Lottery

Ivancho rarely tries his luck but a few of his friends have told him about the new alien lottery. The goal is to guess the permutation of the numbers from 1 to M, where you know a few of each number's successor. A successor to G is a number that is on the right of G in the permutation. We will call there relations tooltips.

After a few failed tries Ivancho seeks help from you to write a program **lottery** which finds the permutation.

Input: On the first row of the input file **lottery.in** is given an integer N – the number of the tooltips. The following N rows contains one tooltip each. A tooltip is represented by two numbers A and B where A stands on the left of B in the permutation.

Output: The output file **lottery.out** should contain each number from 1 to M exactly once, forming the right permutation. The numbers should be separated with white spaces.

Remark: Each test has exactly one solution matching the rules.
The input data is always valid.

Limits:
N <= 1300
M <= 400

Time limit: 0.2 sec
Memory limit: 256 MB

Preliminary tests: 4
Final tests: 10

Example test:

lottery.in	lottery.out
7 2 1 2 4 2 5 1 3 1 5 3 4 4 5	2 1 3 4 5