

Problem A. Manhattan

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 256 mebibytes

In Manhattan, there are streets $x = i$ and $y = i$ for each integer i . It is known that both Snuke's house and Smeke's house are on streets, and the Euclidean distance between them is exactly d . Compute the maximal possible distance between their houses when they travel along streets.

Input

The input contains one number d .

- $0 < d \leq 10$
- d contains exactly three digits after the decimal point.

Output

Print the answer. The answer is considered to be correct if its absolute or relative error is at most 10^{-9} .

Examples

standard input	standard output
1.000	2.000000000000
2.345	3.316330803765