

A. Pizza, Pizza, Pizza!!!

time limit per test: 1 second
 memory limit per test: 128 megabytes
 input: standard input
 output: standard output

Katie, Kuro and Shiro are best friends. They have known each other since kindergarten. That's why they often share everything with each other and work together on some very hard problems.

Today is Shiro's birthday. She really loves pizza so she wants to invite her friends to the pizza restaurant near her house to celebrate her birthday, including her best friends Katie and Kuro.

She has ordered a very big round pizza, in order to serve her many friends. Exactly n of Shiro's friends are here. That's why she has to divide the pizza into $n + 1$ slices (Shiro also needs to eat). She wants the slices to be exactly the same size and shape. If not, some of her friends will get mad and go home early, and the party will be over.

Shiro is now hungry. She wants to cut the pizza with *minimum* of straight cuts. A cut is a straight segment, it might have ends inside or outside the pizza. But she is too lazy to pick up the calculator.

As usual, she will ask Katie and Kuro for help. But they haven't come yet. Could you help Shiro with this problem?

Input

A single line contains one non-negative integer n ($0 \leq n \leq 10^{18}$) — the number of Shiro's friends. The circular pizza has to be sliced into $n + 1$ pieces.

Output

A single integer — the number of straight cuts Shiro needs.

Examples

input	Copy
3	
output	Copy
2	

input	Copy
4	
output	Copy
5	

Note

To cut the round pizza into quarters one has to make two cuts through the center with angle 90° between them.

To cut the round pizza into five equal parts one has to make five cuts.

Codeforces Round #482 (Div. 2)

[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 ACM-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++11 5.1.0 ▼

 Choose file: [选择文件](#) [未选择任何文件](#)

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
38820917	Jun/01/2018 10:23	Accepted
38820344	Jun/01/2018 09:56	Wrong answer on test 11

→ Problem tags

math

No tag edit access

[→ Contest materials](#)

- Announcement 
- Tutorial 

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