COI '07 #4 Umnožak

Time limit: 0.6s **Memory limit:** 32M

The **digit-product** of a positive integer is the product of the number's decimal digits. For example, the digit-product of 2612 is $2 \cdot 6 \cdot 1 \cdot 2 = 24$.

The **self-product** of a number is the product of the number and its digit-product. For example, the self-product of 2612 is $2612 \cdot 24 = 62\,688$.

Write a program that, given two positive integers A and B, calculates the number of positive integers whose self-product is between A and B, inclusive.

Input Specification

The first and only line contains two integers A and B $(1 \leq A \leq B < 10^{18})$.

Output Specification

Output should consist of a single integer, the number of positive integers whose self-product is between A and B.

Scoring

In test cases worth a total of 25 points, A and B will be at most 10^8.

In test cases worth another 15, A and B will be at most 10^{12}.

Sample Input 1

```
20 30
```

Sample Output 1

```
2
```

Sample Input 2

```
145 192
```

Sample Output 2

```
4
```

Explanation for Sample Output 2

The self-products of numbers 19, 24, 32 and 41 are in order 171, 192, 192 and 164.

Sample Input 3

```
2224222 2224222
```

Sample Output 3

```
1
```