You are given two arrays **(without duplicates)** nums1 and nums2 where nums1’s elements are subset of nums2. Find all the next greater numbers for nums1's elements in the corresponding places of nums2.

The Next Greater Number of a number **x** in nums1 is the first greater number to its right in nums2. If it does not exist, output -1 for this number.

**Example 1:**

**Input:** **nums1** = [4,1,2], **nums2** = [1,3,4,2].

**Output:** [-1,3,-1]

**Explanation:**

For number 4 in the first array, you cannot find the next greater number for it in the second array, so output -1.

For number 1 in the first array, the next greater number for it in the second array is 3.

For number 2 in the first array, there is no next greater number for it in the second array, so output -1.

**Example 2:**

**Input:** **nums1** = [2,4], **nums2** = [1,2,3,4].

**Output:** [3,-1]

**Explanation:**

For number 2 in the first array, the next greater number for it in the second array is 3.

For number 4 in the first array, there is no next greater number for it in the second array, so output -1.

**Note:**

1. All elements in nums1 and nums2 are unique.
2. The length of both nums1 and nums2 would not exceed 1000.

Solution: Very naïve solution would be, for every number in *nums1*, find it in *nums2*, then iterate to find the next greater number. This would be an O(n^2) solution.

Smart Solution: Use stacks. For a given array like this [20, 5, 3, 1, 6, 7], for numbers 5,3,1 the next highest number would be 6. All we need to do is store the number in decreasing order in the stack and when a great element appears, pop elements from the stack till stack’s top is greater than the current element. For e.g., 20 will be on top of the stack when we hit 6 and pop the number 1,3,5 in that order. When we’re done iterating the array, whichever elements left in the stack would not have a greater element. In the above example, 20 and 7 will not have greater elements and thus, they’ll have -1 as answer.

Since nums1 is a subset, we may get query for any number. Thus, we should be quickly able to find solution to the queried number. Thus, we can use an unordered\_map to store the every numbers next greater number. Thus, queries can be done quickly using maps.