RAJALAKSHMI ENGINEERING COLLEGE

CHANDRU G S 2024-CSE C2

Started on	Wednesday, 8 October 2025, 8:10 AM
State	Finished
Completed on	Sunday, 16 November 2025, 8:14 PM
Time taken	39 days 12 hours
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question 1 | Correct Mark 1.00 out of 1.00

Given an array `nums` of size `n`, return *the majority element*.

The majority element is the element that appears more than `⌊n / 2⌋` times. You may assume that the majority element always exists in the array.

Example 1:

```
Input: nums = [3,2,3]
Output: 3
```

Example 2:

```
Input: nums = [2,2,1,1,1,2,2]
Output: 2
```

Constraints:

- `n == nums.length`
- `1 <= n <= 5 * 10^4`
- `-2^31 <= nums[i] <= 2^31 - 1`

For example:

Input	Result
3 3 2 3	3
7 2 2 1 1 1 2 2	2

Answer: (penalty regime: 0 %)

```c
#include <stdio.h>


int countInRange(int* nums, int left, int right, int num) {
    int count = 0;
    for (int i = left; i <= right; i++) {
        if (nums[i] == num) count++;
    }
    return count;
}

int majorityRec(int* nums, int left, int right) {
    if (left == right) {
        return nums[left];
    }

    int mid = left + (right - left) / 2;
    int leftMajor = majorityRec(nums, left, mid);
    int rightMajor = majorityRec(nums, mid + 1, right);

    if (leftMajor == rightMajor) {
        return leftMajor;
    }
    int leftCount = countInRange(nums, left, right, leftMajor);
    int rightCount = countInRange(nums, left, right, rightMajor);
    return (leftCount > rightCount) ? leftMajor : rightMajor;
}
```

```
}

int majorityElement(int* nums, int numsSize) {
    return majorityRec(nums, 0, numsSize - 1);
}

int main() {
    int n;
    scanf("%d",&n);
    int num[n];
    for(int i=0;i<n;i++)
    scanf("%d",&num[i]);


    printf("%d\n", majorityElement(num, n));



    return 0;
}

```

	Input	Expected	Got	
✔	3 3 2 3	3	3	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

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