Problem 3353: Minimum Total Operations

Problem Information

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

Problem Description

Given an array of integers

nums

, you can perform

any

number of operations on this array.

In each

operation

, you can:

Choose a

prefix

of the array.

Choose an integer

k

(which can be negative) and add

k

to each element in the chosen prefix.

A

prefix

of an array is a subarray that starts from the beginning of the array and extends to any point within it.

Return the

minimum

number of operations required to make all elements in

arr

equal.

Example 1:

Input:

nums = [1,4,2]

Output:

2

Explanation:

Operation 1

: Choose the prefix

[1, 4]

of length 2 and add -2 to each element of the prefix. The array becomes

[-1, 2, 2]

.

Operation 2

: Choose the prefix

[-1]

of length 1 and add 3 to it. The array becomes

[2, 2, 2]

.

Thus, the minimum number of required operations is 2.

Example 2:

Input:

nums = [10,10,10]

Output:

0

Explanation:

All elements are already equal, so no operations are needed.

Constraints:

1 <= nums.length <= 10

5

-10

9

<= nums[i] <= 10

9

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 Total Operations
* Difficulty: Easy
* Tags: array
*
* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(1) to O(n) depending on approach
*/

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

}
};
```

Java Solution:

```
/**
* Problem: Minimum Total Operations
* Difficulty: Easy
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* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(1) to O(n) depending on approach
*/

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

}
}
```

Python3 Solution:

```
"""
Problem: Minimum Total Operations
Difficulty: Easy
Tags: array
```

```
Approach: Use two pointers or sliding window technique
Time Complexity: O(n) or O(n log n)
Space Complexity: O(1) to O(n) depending on approach
"""

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 Total Operations
* Difficulty: Easy
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* Time Complexity: O(n) or O(n log n)
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*/

/**
* @param {number[]} nums
* @return {number}
*/
var minOperations = function(nums) {

};
```

TypeScript Solution:

```
/**
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*/

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

};
```

C# Solution:

```
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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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*/

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

}
}
```

C Solution:

```
/*
* Problem: Minimum Total Operations
* Difficulty: Easy
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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 Total Operations
// Difficulty: Easy
// Tags: array
//
// Approach: Use two pointers or sliding window technique
// Time Complexity: O(n) or O(n log n)
// Space Complexity: O(1) to O(n) depending on approach

func minOperations(nums []int) int {

}
```

Kotlin Solution:

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

}
}
```

Swift Solution:

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

}
}
```

Rust Solution:

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// Problem: Minimum Total Operations
// Difficulty: Easy
// Tags: array
```

```
//
// Approach: Use two pointers or sliding window technique
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impl Solution {
pub fn min_operations(nums: Vec<i32>) -> i32 {

}
}
```

Ruby Solution:

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

end
```

PHP Solution:

```
class Solution {

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

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```

Dart Solution:

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Scala Solution:

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