B. Beautiful Divisors

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

Recently Luba learned about a special kind of numbers that she calls *beautiful* numbers. The number is called *beautiful* iff its binary representation consists of $k + 1$ consecutive ones, and then k consecutive zeroes.

Some examples of beautiful numbers:

- 1_2 (1_{10});
- 110_2 (6_{10});
- 1111000_2 (120_{10});
- 111110000_2 (496_{10}).

More formally, the number is beautiful iff there exists some positive integer k such that the number is equal to $(2^k - 1) * (2^{k-1})$.

Luba has got an integer number n, and she wants to find its greatest beautiful divisor. Help her to find it!

Input

The only line of input contains one number n ($1 \le n \le 10^5$) — the number Luba has got.

Output

Output one number — the greatest beautiful divisor of Luba's number. It is obvious that the answer always exists.

Examples

input
3
output
1

input
992
output
496