

Problem 896: Monotonic Array

Problem Information

Difficulty: Easy

Acceptance Rate: 0.00%

Paid Only: No

Problem Description

An array is

monotonic

if it is either monotone increasing or monotone decreasing.

An array

nums

is monotone increasing if for all

$i \leq j$

,

$\text{nums}[i] \leq \text{nums}[j]$

. An array

nums

is monotone decreasing if for all

$i \leq j$

,

nums[i] >= nums[j]

.

Given an integer array

nums

, return

true

if the given array is monotonic, or

false

otherwise

.

Example 1:

Input:

nums = [1,2,2,3]

Output:

true

Example 2:

Input:

nums = [6,5,4,4]

Output:

true

Example 3:

Input:

nums = [1,3,2]

Output:

false

Constraints:

1 <= nums.length <= 10

5

-10

5

<= nums[i] <= 10

5

Code Snippets

C++:

```
class Solution {  
public:  
    bool isMonotonic(vector<int>& nums) {  
  
    }  
};
```

Java:

```

class Solution {
public boolean isMonotonic(int[] nums) {

}

}

```

Python3:

```

class Solution:
def isMonotonic(self, nums: List[int]) -> bool:

```

Python:

```

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

```

JavaScript:

```

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

};

```

TypeScript:

```

function isMonotonic(nums: number[]): boolean {

};

```

C#:

```

public class Solution {
public bool IsMonotonic(int[] nums) {

}

}

```

C:

```
bool isMonotonic(int* nums, int numsSize) {  
  
}
```

Go:

```
func isMonotonic(nums []int) bool {  
  
}
```

Kotlin:

```
class Solution {  
    fun isMonotonic(nums: IntArray): Boolean {  
  
    }  
}
```

Swift:

```
class Solution {  
    func isMonotonic(_ nums: [Int]) -> Bool {  
  
    }  
}
```

Rust:

```
impl Solution {  
    pub fn is_monotonic(nums: Vec<i32>) -> bool {  
  
    }  
}
```

Ruby:

```
# @param {Integer[]} nums  
# @return {Boolean}  
def is_monotonic(nums)  
  
end
```

PHP:

```
class Solution {

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

    }

}
```

Dart:

```
class Solution {
  bool isMonotonic(List<int> nums) {

  }
}
```

Scala:

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

  }
}
```

Elixir:

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

  end

end
```

Erlang:

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

Racket:

```
(define/contract (is-monotonic nums)
  (-> (listof exact-integer?) boolean?)
)
```

Solutions

C++ Solution:

```
/*
 * Problem: Monotonic Array
 * 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:
    bool isMonotonic(vector<int>& nums) {

    }
};
```

Java Solution:

```
/**
 * Problem: Monotonic Array
 * 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 boolean isMonotonic(int[] nums) {
```

```
}  
}
```

Python3 Solution:

```
"""  
Problem: Monotonic Array  
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 isMonotonic(self, nums: List[int]) -> bool:  
        # TODO: Implement optimized solution  
        pass
```

Python Solution:

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

JavaScript Solution:

```
/**  
 * Problem: Monotonic Array  
 * 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  
 */
```

```

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

};

```

TypeScript Solution:

```

/**
 * Problem: Monotonic Array
 * Difficulty: Easy
 * Tags: array
 *
 * Approach: Use two pointers or sliding window technique
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 */

function isMonotonic(nums: number[]): boolean {

};

```

C# Solution:

```

/*
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 * 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
 */

public class Solution {
    public bool IsMonotonic(int[] nums) {

    }
}

```

```
}
```

C Solution:

```
/*
 * Problem: Monotonic Array
 * 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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 */

bool isMonotonic(int* nums, int numsSize) {

}
```

Go Solution:

```
// Problem: Monotonic Array
// 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 isMonotonic(nums []int) bool {

}
```

Kotlin Solution:

```
class Solution {
    fun isMonotonic(nums: IntArray): Boolean {

    }
}
```

Swift Solution:

```

class Solution {
    func isMonotonic(_ nums: [Int]) -> Bool {

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```

Rust Solution:

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impl Solution {
    pub fn is_monotonic(nums: Vec<i32>) -> bool {

    }
}

```

Ruby Solution:

```

# @param {Integer[]} nums
# @return {Boolean}
def is_monotonic(nums)

end

```

PHP Solution:

```

class Solution {

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

    }

}

```

Dart Solution:

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class Solution {  
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object Solution {  
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