**Hardware Store** Online Retailing System

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CIS 18A Section 25775

**Company Name**: Software Solutions LLC

**Pseudocode:**

-Output menu choices for user

-Take input from user

-SWITCH for choice

-CASE 1: Output all item object in inventory array

-CASE 2: Output menu choices for sorting methods

-SWITCH

-CASE 1: Sort Inventory A-Z

-Call A-Z sort function

-BREAK

-CASE 2: Sort Inventory by Tag

-Output Tag choices for User

-Call tagSort

-BREAK

-CASE 3: Sort by In Stock

-Call sortInStock

-BREAK

-CASE 4: Sort by Price (Ascending)

-Call SortPriceAsc

-BREAK

-CASE 5: Sort by Price (Descending)

-Call SortPriceDes

-Break

-CASE 3: Input from user of item id to add to cart

-Input from user of amount wanted

-Input verification

-Remove item from store inventory array

-Add item to customer inventory array

-Update inventory total of user

-CASE 4: Output the User’s Cart and subtotal

-CASE 5: Calculate Tax and remove item’s from customer’s inventory array

**Program Function, Purpose, and Objectives**

During a recent trip to a local woodworking servicing store, I was surprised by the lack of modern inventory management software in their store. Instead of a cashier working with a system, there was an owner flipping through pages off a clipboard checking off the items I bought. I realized that many small businesses lack the capital/investment into modern inventory management systems that big corporations have today. In addition to this, his online website was lackluster, and did not have any page dedicated to displaying what was in stock for the customer, forcing me to drive there and make my decisions on the spot. As you can imagine, this took time, which may drive off some customers.

The purpose of this program is to apply my basic knowledge of Java in order to create a are minimum GUI that customer’s can interact with. The program does active inventory management, allowing for its inventory stock to be updated as the customer adds items to their cart. The program also allows the user to do some basic sorting of the inventory and checkout the items with the tax calculated for them.

Some of the limitation of the program is that there is currently no options for administrative actions with the inventory. Instead, this program is solely focused on customer interactions with the store inventory. Another limitation is that the stock cannot be saved automatically between runs, so the inventory is only dynamic during runtime. A solution for this would be to learn how to have Java read and write to files and have the files act as data storage.

The program works with 4 classes aside from the class with the main function. The classes are as follows: Store, Item, Menu, and Customer. The Store class handles the store inventory as well as the sorting functions. The Item class is the class that holds all the data pertaining to an item. In this case, there is a name, amount, price, and respective tag for each item. The item class is used in arrays for both the store and the customer. The customer class simply manages the cart (array) of items for the customer as well as keeps track of the total cost of the items. The Menu class is fairly rudimentary and only displays the menu. Possibly in the future, I can incorporate GUI elements in the menu class.

The main objective of this project was to help businesses adapt to the modern age of shopping. It came to my attention in my earlier visit to a local lumber store that they cannot compete with modern retailers like Home Depot because of their “old-school” methods. Hopefully, I can get more comfortable with the Swing GUI elements of Java and be able to incorporate a Administrative side to the project, allowing for inventory management.

Although this project is mainly orchestrated towards hardware stores, it can really be applied to any retailer. I tried to make the program as universal as possible, allowing many small businesses (that don’t offer services at least) to adopt this program into their system.