# COCI '06 Contest 3 #5 Bicikli

#### **Time Limit:** 1.0s **Memory Limit:** 32M

A bicycle race is being organized in a land far, far away. There are N town in the land, numbered 1 through N. There are also M one-way roads between the towns. The race will start in town 1 and end in town 2.

How many different ways can the route be set? Two routes are considered different if they do not use the exact same roads.

### **Input Specification**

The first line of input contains two integers N and M ( $1 \le N \le 10\,000, 1 \le M \le 100\,000$ ), the number of towns and roads.

Each of the next M lines contains two different integers A and B, representing a road between towns A and B.

Towns may be connected by more than one road.

### **Output Specification**

Output the number of distinct routes that can be set on a single line. If that number has more than nine digits, output only the last nine digits of the number. If there are infinitely many routes, output <code>inf</code>.

# Sample Input 1

_	7
O	/

1 3

1 4

3 2

4 25 6

6 5

3 4

### **Sample Output 1**

3

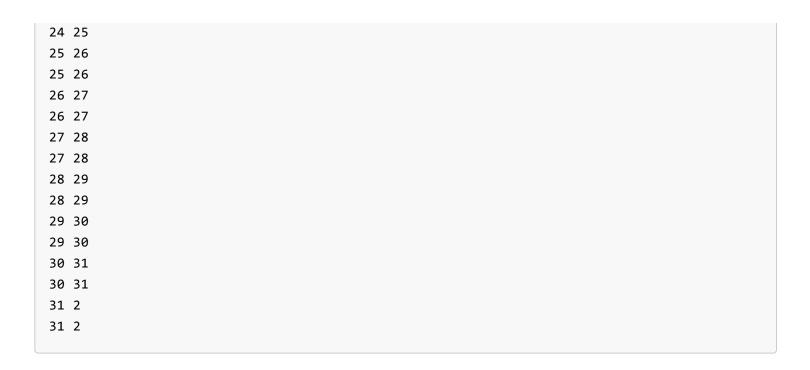
### Sample Input 2

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

# Sample Output 2

inf

# Sample Input 3



# **Sample Output 3**

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