codility

raining center Congratulations eck out Codility training tasks You have completed a Codility demo. Tweet this! I scored 100% in #python on @Codility! http://codility.com/demo/take-sample-test/distinct/ Sign up for our newsletter! Like us on Facebook!

Demo ticket

Session

ID: demoHSQY7A-8Z5 Time limit: 120 min.

Status: closed

Created on: 2014-06-01 18:33 UTC Started on: 2014-06-01 18:33 UTC Finished on: 2014-06-01 18:41 UTC

Tasks in test

1 | {} Distinct

Correctness Performance

100%

100%

12. 13.

14.

return dist

Task score

100%

Test score 0 100 out of 100 points

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:

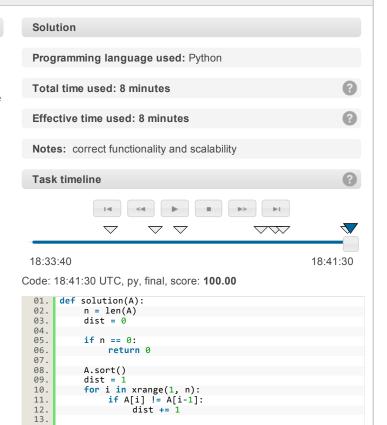
$$A[0] = 2$$
 $A[1] = 1$ $A[2] = 1$
 $A[3] = 2$ $A[4] = 3$ $A[5] = 1$

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.

Copyright 2009–2014 by Codility Limited. All Rights Reserved. Unauthorized copying, publication or disclosure prohibited.



Analysis



Detected time complexity: O(N*log(N))

| test | time | result |
|--|----------|--------|
| Example tests | | |
| example1 example test, positive answer | 0.060 s. | ок |
| Correctness tests | | |
| extreme_empty empty sequence | 0.056 s. | ок |
| extreme_single sequence of one element | 0.052 s. | ок |
| extreme_two_elems sequence of three distinct elements | 0.060 s. | ок |
| extreme_one_value sequence of 10 equal elements | 0.056 s. | ок |
| extreme_negative sequence of negative elements, length=5 | 0.052 s. | ок |
| extreme_big_values sequence with big values, length=5 | 0.056 s. | ок |
| medium1 chaotic sequence of value sfrom [01K], length=100 | 0.056 s. | ок |
| medium2 chaotic sequence of value sfrom [01K], length=200 | 0.060 s. | ок |
| medium3 chaotic sequence of values from [010], length=200 | 0.048 s. | ок |
| Performance tests | | |
| large1 chaotic sequence of values from [0100K], length=10K | 0.084 s. | ок |
| large_random1 chaotic sequence of values from [-1M1M], length=100K | 0.272 s. | ок |
| large_random2 another chaotic sequence of values from [-1M1M], length=100K | 0.280 s. | ок |

Training center