

Test Name:

Summary   Timeline

Tasks summary

Task	Time spent	Score
CountDiv Java 8	5 min	100%

Total score

100%

Tasks Details

Medium

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

Task Score

100%

Correctness

100%

Performance

100%

Task description

Write a function:

```
class Solution { public int solution(int A, int B, int 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:

Java 8

Total time used:

5 minutes

Effective time used:

5 minutes

Notes:

not defined yet

Task timeline

01:00:18

01:05:12

Code: 01:05:12 UTC, java, final,  
score: 100

[show code in pop-up](#)

```
1 / you can also use imports, for example:
2 / import java.util.*;
3
```

```
4 / you can write to stdout for debugging purposes, e.g.
5 / System.out.println("this is a debug message");
6
7 class Solution {
8     public int solution(int A, int B, int K) {
9         // write your code in Java SE 8
10
11         return ((int)(Math.floor(B/K) - Math.floor(A/K)
12     )
13 }
```

Analysis summary

The solution obtained perfect score.

Analysis

Detected time complexity: <b>O(1)</b>	
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	✓ OK
A = 100, B=123M+, K=2	
▶ big_values2	✓ OK
A = 101, B = 123M+, K = 10K	
▶ big_values3	✓ OK
A = 0, B = MAXINT, K in {1,MAXINT}	
▶ big_values4	✓ OK
A, B, K in {1,MAXINT}	