

Problem H. Savings

Time limit 2000 ms
Mem limit 1048576 kB

Problem Statement

AtCoDeer has an empty piggy bank.
On the morning of the i -th day, he will put i yen (Japanese currency) in it: 1 yen on the morning of the 1-st day, 2 yen on the morning of the 2-nd day, and so on.
Each night, he will check the amount of money in it.
On which day will he find out that his piggy bank has N yen or more for the first time?

Constraints

- $1 \leq N \leq 10^9$
- N is an integer.

Input

Input is given from Standard Input in the following format:

N

Output

Print an integer x such that AtCoDeer will find out that his piggy bank has N yen or more for the first time on the x -th day.

Sample 1

Input	Output
12	5

- On the 1-st day, the piggy bank gets 1 yen in the morning and has 1 yen at night.
- On the 2-st day, the piggy bank gets 2 yen in the morning and has 3 yen at night.
- On the 3-rd day, the piggy bank gets 3 yen in the morning and has 6 yen at night.
- On the 4-th day, the piggy bank gets 4 yen in the morning and has 10 yen at night.
- On the 5-th day, the piggy bank gets 5 yen in the morning and has 15 yen at night.

Thus, on the 5-th night, AtCoDeer will find out that his piggy bank has 12 yen or more for the first time.

Sample 2

NSUPS Bootcamp S13 W2: Primality, Divisors, NOD, SOD in $O(\sqrt{n})$; Modular Arithmetic

Input	Output
100128	447