Codility_

CodeCheck Report: trainingGA99AM-4C9

Test Name:

Check out Codility training tasks

Summary | Timeline

Tasks summary

Task	Time spent	Score
CountDiv Python	1 min	100%

Total score

Tasks Details

Medium

1. **CountDiv**
Compute number of integers divisible by k in range [a..b].

Task Score	Correctness	Performance
100%	100%	100%

Task description

Write a function:

```
def solution(A, B, K)
```

that, given three integers A, B and K, returns the number of integers within the range [A..B] that are divisible by K, i.e.:

$$\{ i : A \leq i \leq B, i \bmod K = 0 \}$$

For example, for A = 6, B = 11 and K = 2, your function should return 3, because there are three numbers divisible by 2 within the range [6..11], namely 6, 8 and 10.

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

- A and B are integers within the range [0..2,000,000,000];
- K is an integer within the range [1..2,000,000,000];
- A ≤ B.

Solution

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

Task timeline

10:13:10 — 10:13:42

Code: 10:13:42 UTC, py, final, score: 100 — show code in pop-up

```
1  # you can write to stdout for debugging purposes, e.g.
2  # print("this is a debug message")
3
4  def solution(A, B, K):
5      # write your code in Python 3.6
6      if K == 1:
7          return B-A+1
8      elif A == B:
9          if A%K == 0:
10             return 1
11         else:
12             return 0
13     elif K > B:
14         return 0
15     else:
16         if A%K == 0:
17             return B//K-A//K+1
18         else:
19             return B//K-A//K
```

Analysis summary

The solution obtained perfect score.

Analysis

Detected time complexity: O(1)

expand all	Example tests	
▶	example A = 6, B = 11, K = 2	✔ OK
expand all	**Correctness tests**	
▶	simple A = 11, B = 345, K = 17	✔ OK
▶	minimal A = B in {0,1}, K = 11	✔ OK
▶	extreme_ifempty A = 10, B = 10, K in {5,7,20}	✔ OK
▶	extreme_endpoints verify handling of range endpoints, multiple runs	✔ OK
expand all	**Performance tests**	
▶	big_values A = 100, B=123M+, K=2	✔ OK
▶	big_values2 A = 101, B = 123M+, K = 10K	✔ OK
▶	big_values3 A = 0, B = MAXINT, K in {1,MAXINT}	✔ OK
▶	big_values4 A, B, K in {1,MAXINT}	✔ OK