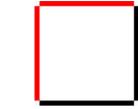## B. Squares and Segments

### 1 second, 256 megabytes

Little Sofia is in fourth grade. Today in the geometry lesson she learned about segments and squares. On the way home, she decided to draw $n$ squares in the snow with a side length of $1$. For simplicity, we assume that Sofia lives on a plane and can draw only segments of length $1$, parallel to the coordinate axes, with vertices at integer points.

In order to draw a segment, Sofia proceeds as follows. If she wants to draw a vertical segment with the coordinates of the ends $(x, y)$ and $(x, y + 1)$. Then Sofia looks if there is already a drawn segment with the coordinates of the ends $(x', y)$ and $(x', y + 1)$ for some $x'$. If such a segment exists, then Sofia quickly draws a new segment, using the old one as a guideline. If there is no such segment, then Sofia has to take a ruler and measure a new segment for a long time. Same thing happens when Sofia wants to draw a horizontal segment, but only now she checks for the existence of a segment with the same coordinates $x$, $x + 1$ and the differing coordinate $y$.

For example, if Sofia needs to draw one square, she will have to draw two segments using a ruler:
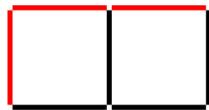


After that, she can draw the remaining two segments, using the first two as a guide:



If Sofia needs to draw two squares, she will have to draw three segments using a ruler:



After that, she can draw the remaining four segments, using the first three as a guide:



Sofia is in a hurry, so she wants to minimize the number of segments that she will have to draw with a ruler without a guide. Help her find this minimum number.

### Input

The only line of input contains a single integer $n$ ($1 \leq n \leq 10^9$), the number of squares that Sofia wants to draw.

### Output

Print single integer, the minimum number of segments that Sofia will have to draw with a ruler without a guide in order to draw $n$ squares in the manner described above.

**input**

1

**output**

2

**input**

2

**output**

3

**input**

4

**output**

4