

5619. Minimum Incompatibility

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You are given an integer array `nums` and an integer `k`. You are asked to distribute this array into `k` subsets of **equal size** such that there are no two equal elements in the same subset.

A subset's **incompatibility** is the difference between the maximum and minimum elements in that array.

Return the **minimum possible sum of incompatibilities** of the `k` subsets after distributing the array optimally, or return `-1` if it is not possible.

A subset is a group integers that appear in the array with no particular order.

User Accepted:	0
User Tried:	0
Total Accepted:	0
Total Submissions:	0
Difficulty:	Medium

Example 1:

Input: `nums = [1,2,1,4], k = 2`
Output: `4`
Explanation: The optimal distribution of subsets is `[1,2]` and `[1,4]`.
The incompatibility is $(2-1) + (4-1) = 4$.
Note that `[1,1]` and `[2,4]` would result in a smaller sum, but the first subset contains 2 equal elements.

Example 2:

Input: `nums = [6,3,8,1,3,1,2,2], k = 4`
Output: `6`
Explanation: The optimal distribution of subsets is `[1,2]`, `[2,3]`, `[6,8]`, and `[1,3]`.
The incompatibility is $(2-1) + (3-2) + (8-6) + (3-1) = 6$.

Example 3:

Input: `nums = [5,3,3,6,3,3], k = 3`
Output: `-1`
Explanation: It is impossible to distribute `nums` into 3 subsets where no two elements are equal in the same subset.

Constraints:

- $1 \leq k \leq \text{nums.length} \leq 16$
- `nums.length` is divisible by `k`
- $1 \leq \text{nums}[i] \leq \text{nums.length}$

JavaScript

```
1 /**
2  * @param {number[]} nums
3  * @param {number} k
4  * @return {number}
5  */
6 var minimumIncompatibility = function(nums, k) {
7
8  };
```