SPOJ Problem Set

2821. Counting paths in a complete graph

Problem code: CWAY

English   Vietnamese

A complete graph of N verticles is a graph in which there is an edge between every pair of nodes.

Your task is to count the number of paths between any pair of nodes in the graph. Note that a path cannot visit a vertex more than once.

Input

A single integer N that is the number of verticles in the graph (2 <= N <= 1000).

Output

A single integer that is the number of paths between any two nodes in the graph.

Example

Input
```
4
```

Output
```
5
```

Description
```
For example, there are 5 paths between 1 and 2:
1-2
1-3-2
1-3-4-2
1-4-2
1-4-3-2
```