# Problem E
## Spy Network
### Time limit: 2 seconds

The international association C.I.A. (abbrev for Computer Intelligence Association) is invited by the intelligent agency SIS to conduct a computer-aided investigation regarding the evergrowing spying activities for Biegnij. The goal of this investigation is to discover the exact structural information of the lurking spy network, which is an undirected graph, so that proper countermeasure can be devised.

It is known that, in order for the spy network to remain hidden, communication of the network is designed to be done in a rather local manner. Not a single spy agent holds the complete information of the network. Instead, each spy agent holds a device that can establish secure communication with the following three types of recipients: (1) the agent himself/herself, (2) the agents he/she is connected to in the network, and (3) the agents his/her neighboring spy agents are connected to in the network. The device owned by each spy agent stores the list of the three types of recipients as described.

During a successful secret operation, the intelligent agents in SIS were able to access the devices of the spy agents and acquire the complete list of recipients of each device from its preinstalled backdoor in the government-designed software. Unfortunately, they were not able to identify to which spy each device belongs. This says, they were not able to identify the owner of each list. The good news is that, the top secret agent of SIS, Bomd, has revealed in the same operation that the underlying structure of the spy network is in fact a tree.

Given the complete list of recipients of each spying device, assuming that the spy agents in the network are indexed from 1 to $n$, your task in this problem is to help C.I.A. uncover the connections(edges) of the spy network.

## Input Format

The input contains multiple testcases.

The first line of each testcase consists of an integer $n$, where $2 \le n \le 1000$, which is the number of spy agents in the network. Then there are $n$ lines, each of which describes the complete list of recipients of one spying device. Each of these $n$ lines starts with an integer, which is the length of the list, followed by the indexes of the recipients in the list.

It is guaranteed that the input lists of each testcase correspond to a valid spy network.

A testcase starting with $n = 0$ indicates the end of input.

# Output Format

For each testcase, print the edges of the spy networks, one at a line. Each line should describe an edge and consist of the indexes of its endpoints, separated by a space.

Both the edges and the indexes of the endpoints of the edges can be printed in any order. If there are multiple solutions, you may print any of them.

# Sample Input

```
6
5 6 1 3 4 2
5 2 1 3 4 6
6 3 6 2 5 4 1
6 6 1 2 5 3 4
3 5 2 4
5 3 1 2 4 6
```

# Sample Output for the Sample Input

```
2 4
1 2
2 3
2 6
4 5
```