

演算法第五次程式作業

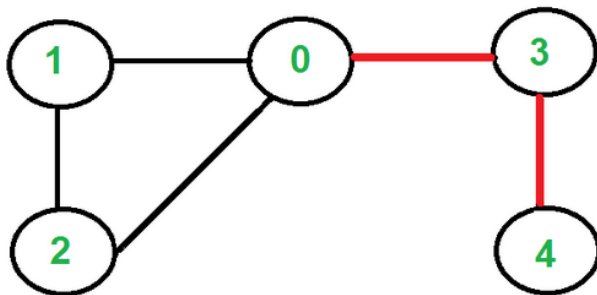
In a computer network a link L , which interconnects two servers, is considered critical if there are at least two servers A and B such that all network interconnection paths between A and B pass through L . Removing a critical link generates two disjoint sub-networks such that any two servers of a sub-network are interconnected.

It is known that :

1. the connection links are bi-directional
2. a server is not directly connected to itself
3. two servers are interconnected if they are directly connected or if they are interconnected with the same server

Write a program that finds all critical links of a given computer network.

ex. $\langle 0, 3 \rangle$ and $\langle 3, 4 \rangle$ are critical links



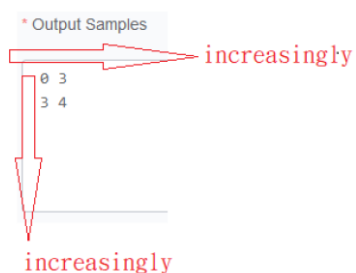
Input:

The first line contains a positive integer n which is the number of network servers.

The next k lines until EOF are randomly ordered and show the way servers are connected.

Output:

Prints all critical links in network increasingly.



範例輸入：

5

1 0

2 1

0 2

3 0

3 4

範例輸出：

0 3

3 4