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 $2612 \cdot 24 = 62688$.

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 ($1 \le A \le B < 10^{18}$).

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