

Amano Challenge - Top Element

Time: 15 minutes recommended.

Given a non-empty array of integers `nums`, return the `k` most frequent elements.

Your solution must be better than $O(n \log n)$ time complexity, where `n` is the size of the array.

Input: `nums = [1,1,1,2,2,3]`, `k = 2`

Output: `[1,2]`

Input: `nums = [4,4,4,5,6,6,6,7]`, `k = 1`

Output: `[4]` or `[6]` (both are valid)

Conditions:

- $1 \leq \text{nums.length} \leq 10^5$
- `k` is always a valid integer: $1 \leq k \leq \text{number of unique elements}$
- You may return the answer in any order.