



Candidate Report: trainingDBQD2C-JZ3

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Test Name:

- Summary
- Timeline
- Feedback

Tasks summary

Task	Time spent	Score
CountDiv C#	1 min	100%

Total score

100%

Tasks Details

Medium

1. CountDiv

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

Task Score

Correctness

100%

Performance

100%

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.

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Solution

Programming language used: C#

Total time used:

1 minutes

?

Effective time used:

1 minutes

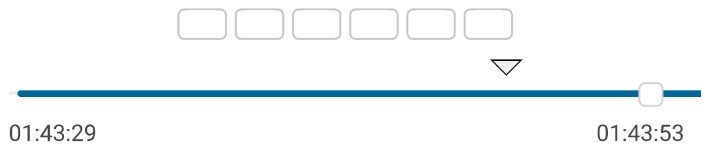
?

Notes:

not defined yet

Task timeline

?



Code: 01:43:52 UTC, cs, final,
score: 100

show code in pop-up

```

1  using System;
2  // you can also use other imports, for example:
3  // using System.Collections.Generic;
4
5  // you can write to stdout for debugging purposes, e.g.
6  // Console.WriteLine("this is a debug message");
7
8  class Solution {
9      public int solution(int A, int B, int K)
10     {
11         // write your code in C# 6.0 with .NET 4.5 (M
12         while (A % K != 0)
13         {
14             ++A;
15         }
16         while (B % K != 0)
17         {
18             --B;
19         }
20         return (B - A) / K + 1;
21     }
22 }

```

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

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