

Triples

time limit per test: 4 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

points: 1 · problem code: pondotriples · author: jszqlw

Problem Statement

You are given an undirected graph with n vertices and m edges. Pondo would like you to determine the number of 3-cycles in the graph. A 3-cycle (triangle) is a cycle of length 3 in the graph.

Input Statement

Your first line will contain two space-separated integers n and m (respectively).

Your next line m lines will contain two space-separated integers each, u and v , representing an edge between nodes u and v .

Output Statement

You should output a single integer representing the number of 3-cycles in the given graph.

Constraints

- $1 \leq n \leq 10^4$
- $1 \leq m \leq \min(10^4, \frac{n \cdot (n-1)}{2})$
- $1 \leq u, v \leq n$
- all u, v pairs are unique and $u \neq v$

Sample Cases

Input 1

```
5 10
1 2
1 3
1 4
1 5
2 3
2 4
2 5
3 4
3 5
4 5
```

Output 1

```
10
```

Explanation 1

Notice that all triples of nodes form 3-cycles.

Input 2

```
6 8
1 2
1 3
2 3
2 4
3 5
4 5
4 6
5 6
```

Output 2

```
2
```

Explanation 2

There are only two 3-cycles formed by $(1, 2, 3)$ and $(4, 5, 6)$.