Problem 2099: Find Subsequence of Length K With the Largest Sum

Problem Information

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

Problem Description

You are given an integer array

nums

and an integer

k

. You want to find a

subsequence

of

nums

of length

k

that has the

largest

sum.

Return

any

such subsequence as an integer array of length

k

.

A

subsequence

is an array that can be derived from another array by deleting some or no elements without changing the order of the remaining elements.

Example 1:

Input:

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

Output:

[3,3]

Explanation:

The subsequence has the largest sum of 3 + 3 = 6.

Example 2:

Input:

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

Output:

[-1,3,4]

Explanation:

The subsequence has the largest sum of -1 + 3 + 4 = 6.

Example 3:

Input:

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

Output:

[3,4]

Explanation:

The subsequence has the largest sum of 3 + 4 = 7. Another possible subsequence is [4, 3].

Constraints:

1 <= nums.length <= 1000

-10

5

<= nums[i] <= 10

5

1 <= k <= nums.length

Code Snippets

C++:

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

}
};
```

Java:

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

}
}
```

Python3:

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

Python:

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

JavaScript:

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

};
```

TypeScript:

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

};
```

C#:

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

}
}
```

C:

```
/**
* Note: The returned array must be malloced, assume caller calls free().
*/
int* maxSubsequence(int* nums, int numsSize, int k, int* returnSize) {

}
```

Go:

```
func maxSubsequence(nums []int, k int) []int {

}
```

Kotlin:

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

}
}
```

Swift:

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

}
}
```

Rust:

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

}
}
```

Ruby:

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

end
```

PHP:

```
class Solution {

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

}
}
```

Dart:

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

}
}
```

Scala:

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

```
}
}
```

Elixir:

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

end
end
```

Erlang:

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

Racket:

```
(define/contract (max-subsequence nums k)
(-> (listof exact-integer?) exact-integer? (listof exact-integer?))
)
```

Solutions

C++ Solution:

```
/*
* Problem: Find Subsequence of Length K With the Largest Sum
* Difficulty: Easy
* Tags: array, hash, sort, queue, heap
*
* 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:
vector<int> maxSubsequence(vector<int>& nums, int k) {

}
};
```

Java Solution:

```
/**
* Problem: Find Subsequence of Length K With the Largest Sum
* Difficulty: Easy
* Tags: array, hash, sort, queue, heap
*
* 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 int[] maxSubsequence(int[] nums, int k) {

}
}
```

Python3 Solution:

```
"""
Problem: Find Subsequence of Length K With the Largest Sum
Difficulty: Easy
Tags: array, hash, sort, queue, heap

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

Python Solution:

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

JavaScript Solution:

```
/**
* Problem: Find Subsequence of Length K With the Largest Sum
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*/

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

};
```

TypeScript Solution:

```
/**
* Problem: Find Subsequence of Length K With the Largest Sum
* Difficulty: Easy
* Tags: array, hash, sort, queue, heap
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* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(n) for hash map
*/
```

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

};
```

C# Solution:

```
/*
* Problem: Find Subsequence of Length K With the Largest Sum
* Difficulty: Easy
* Tags: array, hash, sort, queue, heap
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*/

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

}
}
```

C Solution:

```
/*
* Problem: Find Subsequence of Length K With the Largest Sum
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* Tags: array, hash, sort, queue, heap
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*/

/**
* Note: The returned array must be malloced, assume caller calls free().
*/
int* maxSubsequence(int* nums, int numsSize, int k, int* returnSize) {

}
```

Go Solution:

```
// Problem: Find Subsequence of Length K With the Largest Sum
// Difficulty: Easy
// Tags: array, hash, sort, queue, heap
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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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func maxSubsequence(nums []int, k int) []int {

}
```

Kotlin Solution:

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

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

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

```
}
}
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Ruby Solution:

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

end
```

PHP Solution:

```
class Solution {

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

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Dart Solution:

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object Solution {
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