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Data Structures

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Reasoning on How We Did PurpleBox

The main reason that we chose to use an array list was that we were more comfortable and familiar with how to use an array list. Array list also gets bigger once you pass the default size since it is not a fixed size. This allows the list to grow and shrink if needed without having to change the size. The elements in an array list can also be accessed directly by using getters and setters methods. Searching for an element in an array list seems to be easier for us since all we have to do is search through the list and find the element’s index. Since we are searching through the admin inventory in most of our cases, it was overall better to use an array list for its speed in search through a list. We put all the items into the admin’s inventory and cloned it for the filter inventory. For the filter, we used a filter inventory to manipulate the list and show the things that you picked to see. For the admin, while adding and removing items in the admin inventory, we manipulate the admin inventory to either add a completely new item or completely removing an item from the inventory. For the user, we only use the user cart and admin inventory to move and remove things. If we add something into the user cart, we would find the item from the item inventory than add it into the user cart, setting the stock to one, and remove one stock from the inventory. The same thing would happen with the remove and remove all methods but with items going back into the admin inventory and adding one stock each time to each item.

Ultimately, we were more familiar and understand how to use the array list better than the other data structures. It was a bit hard to come up with a concrete design of the program since it was our first time doing something like this. There were a lot of changes that we wanted to make halfway through the program since the interface we first made as a group had a lot of things we didn’t consider but it all worked out in the end.