

6091. Partition Array Such That Maximum Difference Is K

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You are given an integer array `nums` and an integer `k`. You may partition `nums` into one or more **subsequences** such that each element in `nums` appears in **exactly** one of the subsequences.

Return the **minimum** number of subsequences needed such that the difference between the maximum and minimum values in each subsequence is **at most** `k`.

A **subsequence** is a sequence that can be derived from another sequence by deleting some or no elements without changing the order of the remaining elements.

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

Example 1:

Input: `nums = [3,6,1,2,5]`, `k = 2`
Output: `2`
Explanation:
We can partition `nums` into the two subsequences `[3,1,2]` and `[6,5]`.
The difference between the maximum and minimum value in the first subsequence is `3 - 1 = 2`.
The difference between the maximum and minimum value in the second subsequence is `6 - 5 = 1`.
Since two subsequences were created, we return `2`. It can be shown that `2` is the minimum number of subsequences needed.

Example 2:

Input: `nums = [1,2,3]`, `k = 1`
Output: `2`
Explanation:
We can partition `nums` into the two subsequences `[1,2]` and `[3]`.
The difference between the maximum and minimum value in the first subsequence is `2 - 1 = 1`.
The difference between the maximum and minimum value in the second subsequence is `3 - 3 = 0`.
Since two subsequences were created, we return `2`. Note that another optimal solution is to partition `nums` into the two subsequences `[1]` and `[2,3]`.

Example 3:

Input: `nums = [2,2,4,5]`, `k = 0`
Output: `3`
Explanation:
We can partition `nums` into the three subsequences `[2,2]`, `[4]`, and `[5]`.
The difference between the maximum and minimum value in the first subsequence is `2 - 2 = 0`.
The difference between the maximum and minimum value in the second subsequence is `4 - 4 = 0`.
The difference between the maximum and minimum value in the third subsequence is `5 - 5 = 0`.
Since three subsequences were created, we return `3`. It can be shown that `3` is the minimum number of subsequences needed.

Constraints:


- `1 <= nums.length <= 105`
- `0 <= nums[i] <= 105`
- `0 <= k <= 105`

JavaScript

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```
1 const partitionArray = (a, k) => {
2   a.sort((x, y) => x - y);
3   let res = 0, pre = a[0]
4   for (let i = 1; i < a.length; i++) {
5     if (a[i] - pre > k) {
6       res++;
7       pre = a[i];
8     }
9   }
10  return res + 1;
}
```

```
11 };
```

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