B. Jumping Jack

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

Jack is working on his jumping skills recently. Currently he's located at point zero of the number line. He would like to get to the point x. In order to train, he has decided that he'll first jump by only one unit, and each subsequent jump will be exactly one longer than the previous one. He can go either left or right with each jump. He wonders how many jumps he needs to reach x.

Input

The input data consists of only one integer x ($-10^9 \le x \le 10^9$).

Output

Output the minimal number of jumps that Jack requires to reach x.

Examples

input	Copy
2	

output	Copy
3	

input	Copy
6	

output	Copy
3	

input	Copy
0	

output	Copy
0	

→ Attention

The package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, a solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then the value 800 ms will be displayed and used to determine the verdict.

Codeforces Beta Round 11

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++23 14.2 (64 bit, ms

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
325660095	Jun/23/2025 12:03	Accepted

→ Problem tags

math *1600

No tag edit access

→ Contest materials

- Announcement (en)

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