CSC2320 Data Structures

Quotation (Statck and Queue via Linked List)

Objectives

- Be able to implement data structures Stack and Queue using linked list.

Instructions

This programming assignment is intended to help you understand the data structures "Stack" and "Queue" and their implementations using **linked list**. You are about to assembly the implementations of stack and queue using linked list provided in the textbook and print the following quotation. In order to print out the list, you need to add a Print() function to the StackType and QueueType classes. Also, you need to change the data type of "info" in struct NodeTyple into "string" to store the words in the quotation. Add other necessary constructors and functions in classes StackType and QueueType. You need to write your own main function for the task. The following are the general procedures to follow:

1. In your main() function, create a stack and a queue.
2. Read the quotation word by word from a text file.
3. Push each word on the stack and meanwhile enqueue the word in the queue as the file reading progresses
4. Print out the contents of the stack and queue by calling the Print() functions defined for the stack and queue, which call the pop function and Dequeue function.
5. Zip all the files into a single file and submit to the Blackboard.

"Teachers open the door but you must walk through it yourself."

Example for reading from file:

```
ifstream inFile;
string word;

inFile.open("inData.txt");
inFile >> word;

while (inFile) {
   // print and insert words
   inFile >> word;
}
```