



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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Experiment 5

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Branch: CSE

Semester: 6th

Subject Name: Advanced Programming - 2

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Section/Group: 637-B

Date of Performance:20/2/25

Subject Code: 22CSH-351

Ques 1:

Aim: Kth Largest Element in an Array

Code:

class Solution:

```
def findKthLargest(self, nums: List[int], k: int) -> int:
```

```
def quick_sort(l: int, r: int) -> int:
```

```
    if l == r:
```

```
        return nums[l]
```

```
    i, j = l - 1, r + 1
```

```
    x = nums[(l + r) >> 1]
```

```
    while i < j:
```

```
        while 1:
```

```
            i += 1
```

```
            if nums[i] >= x:
```

```
                break
```

```
        while 1:
```

```
            j -= 1
```

```
            if nums[j] <= x:
```

```
                break
```

```
        if i < j:
```

```
            nums[i], nums[j] = nums[j], nums[i]
```

```
    if j < k:
```

```
        return quick_sort(j + 1, r)
```

```
    return quick_sort(l, j)
```

```
n = len(nums)
```

```
k = n - k
```

```
return quick_sort(0, n - 1)
```



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Submission Screenshot:

The screenshot displays a coding platform interface with a dark theme. On the left, the problem description for "215. Kth Largest Element in an Array" is visible, including its medium difficulty, a solved status, and example inputs/outputs. The right side shows the submission details for a user named "BAWA_69", indicating that the code was accepted, passed 42 out of 42 test cases, and achieved a runtime of 38 ms (93.13% beat) and memory usage of 36.02 MB (5.15% beat). Below this, a "Testcase" section shows the specific input used for the test: `nums = [3,2,1,5,6,4]` and `k = 2`, with the output field empty.

Problem Description:

215. Kth Largest Element in an Array Solved

Medium Topics Companies

Given an integer array `nums` and an integer `k`, return the k^{th} largest element in the array.

Note that it is the k^{th} largest element in the sorted order, not the k^{th} distinct element.

Can you solve it without sorting?

Example 1:

Input: `nums = [3,2,1,5,6,4]`, `k = 2`
Output: 5

Example 2:

Input: `nums = [3,2,3,1,2,4,5,5,6]`, `k = 4`
Output: 4

Constraints:

- $1 \leq k \leq \text{nums.length} \leq 10^5$
- $-10^4 \leq \text{nums}[i] \leq 10^4$

Submission Details:

Accepted 42 / 42 testcases passed
BAWA_69 submitted at Feb 24, 2025 13:06

Runtime: 38 ms | Beat: 93.13%
Memory: 36.02 MB | Beat: 5.15%

Testcase Test Result

Accepted Runtime: 0 ms

Case 1 **Case 2**

Input:

`nums =`
`[3,2,1,5,6,4]`

`k =`
`2`

Output: