

225. Implement Stack using Queues

Description

Implement a last-in-first-out (LIFO) stack using only two queues. The implemented stack should support all the functions of a normal stack (`push` , `top` , `pop` , and `empty`).

Implement the `MyStack` class:

- `void push(int x)` Pushes element x to the top of the stack.
- `int pop()` Removes the element on the top of the stack and returns it.
- `int top()` Returns the element on the top of the stack.
- `boolean empty()` Returns `true` if the stack is empty, `false` otherwise.

Notes:

- You must use **only** standard operations of a queue, which means that only `push to back` , `peek/pop from front` , `size` and `is empty` operations are valid.
- Depending on your language, the queue may not be supported natively. You may simulate a queue using a list or deque (double-ended queue) as long as you use only a queue's standard operations.

Example 1:

Input
["MyStack", "push", "push", "top", "pop", "empty"]
[[], [1], [2], [], [], []]

Output
[null, null, null, 2, 2, false]

Explanation
MyStack myStack = new MyStack();
myStack.push(1);
myStack.push(2);
myStack.top(); // return 2
myStack.pop(); // return 2
myStack.empty(); // return False

Constraints:

- `1 <= x <= 9`
- At most `100` calls will be made to `push` , `pop` , `top` , and `empty` .
- All the calls to `pop` and `top` are valid.

Follow-up: Can you implement the stack using only one queue?

