

CSC 1310: LAB 5



DIRECTIONS

- Download the given files from ilearn:
 - Pickle.h** – class specification file for a Pickle class [no additions or edits should be made to this file]
 - Driver.cpp** – driver for your program [no additions or edits should be made to this file]
 - LinkedList.h** – you will be completing this template LinkedList class as your lab assignment
- Read through the given code for understanding and to get familiar with it and view the sample output at the bottom.
- Implement the linked list template class in **LinkedList.h**. The class declaration is written for you except for entering the correct structure members. You will need to implement all the public member functions except for the constructor, which is already implemented as an inline member function.
 - appendNode** function
 - accept the template data type as a parameter
 - dynamically allocate a new ListNode and set the ListNode's value to the value sent to this function
 - place the new node at the end of the linked list (use the tail pointer to help!)
 - deleteNode** function
 - accept an integer position which indicates which node should be deleted. Position zero is the first node.
 - If the linked list is empty, stop this function from running
 - If the position sent to this function is zero, delete the head node and make sure to print out "-----
DELETING the node with address: " and then print the node's memory address.
 - Otherwise, traverse the linked list to search for a node at the given position (if it exists) and delete it. Make sure to print out "-----**DELETING the node with address: "** and then print the node's memory address that you are deleting.
 - displayList** function
 - If there are no nodes in the list, just print out that there are no nodes in the list.
 - Otherwise, traverse the linked list and print out each node **EXACTLY** like the sample output (given below)!
 - Destructor**
 - Delete all nodes that remain in the linked list
 - Before deleting the node, make sure to print out "*******DELETING the node with address: "** and then print the node's memory address that you are deleting.

WHAT TO TURN IN

Zip the following three files and upload to ilearn.

- LinkedList.h
- Driver.cpp
- Pickle.h

SAMPLE OUTPUT

User input is highlighted in yellow.

```
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```

```
Welcome to the pickle program!
Press enter to continue!
```

Adding some pickles to the linked list!

Now printing out the pickles:

```
-----Node 1 with memory address 0xb47ee8
Pickle Type:      Bread-and-butter
Bumpy Skin?       no
Sweet?            yes
```

```
-----Node 2 with memory address 0xb40590
Pickle Type:      Gherkin
Bumpy Skin?       yes
Sweet?            yes
```

```
-----Node 3 with memory address 0xb41610
Pickle Type:      Kosher Dill
Bumpy Skin?       yes
```

Sweet? no

-----Node 4 with memory address 0xb41638

Pickle Type: Hungarian

Bumpy Skin? no

Sweet? no

-----Node 5 with memory address 0xb41660

Pickle Type: Lime

Bumpy Skin? no

Sweet? no

Which pickle do you want to eat (and therefore remove from the list)?

Choose the node number (1-5): 1

-----DELETING the node with address: 0xb47ee8

Would you like to display the list of pickles again? (y/n) y

Now printing out the pickles:

-----Node 1 with memory address 0xb40590

Pickle Type: Gherkin

Bumpy Skin? yes

Sweet? yes

-----Node 2 with memory address 0xb41610

Pickle Type: Kosher Dill

Bumpy Skin? yes

Sweet? no

-----Node 3 with memory address 0xb41638

Pickle Type: Hungarian

Bumpy Skin? no

Sweet? no

-----Node 4 with memory address 0xb41660

Pickle Type: Lime

Bumpy Skin? no

Sweet? no

Press enter to continue!

Have a lovely day!

(Now the destructor for LinkedList class will be called)

*****DELETING the node with address: 0xb40590

*****DELETING the node with address: 0xb41610

*****DELETING the node with address: 0xb41638

*****DELETING the node with address: 0xb41660