Generalized Chess

The emperor's younger brother, Minimus, is an excellent chess player who has never lost a game. Let us ignore for the moment the fact that anyone who might dare defeat him would likely suffer a horrible death. Having mastered the usual game, which is played on a board of size 8, Minimus wants to generalize chess so that it can be played on a square board of arbitrary size. Unfortunately, Minimus skipped class so he never learned his multiplication tables, so he'll give you a number N, and it will be up to you to tell him how many squares a chessboard of that size would have. Don't worry, Minimus can't count higher than a million, so that's the highest number you need to be able to handle.

Input

There will be several test cases, each consisting of a single positive integer on a separate line, representing a possible value of N. A value of zero indicates the end of input and should not be processed.

Output

For each test case, output a single line containing the number of squares on a chessboard of size N.

Example

Input:
8
1
42
999999
0

Output:
64
1
1764
999998000001