C. Prime factorization

time limit per test: 3 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

You are given a positive integer n. Output its prime factorization.

If $n = a_1^{b_1} a_2^{b_2} \ldots a_k^{b_k}$ ($b_i > 0$), where a_k are prime numbers, the output of your program should look as follows: a_1*...*a_1*a_2*...*a_2*...*a_k*...*a_k, where the factors are ordered in non-decreasing order, and each factor a_i is printed b_i times.

Input

The only line of input contains an integer n ($2 \le n \le 10000$).

Output

Output the prime factorization of n, as described above.

Examples

input
245
output
5*7*7

input
19
output
19