

Problem 280: Wiggle Sort

Problem Information

Difficulty: **Medium**

Acceptance Rate: 0.00%

Paid Only: No

Problem Description

Given an integer array

`nums`

, reorder it such that

$nums[0] \leq nums[1] \geq nums[2] \leq nums[3] \dots$

.

You may assume the input array always has a valid answer.

Example 1:

Input:

`nums = [3,5,2,1,6,4]`

Output:

`[3,5,1,6,2,4]`

Explanation:

`[1,6,2,5,3,4]` is also accepted.

Example 2:

Input:

nums = [6,6,5,6,3,8]

Output:

[6,6,5,6,3,8]

Constraints:

$1 \leq \text{nums.length} \leq 5 * 10$

4

$0 \leq \text{nums}[i] \leq 10$

4

It is guaranteed that there will be an answer for the given input

nums

.

Follow up:

Could you solve the problem in

$O(n)$

time complexity?

Code Snippets

C++:

```

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

    }

};

```

Java:

```

class Solution {
    public void wiggleSort(int[] nums) {

    }

}

```

Python3:

```

class Solution:
    def wiggleSort(self, nums: List[int]) -> None:
        """
        Do not return anything, modify nums in-place instead.
        """

```

Python:

```

class Solution(object):
    def wiggleSort(self, nums):
        """
        :type nums: List[int]
        :rtype: None Do not return anything, modify nums in-place instead.
        """

```

JavaScript:

```

/**
 * @param {number[]} nums
 * @return {void} Do not return anything, modify nums in-place instead.
 */
var wiggleSort = function(nums) {

};

```

TypeScript:

```
/**
Do not return anything, modify nums in-place instead.
*/
function wiggleSort(nums: number[]): void {

};
```

C#:

```
public class Solution {
    public void WiggleSort(int[] nums) {

    }
}
```

C:

```
void wiggleSort(int* nums, int numsSize) {

}
```

Go:

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

}
```

Kotlin:

```
class Solution {
    fun wiggleSort(nums: IntArray): Unit {

    }
}
```

Swift:

```
class Solution {
    func wiggleSort(_ nums: inout [Int]) {

    }
}
```

Rust:

```
impl Solution {  
    pub fn wiggle_sort(nums: &mut Vec<i32>) {  
  
    }  
}
```

Ruby:

```
# @param {Integer[]} nums  
# @return {Void} Do not return anything, modify nums in-place instead.  
def wiggle_sort(nums)  
  
end
```

PHP:

```
class Solution {  
  
    /**  
     * @param Integer[] $nums  
     * @return NULL  
     */  
    function wiggleSort(&$nums) {  
  
    }  
}
```

Dart:

```
class Solution {  
    void wiggleSort(List<int> nums) {  
  
    }  
}
```

Scala:

```
object Solution {  
    def wiggleSort(nums: Array[Int]): Unit = {  
  
    }  
}
```

```
}
```

Solutions

C++ Solution:

```
/*
 * Problem: Wiggle Sort
 * Difficulty: Medium
 * Tags: array, greedy, sort
 *
 * 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:
    void wiggleSort(vector<int>& nums) {

    }
};
```

Java Solution:

```
/**
 * Problem: Wiggle Sort
 * Difficulty: Medium
 * Tags: array, greedy, sort
 *
 * 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 void wiggleSort(int[] nums) {

    }
}
```

Python3 Solution:

```
"""
Problem: Wiggle Sort
Difficulty: Medium
Tags: array, greedy, sort

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 wiggleSort(self, nums: List[int]) -> None:
        # TODO: Implement optimized solution
        pass
```

Python Solution:

```
class Solution(object):
    def wiggleSort(self, nums):
        """
        :type nums: List[int]
        :rtype: None Do not return anything, modify nums in-place instead.
        """
```

JavaScript Solution:

```
/**
 * Problem: Wiggle Sort
 * Difficulty: Medium
 * Tags: array, greedy, sort
 *
 * 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 {void} Do not return anything, modify nums in-place instead.
 */
```

```
var wiggleSort = function(nums) {  
  
};
```

TypeScript Solution:

```
/**  
 * Problem: Wiggle Sort  
 * Difficulty: Medium  
 * Tags: array, greedy, sort  
 *  
 * 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  
 */  
  
/**  
Do not return anything, modify nums in-place instead.  
 */  
function wiggleSort(nums: number[]): void {  
  
};
```

C# Solution:

```
/*  
 * Problem: Wiggle Sort  
 * Difficulty: Medium  
 * Tags: array, greedy, sort  
 *  
 * 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 void WiggleSort(int[] nums) {  
  
    }  
}
```

C Solution:

```
/*
 * Problem: Wiggle Sort
 * Difficulty: Medium
 * Tags: array, greedy, sort
 *
 * 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
 */

void wiggleSort(int* nums, int numsSize) {

}
```

Go Solution:

```
// Problem: Wiggle Sort
// Difficulty: Medium
// Tags: array, greedy, sort
//
// 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 wiggleSort(nums []int) {

}
```

Kotlin Solution:

```
class Solution {
    fun wiggleSort(nums: IntArray): Unit {

    }
}
```

Swift Solution:

```
class Solution {
    func wiggleSort(_ nums: inout [Int]) {
```

```
}  
}
```

Rust Solution:

```
// Problem: Wiggle Sort  
// Difficulty: Medium  
// Tags: array, greedy, sort  
//  
// Approach: Use two pointers or sliding window technique  
// Time Complexity: O(n) or O(n log n)  
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impl Solution {  
    pub fn wiggle_sort(nums: &mut Vec<i32>) {  
  
    }  
}
```

Ruby Solution:

```
# @param {Integer[]} nums  
# @return {Void} Do not return anything, modify nums in-place instead.  
def wiggle_sort(nums)  
  
end
```

PHP Solution:

```
class Solution {  
  
    /**  
     * @param Integer[] $nums  
     * @return NULL  
     */  
    function wiggleSort(&$nums) {  
  
    }  
}
```

Dart Solution:

```
class Solution {  
  void wiggleSort(List<int> nums) {  
  
  }  
}
```

Scala Solution:

```
object Solution {  
  def wiggleSort(nums: Array[Int]): Unit = {  
  
  }  
}
```