

Insert in Order

COP 4530 Programming Project 1

Instructions

For Programming Project 1, the student will implement a doubly linked list to insert the integer data in increasing order and convert a list to a string.

Any projects that use the C++ Standard Library Lists or other sources to implement the linked list will receive a zero.

Abstract Class and Files

Class IntDLLList

```
void addToHead(int); //return its value
void insertInOrder (int);
void addToTail(int);
int  deleteFromHead(); // delete the head and return its value;
int  deleteFromTail(); // delete the tail and return its value;
void deleteNode(int);
bool isInList(int) const;
void printAll() const;
string addToString() const; //This method returns the
string of the ordered integers
```

Examples

Below are some examples of how your code should run. The test file can also be used to get an idea of how the code should run.

```
IntDLLList myList; // is empty
myList.addToHead(8); // list: 8
myList.insertInOrder(3); // List: 3 8
myList.addToTail(9); // List: 3 8 9
```

Deliverables

Please submit complete projects as zipped folders.
The zipped folder should contain:

IntDList.hpp (Your file)
IntDList.cpp (Your file)
IntDList_node.hpp (provided)
intDList_test.cpp (provided)
catch.hpp (provided)

And any additional source and header files needed for your project. Best practice is to put the code for your Doubly Linked List in their own header/source files and include them using the preprocessor include in the appropriate files.

Hints

When implementing the addToString method, you need to include string, sstream and iomanip.

Rubric

Any code that does not compile will receive a zero for this project.

Criteria	Points
Project uses a student implemented Doubly Linked List	25
Code uses object oriented design principles (separate headers and sources, where applicable)	15
addToString function should return string list of integers	17.5
Removal of elements from an empty List should throw	17.5
Project should have destructor	7.5
Code is well documented, including the comments , and your names	12.5
All files should be zipped	5
total	100