

Question :

There is a Mango Tree Forest. There are several branches in the tree. The branches are having mangoes in which each mango is assigned a number for 0 to N-1. Print the numbers on the mangoes on each height. All numbers of mangoes are printed in the same line.

Input Description:

Number of mangoes in the tree(V) and Number of branches connecting mangoes(E)
Followed by E lines of branch connection

Output Description :

Print the numbers on the mangoes on each height.

Test Cases:**Test Case 1:**

Input

7 6

A B

A E

B C

B D

E G

E F

Output

A B E C D G F

Test Case 2:

Input

6 5

A B

B C

B D

D E

D F

Output

A B C D E F