Kth Largest Element in an Array

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References

LeetCode - The World's Leading Online Programming Learning Platform

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https://leetcode.com/problems/kth-largest-element-in-an-array/

파이썬 알고리즘 인터뷰

2021 세종도서 학술부문 선정작. 현업과 실무에 유용한 주요 알고리즘 이론을 깊숙이 이해하고, 파이썬의 핵심 기능과 문법까지 상세하게 이해할 수 있는 취업용 코딩 테스트를 위한 완벽 가이드다. 200여 개가 넘는...

https://www.aladin.co.kr/shop/wproduct.aspx?ItemId=245495826

1. Python Sort

```
class Solution:
    def findKthLargest(self, nums: List[int], k: int) -> int:
        nums.sort()
        return nums[-k]
```

2. HeapQueue

2.1. push

```
class Solution:
    def findKthLargest(self, nums: List[int], k: int) -> int:
        heap = list()
        for n in nums:
            heapq.heappush(heap, -n)

        for _ in range(1, k):
            heapq.heappop(heap)

        return -heapq.heappop(heap)
```

2.2. heapify

```
class Solution:
    def findKthLargest(self, nums: List[int], k: int) -> int:
        heapq.heapify(nums)

        for _ in range(len(nums) - k):
            heapq.heappop(nums)

        return heapq.heappop(nums)
```

- heapq.heapify(list): convert `list` to heap

2.3. nlargest

```
class Solution:
    def findKthLargest(self, nums: List[int], k: int) -> int:
        return heapq.nlargest(k, nums)[-1]
```

- `heapq.nlargest(k, list)`: get `k` largest elements in `list`
- `heapq.nsmallest(k, list)`: get `k` smallest elements in `list`