C. Hexadecimal's Numbers

time limit per test: 1 second
memory limit per test: 64 megabytes

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 ($1 \le n \le 10^9$).

Output

Output the only number — answer to the problem.

Examples

input	Copy
10	

output	Copy
2	

Note

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

→ Problem tags

brute force | implementation | math | *1200

No tag edit access

→ Contest materials

- Codeforces Beta Round #9
- Codeforces Beta Round #9
- Tutorial