**Majority Element**

[array](http://www.practice.geeksforgeeks.org/tag-page.php?tag=array&isCmp=0)[Microsoft](http://www.practice.geeksforgeeks.org/tag-page.php?tag=Microsoft&isCmp=1)

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 Examples Use Expected Output\*\*

<http://www.practice.geeksforgeeks.org/problem-page.php?pid=305>

#include <iostream>

#include <stdio.h>

#include <set>

#include <map>

#include <vector>

#include <algorithm>

using namespace std;

int main() {

// TODO code application logic here

int t;

scanf("%d", &t);

while(t--) {

int n;

scanf("%d", &n);

int arr [n];

for(int i =0; i<n; i++)

scanf("%d", &arr[i]);

std::map<int, int> m;

for(int i =0; i<n; i++) {

m[arr[i]]++;

}

bool hay=false;

int may=-1;

for(std::map<int,int>::iterator it = m.begin(); it != m.end(); it++) {

if(it->second > n/2) {

may=it->first;

hay = true;

break;

}

}

if(hay) {

printf("%d\n", may);

} else {

printf("NO Majority Element\n");

}

}

}