

# Codility

## CodeCheck Report: trainingEUPDPS-8FM

Test Name:

[Check out Codility training tasks](#)

Summary

Timeline

### Tasks summary

Task	Time spent	Score
CountDiv Python 	4 min	50%

### Total score



### Tasks Details

Medium	1. <b>CountDiv</b> Compute number of integers divisible by k in range [a..b].	<b>Task Score</b> 50%	<b>Correctness</b> 100%	<b>Performance</b> 0%

### 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

### Solution

Programming language used: Python

Total time used: 4 minutes Effective time used: 4 minutes Notes: *not defined yet*

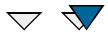
divisible by 2 within the range [6..11], namely 6, 8 and 10.

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];
- $A \leq B$ .

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## Task timeline



15:00:22

15:04:14

Code: 15:04:13 UTC, py, [show code in pop-up](#)  
final, score: 50

```

1  # you can write to stdout for debugging
2  # print("this is a debug message")
3
4  def solution(A, B, K):
5      count = 0
6      for i in range(A, B + 1):
7          if i % K == 0:
8              count += 1
9      return count
10

```

## Analysis summary

The following issues have been detected: timeout errors.

For example, for the input [0, 2000000000, 1] the solution exceeded the time limit.

## Analysis

Detected time complexity:

$O(B-A)$

expand all	Example tests	
▶	example	✓ OK
	A = 6, B = 11, K = 2	
expand all	Correctness tests	
▶	simple	✓ OK
	A = 11, B = 345, K = 17	
▶	minimal	✓ OK
	A = B in {0,1}, K = 11	
▶	extreme_ifempty	✓ OK
	A = 10, B = 10, K in {5,7,20}	
▶	extreme_endpoints	✓ OK
	verify handling of range endpoints, multiple runs	
expand all	Performance tests	

▶ big_values A = 100, B=123M+, K=2	✗ <b>TIMEOUT ERROR</b> Killed. Hard limit reached: 6.000 sec.
▶ big_values2 A = 101, B = 123M+, K = 10K	✗ <b>TIMEOUT ERROR</b> Killed. Hard limit reached: 6.000 sec.
▶ big_values3 A = 0, B = MAXINT, K in {1,MAXINT}	✗ <b>TIMEOUT ERROR</b> Killed. Hard limit reached: 6.000 sec.
▶ big_values4 A, B, K in {1,MAXINT}	✗ <b>TIMEOUT ERROR</b> Killed. Hard limit reached: 6.000 sec.