Problem 962: Maximum Width Ramp

Problem Information

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

Problem Description

A

ramp

in an integer array

nums

is a pair

(i, j)

for which

i < j

and

nums[i] <= nums[j]

. The

width

of such a ramp is

j - i

.

Given an integer array

nums

, return

the maximum width of a

ramp

in

nums

. If there is no

ramp

in

nums

, return

0

.

Example 1:

Input:

nums = [6,0,8,2,1,5]

Output:

4

Explanation:

The maximum width ramp is achieved at (i, j) = (1, 5): nums[1] = 0 and nums[5] = 5.

Example 2:

Input:

nums = [9,8,1,0,1,9,4,0,4,1]

Output:

7

Explanation:

The maximum width ramp is achieved at (i, j) = (2, 9): nums[2] = 1 and nums[9] = 1.

Constraints:

2 <= nums.length <= 5 * 10

4

0 <= nums[i] <= 5 * 10

4

Code Snippets

C++:

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

```
}
};
```

Java:

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

}
}
```

Python3:

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

Python:

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

JavaScript:

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

};
```

TypeScript:

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

};
```

C#:

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

}
}
```

C:

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

}
```

Go:

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

}
```

Kotlin:

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

}
}
```

Swift:

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

}
}
```

Rust:

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

}
}
```

Ruby:

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

end
```

PHP:

```
class Solution {

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

}
}
```

Dart:

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

}
}
```

Scala:

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

}
}
```

Elixir:

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

end
end
```

Erlang:

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

Racket:

```
(define/contract (max-width-ramp nums)
(-> (listof exact-integer?) exact-integer?)
)
```

Solutions

C++ Solution:

```
/*
* Problem: Maximum Width Ramp
* Difficulty: Medium
* Tags: array, stack
*
* 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 maxWidthRamp(vector<int>& nums) {

}
};
```

Java Solution:

```
/**
* Problem: Maximum Width Ramp
* Difficulty: Medium
* Tags: array, stack
*
* 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 maxWidthRamp(int[] nums) {

}
}
```

Python3 Solution:

```
"""
Problem: Maximum Width Ramp
Difficulty: Medium
Tags: array, stack

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 maxWidthRamp(self, nums: List[int]) -> int:
# TODO: Implement optimized solution
pass
```

Python Solution:

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

JavaScript Solution:

```
/**
* Problem: Maximum Width Ramp
* Difficulty: Medium
```

```
* Tags: array, stack
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/**
* @param {number[]} nums
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var maxWidthRamp = function(nums) {

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TypeScript Solution:

```
/**
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*/

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

};
```

C# Solution:

```
/*
* Problem: Maximum Width Ramp
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* Approach: Use two pointers or sliding window technique
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```

```
*/

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

}
}
```

C Solution:

```
/*
* Problem: Maximum Width Ramp
* Difficulty: Medium
* Tags: array, stack
*
* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
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*/

int maxWidthRamp(int* nums, int numsSize) {

}
```

Go Solution:

```
// Problem: Maximum Width Ramp
// Difficulty: Medium
// Tags: array, stack
//
// Approach: Use two pointers or sliding window technique
// Time Complexity: O(n) or O(n log n)
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func maxWidthRamp(nums []int) int {

}
```

Kotlin Solution:

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

}
}
```

Swift Solution:

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

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Rust Solution:

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

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}
```

Ruby Solution:

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

end
```

PHP Solution:

```
class Solution {
```

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

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}
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Dart Solution:

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class Solution {
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