

442. Find All Duplicates in an Array

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Total Accepted: **12368** Total Submissions: **25163** Difficulty: **Medium** Contributors: **shen5630** (/shen5630/)

Given an array of integers, $1 \leq a[i] \leq n$ (n = size of array), some elements appear **twice** and others appear **once**.

Find all the elements that appear **twice** in this array.

Could you do it without extra space and in $O(n)$ runtime?

Example:

Input:

[4,3,2,7,8,2,3,1]

Output:

[2,3]

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C++



```
1 class Solution {
2 public:
3     vector<int> findDuplicates(vector<int>& nums) {
4         vector<int> res;
5         int n = nums.size();
6         for(int i = 0; i < n; i++){
7             int m = abs(nums[i]) - 1;
8             if(nums[m] < 0){
9                 res.push_back(m+1);
10            }
11            else {
12                nums[m] = -nums[m];
13            }
14        }
15        return res;
16    }
17 };
```

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