Problem 5 – Businessmen

Consider a meeting of **N** businessmen sitting around a circular table.

To start the meeting, they must shake hands. Each businessman shakes the hand of **exactly one other** businessman. All handshakes happen **simultaneously**. We say that the shake is perfect if **no arms cross each other**.

Write a program that calculates **the number of perfect shakes that exist for N businessmen**.

Businessmen are distinguishable. Rotating a perfect shake can yield a different perfect shake.

Input

The input data should be read from the console.

The number of businessmen **N** will be given on the first input line.

The input data will always be valid and in the format described. There is no need to check it explicitly.

Output

The output data should be printed on the console.

On the only output line write the number of perfect handshakes for **N** businessmen.

Constraints

- **N** will be an even integer between 2 and 70, inclusive.
- Allowed working time for your program: 0.1 seconds. Allowed memory: 16 MB.

Examples

Example input	Example output
2	1

Example input	Example output
6	5

Example input	Example output	Explanation
4	2	Two out of three possible shakes are perfect: