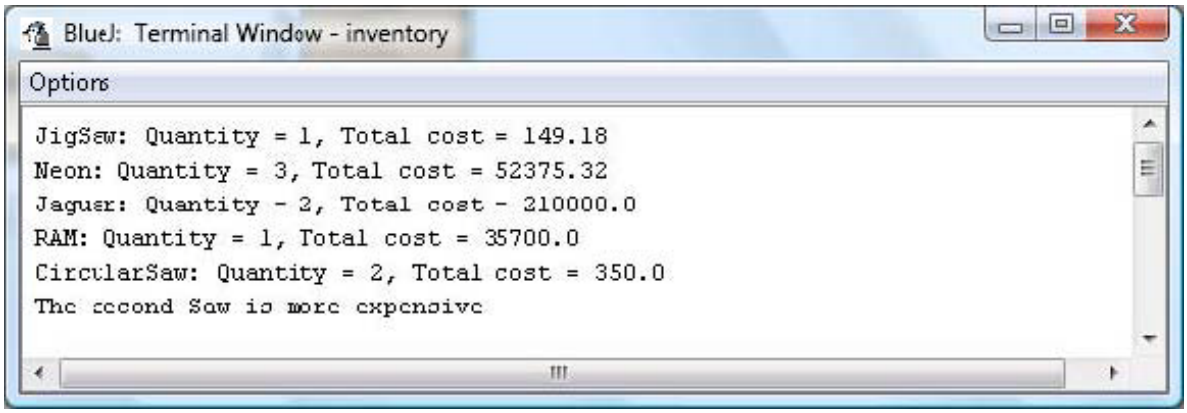
15.05 Assignment Instructions

1. Create a folder called **15.05 Assignment** in your module 15 assignments folder.
2. Create an interface named **`Product`**.
a. Add a method called **`getName()`** that returns a string.
b. Add a method called **`getCost()`** that returns a double.
3. Create abstract class **`Vehicle`** that implements **`Product.`**
a. It should have string variable **`name`** and double **`cost`**, that are initialized in the constructor.
b. Add appropriate **`getName()`** and **`getCost()`** methods
4. Create classes **`Car`** and **`Truck`** that extend **`Vehicle`**.
a. No other methods are needed.
5. Create class Tool that implements **`Product`** and **`Comparable<T>`**.
a. It should have string variable **`name`** and double **`cost`** that are initialized in the constructor.
b. Add appropriate **`getName()`** and **`getCost()`** methods.
c. Add a **`compareTo()`** method that compares tools based upon **`cost`**.
6. Create class `InventoryDemo`.
a. Test your classes by using ArrayList **`products`** of following products (Remember to declare it properly using List):
b. Create a static method t**`akeInventory`** that, when passed the **`name`** of a product, will go through the list and print out <item name>: Quantity = <quantity>, Total cost = <totalcost>. <item name> is the **`name`** of the product, <quantity> and <totalcost> are the values you calculate by going through the list for the product with name that was passed to **`takeInventory`**.

c. To test the **`compareTo()`** method, create two Tools, **`saw1`**, and **`saw2`**. Give them different prices and then test the **`compareTo()`** method you made, by displaying which one is more expensive.

Your output should be similar to:

Name	**Cost**
Jaguar	1000000.00
Neon	17000.00
JigSaw	149.18
Jaguar	110000.00
Neon	17500.00
Neon	17875.32
RAM	35700.00
CircularSaw	200.00
CircularSaw	150.00


BlueJ: Terminal Window - inventory
Options
JigSaw: Quantity = 1, Total cost = 149.18
Neon: Quantity = 3, Total cost = 52375.32
Jaguar: Quantity = 2, Total cost = 210000.0
RAM: Quantity = 1, Total cost = 35700.0
CircularSaw: Quantity = 2, Total cost = 350.0
The second Saw is more expensive