Implement Stack using Queues - LeetCode

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?