CSES Problem Set

Two Knights

Time limit: 1.00 s **Memory limit:** 512 MB

Your task is to count for $k = 1, 2, \ldots, n$ the number of ways two knights can be placed on a $k \times k$ chessboard so that they do not attack each other.

Input

The only input line contains an integer n.

Output

Print n integers: the results.

Constraints

- $1 \leq n \leq 10000$

Example

Input:
```
8
```

Output:
```
0
6
28
96
252
550
1056
1848
```

Introductory Problems

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Increasing Array -
Permutations -
Number Spiral -
Two Knights -
Two Sets -
Bit Strings -
Trailing Zeros -
Coin Piles -
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