CODE FORCES
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HOME   TOP   CONTESTS   GYM   PROBLEMSET   GROUPS   RATING   API   CALENDAR   HELP   **10 YEARS! 🎁**

PROBLEMS   SUBMIT CODE   MY SUBMISSIONS   STATUS   HACKS   ROOM   STANDINGS   CUSTOM INVOCATION

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

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

→ Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

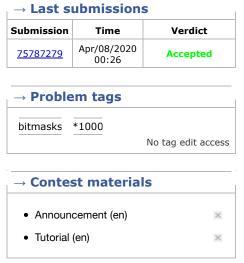Language: GNU G++14 6.4.0 ⇕

Choose file: Choose File   no file selected

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

Submit

→ Last submissions

Submission	Time	Verdict
[75787279](#)	Apr/08/2020 00:26	**Accepted**

→ Problem tags

bitmasks   *1000

<div align="right">No tag edit access</div>

→ Contest materials

- Announcement (en)   ✕
- Tutorial (en)   ✕

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The only programming contests Web 2.0 platform
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