Description

You are playing a game with N buttons numbered from 1 to N. You have to push each button exactly once to win the game. But there are some rules. Each rule gives you two buttons, and you must push the first button before the second one. For example, a rule may say you must push button 2 before button 1. Can you find a valid order of buttons to push and win the game?
(It is guaranteed that there is at least one valid order. If there are multiple valid orders, print any one of them)

Input

The first line of input will have two numbers N and M, the number of buttons and the number of rules. Each of the next M lines will have two numbers U_k and V_k, (the k-th rule) indicating you must push button U_k before button V_k.

Output

Print a space separated list of buttons in the order that you will push them.

Sample Input	Sample Output
4 3 1 2 2 3 3 4	1 2 3 4
4 4 3 1 3 2 2 1 1 4	3 2 1 4