

CS140 Homework 4 [10 pts]

Due 11.10am Thursday January 31, 2019

Problem 1 [7]

See the `stack_handout` for the class definition and wrapper implementation of a stack based on a list. Your task is to replace the wrapper implementation with code based on a dynamically allocated array. Assume the data stored on the stack are simple integers (`int`). Implement the public member functions `stack()`, `~stack()`, `empty()`, `size()`, `push()`, `pop()` and `top()`. Single line functions may be defined within the class if you like. Multi-line functions should be defined outside of the class definition. The constructor initializes all member variables and allocates memory for the array. The destructor deallocates the array memory. Make the size of the array 10. Do not include resizing. Do not include any error checking.

Problem 2 [3]

What type of error checking should member functions `push()`, `pop()` and `top()` include if the code were to be used in real application?