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Demo ticket

Session

ID: demo7TUDGX-TGH Time limit: 120 min.

Status: closed

Created on: 2014-04-23 17:39 UTC Started on: 2014-04-23 17:39 UTC Finished on: 2014-04-23 17:40 UTC

Tasks in test

1 | {} FrogJmp

Correctness Performance

100%

100%

Task score

100%

Test score

?

1000/0

100 out of 100 points

1. FrogJmp

Count minimal number of jumps from position \boldsymbol{X} to \boldsymbol{Y} .

score: 100 of 100



Task description

A small frog wants to get to the other side of the road. The frog is currently located at position X and wants to get to a position greater than or equal to Y. The small frog always jumps a fixed distance, D. Count the minimal number of jumps that the small frog must perform to reach its target.

Write a function:

def solution(X, Y, D)

that, given three integers X, Y and D, returns the minimal number of jumps from position X to a position equal to or greater than Y. For example, given:

X = 10

Y = 85

D = 30

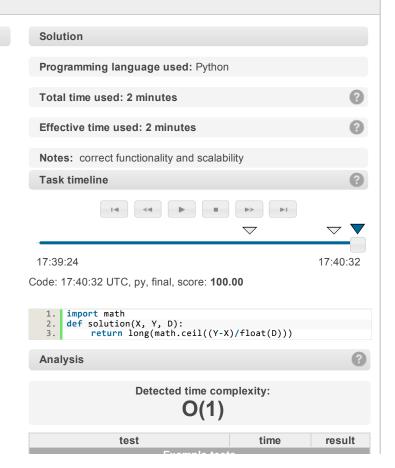
the function should return 3, because the frog will be positioned as follows:

- after the first jump, at position 10 + 30 = 40
- after the second jump, at position 10 + 30 + 30 = 70
- after the third jump, at position 10 + 30 + 30 + 30 = 100

Assume that:

- X, Y and D are integers within the range [1..1,000,000,000];
- X ≤ Y.

Complexity:



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

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Example tests		
example example test	0.050 s.	ок
Correctness tests		
simple1 simple test	0.050 s.	ок
simple2	0.050 s.	OK
extreme_position no jump needed	0.050 s.	ок
small_extreme_jump one big jump	0.050 s.	ок
Performance tests		
many_jump1 many jumps, D = 2	0.050 s.	ок
many_jump2 many jumps, D = 99	0.050 s.	ок
many_jump3 many jumps, D = 1283	0.050 s.	ок
big_extreme_jump maximal number of jumps	0.050 s.	ок
small_jumps many small jumps	0.050 s.	ок

Training center

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