

PRF192 - Workshop 03

Problem 1

Write a C program that takes a number as input, which may contain commas (,) or dots (.), and counts the total number of digits in the number.

Input

The given number n .

Constraint

- $n \in \mathbb{R}$
- $-10^{100} \leq n \leq 10^{100}$

Output

Single integer representing number of digits in n .

Input	Output
1,234.56	6
100.01	5

Problem 2

Write a C program that appends exactly one digit (0-9) to the rightmost position of a given integer n , such that the resulting number is divisible by 6. If there are multiple digits that can be appended, print the biggest one.

Input

A single non-negative integer n

Constraint

- $n \in \mathbb{N}$
- $-10^{100} \leq n \leq 10^{100}$

Output

The smallest digit that can be appended to n to make the resulting number divisible by 6.

Input	Output
1	8
12	6

Problem 3

Write a C program that prints the multiplication tables for two given integers a and b (both in the range $[1, 9]$). The multiplication tables should be printed for all integers from a to b , inclusive.

Input

Two given integer, a and b , separated by a space

Constraint

- $a, b \in \mathbb{N}$

- $1 \leq a \leq 9$
- $1 \leq b \leq 9$

Output

The multiplication table for each number from a to b . Each number's multiplication table should show its multiplication with integers from 1 to 9. The format for each line should be

$$x \times y = \text{res},$$

where x is the current number being multiplied and y is the multiplier ranging from 1 to 9.

Input	Output
3 4	3 x 1 = 3
	3 x 2 = 6
	3 x 3 = 9
	3 x 4 = 12
	3 x 5 = 15
	3 x 6 = 18
	3 x 7 = 21
	3 x 8 = 24
	3 x 9 = 27
	4 x 1 = 4
	4 x 2 = 8
	4 x 3 = 12
	4 x 4 = 16
	4 x 5 = 20
	4 x 6 = 24
	4 x 7 = 28
	4 x 8 = 32
	4 x 9 = 36