Monkey Monk

Monk is a monkey who loves swinging between trees. Monk likes to discover new routes in the jungle everyday, but they always want to finish where they start! However, they hate visiting a tree he has visited before on the same **unique path**, except starting point. Let's help Monk to find different paths they can discover!

Input Format

The first line of the input contains 2 integers n and m, respectively number of trees and possible ways between the trees. Each of the following m lines contains 2 integers $t_1$and t_2 which represents a path between the tree t_1 and t_2.

Constraints

$1 \leq n \leq 19$

$0 \leq m \leq n(n-1)/2$

$t_1 \neq t_2$

Output Format

The number of possible paths Monk can discover.

Sample Input 1

```
4 5
1 2
1 3
1 4
2 3
2 4
```

Sample Output 1

```
3
```

Sample Explanation 1

Submit Solution

Points: 1

Time limit: 1.5s
Java 8: 6.0s
Python: 12.0s

All submissions

Best submissions

My submissions

```
The paths are:

[1 2 3 1]
(1 2 3 1), (1 3 2 1), (2 3 1 2), (2 1 3 2), (3 1 2 3), (3 2 1 3)
are same paths.

[1 2 4 1]
(1 2 4 1), (1 4 2 1), (2 4 1 2), (2 1 4 2), (4 1 2 4), (4 2 1 4)
are same paths.

[1 4 2 3 1]
(1 4 2 3 1), (1 3 2 4 1), (2 3 1 4 2), (2 4 1 3 2), (3 1 4 2 3),
(3 2 4 1 3), (4 2 3 1 4), (4 1 3 2 4) are same paths.

As a result the unique paths are (1 2 3 1), (1 2 4 1), (1 4 2 3
1)
```

Sample Input 2

Copy

```
4 6
1 2
1 3
1 4
2 4
2 3
3 4
```

Sample Output 2

Copy

```
7
```

Request clarification