C. Clear Symmetry

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Consider some square matrix A with side n consisting of zeros and ones. There are n rows numbered from 1 to n from top to bottom and n columns numbered from 1 to n from left to right in this matrix. We'll denote the element of the matrix which is located at the intersection of the i-row and the j-th column as $A_{i,j}$.

Let's call matrix A clear if no two cells containing ones have a common side.

Let's call matrix A symmetrical if it matches the matrices formed from it by a horizontal and/or a vertical reflection. Formally, for each pair (i,j) $(1 \le i,j \le n)$ both of the following conditions must be met: $A_{i,j} = A_{n - i + 1,j}$ and $A_{i,j} = A_{i,n - j + 1}$.

Let's define the sharpness of matrix A as the number of ones in it.

Given integer x, your task is to find the smallest positive integer n such that there exists a clear symmetrical matrix A with side n and sharpness x.

Input

The only line contains a single integer x $(1 \le x \le 100)$ — the required sharpness of the matrix.

Output

Print a single number — the sought value of n.

Examples

input
4
output
3

input
9
output
5

Note

The figure below shows the matrices that correspond to the samples: