

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 ($1 \leq m \leq 100\,000$) — 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 $n! = 1 \cdot 2 \cdot 3 \cdot \dots \cdot n$.

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

Manthan, Codefest 16

Finished

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.


Start virtual contest

→ Problem tags

brute force constructive algorithms math
number theory

No tag edit access

→ Contest materials

- Announcement 
- Tutorial 