



Congratulations

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## Demo ticket

### Session

ID: demoW3V9ZG-9WF  
Time limit: 120 min.

### Status: closed

Created on: 2014-12-14 08:29 UTC  
Started on: 2014-12-14 08:29 UTC  
Finished on: 2014-12-14 08:29 UTC

### Tasks in test

1 | MissingInteger

### Correctness

100%

### Performance

100%

### Task score

100%

### Test score

100%  
100 out of 100 points

MEDIUM

### 1. MissingInteger

Find the minimal positive integer not occurring in a given sequence.

score: 100 of 100

#### Task description

Write a function:

```
def solution(a)
```

that, given a non-empty zero-indexed array A of N integers, returns the minimal positive integer that does not occur in A.  
For example, given:

```
A[0] = 1
A[1] = 3
A[2] = 6
A[3] = 4
A[4] = 1
A[5] = 2
```

the function should return 5.  
Assume that:

- N is an integer within the range [1..100,000];
- each element of array A is an integer within the range [-2,147,483,648..2,147,483,647].

Complexity:

- expected worst-case time complexity is O(N);
- expected worst-case space complexity is O(N), beyond input storage (not counting the storage required for input arguments).

Elements of input arrays can be modified.

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#### Solution

Programming language used: Ruby

Total time used: 1 minutes

Effective time used: 1 minutes

Notes: not defined yet

#### Task timeline



Code: 08:29:58 UTC, rb, final, score: 100.00

```
1 # you can use puts for debugging purposes, e.g.
2 # puts "this is a debug message"
3
4 def solution(a)
5   h = Hash.new(false)
6   a.each_with_index do |n, i|
7     h[n] = true if !h[n] and i >= 0
8   end
9   r = h.size + 1
10  (1..h.size).each do |n|
11    return n unless h[n]
12  end
13  r
14 end
```

Detected time complexity:

O(N)

test	time	result
Example tests		
example example (without minus)	0.052 s	OK
Correctness tests		
extreme_single a single element	0.052 s	OK
simple simple test	0.060 s	OK
extreme_min_max_int MININT and MAXINT (with minus)	0.052 s	OK
positive_only shuffled sequence of 0...100 and then 102...200	0.064 s	OK
negative_only shuffled sequence -100 ... -1	0.052 s	OK
Performance tests		
medium chaotic sequences length=10005 (with minus)	0.076 s	OK
large_1 chaotic + sequence 1, 2, ..., 40000 (without minus)	0.228 s	OK
large_2 shuffled sequence 1, 2, ..., 100000 (without minus)	0.256 s	OK
large_3 chaotic + many -1, 1, 2, 3 (with minus)	0.224 s	OK

Training center