Problem 1749: Maximum Absolute Sum of Any Subarray

Problem Information

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

Problem Description

You are given an integer array

nums

. The

absolute sum

of a subarray

[nums

l

, nums

l+1

, ..., nums

r-1

, nums

r

]

is

abs(nums

l

+ nums

l+1

+ ... + nums

r-1

+ nums

r

)

.

Return

the

maximum

absolute sum of any

(possibly empty)

subarray of

nums

.

Note that

abs(x)

is defined as follows:

If

x

is a negative integer, then

abs(x) = -x

.

If

x

is a non-negative integer, then

abs(x) = x

.

Example 1:

Input:

nums = [1,-3,2,3,-4]

Output:

5

Explanation:

The subarray [2,3] has absolute sum = abs(2+3) = abs(5) = 5.

Example 2:

Input:

nums = [2,-5,1,-4,3,-2]

Output:

8

Explanation:

The subarray [-5,1,-4] has absolute sum = abs(-5+1-4) = abs(-8) = 8.

Constraints:

1 <= nums.length <= 10

5

-10

4

<= nums[i] <= 10

4

Code Snippets

C++:

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

```
}
};
```

Java:

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

}
}
```

Python3:

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

Python:

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

JavaScript:

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

};
```

TypeScript:

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

};
```

C#:

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

}
}
```

C:

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

}
```

Go:

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

}
```

Kotlin:

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

}
}
```

Swift:

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

}
}
```

Rust:

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

}
}
```

Ruby:

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

end
```

PHP:

```
class Solution {

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

}
}
```

Dart:

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

}
}
```

Scala:

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

}
}
```

Elixir:

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

end
end
```

Erlang:

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

Racket:

```
(define/contract (max-absolute-sum nums)
(-> (listof exact-integer?) exact-integer?)
)
```

Solutions

C++ Solution:

```
/*
* Problem: Maximum Absolute Sum of Any Subarray
* Difficulty: Medium
* Tags: array, dp
*
* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(n) or O(n * m) for DP table
*/

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

}
};
```

Java Solution:

```
/**
* Problem: Maximum Absolute Sum of Any Subarray
* Difficulty: Medium
* Tags: array, dp
*
* Approach: Use two pointers or sliding window technique
```

```
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(n) or O(n * m) for DP table
*/

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

}
}
```

Python3 Solution:

```
"""
Problem: Maximum Absolute Sum of Any Subarray
Difficulty: Medium
Tags: array, dp

Approach: Use two pointers or sliding window technique
Time Complexity: O(n) or O(n log n)
Space Complexity: O(n) or O(n * m) for DP table
"""

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

Python Solution:

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

JavaScript Solution:

```
/**
* Problem: Maximum Absolute Sum of Any Subarray
* Difficulty: Medium
```

```
* Tags: array, dp
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* Time Complexity: O(n) or O(n log n)
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/**
* @param {number[]} nums
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var maxAbsoluteSum = function(nums) {

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```

TypeScript Solution:

```
/**
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* Tags: array, dp
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* Time Complexity: O(n) or O(n log n)
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*/

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

};
```

C# Solution:

```
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* Problem: Maximum Absolute Sum of Any Subarray
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* Tags: array, dp
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* Time Complexity: O(n) or O(n log n)
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```

```
*/

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

}
}
```

C Solution:

```
/*
* Problem: Maximum Absolute Sum of Any Subarray
* Difficulty: Medium
* Tags: array, dp
*
* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
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*/

int maxAbsoluteSum(int* nums, int numsSize) {

}
```

Go Solution:

```
// Problem: Maximum Absolute Sum of Any Subarray
// Difficulty: Medium
// Tags: array, dp
//
// Approach: Use two pointers or sliding window technique
// Time Complexity: O(n) or O(n log n)
// Space Complexity: O(n) or O(n * m) for DP table

func maxAbsoluteSum(nums []int) int {

}
```

Kotlin Solution:

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

}
}
```

Swift Solution:

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

}
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```

Rust Solution:

```
// Problem: Maximum Absolute Sum of Any Subarray
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impl Solution {
pub fn max_absolute_sum(nums: Vec<i32>) -> i32 {

}
}
```

Ruby Solution:

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

end
```

PHP Solution:

```
class Solution {
```

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

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Dart Solution:

```
class Solution {
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Scala Solution:

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object Solution {
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