Assignment -3

Topics:
Stacks

(Maximum marks -15)

Q-1) Given a list, Write a brute force approach without using stacks(using for loops, so that you can appreciate the beauty of stacks) to find the just larger element on the right of the element, for each element.
And for last element, since there is no element on the right give "None":

(5 marks)
(Easy)

Example 1:

Input: [2,1,7,4,6,8,1,9]
Output: [7,7,8,6,8,9,9,None]

Q-2)Next Greater Element I: **(5 marks)**
https://leetcode.com/problems/next-greater-element-i/
(Medium)
(See doubt session recording today to use stack to solve this problem)
You are given two integer arrays nums1 and nums2 both of unique elements, where nums1 is a 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, return -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.

Q-3) Build an Array With Stack Operations   (5 marks)

https://leetcode.com/problems/build-an-array-with-stack-operations/
(Medium)

Given an array target and an integer n. In each iteration, you will read a number from list = {1,2,3..., n}.

Build the target array using the following operations:

- Push: Read a new element from the beginning list, and push it in the array.
- Pop: delete the last element of the array.
- If the target array is already built, stop reading more elements.

Return the operations to build the target array. You are guaranteed that the answer is unique.

Example 1:

Input: target = [1,3], n = 3

Output: ["Push","Push","Pop","Push"]

Explanation:

Read number 1 and automatically push in the array -> [1]

Read number 2 and automatically push in the array then Pop it -> [1]

Read number 3 and automatically push in the array -> [1,3]

Marks distribution:
Question 1,2 and 3 carry 5 marks each.