

# Divisors VI

Find the the smallest integer with exactly **N** odd divisors, where each divisor is greater or equal to 1 !!!

For example for 3 odd divisors, 9 (factors 1, 3, 9) is minimum.

## Input

Each line contain **N** ( $0 < N < 10^{14}$ ). There are 100 inputs total.

## Output

One answer on each line for each **N**, **Modulo 1000000007**.

## Example

**Input:**

3

1024

**Output:**

9

97947700