Problem D
Date, date & date!

Alob and Bice were good friends for years, and they eventually got into a relationship! As both are going to take part in the *ICPC Regional Contest* in Ho Chi Minh City, they are planning for romantic dates there!

The traffic network in Ho Chi Minh City consists of n junctions and m bidirectional roads. Each road connects two different junctions. As Ho Chi Minh City is very busy and modern, we know two following facts about the traffic network:

- No junction is completely isolated. In other words, every junction is adjacent to at least one roads.
- The length of all roads are equal. More precisely, it takes everyone exactly one minute to walk from one end to the other end of every road.

Both Alob and Bice are looking for accomodations for their whole trip in Ho Chi Minh City. Alob may choose a hotel near some junction x, while Bice may choose a hotel near some junction y.

Then the couple decide to have "a journey to find the dreaming partner" as below:

- At the beginning of the dating day, they will have breakfast at their hotels and will depart from their hotels at exactly the same moment. (For simplicity, let this moment be "moment 0".)
- Each will choose a road directly connected to his hotel, walk through this road to another junction. One minute later, they will arrive on some different junctions at exactly the same moment (recalling that it takes everyone exactly one minute to traverse through a road). Let this moment be "moment 1".
- If the two see each other at the same junction, the journey will end. Otherwise, each again will choose a road directly connected to his current junction and walk to some other junction. Again, they will arrive exactly one minute later, at exactly the same moment ("moment 2").
- If the two are at the same junction, the journey will end. Otherwise, this process will repeat again and again....

In general, after arriving to a junction, the person will firstly check if his partner is also there. If he is, they manage to find the other, so the process ends. Otherwise, he will immediately choose some adjacent road to another junction. They will never stand still and will be walking continuously until they see each other. Remember that every junction has at least one adjacent roads, so it is always possible to choose some other junction to go from the current junction. Also, please note that the couple would like to meet the other only at junctions, not on roads. Therefore, if the two find each other on some road, they will continue walking and the above process will still be going on.

Depending on which junctions their hotels are in, there may be two different scenarios:

- After a finite amount of time, each will be able to arrive at the same junction and at the same moment as his beloved one, and the process will terminate.
- No matter how the two persons choose where to go, they will never find their partners at some junction, and the process will go infinitely long.

The lovely couple would like to know how many ways they can choose their hotels so that the first scenario happens. In other words, you need to find the number of pairs of junctions (x, y) so that if Alob chooses a hotel near junction x and Bice chooses a hotel near junction y, they will be able to meet their partners after a finite amount of time.

Since Ho Chi Minh City welcomes millions of visitors every year, there are hotels near all the junctions. Also, it is possible that Alob and Bice both choose hotels near the same junction, and in this situation, they are obviously able to see the other!

Input

The first line of the input contains two integers n and m ($2 \leq n \leq 10^5, 1 \leq m \leq 2 \cdot 10^5$), denoting the number of junctions and the number of roads, respectively.

In the last m lines, each contain two integers u and v ($1 \leq u, v \leq n, u \neq v$) meaning that there is a road connecting two junctions u and v.

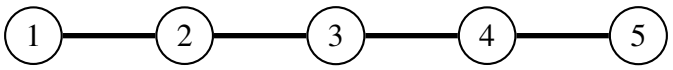
It is guaranteed that every junction is adjacent to at least one roads.

Output

Print only one integer denoting the number of ways for the couple to choose their hotels, so that they will be able to unite after a finite amount of time.

Explanation to the sample

In this sample, the traffic network looks as below:



There are 13 possible ways for the couple to choose their hotels, which can be represented as these pairs: $(1, 1)$, $(1, 3)$, $(1, 5)$, $(2, 2)$, $(2, 4)$, $(3, 1)$, $(3, 3)$, $(3, 5)$, $(4, 2)$, $(4, 4)$, $(5, 1)$, $(5, 3)$, $(5, 5)$.

Let's consider the case where Alob chooses some hotel near junction 1, while Bice chooses some hotel near junction 3: After departing from their hotels, Alob must visit junction 2, while Bice can choose to visit either junction 2 or junction 4. If Bice decides to visit junction 2, the couple will see the other at moment 1. Therefore, $(1, 3)$ is a valid pair.

Let's consider the case where Alob chooses some hotel near junction 4, while Bice chooses some hotel near junction 5. It can be seen that every road connects an odd junction to an even junction. Recalling that Alob and Bice will never stand still until meeting the other, at even moment, Alob will surely stay at an even junction, while Bice will surely stay at an odd one. At odd moment, the situation reverses. Therefore, no matter how they go, they will not be able to arrive at the same junction at the same moment. Like a "right person, wrong time" scenario, they will be very sad. Hence, $(4, 5)$ is not a valid pair.

Sample Input 1	Sample Output 1
5 4 1 2 2 3 3 4 4 5	13

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