

**CSC1310: LAB 4**

String Linked List



# Linked List Class

* Design your own linked list class (**List.h**) to hold a series of **strings**.
* The linked list **node** should be implemented as a **struct** and the struct name should be **ListNode**.
* The List class should also have two pointers to ListNodes created as attributes called **head** and **tail**.
* The class should have member functions for appending a new node, inserting a new node, deleting a node with a given value, displaying the values in all the nodes, a Constructor, and a Destructor.
  + **appendNode** function
    - accept a string as a parameter
    - dynamically allocate a new ListNode and set the ListNode’s value to the string sent to this function
    - place the new node at the end of the linked list (use the tail pointer to help!)
  + **insertNode** function
    - accept a string as a parameter
    - dynamically allocate a new ListNode and set the ListNode’s value to the string sent to this function
    - place the new node in the linked list alphabetically based on the string values.
  + **deleteNode** function
    - accept a string as a parameter
    - traverse the linked list to search for a node with the same value and delete it when found
  + **displayList** function
    - display each node’s value in order from head to tail
  + **Constructor**
    - Initialize head & tail to NULL
  + **Destructor**
    - Delete all nodes that remain in the linked list

# DRIVER – Lab4.cpp

The driver program (**Lab4.cpp**) is provided for you.

# Sample Output

The linked list has been created.

I am appending several strings to the list.

boogeyman

ghost

scarecrow

witch

zombie

I am inserting vampire in the list.

boogeyman

ghost

scarecrow

vampire

witch

zombie

I am deleting ghost from the list.

boogeyman

scarecrow

vampire

witch

zombie

All list nodes have been removed.

# What to Turn In

* List.h
* Lab4.cpp