Badminton Tournament - Easy

In a badminton tournament, each of **n** players play all the other **n - 1** players. Each game results in either a win, or a loss. Players then write down the names of those whom they defeated(say list 1) and also of those who they(players of list 1) defeated. For example, if **A** beats **B** and **B** beats **C**, then **A** writes the names of both **B** and **C**.

Consider a game between **A**, **B**, **C**, **D**, **E**, **F**, **G** where **A** defeats **B**, **C**; **B** defeats **E**; **C** defeats **F**. Then **A**'s list will have (**B**, **C**, **E**, **F**) and will not include **G**.

Note: Say **A** defeats **B**, **B** defeats **C** and **C** defeats **D**. **D** is not necessarily present in **A**'s list, a player's list contains players of list1 and players defeated by those in list1(**immediate** win).

In this problem, we represent players by integers from 1 to **n**.(Both inclusive)

Input

First line of input contains an integer **t**(number of test cases), each test case starts with an integer **n** followed by n_{c_2}(i.e $n*(n - 1)/2$) lines(results of all matches) each containing two integers **a**, **b** seperated by a space which means **a** defeated **b**.

Output

Print a line for each test case containing two space seperated integers **p**, **q** where **p** is the player with maximum possible number of players in his list and **q** is that number(maximum possible number of players in a list).
In case there are many players with maximum number of players in their list, print minimum of such possibilities of **p**.

Constraints

t <= 50, **n** <= 250, 1 <= **a**, **b** <= **n**

Example

Input:

1
3
1 2
2 3
3 1

Output:

1 2