2948. Make Lexicographically Smallest Array by Swapping Elements

Description

You are given a **0-indexed** array of **positive** integers `nums` and a **positive** integer `limit`.

In one operation, you can choose any two indices `i` and `j` and swap `nums[i]` and `nums[j]` **if** `|nums[i] - nums[j]| <= limit`.

Return *the* ***lexicographically smallest array*** *that can be obtained by performing the operation any number of times*.

An array `a` is lexicographically smaller than an array `b` if in the first position where `a` and `b` differ, array `a` has an element that is less than the corresponding element in `b`. For example, the array `[2,10,3]` is lexicographically smaller than the array `[10,2,3]` because they differ at index `0` and `2 < 10`.

Example 1:

```
Input: nums = [1,5,3,9,8], limit = 2
Output: [1,3,5,8,9]
Explanation: Apply the operation 2 times:
- Swap nums[1] with nums[2]. The array becomes [1,3,5,9,8]
- Swap nums[3] with nums[4]. The array becomes [1,3,5,8,9]
We cannot obtain a lexicographically smaller array by applying any more operations.
Note that it may be possible to get the same result by doing different operations.
```

Example 2:

```
Input: nums = [1,7,6,18,2,1], limit = 3
Output: [1,6,7,18,1,2]
Explanation: Apply the operation 3 times:
- Swap nums[1] with nums[2]. The array becomes [1,6,7,18,2,1]
- Swap nums[0] with nums[4]. The array becomes [2,6,7,18,1,1]
- Swap nums[0] with nums[5]. The array becomes [1,6,7,18,1,2]
We cannot obtain a lexicographically smaller array by applying any more operations.
```

Example 3:

```
Input: nums = [1,7,28,19,10], limit = 3
Output: [1,7,28,19,10]
Explanation: [1,7,28,19,10] is the lexicographically smallest array we can obtain because we cannot apply the operation on any two indices.
```

Constraints:

- `1 <= nums.length <= 10^5`
- `1 <= nums[i] <= 10^9`
- `1 <= limit <= 10^9`