Problem 2870: Minimum Number of Operations to Make Array Empty

Problem Information

Difficulty: Medium
Acceptance Rate: 0.00%
Paid Only: No

Problem Description

You are given a

0-indexed

array

nums

consisting of positive integers.

There are two types of operations that you can apply on the array

any

number of times:

Choose

two

elements with

equal

values and

delete

them from the array.

Choose

three

elements with

equal

values and

delete

them from the array.

Return

the

minimum

number of operations required to make the array empty, or

-1

if it is not possible

.

Example 1:

Input:

nums = [2,3,3,2,2,4,2,3,4]

Output:

4

Explanation:

We can apply the following operations to make the array empty: - Apply the first operation on the elements at indices 0 and 3. The resulting array is nums = [3,3,2,4,2,3,4]. - Apply the first operation on the elements at indices 2 and 4. The resulting array is nums = [3,3,4,3,4]. - Apply the second operation on the elements at indices 0, 1, and 3. The resulting array is nums = [4,4]. - Apply the first operation on the elements at indices 0 and 1. The resulting array is nums = []. It can be shown that we cannot make the array empty in less than 4 operations.

Example 2:

Input:

nums = [2,1,2,2,3,3]

Output:

-1

Explanation:

It is impossible to empty the array.

Constraints:

2 <= nums.length <= 10

5

1 <= nums[i] <= 10

6

Note:

This question is the same as

2244: Minimum Rounds to Complete All Tasks.

Code Snippets

C++:

```
class Solution {
public:
int minOperations(vector<int>& nums) {

}
};
```

Java:

```
class Solution {
public int minOperations(int[] nums) {

}
}
```

Python3:

```
class Solution:
def minOperations(self, nums: List[int]) -> int:
```

Python:

```
class Solution(object):
def minOperations(self, nums):
"""
:type nums: List[int]
:rtype: int
"""
```

JavaScript:

```
/**
* @param {number[]} nums
```

```
 * @return {number}
 */
var minOperations = function(nums) {

};
```

TypeScript:

```
function minOperations(nums: number[]): number {

};
```

C#:

```
public class Solution {
public int MinOperations(int[] nums) {

}
}
```

C:

```
int minOperations(int* nums, int numsSize) {

}
```

Go:

```
func minOperations(nums []int) int {

}
```

Kotlin:

```
class Solution {
fun minOperations(nums: IntArray): Int {

}
}
```

Swift:

```
class Solution {
func minOperations(_ nums: [Int]) -> Int {

}
}
```

Rust:

```
impl Solution {
pub fn min_operations(nums: Vec<i32>) -> i32 {

}
}
```

Ruby:

```
# @param {Integer[]} nums
# @return {Integer}
def min_operations(nums)

end
```

PHP:

```
class Solution {

/**
* @param Integer[] $nums
* @return Integer
*/
function minOperations($nums) {

}
}
```

Dart:

```
class Solution {
int minOperations(List<int> nums) {

}
}
```

Scala:

```
object Solution {
def minOperations(nums: Array[Int]): Int = {

}
}
```

Elixir:

```
defmodule Solution do
@spec min_operations(nums :: [integer]) :: integer
def min_operations(nums) do

end
end
```

Erlang:

```
-spec min_operations(Nums :: [integer()]) -> integer().
min_operations(Nums) ->
.
```

Racket:

```
(define/contract (min-operations nums)
(-> (listof exact-integer?) exact-integer?)
)
```

Solutions

C++ Solution:

```
/*
* Problem: Minimum Number of Operations to Make Array Empty
* Difficulty: Medium
* Tags: array, greedy, hash
*
* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(n) for hash map
*/
```

```
class Solution {
public:
int minOperations(vector<int>& nums) {

}
};
```

Java Solution:

```
/**
* Problem: Minimum Number of Operations to Make Array Empty
* Difficulty: Medium
* Tags: array, greedy, hash
*
* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(n) for hash map
*/

class Solution {
public int minOperations(int[] nums) {

}
}
```

Python3 Solution:

```
"""
Problem: Minimum Number of Operations to Make Array Empty
Difficulty: Medium
Tags: array, greedy, hash

Approach: Use two pointers or sliding window technique
Time Complexity: O(n) or O(n log n)
Space Complexity: O(n) for hash map
"""

class Solution:
def minOperations(self, nums: List[int]) -> int:
# TODO: Implement optimized solution
```

```
pass
```

Python Solution:

```
class Solution(object):
def minOperations(self, nums):
"""
:type nums: List[int]
:rtype: int
"""
```

JavaScript Solution:

```
/**
* Problem: Minimum Number of Operations to Make Array Empty
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/**
* @param {number[]} nums
* @return {number}
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var minOperations = function(nums) {

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```

TypeScript Solution:

```
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```
*/

function minOperations(nums: number[]): number {

};
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C# Solution:

```
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* Problem: Minimum Number of Operations to Make Array Empty
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* Tags: array, greedy, hash
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* Approach: Use two pointers or sliding window technique
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* Space Complexity: O(n) for hash map
*/

public class Solution {
public int MinOperations(int[] nums) {

}
}
```

C Solution:

```
/*
* Problem: Minimum Number of Operations to Make Array Empty
* Difficulty: Medium
* Tags: array, greedy, hash
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* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
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*/

int minOperations(int* nums, int numsSize) {

}
```

Go Solution:

```
// Problem: Minimum Number of Operations to Make Array Empty
// Difficulty: Medium
// Tags: array, greedy, hash
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// Approach: Use two pointers or sliding window technique
// Time Complexity: O(n) or O(n log n)
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func minOperations(nums []int) int {

}
```

Kotlin Solution:

```
class Solution {
fun minOperations(nums: IntArray): Int {

}
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Swift Solution:

```
class Solution {
func minOperations(_ nums: [Int]) -> Int {

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Rust Solution:

```
// Problem: Minimum Number of Operations to Make Array Empty
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impl Solution {
pub fn min_operations(nums: Vec<i32>) -> i32 {

}
```

```
}
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Ruby Solution:

```
# @param {Integer[]} nums
# @return {Integer}
def min_operations(nums)

end
```

PHP Solution:

```
class Solution {

/**
* @param Integer[] $nums
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Dart Solution:

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