

## 496. Next Greater Element I

The next greater element of some element  $x$  in an array is the first greater element that is to the right of  $x$  in the same array.

You are given two distinct 0-indexed integer arrays  $nums1$  and  $nums2$ , where  $nums1$  is a subset of  $nums2$ .

For each  $0 \leq i < nums1.length$ , find the index  $j$  such that  $nums1[i] == nums2[j]$  and determine the next greater element of  $nums2[j]$  in  $nums2$ . If there is no next greater element, then the answer for this query is  $-1$ .

Return an array  $ans$  of length  $nums1.length$  such that  $ans[i]$  is the next greater element as described above.

### Example 1:

- **Input:**  $nums1 = [4,1,2]$ ,  $nums2 = [1,3,4,2]$
- **Output:**  $[-1,3,-1]$
- **Explanation:** The next greater element for each value of  $nums1$  is as follows:
  - 4 is underlined in  $nums2 = [1,3,4,2]$ . There is no next greater element, so the answer is  $-1$ .
  - 1 is underlined in  $nums2 = [1,3,4,2]$ . The next greater element is 3.
  - 2 is underlined in  $nums2 = [1,3,4,2]$ . There is no next greater element, so the answer is  $-1$ .

### Example 2:

- **Input:**  $nums1 = [2,4]$ ,  $nums2 = [1,2,3,4]$
- **Output:**  $[3,-1]$
- **Explanation:** The next greater element for each value of  $nums1$  is as follows:
  - 2 is underlined in  $nums2 = [1,2,3,4]$ . The next greater element is 3.
  - 4 is underlined in  $nums2 = [1,2,3,4]$ . There is no next greater element, so the answer is  $-1$ .

**Constraints:**

- $1 \leq \text{nums1.length} \leq \text{nums2.length} \leq 1000$
- $0 \leq \text{nums1}[i], \text{nums2}[i] \leq 10^4$
- All integers in `nums1` and `nums2` are unique.
- All the integers of `nums1` also appear in `nums2`.

**Follow up:** Could you find an  $O(\text{nums1.length} + \text{nums2.length})$  solution?