Problem 239: Sliding Window Maximum

Problem Information

Difficulty: Hard
Acceptance Rate: 48.12%
Paid Only: No
Tags: Array, Queue, Sliding Window, Heap (Priority Queue), Monotonic Queue

Problem Description

You are given an array of integers `nums`, there is a sliding window of size `k` which is moving from the very left of the array to the very right. You can only see the `k` numbers in the window. Each time the sliding window moves right by one position.

Return _the max sliding window_.

Example 1:

Input: nums = [1,3,-1,-3,5,3,6,7], k = 3 **Output:** [3,3,5,5,6,7] **Explanation:** Window position Max --------------- ----- [1 3 -1] -3 5 3 6 7 **3** 1 [3 -1 -3] 5 3 6 7 **3** 1 3 [-1 -3 5] 3 6 7 **5** 1 3 -1 [-3 5 3] 6 7 **5** 1 3 -1 -3 [5 3 6] 7 **6** 1 3 -1 -3 5 [3 6 7] **7**

Example 2:

Input: nums = [1], k = 1 **Output:** [1]

Constraints:

* `1 <= nums.length <= 105` * `-104 <= nums[i] <= 104` * `1 <= k <= nums.length`

Code Snippets

C++:

```
class Solution {
public:
vector<int> maxSlidingWindow(vector<int>& nums, int k) {

}
};
```

Java:

```
class Solution {
public int[] maxSlidingWindow(int[] nums, int k) {

}
}
```

Python3:

```
class Solution:
def maxSlidingWindow(self, nums: List[int], k: int) -> List[int]:
```