



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

MissingInteger

Correctness

100%

100%

Performance

Task score

r

end

14

100%

100%

Test score

100 out of 100 points

score: 100 of 100

1. MissingInteger

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

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] = 6A[3] = 4

A[4] = 1

A[5] = 2

the function should return 5. Assume that:

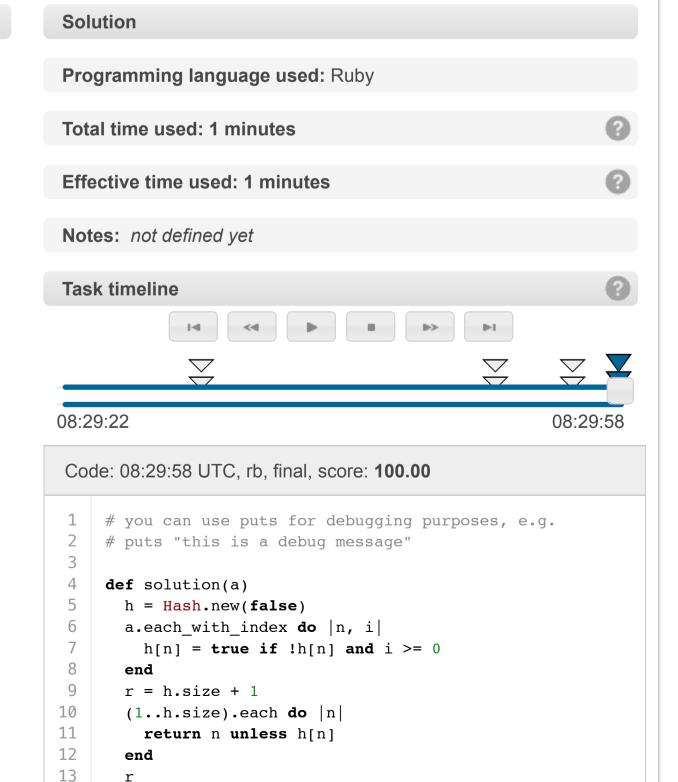
- N is an integer within the range [1..100,000];
- each element of array A is an integer within the range [-2,147,483,648..2,147,483,647].

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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Analysis

0

Detected time complexity: O(N)

test	time	result
Example tests		
example (without minus)	0.052 s	ок
Correctness tests		
extreme_single a single element	0.052 s	ок
simple simple test	0.060 s	ок
extreme_min_max_int MININT and MAXINT (with minus)	0.052 s	ок
positive_only shuffled sequence of 0100 and then 102200	0.064 s	ок
negative_only shuffled sequence -1001	0.052 s	ок
Performance tests		
medium chaotic sequences length=10005 (with minus)	0.076 s	ок
large_1 chaotic + sequence 1, 2,, 40000 (without minus)	0.228 s	ок
large_2 shuffled sequence 1, 2,, 100000 (without minus)	0.256 s	ок
large_3 chaotic + many -1, 1, 2, 3 (with minus)	0.224 s	ок

Training center

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