Anagrams

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	512 megabytes

Consider the positional numeral system with a given base b. A positive integer x is called b-*anagram* of a positive integer y if they have the same length of representation in this system (without leading zeroes) and y can be obtained by rearranging the digits of x.

A positive integer k is called b-*stable* if for every integer m that is divisible by k all its b-anagrams are also divisible by k. Your task is to find all b-stable integers k for a given base b.

Input

The only line of the input contains an integer b — the base of the given positional numeral system ($2 \le b \le 2 \cdot 10^9$).

Output

Print all b-stable integers k represented in the standard decimal numeral system. They must be printed in ascending order.

Examples

standard input	standard output
3	1 2
9	1 2 4 8
33	1 2 4 8 16 32