Problem P. Heavy Numbers

Source file name:	Heavy.c, Heavy.cpp, Heavy.java, Heavy.py
Input:	`Standard`
Output:	`Standard`

Consider a positive integer a. We define weight of a as:

$$(\text{number of digits in } a) \cdot (\text{sum of the digits in } a)$$

For example, if $a = 5767$, then weight of a is:

$$(4) \cdot (5 + 7 + 6 + 7) = 100$$

Given two positive integers, determine which one weighs more, i.e., it is heavier.

Input

There is only one input line; it contains two integers separated by exactly one space (blank). Assume each integer is between 1 and 10^6 (inclusive).

Output

Print 1 (one) if the first number is heavier, 2 (two) if the second number is heavier, and 0 (zero) if the two numbers weigh the same.

Example

Input	Output
59 1001	1
8 567	2
123 90	0