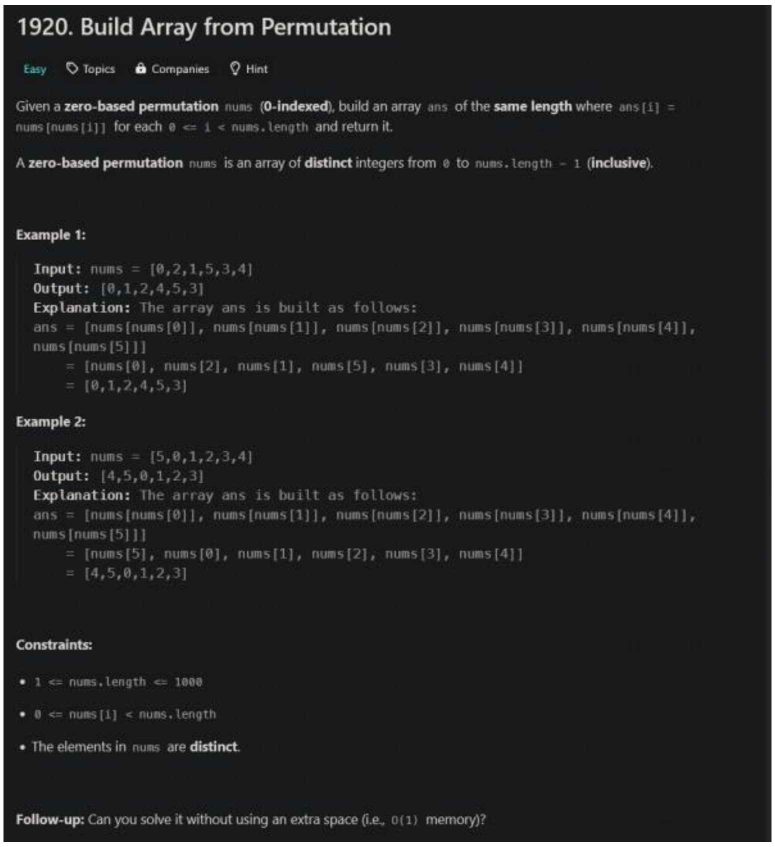
Tuesday, May 6, 2025 7:38 PM

Build Array from Permutation



1920. Build Array from Permutation

Easy Topics Companies Hint

Given a **zero-based permutation** `nums` (**0-indexed**), build an array `ans` of the **same length** where `ans[i] = nums[nums[i]]` for each `0 <= i < nums.length` and return it.

A **zero-based permutation** `nums` is an array of **distinct** integers from `0` to `nums.length - 1` (**inclusive**).

Example 1:

```
Input: nums = [0,2,1,5,3,4]
Output: [0,1,2,4,5,3]
Explanation: The array ans is built as follows:
ans = [nums[nums[0]], nums[nums[1]], nums[nums[2]], nums[nums[3]], nums[nums[4]],
nums[nums[5]]]
    = [nums[0], nums[2], nums[1], nums[5], nums[3], nums[4]]
    = [0,1,2,4,5,3]
```

Example 2:

```
Input: nums = [5,0,1,2,3,4]
Output: [4,5,0,1,2,3]
Explanation: The array ans is built as follows:
ans = [nums[nums[0]], nums[nums[1]], nums[nums[2]], nums[nums[3]], nums[nums[4]],
nums[nums[5]]]
    = [nums[5], nums[0], nums[1], nums[2], nums[3], nums[4]]
    = [4,5,0,1,2,3]
```

Constraints:

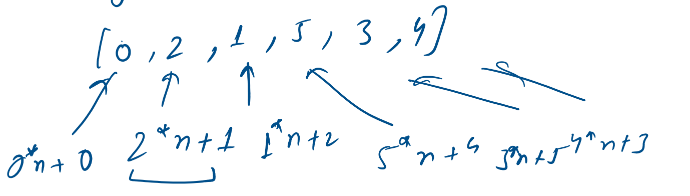
- `1 <= nums.length <= 1000`
- `0 <= nums[i] < nums.length`
- The elements in `nums` are **distinct**.

Follow-up: Can you solve it without using an extra space (i.e., `O(1)` memory)?

eg: I/p : nums = [0, 2, 1, 5, 3, 4]

O/p : [0, 1, 2, 4, 5, 3]

0*.



nums[i] = nums[i]*n+ nums[nums[i] / n]

```
vector<int> buildArray(vector<int>& nums){
 int n = nums.size();
for(int i=0; i<n; i++)nums[i] *= n;
 for(int i=0; i<n; i++){
 nums[i] += nums[nums[i]/n]/n; }

for(int i=0; i<n; i++)nums[i]%=n;
return nums;
  }
```