

5715. Minimum Number of Operations to Reinitialize a Permutation

My Submissions (/contest/weekly-contest-234/problems/minimum-number-of-operations-to-reinitialize-a-permutation/submissions/)

Back to Contest (/contest/weekly-contest-234/)

You are given an **even** integer n . You initially have a permutation `perm` of size n where `perm[i] == i` (**0-indexed**).

In one operation, you will create a new array `arr`, and for each i :

- If $i \% 2 == 0$, then `arr[i] = perm[i / 2]`.
- If $i \% 2 == 1$, then `arr[i] = perm[n / 2 + (i - 1) / 2]`.

You will then assign `arr` to `perm`.

Return the *minimum **non-zero** number of operations you need to perform on `perm` to return the permutation to its initial value.*

User Accepted:	0
User Tried:	0
Total Accepted:	0
Total Submissions:	0
Difficulty:	Medium

Example 1:

Input: $n = 2$
Output: 1
Explanation: `perm = [0,1]` initially.
After the 1st operation, `perm = [0,1]`
So it takes only 1 operation.

Example 2:

Input: $n = 4$
Output: 2
Explanation: `perm = [0,1,2,3]` initially.
After the 1st operation, `perm = [0,2,1,3]`
After the 2nd operation, `perm = [0,1,2,3]`
So it takes only 2 operations.

Example 3:

Input: $n = 6$
Output: 4

Constraints:

- $2 \leq n \leq 1000$
- n is even.

JavaScript

db

↺

⚙

```
1 const reinitializePermutation = (n) => {
2   let perm = [];
3   for (let i = 0; i < n; i++) perm.push(i);
4   let origin = [...perm];
5   let res = 0;
6   while (1) {
7     let a = [...perm];
8     for (let i = 0; i < n; i++) {
9       let idx;
10      if (i & 1) {
11        idx = (n >> 1) + (i - 1) / 2;
12      } else {
13        idx = i / 2;
14      }
15      a[i] = perm[idx];
16    }
17    perm = a;
18    res++;
19    if (arrayEquals(origin, perm)) {
```

```
20         break;
21     }
22 }
23 return res;
24 };
25
26 const arrayEquals = (a, b) => {
27     return a.length === b.length && a.every((v, i) => v === b[i]);
28 };
```

☐ Custom Testcase[Use Example Testcases](#)[Run](#)[Submit](#)**Submission Result: Accepted** (</submissions/detail/473272947/>) ⓘ[More Details >](/submissions/detail/473272947/)

Share your acceptance!

◀ 1

[Copyright © 2021 LeetCode](#) | [Help Center \(/support\)](/support) | [Jobs \(/jobs\)](/jobs) | [Bug Bounty \(/bugbounty\)](/bugbounty) | [Students \(/student\)](/student) | [Terms \(/terms\)](/terms) | [Privacy Policy \(/privacy\)](/privacy) [United States \(/region\)](/region)