

CS 11 Data Structures and Algorithms

Assignment 11: Stacks & Queues

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You can start this assignment, but be aware that I may be adding a second part on queues. If you are reading this after April 10, please let me know.

Assignment 11.1

This assignment is based on an assignment from "Data Structures and Other Objects Using C++" by Michael Main and Walter Savitch.

I hope you have fun with this one. Writing it was the most fun I've had in a long time.

Rewrite your sequence class but this time instead of the items being stored in a linked list, they will be stored using two STL stacks as private member variables as follows:

1. The bottom of the first stack is the beginning of the sequence.
2. The elements of the sequence continue up to the top of the first stack.
3. The next element of the sequence is then the top of the second stack.
4. The elements of the sequence then continue down to the bottom of the second stack (which is the end of the sequence).
5. If there is a current element, then that element is at the top of the first stack. As a result, if there is no current item, the first stack will be empty.

You can use the exact same sequence client program to test your class.

Note: You do not need to write your own assignment operator, copy constructor, or destructor, because you won't be doing any dynamic memory allocation in your class.

Submit Your Work

Use the Assignment Submission link to submit your sequence.h and sequence.cpp files. No client file or output is required. When you submit your assignment there will be a text field in which you can add a note to me (called a "comment", but don't confuse it with a C++ comment). In this "comments" section of the submission page let me know whether the class works as required.

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