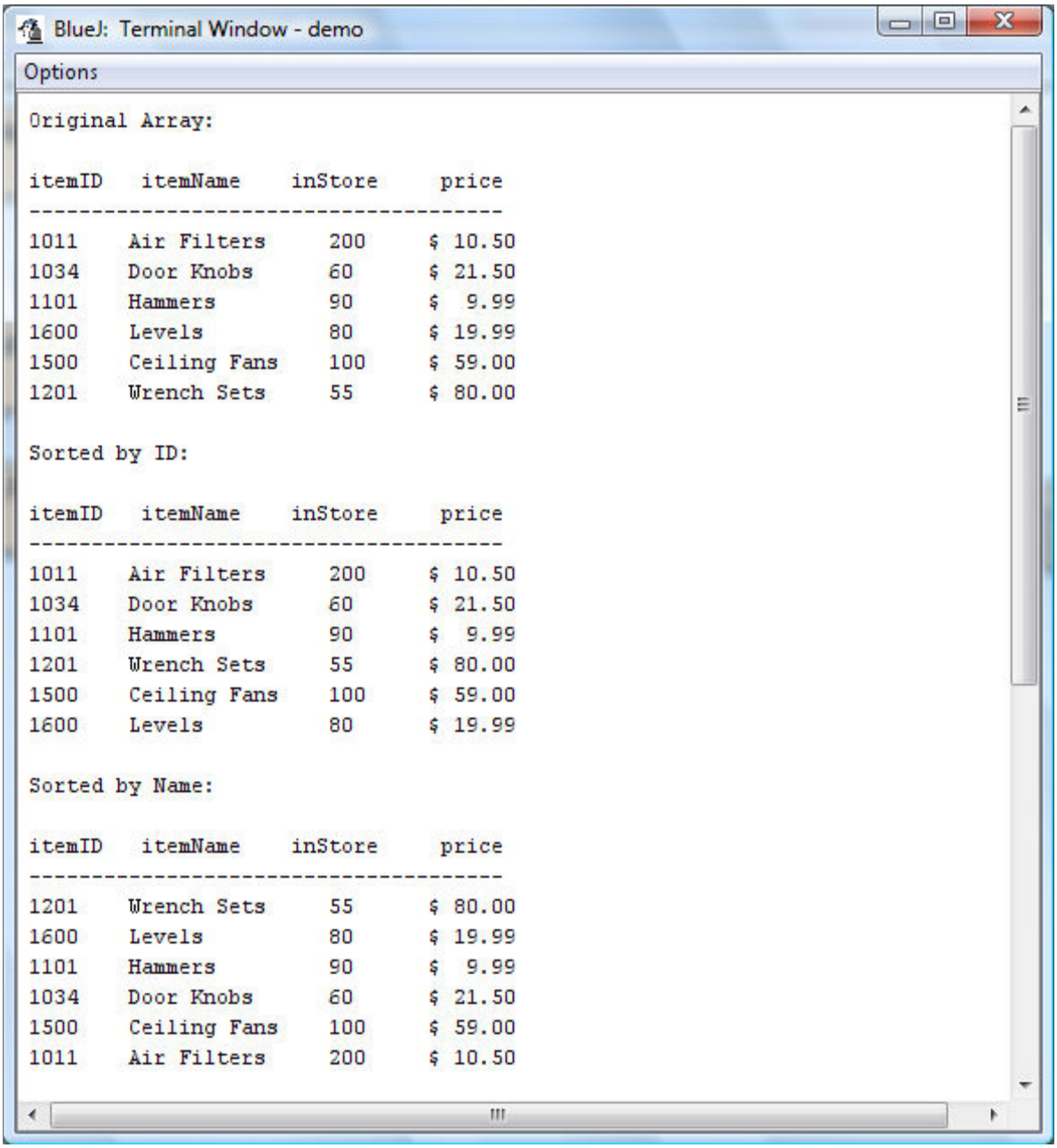
Assessment Instructions

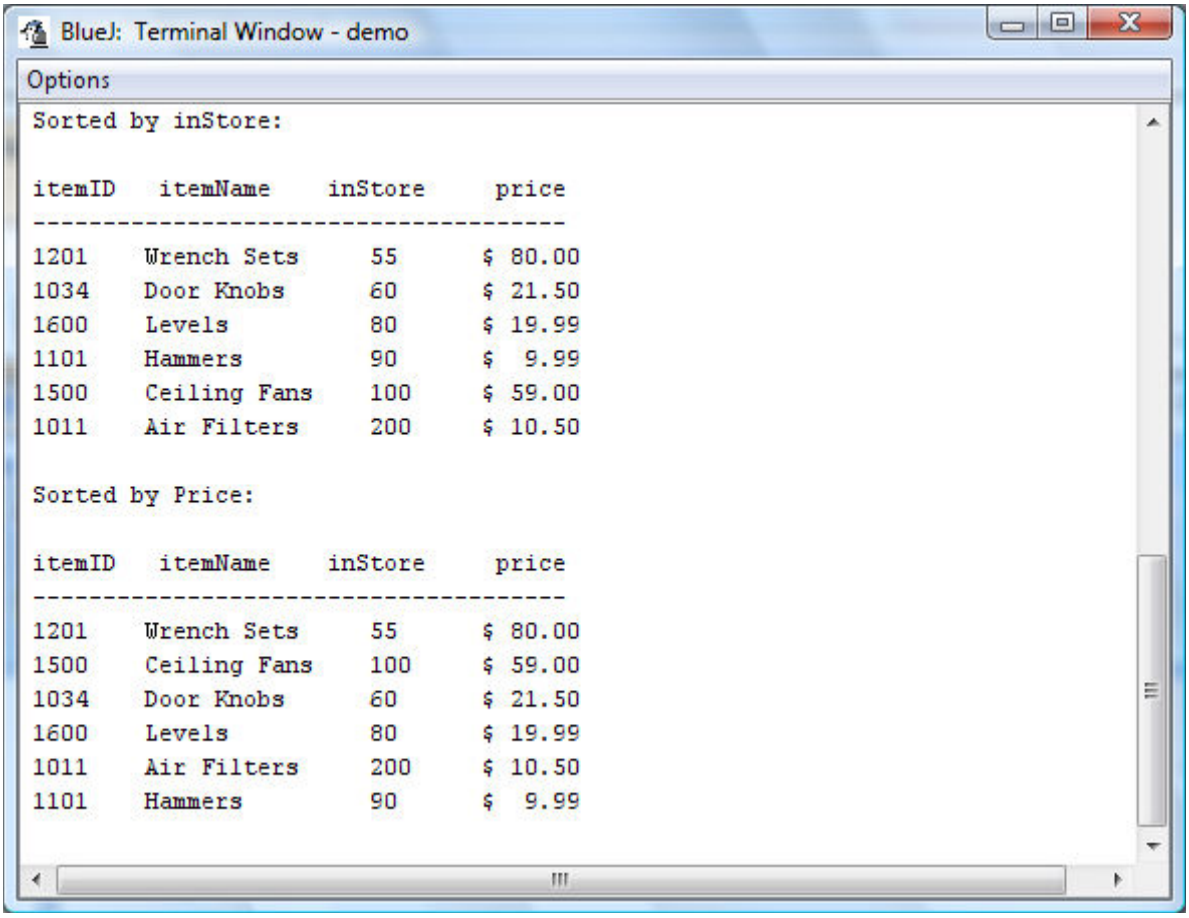
Instructions: For this assessment, you are going to test your sort algorithm knowledge.

1. Create a folder called **Assessment** in your Unit 7 assessments folder.
2. Create a class called **Item**.
    a. Item will need instance variables **itemID, itemName, inStore**, and **Price** (of types **String, String, int** and **double** accordingly). b. Item will need appropriate methods and constructors. Make sure to have a **toString()** method that prints the item, making sure to format the float to 2 decimal places with $.
    b. Save the class as **Student.java**.
3. You are to create a class called **TestItem** and save it as **TestItem.java**.
    a. Make sure that you create an array called **hardware**. Add the items.

itemID	itemName	inStore	Price
1011	Air Filters	200	10.5
1034	Door Knobs	60	21.5
1101	Hammers	90	9.99
1600	Levels	80	19.99
1500	Ceiling Fans	100	59
1201	Wrench Sets	55	80

    b. Create a method called **printInventory()** that traverses through the array and prints out each element.
    c. Create a method called **sortID()** that sorts the array using **itemID**. You may choose to use sorting algorithm of your choice (e.g. Insertion, Selection, or Merge, but not the Bubble sort).
    d. Create a method called **sortName()** that insertion sorts the array using **itemName**.
    e. Create a method called **sortInStore()** that selection sorts the array using **inStore**.
    f. Create a method called **sortPrice()** that merge sorts the array using price.
    g. Test your methods similar to output shown below


BlueJ: Terminal Window - demo
Options
Original Array:
itemID itemName inStore price
1011 Air Filters 200 $ 10.50
1034 Door Knobs 60 $ 21.50
1101 Hammers 90 $ 9.99
1600 Levels 80 $ 19.99
1500 Ceiling Fans 100 $ 59.00
1201 Wrench Sets 55 $ 80.00
Sorted by ID:
itemID itemName inStore price
1011 Air Filters 200 $ 10.50
1034 Door Knobs 60 $ 21.50
1101 Hammers 90 $ 9.99
1201 Wrench Sets 55 $ 80.00
1500 Ceiling Fans 100 $ 59.00
1600 Levels 80 $ 19.99
Sorted by Name:
itemID itemName inStore price
1201 Wrench Sets 55 $ 80.00
1600 Levels 80 $ 19.99
1101 Hammers 90 $ 9.99
1034 Door Knobs 60 $ 21.50
1500 Ceiling Fans 100 $ 59.00
1011 Air Filters 200 $ 10.50


BlueJ: Terminal Window - demo
Options
Sorted by inStore:
itemID itemName inStore price
1201 Wrench Sets 55 $ 80.00
1034 Door Knobs 60 $ 21.50
1600 Levels 80 $ 19.99
1101 Hammers 90 $ 9.99
1500 Ceiling Fans 100 $ 59.00
1011 Air Filters 200 $ 10.50
Sorted by Price:
itemID itemName inStore price
1201 Wrench Sets 55 $ 80.00
1500 Ceiling Fans 100 $ 59.00
1034 Door Knobs 60 $ 21.50
1600 Levels 80 $ 19.99
1011 Air Filters 200 $ 10.50
1101 Hammers 90 $ 9.99