

1441. Build an Array With Stack Operations

Solved ●

Medium ♦ Topics 🔒 Companies 💡 Hint

You are given an integer array `target` and an integer `n`.

You have an empty stack with the two following operations:

- **"Push"**: pushes an integer to the top of the stack.
- **"Pop"**: removes the integer on the top of the stack.

You also have a stream of the integers in the range `[1, n]`.

Use the two stack operations to make the numbers in the stack (from the bottom to the top) equal to `target`. You should follow the following rules:

- If the stream of the integers is not empty, pick the next integer from the stream and push it to the top of the stack.
- If the stack is not empty, pop the integer at the top of the stack.
- If, at any moment, the elements in the stack (from the bottom to the top) are equal to `target`, do not read new integers from the stream and do not do more operations on the stack.

Return *the stack operations needed to build* `target` following the mentioned rules. If there are multiple valid answers, return **any of them**.

Example 1:

Input: `target = [1,3], n = 3`**Output:** `["Push","Push","Pop","Push"]`**Explanation:** Initially the stack `s` is empty. The last element is the top of the stack.Read 1 from the stream and push it to the stack. `s = [1]`.Read 2 from the stream and push it to the stack. `s = [1,2]`.Pop the integer on the top of the stack. `s = [1]`.Read 3 from the stream and push it to the stack. `s = [1,3]`.

Example 2:

Input: `target = [1,2,3], n = 3`**Output:** `["Push","Push","Push"]`**Explanation:** Initially the stack `s` is empty. The last element is the top of the stack.Read 1 from the stream and push it to the stack. `s = [1]`.Read 2 from the stream and push it to the stack. `s = [1,2]`.Read 3 from the stream and push it to the stack. `s = [1,2,3]`.

Example 3:

Input: `target = [1,2], n = 4`**Output:** `["Push","Push"]`**Explanation:** Initially the stack `s` is empty. The last element is the top of the stack.Read 1 from the stream and push it to the stack. `s = [1]`.Read 2 from the stream and push it to the stack. `s = [1,2]`.Since the stack (from the bottom to the top) is equal to `target`, we stop the stack operations.

The answers that read integer 3 from the stream are not accepted.

Constraints:

- `1 <= target.length <= 100`
- `1 <= n <= 100`
- `1 <= target[i] <= n`
- `target` is strictly increasing.

Accepted **151.1K** Submissions **189.9K** Acceptance Rate **79.6%**

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☐ Yes ☐ No

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