

Squares

Ali, for making fun for his sister, proposed her the following problem.

Having an $N \times N$ grid, how many squares are there?

Input

Integer $1 \leq N \leq 50000$ indicating the length of the grid.

Input terminates with $N=0$.

Output

The number of squares.

Example

Input:

1
2
17
21
27
0

Output:

1
5
1785
3311
6930