

CS213M: Assignment 2

Problem 1: Implementation of a Stack

Due Date: 04/02/2015

We are providing you with a file **stack.hpp** with declarations for functions you have to define in a file to be named **stack.cpp**. The functions you need to define are reproduced below for quick reference. As you can see, this time around we want to define a template class.

Note: Do not modify the given code. Do not change the signatures of the functions below. Do not use C++ STL.

Functions to be defined

1. `void stack<T>::push(T obj);`

Push the object **obj** on the top of the stack.

2. `int stack<T>::top(T *top_element);`

This function sets the value of the location pointed by **top_element** to the object at the top on the stack. It returns a positive quantity on successful execution. If the stack is empty, it returns a negative quantity.

3. `void stack<T>::pop();`

This function removes the object at the top of the stack. It does nothing if called on an empty stack.

4. `int stack<T>::size();`

This functions returns the number of elements in the stack.

Note: In the above, **T** is the template type.

Don't forget to read the comments in the given header file.