Assignment 5

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

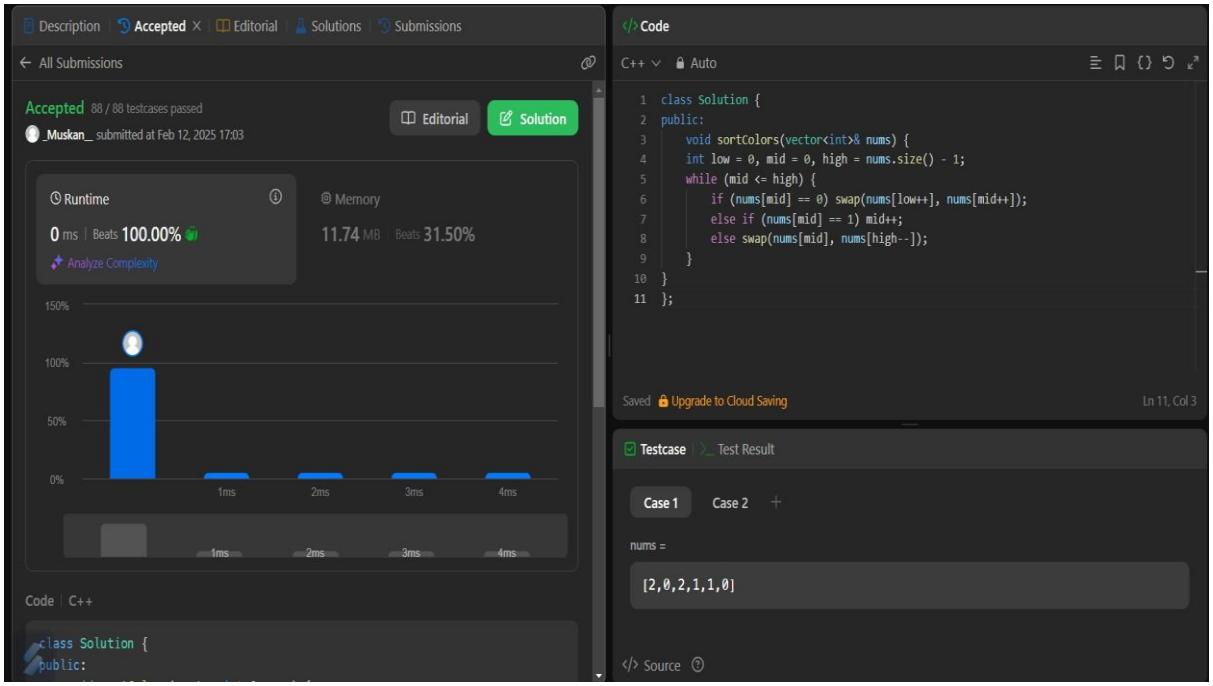
75. Sort Colors

Aim: Given an array nums with n objects colored red, white, or blue, sort them in-place so that objects of the same color are adjacent, with the colors in the order red, white, and blue. We will use the integers 0, 1, and 2 to represent the color red, white, and blue, respectively. You must solve this problem without using the library's sort function.

Code:

```
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--]);
    }
}
};
```

Output:



215. Kth Largest Element in an Array

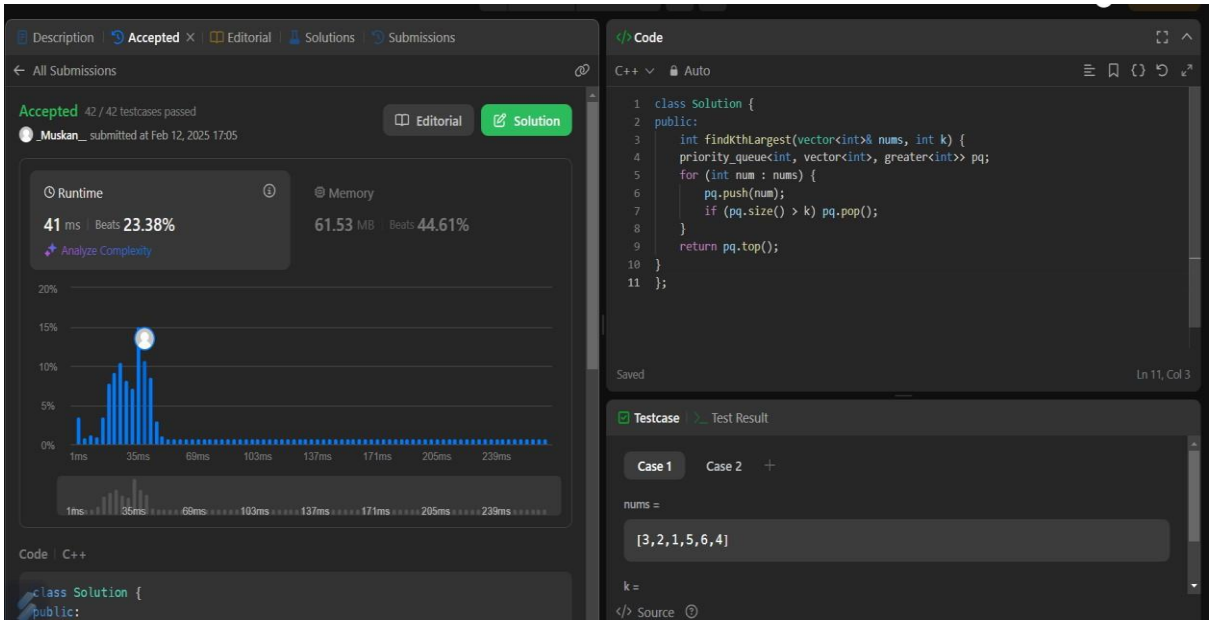
Aim: Given an integer array nums and an integer k, return the kth largest element in the array. Note that it is the kth largest element in the sorted order, not the kth distinct element. Can you solve it without sorting?

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();
}
```

};

Output:


Description | Accepted | Editorial | Solutions | Submissions
All Submissions
Accepted 42 / 42 testcases passed
Muskan submitted at Feb 12, 2025 17:05
Editorial
Solution
Runtime
41 ms | Beats 23.38%
Analyze Complexity
Memory
61.53 MB | Beats 44.61%
20%
15%
10%
5%
0%
1ms 35ms 69ms 103ms 137ms 171ms 205ms 239ms
Code | C++
class Solution {
public:
Code
C++ Auto
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();
}
};
Saved
Ln 11, Col 3
Testcase | Test Result
Case 1
Case 2
nums =
[3,2,1,5,6,4]
k =
Source