

Hugov Molotov, an evil computer scientist, is obsessed by triangular numbers and how to use them to control the world. Molotov wants to choose a new henchman, so he has prepared a hard task, to test if you are worthy. The task consist in, given a positive integer number  $N$ , tell what is the minimum amount of triangular numbers whose sum is equal to  $N$ .

**Note:** a triangular number is given by:

$$\sum_{i=1}^X i = 1 + 2 + 3 + 4 + \dots + X$$

where  $X$  is any positive integer number.

## Input

The input may contain several test cases. Each test case is presented on a single line, and contains one positive integer  $N$  ( $1 \leq N \leq 10^7$ ). The end of the test cases is given by the end of file (EOF).

## Output

For each test case, your program must print one positive integer denoting the minimum amount of triangular numbers, whose sum is equal to  $N$ . Each test case must generate one output line.

## Sample Input

```
1
2
6
10
```

## Sample Output

```
1
2
1
1
```