

TASKS DETAILS

EASY	1. FrogJump Count minimal number of jumps from position X to Y.	Task Score 11%	Correctness 25%	Performance 0%	

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 $[1..1,000,000,000]$;

Solution

Programming language used: Python

Total time used: 1 minutes

Effective time used: 1 minutes

Notes: not defined yet

Task timeline



01:10:30

01:11:09

Code: 01:11:09 UTC, py,
final, score: 11

[show code in pop-up](#)

```
1 def solution(X, Y, D):
2     count = 0
3     while X <= Y:
4         count += 1
5         X += D
6     return count
```

Analysis summary

- $X \leq Y$.

Complexity:

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

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The following issues have been detected: wrong answers, timeout errors.

For example, for the input (1 , 5 , 2) the solution returned a wrong answer (got 3 expected 2).

Analysis ?

expand all	Example tests	
▶	example example test	✓ OK
expand all	Correctness tests	
▶	simple1 simple test	✗ WRONG ANSWER got 3 expected 2
▶	simple2	✗ WRONG ANSWER got 4 expected 3
▶	extreme_position no jump needed	✗ WRONG ANSWER got 1 expected 0
▶	small_extreme_jump one big jump	✓ OK
expand all	Performance tests	
▶	many_jump1 many jumps, D = 2	✗ TIMEOUT ERROR running time: >6.00 sec., time limit: 0.14 sec.
▶	many_jump2 many jumps, D = 99	✗ TIMEOUT ERROR running time: >6.00 sec., time limit: 0.14 sec.
▶	many_jump3 many jumps, D = 1283	✗ TIMEOUT ERROR running time: >6.00 sec., time limit: 0.14 sec.
▶	big_extreme_jump maximal number of jumps	✗ TIMEOUT ERROR running time: >6.00 sec., time limit: 0.14 sec.
▶	small_jumps many small jumps	✗ TIMEOUT ERROR running time: >6.00 sec., time limit: 0.14 sec.