Open Feedback Dialog

cødility

Training center

Check out Codility training tasks

Demo ticket

Session

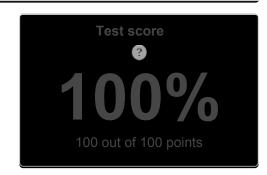
ID: demoFZ4RSD-ZAJ Time limit: 120 min.

Status: closed

Created on: 2014-03-16 03:11 UTC Started on: 2014-03-16 03:16 UTC Finished on: 2014-03-16 03:22 UTC

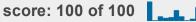
Tasks in test

Task score



1. MaxSliceSum

Find a maximum sum of a compact subsequence of array elements.



Task description

A non-empty zero-indexed array A consisting of N integers is given. A pair of integers (P, Q), such that $0 \le P \le Q < N$, is called a *slice* of array A. The sum of a slice (P, Q) is the total of A[P] + A[P+1] + ... + A[Q].

Write a function:

def solution(A)

that, given an array A consisting of N integers, returns the maximum sum of any slice of A.

For example, given array A such that:

$$A[0] = 3$$
 $A[1] = 2$ $A[2] = -6$ $A[3] = 4$ $A[4] = 0$

the function should return 5 because:

- (3, 4) is a slice of A that has sum 4,
- (2, 2) is a slice of A that has sum -6,
- (0, 1) is a slice of A that has sum 5,
- no other slice of A has sum greater than (0, 1).

Assume that:

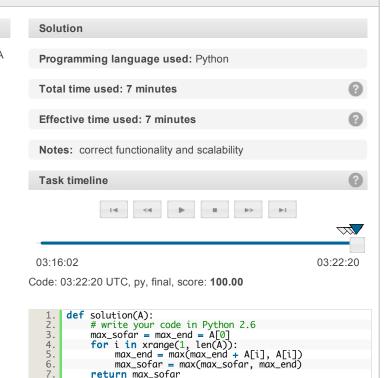
- N is an integer within the range [1..1,000,000];
- · each element of array A is an integer within the range [-1,000,000..1,000,000];
- the result will be an integer within the range [-2,147,483,648..2,147,483,647].

Complexity:

- expected worst-case time complexity is O(N);
- expected worst-case space complexity is O(1), 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.



Detected time complexity:

return max_sofar

Analysis

| test | time | result |
|--------------|----------|--------|
| example | 0.050 s. | ОК |
| one_element | 0.050 s. | ОК |
| two elements | 0.050 s. | ОК |

3/15/2014 Codility

| | 0.000 0. 0 | |
|--------------------|--------------------|--|
| three_elements | 0.050 s. OK | |
| simple | 0.050 s. OK | |
| extreme_minimum | 0.050 s. OK | |
| fifty_random | 0.050 s. OK | |
| neg_const | 0.050 s. OK | |
| pos_const | 0.050 s. OK | |
| high_low_1Kgarbage | 0.050 s. OK | |
| 1Kgarbage_high_low | 0.050 s. OK | |
| growing_saw | 0.050 s. OK | |
| blocks | 0.320 s. OK | |
| growing_negative | 0.530 s. OK | |

Training center

© 2009–2014 Codility Ltd., registered in England and Wales (No. 7048726). VAT ID GB981191408. Registered office: 107 Cheapside, London EC2V 6DN