Codility_

CodeCheck Report: trainingARGS2E-4HQ

Test Name:

Check out Codility training tasks

Summary Timeline

Tasks summary

Task	Time spent	Score
FrogJmp C#	1 min	100%

Total score

Tasks Details

Easy

1. FrogJmp

Count minimal number of jumps from position X to Y.

Task Score	Correctness	Performance
100%	100%	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:

```
class Solution { public int solution(int X, int Y,
int 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.

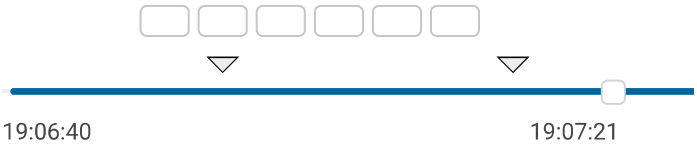
For example, given:

```
X = 10
Y = 85
D = 30
```

Solution

Programming language used:	C#
Total time used:	1 minutes
Effective time used:	1 minutes
Notes:	*not defined yet*

Task timeline



Code: 19:07:21 UTC, cs, final, score: **100**

show code in pop-up

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

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

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


```
using System;

/* Lesson 3.1 - Odd Occurrences in Array
 * Paulo Santos
 * 24.Nov.2022
 */
class Solution {
    public int solution(int X, int Y, int D) {

                /*
                 * Check the input
                 */
                if ((X < 1 || X > 1000000000) ||
                        (Y < 1 || X > 1000000000) |
                        (D < 1 || X > 1000000000))
                        throw new ArgumentException

                /*
                 * Calculate the answer
                 */
        var ans = ((double)(Y - X) / D);
        if (ans != Math.Floor((double)ans))
            return (int)(Math.Floor(ans) + 1);

        return (int)ans;
    }
}
```

Analysis summary

The solution obtained perfect score.

Analysis

Detected time complexity: **O(1)**

expand all	Example tests	
▶	example example test	✓ OK
expand all	**Correctness tests**	
▶	simple1 simple test	✓ OK
▶	simple2	✓ OK
▶	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	✓ OK
▶	many_jump3 many jumps, D = 1283	✓ OK
▶		

big_extreme_jump maximal number of jumps	✓ OK
▶ small_jumps many small jumps	✓ OK