

C. Hexadecimal's Numbers

time limit per test: 1 second

memory limit per test: 64 megabytes

input: standard input

output: standard output

One beautiful July morning a terrible thing happened in Mainframe: a mean virus Megabyte somehow got access to the memory of his not less mean sister Hexadecimal. He loaded there a huge amount of n different natural numbers from 1 to n to obtain total control over her energy.

But his plan failed. The reason for this was very simple: Hexadecimal didn't perceive any information, apart from numbers written in binary format. This means that if a number in a decimal representation contained characters apart from 0 and 1, it was not stored in the memory. Now Megabyte wants to know, how many numbers were loaded successfully.

Input

Input data contains the only number n ($1 \leq n \leq 10^9$).

Output

Output the only number — answer to the problem.

Examples

input
10
output
2

Note

For $n = 10$ the answer includes numbers 1 and 10.