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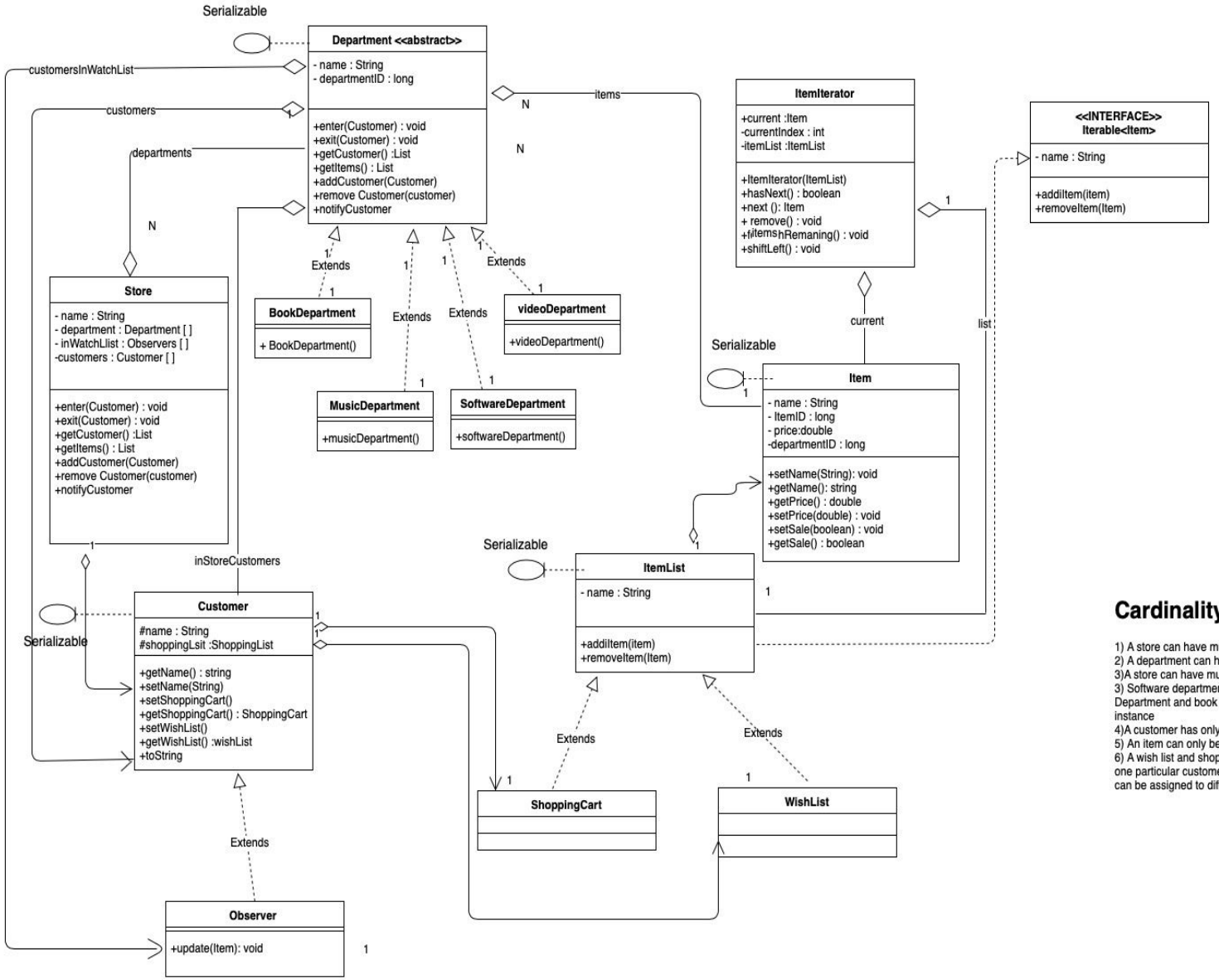
Adv. Programming with Java and Python
Homework 5 Project Report

Description :
This program allows the user to load in a .ser file and takes in information about the store, its departments and its customers. Customers can subscribe to the sales watch list for each department. In other words, a customer should be able to request notification whenever a new item is added for sale in a department or a specified old item's price is reduced. The customer should print on screen a "Wow!" message. The program also has an item class which uses an iterator class. The iterator class allows the coder to iterate through an array of items. Classes such as Observer and ItemIterator have been added to this implementation for this project.

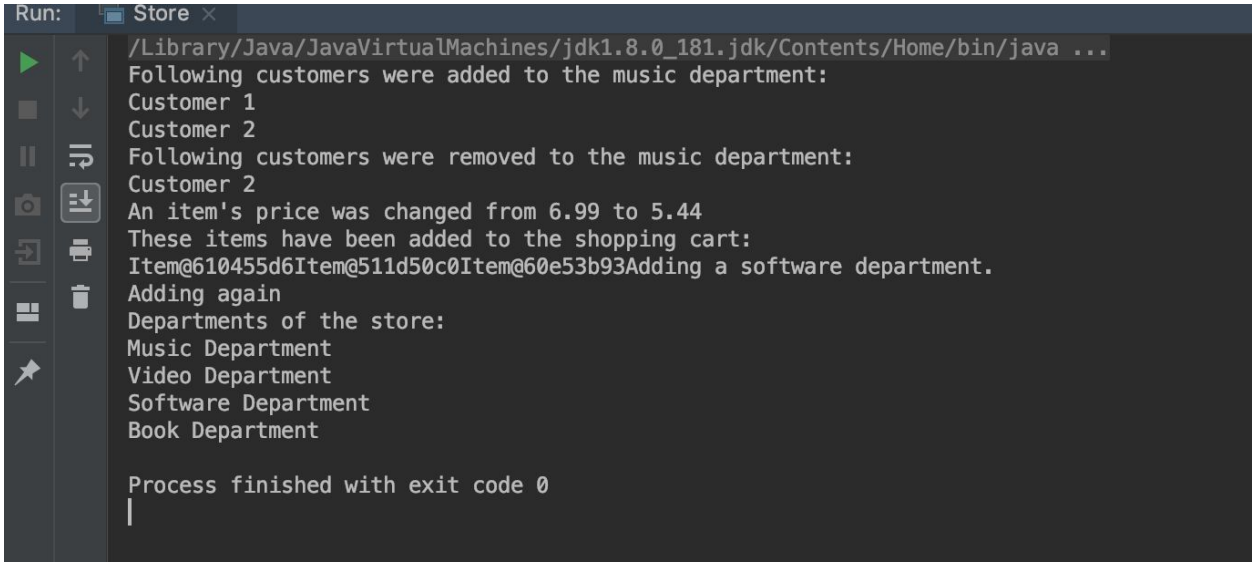
1) UML Diagram :
   The following diagram illustrates the way classes were connected and implemented in the actual code.

Text

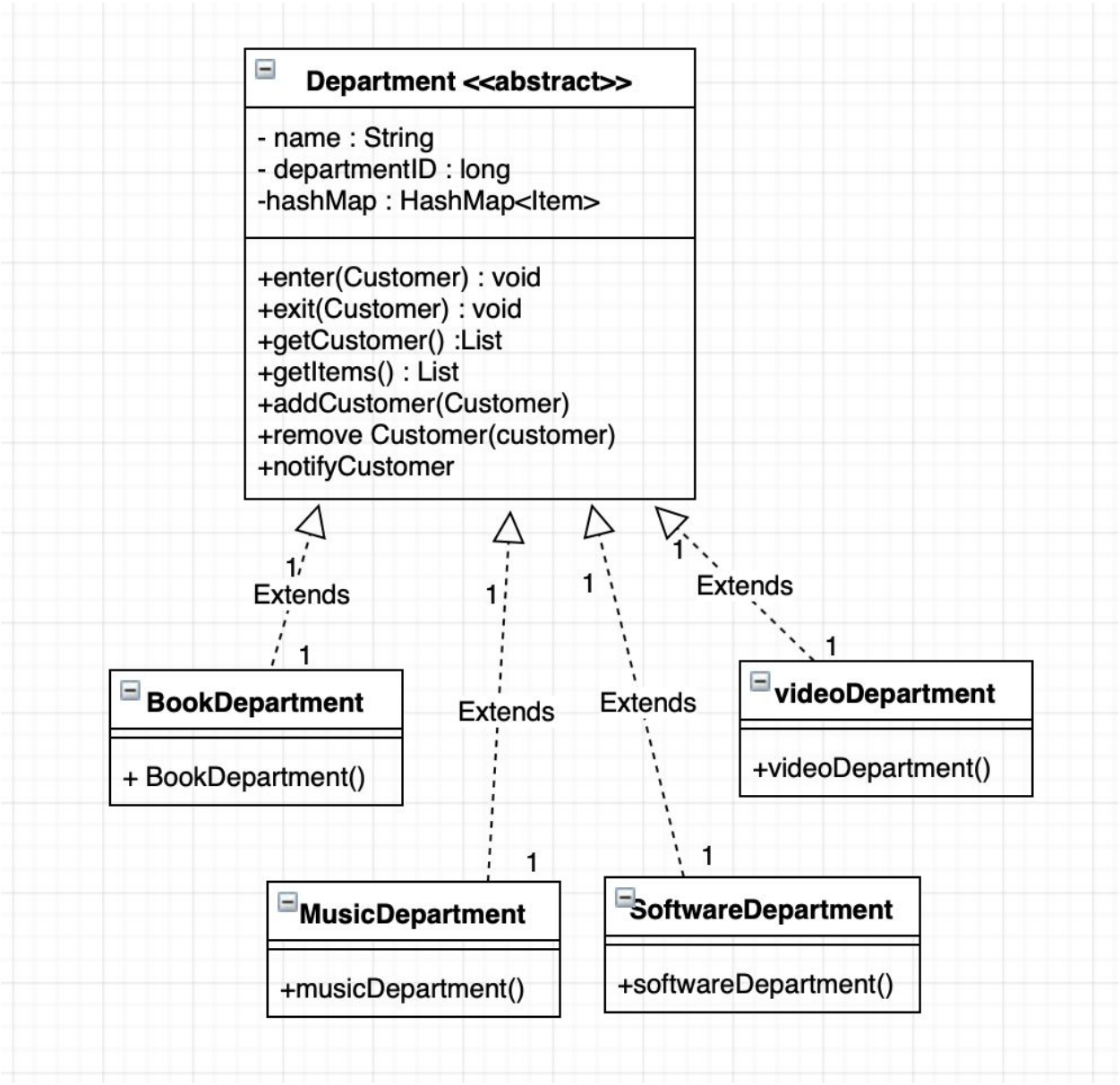


Cardinality

1) A store can have multiple departments
2) A department can have multiple customers
3)A store can have multiple number of items
3) Software department, Music Department, video Department and book Department can have only one instance
4)A customer has only one shopping cart and wishList
5) An item can only be present in one department
6) A wish list and shopping cart can be assigned to only one particular customer. Different instances of item list can be assigned to different customers



3) To implement this idea into the program, we can use a hashmap to group different books, albums or videos together. You can assign a key feature to each of the specific items and then attach items to the item list/ hashmap to group them together.


Department <<abstract>>
- name : String
- departmentID : long
-hashMap : HashMap<Item>
+enter(Customer) : void
+exit(Customer) : void
+getCustomer() :List
+getItems() : List
+addCustomer(Customer)
+remove Customer(customer)
+notifyCustomer
1
Extends
1
BookDepartment
+ BookDepartment()
1
Extends
1
MusicDepartment
+musicDepartment()
1
Extends
1
SoftwareDepartment
+softwareDepartment()
1
Extends
1
videoDepartment
+videoDepartment()