

Dexter is tired of Dee Dee. So he decided to keep Dee Dee busy in a game. The game he planned for her is quite easy to play but not easy to win at least not for Dee Dee. But Dexter does not have time to spend on this silly task, so he wants your help.

There will be a button, when it will be pushed a random number  $N$  will be chosen by computer. Then on screen there will be numbers from 1 to  $N$ . Dee Dee can choose any number of numbers from the numbers on the screen, and then she will command computer to subtract a positive number chosen by her (not necessarily on screen) from the selected numbers. Her objective will be to make all the numbers 0.

For example if  $N = 3$ , then on screen there will be 3 numbers on screen: 1, 2, 3. Say she now selects 1 and 2. Commands to subtract 1, then the numbers on the screen will be: 0, 1, 3. Then she selects 1 and 3 and commands to subtract 1. Now the numbers are 0, 0, 2. Now she subtracts 2 from 2 and all the numbers become 0.

Dexter is not so dumb to understand that this can be done very easily, so to make a twist he will give a limit  $L$  for each  $N$  and surely  $L$  will be as minimum as possible so that it is still possible to win within  $L$  moves. But Dexter does not have time to think how to determine  $L$  for each  $N$ , so he asks you to write a code which will take  $N$  as input and give  $L$  as output.

## Input

Input consists of several lines each with  $N$  such that  $1 \leq N \leq 1,000,000,000$ . Input will be terminated by end of file.

## Output

For each  $N$  output  $L$  in separate lines.

## Sample Input

```
1
2
3
```

## Sample Output

```
1
2
2
```