COSC 2436 Lab: Linked List

1. Instructions

Create a C++ program to store and retrieve data in a Linked List. Your output will depend on the input's print commands.

2. Input Files
- There are two types of input lines in this file: print command and list operation
- There are two list operations: Insert and Remove
    - Remove operations will have two parts: Operation and Position
    - Insert operations will have three parts: Operations Position and Data
    - Valid positions:
        - "Head"
        - "Tail"
        - an integer Index
    - Examples:
        - Remove Tail
        - Insert Head pear
        - Insert 4 kids
- A print command will be in the format: Print [Position]
    - Position Options: Head, Tail, Index
    - Examples:
        - Print [Head]
        - Print [6]
        - Print [Tail]
- Beware of indices
- Beware of empty lines or files
- Remove all \n and \r before processing any input line.
- You can assume all non-empty input lines are valid

Note: There's a chance not all warnings are given, if you can think of an edge case, cover it in your code

3. Output Files

- Whenever there is a print command, print the data in the [position] of the linked list to the output file

4. Example

input1.txt ``` Insert Head Print Insert Tail hello Print [Head] Insert Tail world Remove 2 Remove 2 Print [Tail] ```	output1.txt ``` Print hello ```
input2.txt ``` Insert 2 Hello Insert 0 Hi Remove Head Print [Tail] Print [Head] ```	output2.txt
input3.txt ``` Insert 0 Hello Insert 0 Hi Remove Head Print [Tail] Print [Head] ```	output3.txt ``` Hello Hello ```

5. Submission

- Turn in your lab assignment to our Linux server with your login credentials
- Process of Testing and Submitting
    1. Make a folder for the assignment (lowercase with no spaces!)
    2. Copy your program files (name must have no spaces!) into the folder
    3. Copy your ans/input.txt, ArgumentManager.h, and test.sh files (NO output.txt files)
    4. Test your submission in your assignment folder:
        a. cd folder_name/
        b. chmod u+x test.sh
        c. sh test.sh
    5. Verify all cases pass and then DELETE all .txt files
    6. Set your permissions for the folder and files:
        a. cd
        b. chmod -R 775 folder_name/
    7. Log out and close

Please reach out to the TAs via email or teams for any clarifications or typos.