Problem F: Student Clubs

Time limit: 2s; Memory limit: 256 MB

Mai's university has many student clubs and each has its power. This power is calculated by the factorial of the number of club' members. What is the total power of all clubs?

It is easy problem if she knows how many members are in each group, however, she doesn't have them. One thing she can do is interview students and that student tells her about another student in the same club.

Suppose she collected enough student statistics, each student join only one club and a valid club has more than 2 members (> 2 members), please help her get the total power of all club in her university.

Input

- First-line contains 2 integers N and M ($1 \leq N, M \leq 10^5$), where N is the number of students and M is the number of interviewed students.
- Next M lines contain 2 integers which are the student who is interviewed and his club's friend.

Output

Print an integer which is the total power of student clubs in the university modulus $10^9 + 7$

Sample

Input	Output
9 5 1 2 2 3 0 4 4 5 8 7	12

Explain

There are only 2 valid clubs:
One has 3 members 1, 2, and 3. => power1 is 3! = 6
Another valid club has 3 members 0, 4 and 5 => power2 is 3! = 6
    ⇨ Total power is 12