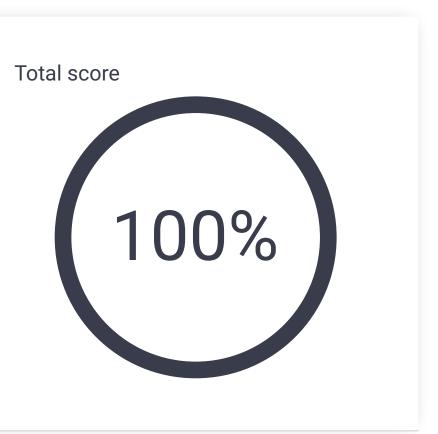
# Codility\_

# CodeCheck Report: trainingDZHT7E-QSB

Test Name:

Timeline Summary

Tasks summary Time spent Task Score MaxProfit 8 min 100% Python



Check out Codility training tasks

#### **Tasks Details**

1. MaxProfit Given a log of stock prices compute the maximum possible earning.

Task Score Correctness Performance 100% 100% 100%

#### Task description

An array A consisting of N integers is given. It contains daily prices of a stock share for a period of N consecutive days. If a single share was bought on day P and sold on day Q, where  $0 \le P \le Q < N$ , then the *profit* of such transaction is equal to A[Q] - A[P], provided that  $A[Q] \ge A[P]$ . Otherwise, the transaction brings loss of A[P] - A[Q].

For example, consider the following array A consisting of six elements such that:

A[0] = 23171A[1] = 21011A[2] = 21123A[3] = 21366A[4] = 21013A[5] = 21367

If a share was bought on day 0 and sold on day 2, a loss of 2048 would occur because A[2] - A[0] = 21123 - 23171 = -2048. If a share was bought on day 4 and sold on day 5, a profit of 354 would occur because A[5] - A[4] = 21367 - 21013 = 354. Maximum possible profit was 356. It would occur if a share was bought on day 1 and sold on day 5.

#### Write a function,

def solution(A)

that, given an array A consisting of N integers containing daily prices of a stock share for a period of N consecutive days, returns the maximum possible profit from one transaction during this period. The function should return 0 if it was impossible to gain any profit.

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

A[0] = 23171A[1] = 21011A[2] = 21123A[3] = 21366A[4] = 21013A[5] = 21367

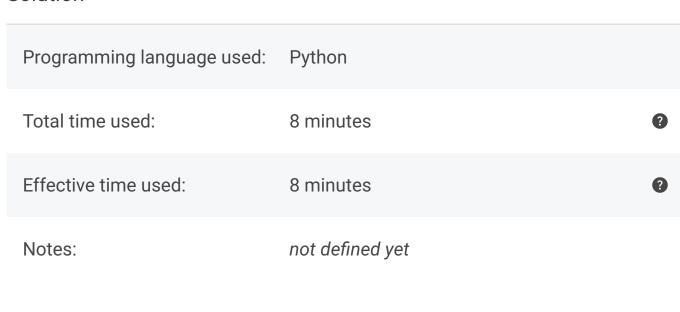
the function should return 356, as explained above.

Write an **efficient** algorithm for the following assumptions:

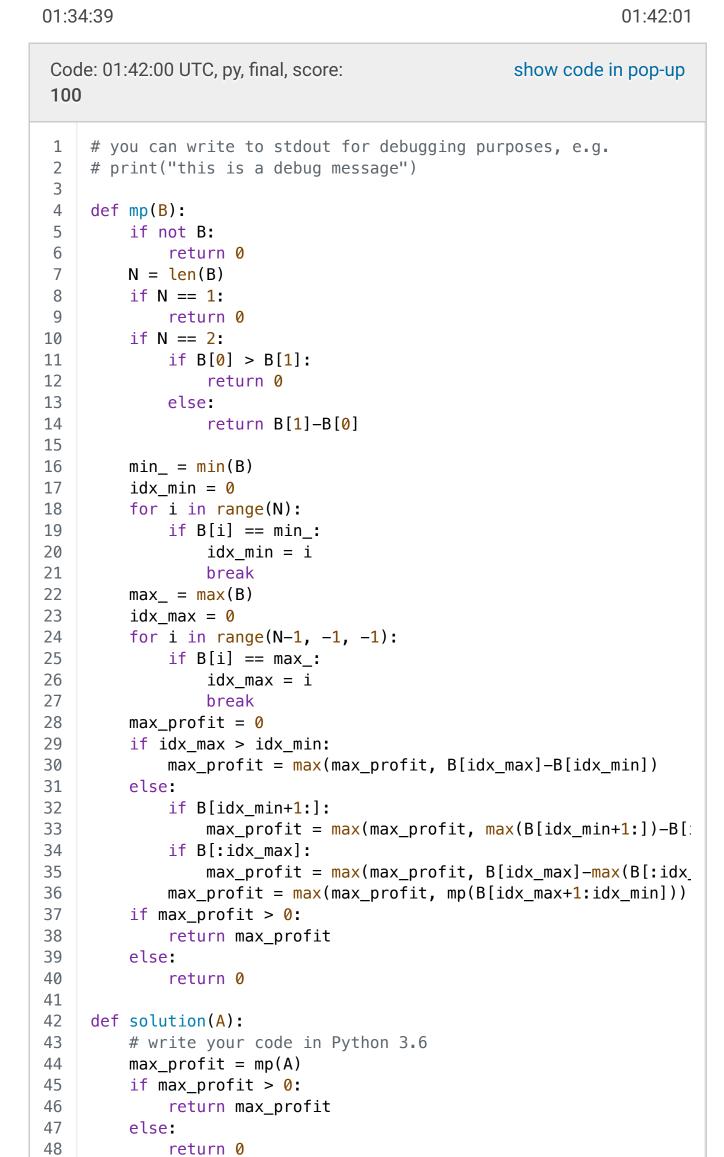
- N is an integer within the range [0..400,000];
- each element of array A is an integer within the range [0..200,000].

Copyright 2009–2022 by Codility Limited. All Rights Reserved. Unauthorized copying, publication or disclosure prohibited.

#### Solution







## Analysis summary

The solution obtained perfect score.

## Analysis

