

Problem F. Forming Friendships

Source file name: Friendships.c, Friendships.cpp, Friendships.java, Friendships.py
Input: Standard
Output: Standard

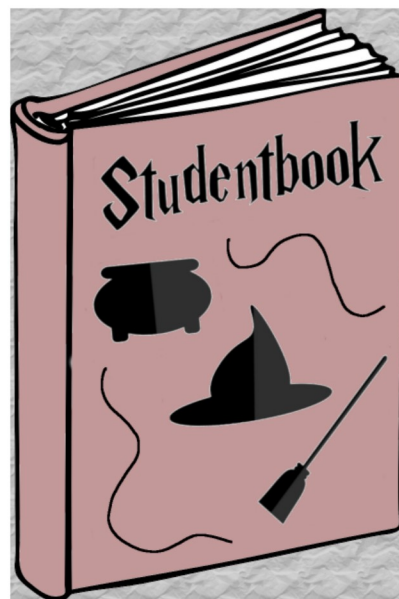
Inspired by some ideas from the Muggle world, a bunch of Ravenclaw students recently founded *Studentbook*. This is actually a book (magically enhanced, of course), which has a page for each Hogwarts student showing their recent social activities.

Every interested student can buy their own small version of this book, which shows recent activities of their friends. Unfortunately, this is not very popular at the moment, because everybody already knows what their friends are up to anyways.

One of the Ravenclaw students behind *Studentbook*, Michael Corner, has a plan to fix this. He wants to perform the powerful spell *Amicitia*, also known as the friendship spell. This spell acts permanently and does the following: If student a and student b are friends and student b and student c are friends as well, then student a and c will be made friends by the spell.

Michael was immediately alerted to the potentially catastrophic consequences of his plan. Due to the spell, it might happen, that more and more friendships will be formed, completely disrupting the social balance in Hogwarts.

But he does not want to abandon his idea so easily. Instead, he first wants to find out how many friendships would be formed by the spell.



The Studentbook. Wizard Icons by sonnyc00l, Vecteezy

Input

The input consists of:

- One line with two integers n and m ($1 \leq n \leq 2 \cdot 10^5, 0 \leq m \leq 2 \cdot 10^5$), the number of students and friendships at Hogwarts.
- m lines, each containing two integers a and b ($1 \leq a, b \leq n, a \neq b$), indicating that the students a and b are friends.

Each friendship is given at most once.

Output

Output the number of new friendships due to the *Amicitia* spell.

Example

Input	Output
3 3 1 2 2 3 1 3	0
4 3 1 2 3 2 3 4	3
5 3 1 2 2 3 4 5	1