

Assignment 5

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Branch: BE_CSE	Semester: 6th
Section: IOT_637-B	Subject: AP Lab II

75. Sort Colors

```
class Solution { public:    void sortColors(vector<int>& nums) {  
        int low = 0, mid = 0, high = nums.size() - 1;    while (mid <=  
        high) {        if (nums[mid] == 0) swap(nums[low++],  
        nums[mid++]);        else if (nums[mid] == 1) mid++;  
        else swap(nums[mid], nums[high--]);  
        }  
    }  
};
```

The screenshot shows a submission on a coding platform. The left panel displays the submission status as 'Accepted' with 88/88 testcases passed. It shows a runtime of 0 ms (beats 100.00%) and memory usage of 11.74 MB (beats 31.50%). A bar chart shows the runtime performance relative to other submissions. The right panel shows the C++ code for the 'Sort Colors' problem, which implements a three-pointer sorting algorithm. Below the code, the 'Testcase' section shows 'Case 1' with the input array [2, 0, 2, 1, 1, 0].

Submission Details:

- Status: Accepted (88 / 88 testcases passed)
- Runtime: 0 ms | Beats 100.00%
- Memory: 11.74 MB | Beats 31.50%

Code (C++):

```
1 class Solution {  
2 public:  
3     void sortColors(vector<int>& nums) {  
4         int low = 0, mid = 0, high = nums.size() - 1;  
5         while (mid <= high) {  
6             if (nums[mid] == 0) swap(nums[low++], nums[mid++]);  
7             else if (nums[mid] == 1) mid++;  
8             else swap(nums[mid], nums[high--]);  
9         }  
10    }  
11 };
```

Testcase:

Case 1: nums = [2, 0, 2, 1, 1, 0]

215. Kth Largest Element in an Array

```
class Solution { public:    int findKthLargest(vector<int>&
                                nums, int k) {    priority_queue<int, vector<int>,
                                greater<int>> pq;    for (int num : nums) {
                                pq.push(num);    if (pq.size() > k) pq.pop();
                                }    return
                                pq.top();
                                }
                                };
```

The screenshot displays a coding platform interface for the problem "215. Kth Largest Element in an Array". The submission status is "Accepted" with 42/42 test cases passed. The user "Muskan_" submitted the solution on Feb 12, 2025, at 17:05. The performance metrics show a runtime of 41 ms (Beats 23.38%) and memory usage of 61.53 MB (Beats 44.61%). A bar chart illustrates the runtime distribution across various time intervals. The code editor shows the C++ solution using a priority queue. The test case input is [3, 2, 1, 5, 6, 4] and k is 2.

Runtime: 41 ms | Beats 23.38%
Memory: 61.53 MB | Beats 44.61%

Code:

```
class Solution {
public:
    int findKthLargest(vector<int>& nums, int k) {
        priority_queue<int, vector<int>, greater<int>> pq;
        for (int num : nums) {
            pq.push(num);
            if (pq.size() > k) pq.pop();
        }
        return pq.top();
    }
};
```

Testcase: Case 1 Case 2 +

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

k = 2