# **Problem 2 – Graph**

This task is not a Graph problem.

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

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

For example, if we have 4 people, only 2 out of 3 possible handshakes are perfect:

 

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

Each person is distinguishable. Rotating a perfect shake can yield a different perfect shake.

#### Input

* The input data should be read from the console.
* On the first line there will be the number **N**.
* The input data will always be valid and in the format described. There is no need to check it explicitly.

#### Output

* The output should be printed on the console.
* Output the number of perfect handshakes for **N** people.

#### Constraints

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

#### Examples

|  |  |  |  |
| --- | --- | --- | --- |
| **Input** | | **Output** | **Comment** |
| 2 | | 1 | - |
| **Input** | **Output** | | **Comment** |
| 6 | 5 | |  |
| **Input** | | **Output** | **Comment** |
| 4 | | 2 | Two out of the three possible shakes are perfect. See the image above. |