Milestone 1 - Doubly Linked List, Due February 12, 2025

The following files will be provided to you, for completion of your milestone:

- json.hpp // header file for processing json files
- doubly_linked_list.h // header file containing doubly linked list class
- generate_output.h /* header file containing functions to print/write results to console and files */
- milestone1.json // json file containing test cases and its transactions
- milestone1_config.json // json configuration (properties) file
- dll_node.h // header file defining node structure
- dll_node.cpp // node file constructor
- generatedOutputFile.txt // generated output file format (partial results)
- milestone1.cpp /* cpp file containing main, which does the following:
    - Reads configuration file (json format) to:
        - retrieve inputFile (test case file (json format)
        - retrieve outputFile (text file containing generated output)
        - retrieve errorLogFile (text file containing error messages)
    - process inputFile test cases
    - write output to outputFile */

Write a basic Doubly Linked List implementation, which uses the files listed above, and includes the following in a separate cpp file:

- doubly_linked_list.cpp – implementation file that contains the following methods:

    1. isEmpty - Check if the list is empty
    2. insertAtHead - Adds a new node at the beginning of the list
    3. insertAtTail - Adds a new node at the end of the list
    4. remove - Searches for a node with a specific value and deletes it from the list
    5. removeHeaderNode – removes header node
    6. removeTailNode – removes tail node
    7. moveNodeToHead – moves a specific node to the front
    8. moveNodeToTail – moves a specific node to the end
    9. clear - Clear the list (delete all nodes)

- generate_output.cpp – implementation file that contains the following methods:

10. printList - print the doubly linked list from head to tail to console and output file
11. reversePrintList- print the doubly linked list list from tail to head to console and output file

The total number of points for this milestone is 75, which will be based upon the following:

- Each submitted/modified file must have student’s name (-10% of total milestone points if missing)
- Each submitted/modified file must include a file header with a description of changes made to a program, and its change date (2)
- Program compiles with all of the provided files (1)
- The following methods run without errors:

    1. isEmpty - Check if the list is empty (2)
    2. insertAtHead - Adds a new node at the beginning of the list (2)
    3. insertAtTail - Adds a new node at the end of the list (2)
    4. remove - Searches for a node with a specific value and deletes it from the list (2)
    5. removeHeaderNode – removes header node (2)
    6. removeTailNode – removes tail node (2)
    7. moveNodeToHead – moves a specific node to the front (2)
    8. moveNodeToTail – moves a specific node to the end (2)
    9. clear - Clear the list (delete all nodes) (2)
    10. printList - print the doubly linked list (2)
    11. reversePrintList- reverse print the doubly linked list (2)

- The following test cases are processed, and produce expected output (10 per test case; 50 total)
- Extra Credit – use industry standard test program and/or extract test cases, in separate json test file

Please accept this GitHub Assignment:

https://classroom.github.com/a/2B9SxRW2