

189. Rotate Array

Hint

- Given an integer array `nums`, rotate the array to the right by `k` steps, where `k` is non-negative.

Example 1:

- **Input:** `nums = [1,2,3,4,5,6,7]`, `k = 3`
- **Output:** `[5,6,7,1,2,3,4]`
- **Explanation:**
 - *rotate 1 steps to the right:* `[7,1,2,3,4,5,6]`
 - *rotate 2 steps to the right:* `[6,7,1,2,3,4,5]`
 - *rotate 3 steps to the right:* `[5,6,7,1,2,3,4]`

Example 2:

- **Input:** `nums = [-1,-100,3,99]`, `k = 2`
- **Output:** `[3,99,-1,-100]`
- **Explanation:**
 - *rotate 1 steps to the right:* `[99,-1,-100,3]`
 - *rotate 2 steps to the right:* `[3,99,-1,-100]`

Constraints:

- $1 \leq \text{nums.length} \leq 10^5$
- $-2^{31} \leq \text{nums}[i] \leq 2^{31} - 1$
- $0 \leq k \leq 10^5$

Follow up:

- Try to come up with as many solutions as you can. There are at least three different ways to solve this problem.
- Could you do it in-place with $O(1)$ extra space?