Beautiful Days at the Movies

by YuryBandarchuk

Problem Submissions Leaderboard Discussions Editorial

Lily likes to play games with integers and their *reversals*. For some integer x, we define $reversed(x)$ to be the reversal of all digits in x. For example, $reversed(123) = 321$, $reversed(21) = 12$, and $reversed(120) = 21$.

Logan wants to go to the movies with Lily on some day x satisfying $i \leq x \leq j$, but he knows she only goes to the movies on days she considers to be *beautiful*. Lily considers a day to be *beautiful* if the absolute value of the difference between x and $reversed(x)$ is evenly divisible by k.

Given i, j, and k, count and print the number of *beautiful* days when Logan and Lily can go to the movies.

Input Format

A single line of three space-separated integers describing the respective values of i, j, and k.

Constraints

- $1 \leq i \leq j \leq 2 \times 10^6$
- $1 \leq k \leq 2 \times 10^9$

Output Format

Print the number of *beautiful* days in the inclusive range between i and j.

Sample Input

```
20 23 6
```

Sample Output

```
2
```

Explanation

Logan wants to go to the movies on days 20, 21, 22, and 23. We perform the following calculations to determine which days are *beautiful*:

- Day 20 is *beautiful* because the following evaluates to a whole number: $\frac{|20-02|}{6} = 3$
- Day 21 is *not beautiful* because the following doesn't evaluate to a whole number: $\frac{|21-12|}{6} = 1.5$
- Day 22 is *beautiful* because the following evaluates to a whole number: $\frac{|22-22|}{6} = 0$
- Day 23 is *not beautiful* because the following doesn't evaluate to a whole number: $\frac{|23-32|}{6} = 1.5$

Only two days, 20 and 22, in this interval are beautiful. Thus, we print 2 as our answer.

Submissions:30288

Max Score:15
Difficulty: Easy

Rate This Challenge:
☆ ☆ ☆ ☆ ☆

More

Current Buffer (saved locally, editable) Java 7

```
1  import java.io.*;
2  import java.util.*;
3  import java.text.*;
4  import java.math.*;
5  import java.util.regex.*;
6
7  public class Solution {
8
9      public static void main(String[] args) {
10         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
11     }
12 }
```

Line: 1 Col: 1

Upload Code as File Test against custom input Run Code Submit Code