codility



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Demo ticket

Session

ID: demoF2F8NV-6XQ Time limit: 120 min.

Status: closed

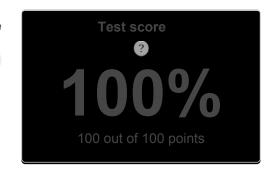
Created on: 2014-03-20 01:03 UTC Started on: 2014-03-20 01:03 UTC Finished on: 2014-03-20 01:05 UTC

Tasks in test

1 | {} Distinct

Task score

100%



EASY

1. Distinct

Compute number of distinct values in an array.

score: 100 of 100



Task description

Write a function

def solution(A

that, given a zero-indexed array A consisting of N integers, returns the number of distinct values in array A. Assume that:

- N is an integer within the range [0..100,000];
- each element of array A is an integer within the range [-1,000,000..1,000,000].

For example, given array A consisting of six elements such that:

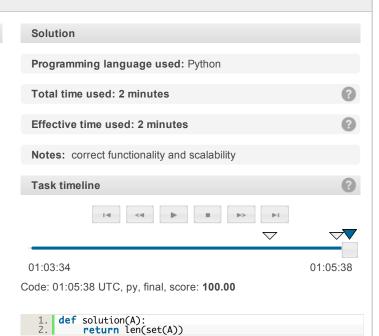
$$A[0] = 2$$
 $A[1] = 1$ $A[2] = 1$
 $A[3] = 2$ $A[4] = 3$ $A[5] = 1$

the function should return 3, because there are 3 distinct values appearing in array A, namely 1, 2 and 3. Complexity:

- expected worst-case time complexity is O(N*log(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 Detected time complexity: $O(N^*log(N))$

test	time	result
example1 example test, positive answer	0.050 s.	ок
extreme_empty empty sequence	0.050 s.	ок
extreme_single sequence of one element	0.050 s.	ок

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extreme_two_elems sequence of three distinct elements	0.050 s.	ОК
extreme_one_value sequence of 10 equal elements	0.050 s.	ок
extreme_negative sequence of negative elements, length=5	0.050 s.	ок
extreme_big_values sequence with big values, length=5	0.050 s.	ок
medium1 chaotic sequence of value sfrom [01K], length=100	0.050 s.	ок
medium2 chaotic sequence of value sfrom [01K], length=200	0.050 s.	ок
medium3 chaotic sequence of values from [010], length=200	0.050 s.	ок
large1 chaotic sequence of values from [0100K], length=10K	0.060 s.	ок
large_random1 chaotic sequence of values from [-1M1M], length=100K	0.230 s.	ок
large_random2 another chaotic sequence of values from [-1M1M], length=100K	0.230 s.	ок

Training center

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