

## Kth Largest Element in an Array

Given an integer array `nums` and an integer `k`, return *the  $k^{\text{th}}$  largest element in the array*.

Note that it is the  $k^{\text{th}}$  largest element in the sorted order, not the  $k^{\text{th}}$  distinct element.

You must solve it in  $O(n)$  time complexity.

### **Example 1:**

**Input:** `nums = [3,2,1,5,6,4]`, `k = 2`

**Output:** 5

### **Example 2:**

**Input:** `nums = [3,2,3,1,2,4,5,5,6]`, `k = 4`

**Output:** 4

### **Constraints:**

- $1 \leq k \leq \text{nums.length} \leq 10^5$
- $-10^4 \leq \text{nums}[i] \leq 10^4$