EC_P - Critical Edges

https://www.spoj.com/problems/EC_P

Given 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 NC $(1 \leq NC \leq 200)$, the number of test cases integer. Then follow NC test cases.

Each case begins with two integers N $(1 \leq N \leq 700)$ and M $\left(N-1 \leq M \leq \frac{N*(N-1)}{2}\right)$, the number of nodes and the number of edges respectively. Then follow M lines, each with a pair of integers a b $(1 \leq a, b \leq N)$ indicate that between the node a and the node b there is an edge.

Output

For each test case print the list of ways to protect the following format:
Caso #n
t
x_1 y_1
x_2 y_2
...
x_t y_t

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

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

Example

Input:	Output:
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	Caso #1 4 1 2 2 3 2 4 4 5 Caso #2 2 3 4 4 5 Caso #3 Sin bloqueos