codility

Training center

training tasks

Congratulations

You have completed a Codility training test.

Tweet this!
I scored 100% in #go on @Codility!
https://codility.com/demo/take-sample-test/distinct/

Sign up for our newsletter!

Like us on Facebook!

Training ticket

Session

ID: trainingWGYNQQ-8VT
Time limit: 120 min.

Status: closed

Created on: 2016-02-18 07:49 UTC
Started on: 2016-02-18 07:49 UTC
Finished on: 2016-02-18 07:50 UTC

Tasks in test	Correctness	Performance	Task score
1 Distinct Submitted in: Go	100%	100%	100%

Test score

100%

100 out of 100 points

EASY

1. Distinct

Compute number of distinct values in an array.

score: 100 of 100

Task description

Write a function

```
func Solution(A []int) int
```

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

Solution

Programming language used: Go

Total time used: 1 minutes

Effective time used: 1 minutes

Notes: *not defined yet*

Task timeline

07:49:30 07:50:20

Code: 07:50:20 UTC, go, final, score: **100.00**

show code in pop-up

```
1  package solution
2
3  // you can also use imports, for example:
```

input storage (not counting the storage required for input arguments).

Elements of input arrays can be modified.


```
4  // import "fmt"
5  // import "os"
6
7  // you can write to stdout for debugging purposes, e.g.
8  // fmt.Println("this is a debug message")
9
10 func Solution(A []int) int {
11
12     distinct := 0
13
14     m := make(map[int]bool,0);
15
16     for _,n := range A {
17         m[n]=true
18     }
19
20     for _ = range m {
21         distinct++;
22     }
23
24     return distinct;
25 }
```

Analysis summary

The solution obtained perfect score.

Analysis

Detected time complexity:

O(N) or O(N*log(N))

expand all	**Example tests**	
▶	example1 example test, positive answer	✔ OK
expand all	**Correctness tests**	
▶	extreme_empty empty sequence	✔ OK
▶	extreme_single sequence of one element	✔ OK
▶	extreme_two_elems sequence of three distinct elements	✔ OK
▶	extreme_one_value sequence of 10 equal elements	✔ OK
▶	extreme_negative sequence of negative elements, length=5	✔ OK
▶	extreme_big_values sequence with big values, length=5	✔ OK
▶	medium1 chaotic sequence of value sfrom [0..1K], length=100	✔ OK
▶	medium2 chaotic sequence of value sfrom [0..1K], length=200	✔ OK
▶	medium3 chaotic sequence of values from [0..10], length=200	✔ OK
expand all	**Performance tests**	
▶	large1 chaotic sequence of values from [0..100K], length=10K	✔ OK
▶	large_random1 chaotic sequence of values from [-1M..1M], length=100K	✔ OK

▶	large_random2 another chaotic sequence of values from [-1M..1M], length=100K	✔ OK

Training center