Problem 3684: Maximize Sum of At Most K Distinct Elements

Problem Information

Difficulty: Easy
Acceptance Rate: 73.93%
Paid Only: No
Tags: Array, Hash Table, Greedy, Sorting

Problem Description

You are given a **positive** integer array `nums` and an integer `k`.

Choose at most `k` elements from `nums` so that their sum is maximized. However, the chosen numbers must be **distinct**.

Return an array containing the chosen numbers in **strictly descending** order.

Example 1:

Input: nums = [84,93,100,77,90], k = 3

Output: [100,93,90]

Explanation:

The maximum sum is 283, which is attained by choosing 93, 100 and 90. We rearrange them in strictly descending order as `[100, 93, 90]`.

Example 2:

Input: nums = [84,93,100,77,93], k = 3

Output: [100,93,84]

Explanation:

The maximum sum is 277, which is attained by choosing 84, 93 and 100. We rearrange them in strictly descending order as `[100, 93, 84]`. We cannot choose 93, 100 and 93 because the chosen numbers must be distinct.

Example 3:

Input: nums = [1,1,1,2,2,2], k = 6

Output: [2,1]

Explanation:

The maximum sum is 3, which is attained by choosing 1 and 2. We rearrange them in strictly descending order as `[2, 1]`.

Constraints:

* `1 <= nums.length <= 100` * `1 <= nums[i] <= 109` * `1 <= k <= nums.length`

Code Snippets

C++:

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

}
};
```

Java:

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

}
}
```

Python3:

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