Problem 3026: Maximum Good Subarray Sum

Problem Information

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

Problem Description

You are given an array

nums

of length

n

and a

positive

integer

k

.

A

subarray

of

nums

is called

good

if the

absolute difference

between its first and last element is

exactly

k

, in other words, the subarray

nums[i..j]

is good if

|nums[i] - nums[j]| == k

.

Return

the

maximum

sum of a

good

subarray of

nums

.

If there are no good subarrays

, return

0

.

Example 1:

Input:

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

Output:

11

Explanation:

The absolute difference between the first and last element

must be 1 for a good subarray. All the good subarrays are: [1,2], [2,3], [3,4], [4,5], and [5,6]. The maximum subarray sum is 11 for the subarray [5,6].

Example 2:

Input:

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

Output:

11

Explanation:

The absolute difference between the first and last element

must be 3 for a good subarray. All the good subarrays are: [-1,3,2], and [2,4,5]. The maximum subarray sum is 11 for the subarray [2,4,5].

Example 3:

Input:

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

Output:

-6

Explanation:

The absolute difference between the first and last element

must be 2 for a good subarray. All the good subarrays are: [-1,-2,-3], and [-2,-3,-4]. The maximum subarray sum is -6 for the subarray [-1,-2,-3].

Constraints:

2 <= nums.length <= 10

5

-10

9

<= nums[i] <= 10

9

1 <= k <= 10

9

Code Snippets

C++:

```
class Solution {
public:
long long maximumSubarraySum(vector<int>& nums, int k) {

}
};
```

Java:

```
class Solution {
public long maximumSubarraySum(int[] nums, int k) {

}
}
```

Python3:

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

Python:

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

JavaScript:

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

```
};
```

TypeScript:

```
function maximumSubarraySum(nums: number[], k: number): number {

};
```

C#:

```
public class Solution {
public long MaximumSubarraySum(int[] nums, int k) {

}
}
```

C:

```
long long maximumSubarraySum(int* nums, int numsSize, int k) {

}
```

Go:

```
func maximumSubarraySum(nums []int, k int) int64 {

}
```

Kotlin:

```
class Solution {
fun maximumSubarraySum(nums: IntArray, k: Int): Long {

}
}
```

Swift:

```
class Solution {
func maximumSubarraySum(_ nums: [Int], _ k: Int) -> Int {

}
```

```
}
```

Rust:

```
impl Solution {
pub fn maximum_subarray_sum(nums: Vec<i32>, k: i32) -> i64 {

}
}
```

Ruby:

```
# @param {Integer[]} nums
# @param {Integer} k
# @return {Integer}
def maximum_subarray_sum(nums, k)

end
```

PHP:

```
class Solution {

/**
* @param Integer[] $nums
* @param Integer $k
* @return Integer
*/
function maximumSubarraySum($nums, $k) {

}
}
```

Dart:

```
class Solution {
int maximumSubarraySum(List<int> nums, int k) {

}
}
```

Scala:

```
object Solution {
def maximumSubarraySum(nums: Array[Int], k: Int): Long = {

}
}
```

Elixir:

```
defmodule Solution do
@spec maximum_subarray_sum(nums :: [integer], k :: integer) :: integer
def maximum_subarray_sum(nums, k) do

end
end
```

Erlang:

```
-spec maximum_subarray_sum(Nums :: [integer()], K :: integer()) -> integer().
maximum_subarray_sum(Nums, K) ->
.
```

Racket:

```
(define/contract (maximum-subarray-sum nums k)
(-> (listof exact-integer?) exact-integer? exact-integer?)
)
```

Solutions

C++ Solution:

```
/*
* Problem: Maximum Good Subarray Sum
* Difficulty: Medium
* Tags: array, hash
*
* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(n) for hash map
*/
```

```
class Solution {
public:
long long maximumSubarraySum(vector<int>& nums, int k) {

}
};
```

Java Solution:

```
/**
* Problem: Maximum Good Subarray Sum
* Difficulty: Medium
* Tags: array, hash
*
* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(n) for hash map
*/

class Solution {
public long maximumSubarraySum(int[] nums, int k) {

}
}
```

Python3 Solution:

```
"""
Problem: Maximum Good Subarray Sum
Difficulty: Medium
Tags: array, hash

Approach: Use two pointers or sliding window technique
Time Complexity: O(n) or O(n log n)
Space Complexity: O(n) for hash map
"""

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

Python Solution:

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

```
/**
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* @param {number[]} nums
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var maximumSubarraySum = function(nums, k) {

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```

```
function maximumSubarraySum(nums: number[], k: number): number {

};
```

C# Solution:

```
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*/

public class Solution {
public long MaximumSubarraySum(int[] nums, int k) {

}
}
```

C Solution:

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

long long maximumSubarraySum(int* nums, int numsSize, int k) {

}
```

Go Solution:

```
// Problem: Maximum Good Subarray Sum
// Difficulty: Medium
// Tags: array, hash
//
// Approach: Use two pointers or sliding window technique
// Time Complexity: O(n) or O(n log n)
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func maximumSubarraySum(nums []int, k int) int64 {

}
```

Kotlin Solution:

```
class Solution {
fun maximumSubarraySum(nums: IntArray, k: Int): Long {

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class Solution {
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impl Solution {
pub fn maximum_subarray_sum(nums: Vec<i32>, k: i32) -> i64 {

}
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```
}
```

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```
# @param {Integer[]} nums
# @param {Integer} k
# @return {Integer}
def maximum_subarray_sum(nums, k)

end
```

PHP Solution:

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class Solution {

/**
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