Lab 33c Linked List Inventory

In this lab you will create a linked list that reads items from a text file. The file contains the item name, the UPC code, and the quantity in stock. Your program will start by reading the info from the file provided; create the linked list with the items inserted in order based upon their UPC code.

Next, you will allow a user to choose from a menu to either add a node, delete a node or display the linked list. Be sure to do adequate testing. Be sure and test deleting from the front, middle and end of the linked list. You should also be able to delete every element from the linked list and then add new items. The user should be able to try and delete a node that is not in the list.

Your menu system should appear as follows:

Item - UPC code - Quantity

Video Cards - 702345 - 13

CPUs - 1123422 - 30

Monitor - 1234567 - 5

RAM - 2534533 - 22

Speakers - 2696067 - 10

Mouse - 3345345 - 1

IP Phone - 3523467 - 6

Tower - 4464564 - 32

Webcam - 5456756 - 9

1 - Add node

2 - Delete node

3 - Display list

4 - Exit

Enter number of choice -->

You will need to use OOP code. You will need to create a class called ListNode that stores the data and points to the next node. Your linked list class will have methods to create a constructor, insert nodes in the proper order, and properly delete a node.

Please use the following structure for your main class:

**public static void main(String args[])throws IOException**

{

LinkedList itemList = new LinkedList();

Boolean action = true;

itemList.ReadList("inventory.txt");

itemList.DisplayList();

while(action)

{

System.out.println("");

System.out.println("1 - Add node");

System.out.println("2 - Delete node");

System.out.println("3 - Display list");

System.out.println("4 - Exit");

System.out.println("");

System.out.println("Enter number of choice --> ");

Scanner sc = new Scanner(System.in); //reads user input

String answer = sc.nextLine();

//Your menu choices go here!

if(answer.equals("1"))

{

//creates new node  
 …

itemList.newNode(…,…,…); 🡨 This is where the node comes to life.

}

Etc.

}

}

This listNode class will be similar to the one provided in the book with a slight modification to “toString” that will print out the each of the fields (item, UPC code, Quantity) of the inventoried item.