**6 kyu**

**Find number in an array # 4**

8197% of1750[myjinxin2015](https://www.codewars.com/users/myjinxin2015)

JavaScript

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When no more interesting kata can be resolved, I just choose to create the new kata, to solve their own, to enjoy the process --myjinxin2015 said

**Description:**

Give an array arr that contains some integers, one of the integers appears times is more than the half of the total numbers of element(arr always has such a integer). Your task is to find it. For example:

arr = [0,1,3,3,3,3,3,1,0], should return 3

Of course, these integers are not always continuous ;-)

arr = [1,2,1,3,1,4,1,5,1], should return 1

Other numbers can be repeated too:

arr = [1,1,1,3,3,3,1,1,1,5,5,5,1,1], should return 1

**Note:**

* Arguments arr always be an array that contains at least 5 elements and its length always be an odd number;
* Please pay attention to optimizing the code to avoid time out.
* In the performance test(1000001 elements x 100 testcases), the time consuming of each test case should be within 15ms. This means, Your algorithm should be faster than O(nlogn)(some algorithms such as sorting and searching), your code should run as fast as a rocket ;-)

<https://www.codewars.com/kata/find-number-in-an-array-number-4/javascript>

<script>

function mostAppear( a)

{

var size = a.length;

/\* Find the candidate for Majority\*/

var cand = findCandidate(a, size);

/\* Print the candidate if it is Majority\*/

if (isMajority(a, size, cand)) return cand;

// Console.Write(" " + cand + " ");

//else

// Console.Write("No Majority Element");

return -1;

}

/\* Function to find the candidate for Majority \*/

function findCandidate(a, size)

{

var maj\_index = 0;

var count = 1;

var i;

for (i = 1; i < size; i++)

{

if (a[maj\_index] == a[i])

count++;

else

count--;

if (count == 0)

{

maj\_index = i;

count = 1;

}

}

return a[maj\_index];

}

// Function to check if the candidate

// occurs more than n/2 times

function isMajority(a, size, cand)

{

var i;

var count = 0;

for (i = 0; i < size; i++)

{

if (a[i] == cand)

count++;

}

if (count > size / 2)

return true;

else

return false;

}

var arr = [1,1,1,3,3,3,1,1,1,5,5,5,1,1];

document.write(mostAppear(arr));

</script>

<https://www.geeksforgeeks.org/majority-element/>