

Candidate Report: Anonymous

Test Name:

Summary    Timeline

Test Score

100 out of 100 points

100%

Tasks in Test

	Time Spent ⓘ	Task Score
MissingInteger Submitted in: JavaScript	5 min	100%

TASKS DETAILS

MEDIUM	1. <b>MissingInteger</b> Find the smallest positive integer that does not occur in a given sequence.	Task Score	Correctness	Performance
		100%	100%	100%

Task description

This is a demo task.

Write a function:

```
function solution(A);
```

that, given an array A of N integers, returns the smallest positive integer (greater than 0) that does not occur in A.

For example, given A = [1, 3, 6, 4, 1, 2], the function should return 5.

Given A = [1, 2, 3], the function should return 4.

Given A = [-1, -3], the function should return 1.

Write an **efficient** algorithm for the following assumptions:

Solution

Programming language used:	JavaScript
Total time used:	5 minutes ⓘ
Effective time used:	5 minutes ⓘ
Notes:	not defined yet

Task timeline ⓘ

- N is an integer within the range [1..100,000];
- each element of array A is an integer within the range [−1,000,000..1,000,000].

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21:25:54

21:30:39

Code: 21:30:39 UTC, js,  
final, score: 100

[show code in pop-up](#)

```

1 // you can write to stdout for debugging purpose
2 // console.log('this is a debug message');
3
4 function solution(arr) {
5     let result = 1;
6
7     if (!arr) {
8         return result;
9     }
10
11     const orderedArr = arr.sort((a, b) => a - b)
12
13     for (var i = 0; i < arr.length; i++) {
14
15         const curArrValue = arr[i];
16
17         if (curArrValue <= 0) {
18             continue;
19         }
20
21
22         if (curArrValue > result) {
23             return result;
24         } else {
25             result = curArrValue + 1;
26         }
27     }
28
29     return result;
30 }

```

## Analysis summary

The solution obtained perfect score.

## Analysis ?

Detected time complexity:

**$O(N)$  or  
 $O(N * \log(N))$**

expand all

### Example tests

▶ example1 first example test	✓ OK
▶ example2 second example test	✓ OK

▶ example3	✓ OK
third example test	
expand all	Correctness tests
▶ extreme_single	✓ OK
a single element	
▶ simple	✓ OK
simple test	
▶ extreme_min_max_value	✓ OK
minimal and maximal values	
▶ positive_only	✓ OK
shuffled sequence of 0...100 and then 102...200	
▶ negative_only	✓ OK
shuffled sequence -100 ... -1	
expand all	Performance tests
▶ medium	✓ OK
chaotic sequences length=10005 (with minus)	
▶ large_1	✓ OK
chaotic + sequence 1, 2, ..., 40000 (without minus)	
▶ large_2	✓ OK
shuffled sequence 1, 2, ..., 100000 (without minus)	
▶ large_3	✓ OK
chaotic + many -1, 1, 2, 3 (with minus)	

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