

5777. Reduction Operations to Make the Array Elements Equal

[My Submissions \(/contest/weekly-contest-244/problems/reduction-operations-to-make-the-array-elements-equal/submissions/\)](/contest/weekly-contest-244/problems/reduction-operations-to-make-the-array-elements-equal/submissions/)[Back to Contest \(/contest/weekly-contest-244/\)](/contest/weekly-contest-244/)

Given an integer array `nums`, your goal is to make all elements in `nums` equal. To complete one operation, follow these steps:

1. Find the **largest** value in `nums`. Let its index be `i` (**0-indexed**) and its value be `largest`. If there are multiple elements with the largest value, pick the smallest `i`.
2. Find the **next largest** value in `nums` **strictly smaller** than `largest`. Let its value be `nextLargest`.
3. Reduce `nums[i]` to `nextLargest`.

Return the number of operations to make all elements in `nums` equal.

User Accepted:	3904
User Tried:	4597
Total Accepted:	3956
Total Submissions:	6739
Difficulty:	Medium

Example 1:

Input: `nums = [5,1,3]`**Output:** 3**Explanation:** It takes 3 operations to make all elements in `nums` equal:

1. `largest = 5` at index 0. `nextLargest = 3`. Reduce `nums[0]` to 3. `nums = [3,1,3]`.
2. `largest = 3` at index 0. `nextLargest = 1`. Reduce `nums[0]` to 1. `nums = [1,1,3]`.
3. `largest = 3` at index 2. `nextLargest = 1`. Reduce `nums[2]` to 1. `nums = [1,1,1]`.

Example 2:

Input: `nums = [1,1,1]`**Output:** 0**Explanation:** All elements in `nums` are already equal.

Example 3:

Input: `nums = [1,1,2,2,3]`**Output:** 4**Explanation:** It takes 4 operations to make all elements in `nums` equal:

1. `largest = 3` at index 4. `nextLargest = 2`. Reduce `nums[4]` to 2. `nums = [1,1,2,2,2]`.
2. `largest = 2` at index 2. `nextLargest = 1`. Reduce `nums[2]` to 1. `nums = [1,1,1,2,2]`.
3. `largest = 2` at index 3. `nextLargest = 1`. Reduce `nums[3]` to 1. `nums = [1,1,1,1,2]`.
4. `largest = 2` at index 4. `nextLargest = 1`. Reduce `nums[4]` to 1. `nums = [1,1,1,1,1]`.

Constraints:

- $1 \leq \text{nums.length} \leq 5 \times 10^4$
- $1 \leq \text{nums}[i] \leq 5 \times 10^4$

JavaScript



```

1 const stin = (a) => a.sort((x, y) => x - y);
2 const reductionOperations = (a) => {
3   let se = new Set(a);
4   let u = [...se];
5   stin(u);
6   let m = new Map();
7   for (let i = 0; i < u.length; i++) {


```

```
8      m.set(u[i], i);
9  }
10     let min = Math.min.apply(Math, a);
11     let n = a.length;
12     // let final = Array(n).fill(min);
13     let res = 0;
14     // pr(a);
15     // pr(final);
16     for (let i = 0; i < n; i++) {
17         res += m.get(a[i]);
18     }
19     return res;
20 };
```

☐ Custom Testcase[Use Example Testcases](#)[Run](#)[Submit](#)**Submission Result: Accepted** (</submissions/detail/503662578/>) ?[More Details > \(/submissions/detail/503662578/\)](/submissions/detail/503662578/)

Share your acceptance!

Copyright © 2021 LeetCode

[Help Center \(/support/\)](/support/) | [Jobs \(/jobs/\)](/jobs/) | [Bug Bounty \(/bugbounty/\)](/bugbounty/) | [Online Interview \(/interview/\)](/interview/) | [Students \(/student/\)](/student/) | [Terms \(/terms/\)](/terms/) |[Privacy Policy \(/privacy/\)](/privacy/) [United States \(/region/\)](/region/)