Problem A
Trip Counting I

Time limit: 2 seconds
Memory limit: 1024 megabytes

Problem Description

The *Northern Yonder Coalition Union (NYCU)* is a large union consisting of n countries. Every pair of countries is connected by a bi-directional road, allowing residents to travel conveniently between them. Unfortunately, an alien attack has damaged some of these roads, rendering them impassable. Specifically, m roads have been destroyed.

Jack is an avid traveler who enjoys interesting trips. A trip is defined as a sequence of k countries $c_1, c_2, \ldots, c_k$ where $c_1 = c_k$. For $1 \leq i < k$, there must be a road (not destroyed) between c_i and c_{i+1}. A trip is considered interesting if it does not revisit any country except for the starting and ending country. The length of a trip is the number of roads traversed, so for a trip with k countries, its length is $k - 1$.

Two trips $a_1, a_2, \ldots, a_k$ and $b_1, b_2, \ldots, b_k$ are considered different if there exists an index $1 \leq i < k$ such that $a_i \neq b_i$. Jack wants to know how many different interesting trips of length 3 exist.

Input Format

The first line contains two integers n and m, indicating the number of countries and the number of roads which are destroyed, respectively. The following m lines describe the destroyed roads. The i-th line contains two numbers u_i and v_i, indicating that the road between u_i and v_i is destroyed.

Output Format

Print the number of different interesting trips of length 3.

Technical Specification

- $1 \leq n \leq 2 \times 10^5$
- $0 \leq m \leq \min(2 \times 10^5, n(n-1)/2)$
- $1 \leq u_i, v_i \leq n$
- For $1 \leq i, j \leq m$, if $i \neq j$, then $\{u_i, v_i\} \neq \{u_j, v_j\}$

Sample Input 1

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3 0
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Sample Output 1

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6
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Note

For Sample Input 1, the six different interesting trips are:

- (1, 2, 3, 1)
- (2, 3, 1, 2)

- (3, 1, 2, 3)
- (1, 3, 2, 1)
- (3, 2, 1, 3)
- (2, 1, 3, 2)