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Description



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703. Kth Largest Element in a Stream

Easy



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You are part of a university admissions office and need to keep track of the k^{th} highest test score from applicants to determine cut-off marks for interviews and admissions dynamically as new applicants submit their scores.

You are tasked to implement a class which, for a given integer k , maintains a stream of test scores and continuously returns the k^{th} highest score **after** a new score has been submitted. More specifically, we are looking for the k^{th} highest score in the stream of test scores.

Implement the `KthLargest` class:

- `KthLargest(int k, int[] nums)` Initializes the object with the integer k and the stream of test scores `nums`.
- `int add(int val)` Adds a new test score `val` to the stream and returns the element representing the k^{th} largest test score so far.

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
```

Example 2:

Input:

5.9K 180 180 180 180 180