# Problem 3 – Sticks

You are given a pile of sticks. At each turn you can **remove a stick** only if there are no other sticks on top of it.

Write a program that plays the game and prints **the order in which the sticks should be lifted** without violating the above rule. If two or more sticks can be lifted at the same turn, choose the one with a **greater numeric value**.

### Input

* On the first input line you are given the number of sticks **n**. Each stick should be assigned a numeric value from **0** to **n-1**.
* On the second input line you are given the number stick placings **p**.
* On the next **p** lines you will be given pairs of sticks **a b**, indicating that stick **a** is placed on top of stick **b**.

### Output

* Print the order in which the sticks should be lifted in the format "**{stickA} {stickB} …**".
* If at some turn there are still sticks but no stick can be lifted, print "**Cannot lift all sticks**" along with the sticks lifted so far.

### Constraints

* The number of sticks **n** will be in the range [2..600].
* The number of stick placings **p** willbe in the range [1..60000].
* If stick **a** is on top stick **b**, **b** cannot be on top of **a**.
* There will always be at least 1 lifted stick.
* Time limit: **100 ms**. Allowed memory: **16 MB**.

### Examples

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** | **Visual** |  | **Input** | **Output** | **Visual** |
| 4  4  3 2  1 0  0 2  1 3 | 1 3 0 2 |  |  | 5  5  0 3  2 3  2 1  3 1  1 0 | Cannot lift all sticks  4 2 |  |