codility

Training center

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TASKS DETAILS

EASY

1. **FrogJmp**
Count minimal number of jumps from position X to Y.

Task Score	Correctness	Performance
55%	50%	60%

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

01:35:30 01:35:46

Code: 01:35:46 UTC, py, final, score: **55** show code in pop-up

```
1  def solution(X, Y, D):
2      distance = Y - X
3      return 0 if distance == 0 else int(dis
```

Analysis summary

The following issues have been detected: wrong answers.

- X ≤ Y.

Complexity:

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

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	✔ OK
▶	small_extreme_jump one big jump	✔ OK
expand all	Performance tests	
▶	many_jump1 many jumps, D = 2	✔ OK
▶	many_jump2 many jumps, D = 99	✘ WRONG ANSWER got 987654223 expected 987654222
▶	many_jump3 many jumps, D = 1283	✔ OK
▶	big_extreme_jump maximal number of jumps	✘ WRONG ANSWER got 1000000000 expected 999999999
▶	small_jumps many small jumps	✔ OK