Problem 1019: Next Greater Node In Linked List

Problem Information

Difficulty: Medium
Acceptance Rate: 63.23%
Paid Only: No
Tags: Array, Linked List, Stack, Monotonic Stack

Problem Description

You are given the `head` of a linked list with `n` nodes.

For each node in the list, find the value of the **next greater node**. That is, for each node, find the value of the first node that is next to it and has a **strictly larger** value than it.

Return an integer array `answer` where `answer[i]` is the value of the next greater node of the `ith` node (**1-indexed**). If the `ith` node does not have a next greater node, set `answer[i] = 0`.

Example 1:

Input: head = [2,1,5] **Output:** [5,5,0]

Example 2:

Input: head = [2,7,4,3,5] **Output:** [7,0,5,5,0]

Constraints:

* The number of nodes in the list is `n`. * `1 <= n <= 104` * `1 <= Node.val <= 109`

Code Snippets

C++:

```
/**
* Definition for singly-linked list.
* struct ListNode {
* int val;
* ListNode *next;
* ListNode() : val(0), next(nullptr) {}
* ListNode(int x) : val(x), next(nullptr) {}
* ListNode(int x, ListNode *next) : val(x), next(next) {}
* };
*/
class Solution {
public:
vector<int> nextLargerNodes(ListNode* head) {

}
};
```

Java:

```
/**
* Definition for singly-linked list.
* public class ListNode {
* int val;
* ListNode next;
* ListNode() {}
* ListNode(int val) { this.val = val; }
* ListNode(int val, ListNode next) { this.val = val; this.next = next; }
* }
*/
class Solution {
public int[] nextLargerNodes(ListNode head) {

}
}
```

Python3:

```
# Definition for singly-linked list.
# class ListNode:
# def __init__(self, val=0, next=None):
# self.val = val
# self.next = next
class Solution:
def nextLargerNodes(self, head: Optional[ListNode]) -> List[int]:
```