

Begin: 2021-04-29
18:10 UTC-3

UFBA - Treino para Iniciantes #15 (primos, fatoração prima, crivo de Eratosthenes)

End: 2021-05-02
06:10 UTC-3

Ended

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1138 ms

Memory limit

1572864 kB

Code length Limit

50000 B

OS

Linux

Language limit

All except: ERL NODEJS PERL6 VB.NET

Author

Jimmy

Hints[Hide](#)

D - Integer Factorization (15 digits) [SPOJ - FACT0](#)

This is a problem to test the robustness of your Integer Factorization algorithm.

Given some integers, you need to factor them into product of prime numbers.

The largest integer given in the input file has 15 digits. [FACT1](#) is a harder version of this problem (the numbers are larger).

You may need to use a general factorization algorithm since no special numbers (e.g. Fermat numbers) are considered when designing the input data.

Input

There are several numbers given, each one in a line.

The input ends with a number 0.

The number of test cases is about 10.

Output

For each number, print in a line the factorization of it. See examples below for the output format.

Example

Input :

3111989

13091989

77145199750673

0

Output :

317¹ 9817¹

17² 89¹ 509¹

328439¹ 234884407¹



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Server Time: 2021-05-05 15:38:26 UTC-3