46. Majority Number

* [Description](http://lintcode.com/en/problem/majority-number/" \l "description)
* [Notes](http://lintcode.com/en/problem/majority-number/#note)
* [Testcase](http://lintcode.com/en/problem/majority-number/#testcase)
* [Judge](http://lintcode.com/en/problem/majority-number/#judge)

Given an array of integers, the majority number is the number that occurs more than halfof the size of the array. Find it.

 Notice

You may assume that the array is non-empty and the majority number always exist in the array.

Have you met this question in a real interview?

Yes

**Example**

Given [1, 1, 1, 1, 2, 2, 2], return 1

<http://lintcode.com/en/problem/majority-number/#>

#include<iostream>

 #include <stdio.h>

 #include <vector>

 #include <map>

 using namespace std;

int majorityNumber(vector<int> &nums)

{

        // write your code here

    map<int, int> m;

    for(int i =0; i<nums.size(); i++)     {

        m[nums[i]]++;

    }

    map <int, int> :: iterator itr;

   // cout << "\nThe map gquiz1 is : \n";

   // cout << "\tKEY\tELEMENT\n";

    for (itr = m.begin(); itr != m.end(); itr++)

    {

        //cout  <<  '\t' << itr->first

        //      <<  '\t' << itr->second << '\n';

        if(itr->second > (nums.size()/2)) {

            return itr->first;

        }

    }

    return -1;

}

int main() {

    int a[] = {1,1,1,1,2,2,2};

    vector<int> v;

    for(int i =0; i<7; i++) {

        v.push\_back(a[i]);

    }

    printf("%d ", majorityNumber(v));

    return 0;

}