B. A Trivial Problem

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Mr. Santa asks all the great programmers of the world to solve a trivial problem. He gives them an integer m and asks for the number of positive integers n, such that the factorial of n ends with exactly m zeroes. Are you among those great programmers who can solve this problem?

Input

The only line of input contains an integer m ($1 \le m \le 100\,000$) — the required number of trailing zeroes in factorial.

Output

First print k — the number of values of n such that the factorial of n ends with m zeroes. Then print these k integers in increasing order.

Examples

input
1

output
5 5 6 7 8 9

input
5

output
0

Note

The factorial of n is equal to the product of all integers from 1 to n inclusive, that is $n! = 1 \cdot 2 \cdot 3 \cdot \ldots \cdot n$.

In the first sample, $5! = 120$, $6! = 720$, $7! = 5040$, $8! = 40320$ and $9! = 362880$.