Customer number, like so:

class Customer
CustomerId: Integer
CustomerName: String

class Order
OrderId: Integer
CustomerId: Integer // This is the ID from class Customer for whose order it is
Item: String
Price: Decimal or Float
Quantity: Integer

Create two collections, one with Customer instances and one with Order instances. Then repeat as many of the previous exercises as possible.