

## A. Raising Bacteria

time limit per test: 1 second  
memory limit per test: 256 megabytes  
input: standard input  
output: standard output

You are a lover of bacteria. You want to raise some bacteria in a box.

Initially, the box is empty. Each morning, you can put any number of bacteria into the box. And each night, every bacterium in the box will split into two bacteria. You hope to see exactly  $x$  bacteria in the box at some moment.

What is the minimum number of bacteria you need to put into the box across those days?

**Input**  
The only line containing one integer  $x$  ( $1 \leq x \leq 10^9$ ).

**Output**  
The only line containing one integer: the answer.

### Examples

input	Copy
5	
output	Copy
2	

input	Copy
8	
output	Copy
1	

**Note**  
For the first sample, we can add one bacterium in the box in the first day morning and at the third morning there will be 4 bacteria in the box. Now we put one more resulting 5 in the box. We added 2 bacteria in the process so the answer is 2.

For the second sample, we can put one in the first morning and in the 4-th morning there will be 8 in the box. So the answer is 1.

Codeforces Round 320 (Div. 2)  
[Bayan Thanks-Round]

Finished

Practice

→ 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 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

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU G++20 13.2 (64 bit, win

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
<a href="#">228473382</a>	Oct/17/2023 00:20	Accepted
<a href="#">228471439</a>	Oct/16/2023 23:45	Accepted
<a href="#">228467545</a>	Oct/16/2023 22:50	Wrong answer on test 3

→ Problem tags

bitmasks \*1000

No tag edit access

→ Contest materials

Announcement (en)

Tutorial (en)