

JudgeIt!

The Virtual Learning Environment for Computer Programming

N queens

P17433_en

Consider a chessboard with N rows and N columns. How many different ways can N queens be placed without that any queen threatens to another one?

Input

Each line of the input contains a number $1 \leq N \leq 12$. A line with $N = 0$ indicates the end of the input.

Output

For each N , your program must print in a different line the number of different ways that N queens can be placed without that any of them threatens to another one in a chessboard $N \times N$. We assure you that storing this number in an integer will be enough.

Sample input

4
3
8
0

Sample output

2
0
92

Problem information

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Generation : 2010-07-30 10:08:42

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