

## D. A Simple Task

time limit per test: 2 seconds  
 memory limit per test: 256 megabytes

Given a simple graph, output the number of simple cycles in it. A simple cycle is a cycle with no repeated vertices or edges.

### Input

The first line of input contains two integers  $n$  and  $m$  ( $1 \leq n \leq 19$ ,  $0 \leq m$ ) – respectively the number of vertices and edges of the graph. Each of the subsequent  $m$  lines contains two integers  $a$  and  $b$ , ( $1 \leq a, b \leq n$ ,  $a \neq b$ ) indicating that vertices  $a$  and  $b$  are connected by an undirected edge. There is no more than one edge connecting any pair of vertices.

### Output

Output the number of cycles in the given graph.

### Examples

input	Copy
<pre>4 6 1 2 1 3 1 4 2 3 2 4 3 4</pre>	
output	Copy
<pre>7</pre>	

### Note

The example graph is a clique and contains four cycles of length 3 and three cycles of length 4.

### Codeforces Beta Round 11

Finished

Practice



### → Virtual participation

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Start virtual contest

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Clone Contest

### → Submit?

Language: GNU G++23 14.2 (64 bit, ms)

Choose file: Choose File No file chosen

Submit

### → Last submissions

Submission	Time	Verdict
<a href="#">325679051</a>	Jun/23/2025 14:48	Accepted

### → Problem tags

bitmasks dp graphs \*2200

No tag edit access

### → Contest materials

- Announcement (en)

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