**Lab 8 (LinkedList )**

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| **Item** |
| - type : String - name : String - price : int  |
| + item(type : String, name : String, price : int) // setters getters+ toString() : String  |

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| **Employee** |
| - name : String - id : int  |
| + Employee(name : String, id : int) // setters getters + toString() : String |

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| **Supermarket** |
| -item: LinkedList<Item> - Employee : Linked List <Employee>  |
| +Supermarket() + addItem(item : Item) : void + deleteltem(name : String) : void+ getAllChocolates() : LinkedList<Item>+ getAllDairy() : LinkedList<Item>+ getAllCandies() : LinkedList<Item>+ hasItem(name : String) : Boolean -requestOrder(name : String) : void + printltems() : void  |

You have to implement the previous three classes. The class Item has three private variables, a constructor, setters and getters, and a toString method. The class Employee has two private variables, a constructor, setters and getters, and a toString method. The class Supermarket has a LinkedList of items, a linked list of employees, and a couple of methods that apply operations on the LinkedList.

**-addEmployee( employee: Employee):** Inserts the specific employee at the beginning of the list -**removeEmployees():** Removes all elements from this list

- **addItem(item : Item):** takes an item as parameter and adds it to items

**- deleteltem (name : String):** deletes an item from Item with the specified name

-**getAllChocolates ():** returns a LinkedList<Item> that contains all the items that have a type equal to Chocolate in items

- **getAllDairy ()**: returns a LinkedList< Item > that contains all the items that have a type equal to Dairy in items

**– getAllCandies ():** returns a LinkedList<Item> that contains all the items that have a type equal to candies In items

 -**hasItem(name : String):** returns true if the item with the specified name is found in items; else, it returns false and calls requestOrder(name)

**- requestOrder(name : String):** prints "Requesting an order for "+name

- **printltems():** prints the elements in item

In the tester class, you are required to create an object of type Supermarket and add to its lists a number of items and employees.

You should add each new employee to the beginning of the list.

You should retrieve all items that are chocolate and print them, retrieve all items that are dairy and print them, and retrieve all items that are candies and print them.

You should test the deleteltem method and print the items list after deletion.

Test the requestOrder method and verify that it is calling the requestOrder method if the item is not found in the list.

Finally, remove all employees and hire new employees.

Solution: <http://www.javaproblems.com/2013/12/creating-linkedlist-application-in-java.html>