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Difficulty Level: Easy (https://practice.geeksforgeeks.org/Easy/0/0/)

Submissions: 17816 (/problem_submissions.php?pid=305) Accuracy: 38.11%

Majority Element

(/topics/Array/) Show Topic Tags

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Write a program to find the majority element in the array. A majority element in an array A[] of size n is an element that appears more than n/2 times (and hence there is at most one such element). If input array doesn't contain a majority element, then output "NO Majority Element"

Input: The first line of the input contains T denoting the number of testcases. The first line of the test case will be the size of array and second line will be the elements of the array.
Output: For each test case the output will be the majority element of the array.
Constraints:

1 <=T<= 100

1 <=N<= 100

0 <= a[i]<= 100

Example:

Input:

2

5

3 1 3 3 2

3

1 2 3

Output:

3

NO Majority Element

** For More Input/Output Examples Use 'Expected Output' option **

Author: atharv (https://auth.geeksforgeeks.org/user/atharv/practice/)

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| C (gcc 5.4) | C++ (g++ 5.4) | C# | Java (1.8) | Python 3 |

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```python
1   def binary(l,lo,up,element,occur):
2       result=-1
3       while(lo<=up):
4           mid=(lo+up)//2
5           if l[mid]==element:
6               result=mid
7               if occur:
8                   up=mid-1
9               else:
10                  lo=mid+1
11          elif l[mid]>element:
12              up=mid-1
13          else:
14              lo=mid+1
15      return result
16
17
18  for _ in range(int(input())):
19      n=int(input())
20      l=list(map(int,input().split()))
21      l=sorted(l)
22      a=list(set(l))
23      for i in a:
24          firstoccur=binary(l,0,n-1,i,True)
25          lastoccur=binary(l,0,n-1,i,False)
26          count=lastoccur-firstoccur+1
27          if count>n//2:
28              print(i)
29              break
30      else:
31          print("NO Majority Element")
```

It is recommended to 'Compile & Test' your code before clicking 'Submit'!

| Compile & Test | Submit | Expected Output |

Compilation/Execution Result:

Correct Answer. ✅
Execution Time:0.01

Next Suggested Problem: Check for BST (/problems/check-for-bst/1/?ref=self)

Need help with your code? Please use ide.geeksforgeeks.org (https://ide.geeksforgeeks.org)**, generate link and share the link here.**

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ӘG **Aakash Chandhoke** • 3 months ago
    What is wrong with my code?
    http://ide.geeksforgeeks.or...
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ӘG **PaoloGalli** • 4 months ago
    Hi, when I test my code with this input:

    1

    40
    1 1 1 0 0 2 1 0 2 0 2 1 1 1 1 1 2 1 1 0 2 0 1 0 2 0 1 0 0 2 0 1 0 1 0 2 1 2 1 2

    I get the correct output, which is NO Majority Element, but when I submit the output becomes 0.

    Link to my code --> http://ide.geeksforgeeks.or...
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    Dipanjan Saha • 5 months ago
    import java.util.*;
    import java.lang.*;
    import java.io.*;

    class GFG {
    public static void main (String[] args) throws IOException{
    int numOfTestCases = 0;
    int flag = 0;
    int flag1 = 0;
    HashMap<integer,integer> outputMap = new HashMap<integer,integer>();

    BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
    numOfTestCases = Integer.parseInt(br.readLine());

```
if(numOfTestCases>=1 && numOfTestCases<=100)
{
for(int a=0; a<numoftestcases; a++){="" int="" n="Integer.parseInt(br.readLine());" if(n="">=1 && n<=100)
{
int []inputArray = new int[n]:
```

see more

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sudharsana • 5 months ago

http://ide.geeksforgeeks.or... running through test with same testcase am getting the correct output but while submitting it is saying that output is wrong....for no of elements 6 and values 2 2 2 2 1 1 as input

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> **sachin0x18** ➤ sudharsana • 4 months ago
>
> Facing similar problem for this particular test case. My code runs perfectly in Test environment for this test case but somehow it fails when submitting.
> Please review this problem.
>
> ∧ | ∨ • Reply • Share ›

Shailesh Tanwar • 5 months ago

http://ide.geeksforgeeks.or...
output in ide and codeblocks is correct but getting this error when i submit it..pls help
5
1 2 1 0 1

Its Correct output is:
1

And Your Output is:
1 2

∧ | ∨ • Reply • Share ›

Attyuttam Saha • 5 months ago

i think this is a wrong test case as the first line always the number of queries but here it represents the number of elements and the number of queries is missing.
The number of queries should be provided as 1 in the first line
Input:
100
1 2 1 2 1 2 1 0 1 0 2 1 0 2 0 1 0 0 0 0 1 2 1 2 1 1 2 1 2 1 0 1 0 2 1 0 2 0 1 2 1 1 0 1 0 2 0 1 0 2 0 1 0 2 0 1 1 1 1 1 1 2 0 0 1 0 2 0 1 0 0 1 0 0 1 1 2 1 2 0 1 0 2 0 1 0 2 0 1 0 2 1 0 2 1 0 2 1 1 1 1

Its Correct output is:
NO Majority Element

∧ | ∨ • Reply • Share ›

> **Shailesh Tanwar** ➤ Attyuttam Saha • 5 months ago
>
> the correct output is NO Majority Element. the first line is the number of test cases and in each test case first line is number of elements and second line is the elements itself. this is a particular test case therefore number of test case is not shown although it is given as a input by the compiler on submission.
>
> 1 ∧ | ∨ • Reply • Share ›

Abhishek Singh • 5 months ago

```
1   #include<stdio.h>
2
3   int main()
4 - {
5       int arr[100];
6       int i=0,j=0,m=0,n=0, count=0, a=0, b=0,flag=0,num=0;
7       scanf("%d",&m);
8       for(j=0;j<m;j++)
9 -     { flag=0, count=0;
10          scanf("%d",&n);
11          for(i=0;i<n;i++)
12 -         {
13              scanf("%d", &arr[i]);
14          }
15          for(a=0;a<n/2;a++)
16 -         {
17              count=0;
18              for(b=0;b<n;b++)
19 -             {
20                  if(arr[a]==arr[b])
21 -                 {
22                      count++;
23                      if(count>(n/2))
24 -                     {
25                          flag++;
26                          num_arr[a];
```

```
27                          break;
28                     }
29                 }
30             }
31             if(flag!=0)
32                 break;
33         }
34         if(flag==0)
35             printf("NO Majority Element\n");
36         if(flag!=0)
37             printf("%d \n", num);
38     }
```

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Sonu Bhati • 6 months ago

can any one please point out the mistake....codeblocks giving correct output but here wrong answer.

http://ide.geeksforgeeks.or...

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Jaspreet Singh Mod → Sonu Bhati • 6 months ago

you break the loop after you find majority element, so you don't read all the numbers for a particular test case, you have to read all the input for a particular test case.
remove the Break statement and your solution will get accepted.

∧ | ∨ • Reply • Share ›

Rishabh Mittal • 6 months ago

Very loose testcases...
One of my friend is getting correct ans..but his code fails for
10
2 2 2 0 0 0 0 2 2 2..
His code gives "NO Majority"..But here 2 is in clear majority..
So, I request u to update ur test cases

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Titash Sengupta • 6 months ago

can any one please point out the mistake....codeblocks giving correct output but here wrong answer.

http://ide.geeksforgeeks.or...

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Red _Wuie → Titash Sengupta • 6 months ago

Do this changes:
1.Initialize j = i+1 in innermost for loop
2.Check for c>=n/2 condition instead of c>n/2
Have look :)
http://ide.geeksforgeeks.or...

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Titash Sengupta → Red _Wuie • 5 months ago

It is still giving wrong answer :(

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Red _Wuie → Titash Sengupta • 5 months ago

try dis 1:
http://ide.geeksforgeeks.or...

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MANI SHANKAR • 6 months ago

can anyone point out the mistake
http://practice.geeksforgee...

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Won-Kyoung Choi • 6 months ago

this problem does not need sorting...
here is my code...

#include <stdio.h>

#define N_MAX 100
#define V_MAX 101

```
int T,N;
int i,j;
int arrayA[N_MAX];
int arrayB[V_MAX];

int main() {
scanf("%d",&T);
while(T--){
for(i=0;i<v_max;i++){ arrayb[i]="0;" }="" scanf("%d",&n);="" for(i="0;i&lt;N;i++){" scanf("%d",arraya+i);="" arrayb[arraya[i]]++;="" }=""
float="" m="N/2;" int="" find="0;" for(i="0;i&lt;V_MAX;i++){" if(arrayb[i]="">m) {
printf("%d\n",i);
```

see more

∧ | ∨ • Reply • Share ›

Bhavith Nimmagadda • 6 months ago
can any1 tell its time complexity
o(n^2)????
#include <stdio.h>
int main() {
int t;
scanf("%d",&t);
while(t--)
{
int n,i,num,j,k,flag2,flag=0,count,a[100];
scanf("%d",&n);
for(i=0;i<n;i++) {="" scanf("%d="" ",&a[i]);="" }="" for(i="0;i<n/2;i++)" {="" count="1;" num="a[i];" flag2="0;" for(k="0;k<i;k++)" {=""
if(a[k]="=num)" {="" flag2="1;" break;="" }="" }="" if(flag2="=0)" {="" for(j="i+1;j<n;j++)" {="" if(a[j]="=num)" count++;="" }="" }=""
if(count="">n/2)
{
flag=1;
printf("%d\n",num);
break;
}
```
}
```

see more

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Shubham Jaiswal • 7 months ago
http://code.geeksforgeeks.o...
i m new here and i dont know whats wrong with my code;
i think i m doing everything its asking

∧ | ∨ • Reply • Share ›

Nimisha Gupta ➜ Shubham Jaiswal • 6 months ago
http://practice.geeksforgee...
Refer to my above solution. It will help you!

∧ | ∨ • Reply • Share ›

Shubham Jaiswal ➜ Nimisha Gupta • 5 months ago
Thanx **@Nimisha Gupta** :)

∧ | ∨ • Reply • Share ›

Shankhalika Sarkar • 7 months ago
http://ide.geeksforgeeks.or...
When i run it on the IDE using the same test value it works, whereas when I submit it is a printing a different answer.

∧ | ∨ • Reply • Share ›

Shubham Joshi Mod ➜ Shankhalika Sarkar • 7 months ago
The issue is because your variables are not resetting . ie your variables outside the test cases loop should be cleared for
each test case.

∧ | ∨ • Reply • Share ›

Payas Bhrigu • 7 months ago

Please help me with this:
```
#include <iostream>
using namespace std;
int maxm(int *p,int n)
{ int i,j,c[n],max,z=0;
for(i=0;i<n;i++) c[i]="0;" for(i="0;i&lt;n;i++)" {for(j="1;j&lt;n;j++)" {if(*(p+j)="=*(p+i))" c[i]++;="" }="" }="" max="c[0];" for(i="1;i&lt;n;i++)"
{="" if(c[i]="">max)
max=c[i];
z=i;
}
if(max>n/2)
return z;
else return -1;
}
int main()
{ int t,*ptr,r,i,n;
cin>>t;
do
```

see more

∧ | ∨ • Reply • Share ›

Divya Bansal • 7 months ago

http://code.geeksforgeeks.o...

Wrong Answer!!!Wrong Answer

The first test case where your code failed:

Input:
4
2 1 0 1

Its Correct output is:
NO Majority Element

And Your Output is:
1

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Anish Mahapatra • 8 months ago

http://code.geeksforgeeks.o...

The code runs perfectly during testing, but during submission, it says Error: Dumped Core.
Please be so kind as to help me figure this one out, as I am a beginner.

∧ | ∨ • Reply • Share ›

> **Shubham Joshi** Mod ➜ Anish Mahapatra • 8 months ago
> You should probably increase the size of your array.
>
> 1 ∧ | ∨ • Reply • Share ›

> > **Anish Mahapatra** ➜ Shubham Joshi • 6 months ago
> > Thank you Shubham!
> >
> > ∧ | ∨ • Reply • Share ›

> > **Anish Mahapatra** ➜ Shubham Joshi • 7 months ago
> > It worked, thank you so much! :D
> >
> > ∧ | ∨ • Reply • Share ›

neha jain • 8 months ago
Cant we simply use HashMap and keep a track of the counts.

∧ | ∨ • Reply • Share ›

Jayadev Senapathi Kota • 9 months ago
My Code :-
import java.util.*;

```
import java.lang.*;
import java.io.*;
class GFG {
public static void main (String[] args) {
Scanner sc = new Scanner(System.in);
int t = sc.nextInt();
while(t-- > 0) {
int n = sc.nextInt();
int[] nums = new int[n];
for(int i = 0; i < n; i++) nums[i] = sc.nextInt();
int count = 0, lcount = 0, temp = 0;
for(int i = 0; i < n; i++) {
lcount = 0;
for(int j = 0; j < n; j++) {
if(nums[i] == nums[j]) {
lcount++;
```

see more

⌃ | ⌄ • Reply • Share ›

veer dhakad • 9 months ago

```
import java.util.*;
import java.lang.*;
import java.io.*;
class Demo
{

public static void main (String[] args)
{
Scanner sc=new Scanner(System.in);
Demo d=new Demo();
int t=sc.nextInt();
while(t>0)
{

t--;
int n=sc.nextInt();
int []a=new int[n];
int ind=0,count=0;
```

see more

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Sunil Singh • 10 months ago

What is the problem in my code ?

Code : http://code.geeksforgeeks.o...

Input :
4
5
3 1 3 3 2
3
1 2 3
2
2 1
15
3 2 3 4 3 5 5 3 3 3 4 3 3 3 3
Output :
3
No Majority Elements
No Majority Elements
No Majority Elements//// Here it should be 3

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Rajeev Naik → Sunil Singh • 8 months ago

I also got same error. But it shows correct in my IDE. Looks to be problem with the tool here.

∧ | ∨ • Reply • Share ›

Sandeep • 10 months ago

counting sort !!! easy

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Shivendra • a year ago

http://code.geeksforgeeks.o...

i can not find the problem where the compiler is telling my code fails.

∧ | ∨ • Reply • Share ›

Amit Khandelwal → Shivendra • a year ago

Replace "No" by "NO"

∧ | ∨ • Reply • Share ›

Pankti • a year ago

http://code.geeksforgeeks.o...

Can someone tell me what is wrong with this code?
I am getting runtime error while submitting it at line 23 but the output during testing is correct.

∧ | ∨ • Reply • Share ›

Abhishek Madan → Pankti • a year ago

The runtime error you are getting is because of "ArrayIndexOutOfBound" on k. This is because k is initialized to 0 just once, at the start. So if at a particular test case if k becomes 100, then for the next testcase, your code starts incrementing value of k from 100 but the size of f is not really that long and so accessing f[k] gives you the runtime exception.

just add: 'k=0;pos=0;' before 'n=s.nextInt();'

∧ | ∨ • Reply • Share ›

Pankti → Abhishek Madan • a year ago

Thanx..the code is working fine now ☺

∧ | ∨ • Reply • Share ›

ravi yadav • a year ago

someone please help me when i submit my code it gives
Wrong Answer for the test case
4
2 1 0 1
It shows your output is 1.But when i check on same editor it give the correct output "NO Majority Element"

import java.util.*;
import java.lang.*;
import java.io.*;

class GFG {
public static void main (String[] args) {
//code

HashMap<integer,integer> hm=new HashMap<integer,integer>();
Scanner sc=new Scanner(System.in);
int t=sc.nextInt();

while(t>0)

see more

∧ | ∨ • Reply • Share ›

Abhishek Madan → ravi yadav • a year ago

The problem here is that you are using the same HashMap for all the test cases without clearing it. So the computations from the previous test case remains in the hashMap and you get a wrong answer.

just do 'hm.clear();' just before your 't--; ' statement and that would suffice.

∧ | ∨ • Reply • Share ›

Pratima Verma • a year ago

someone please help me when i submit my code it gives
Wrong Answer for the test case
4
2 1 0 1
It shows your output is 1.But when i check on same editor it give the correct output "NO Majority Element"
#include <iostream>
#include<cstring>
using namespace std;

int main() {
int t,n;
cin>>t;
while(t--)
{
cin>>n;
int f=0,x;
int arr[10000],arr1[10000];
for(int i=0;i<n;i++) {="" cin="">>arr[i];

see more

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jasleen • a year ago

http://code.geeksforgeeks.o...
help me out as soon as possible!!!

∧ | ∨ • Reply • Share ›

Prakhar Dev Gupta ➔ jasleen • a year ago
#include <bits stdc++.h="">
using namespace std;

int main() {
int t; cin>>t;
while(t--){
int n; cin>>n; int a[n];
for(int i =0 ; i<n ;="" ++i){="" cin="">>a[i];

}
sort(a,a+n);
int c=0; int ans; bool flag = false;
for(int i=0 ; i<n ;="" ++i){="" if(!i="")="" c++;="" else{="" if(a[i-1]="" a[i])="" {="" c++;="" if(c="">n/2){
ans = a[i];
flag = true;
break;
}

}

see more

∧ | ∨ • Reply • Share ›

Vaibhav Jain • a year ago
I am getting the error
Wrong !! The first test case where your code failed:

Input:
15
1 0 2 1 0 0 1 0 0 2 0 0 1 2 1

Its Correct output is:
NO Majority Element

And Your Output is:
15