EC_P - Critical Edges

This time I will not bore you with a long and boring sentence. Give a connected graph, you must find all the edges that are critical, in other words you must find the edges which when removed divide the graph.

Input

The first line contains a integer **NC** (1 ≤ NC ≤ 200), the number of test cases. Then follow NC test cases.

Each case begins with two integers **N** (1 ≤ N ≤ 700) and **M** (N-1 ≤ M ≤ N * (N-1) / 2), the number of nodes and the number of edges respectively. Then follow M lines, each with a pair of integers **a b** (1 ≤ a, b ≤ N) indicate that between the node **a** and the node **b** there is a edge.

Output

For each test case print the list of ways to protect the following format:

Caso # <n>

<t>

<x1> <y2>

<x2> <y2>

...

<xt> <yt>

Where **n** is the case number (starting from 1), **t** is the total of critical edges, list elements $\mathbf{x_i}$ $\mathbf{y_i}$ indicates, for each line, there is a critical edge between the node x_i and node y_i ($1 \le x_i < y_i \le N$). In addition, the list should be sorted in no-decreasing order first by $\mathbf{x_i}$ and then by $\mathbf{y_i}$. Also $\mathbf{x_i} < \mathbf{y_i}$ must hold.

If there isn't any critical edge print: "Sin bloqueos" (quotes for clarity).

Example

Input:

```
3

5 4
1 2
4 2
2 3
4 5

5 5
1 2
1 3
3 2
3 4
5 4

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

Output:

```
Caso #1
4
1 2
2 3
2 4
4 5
Caso #2
2
3 4
4 5
Caso #3
Sin bloqueos
```