703. Kth Largest Element in a Stream

Easy 1317 826 Add to List Share

Design a class to find the k^{th} largest element in a stream. Note that it is the k^{th} largest element in the sorted order, not the k^{th} distinct element.

Implement `KthLargest` class:

- `KthLargest(int k, int[] nums)` Initializes the object with the integer `k` and the stream of integers `nums`.
- `int add(int val)` Returns the element representing the k^{th} largest element in the stream.

Example 1:

```
Input
["KthLargest", "add", "add", "add", "add", "add"]
[[3, [4, 5, 8, 2]], [3], [5], [10], [9], [4]]
Output
[null, 4, 5, 5, 8, 8]

Explanation
KthLargest kthLargest = new KthLargest(3, [4, 5, 8, 2]);
kthLargest.add(3);   // return 4
kthLargest.add(5);   // return 5
kthLargest.add(10);  // return 5
kthLargest.add(9);   // return 8
kthLargest.add(4);   // return 8
```

Constraints:

- $1 <= k <= 10^4$
- $0 <= nums.length <= 10^4$
- $-10^4 <= nums[i] <= 10^4$
- $-10^4 <= val <= 10^4$
- At most 10^4 calls will be made to `add`.
- It is guaranteed that there will be at least k elements in the array when you search for the k^{th} element.

Related Topics

Heap Design

Similar Questions

Kth Largest Element in an Array	Medium
Finding MK Average	Hard