Problem D. Degree of Spanning Tree

Given an undirected connected graph with n vertices and m edges, your task is to find a spanning tree of the graph such that for every vertex in the spanning tree its degree is not larger than $\frac{n}{2}$.

Recall that the degree of a vertex is the number of edges it is connected to.

Input

There are multiple test cases. The first line of the input contains an integer T indicating the number of test cases. For each test case:

The first line contains two integers n and m ($2 \le n \le 10^5$, $n - 1 \le m \le 2 \times 10^5$) indicating the number of vertices and edges in the graph.

For the following m lines, the i-th line contains two integers u_i and v_i ($1 \le u_i, v_i \le n$) indicating that there is an edge connecting vertex u_i and v_i. Please note that there might be self loops or multiple edges.

It's guaranteed that the given graph is connected. It's also guaranteed that the sum of n of all test cases will not exceed 5×10^5, also the sum of m of all test cases will not exceed 10^6.

Output

For each test case, if such spanning tree exists first output "Yes" (without quotes) in one line, then for the following $(n - 1)$ lines print two integers p_i and q_i on the i-th line separated by one space, indicating that there is an edge connecting vertex p_i and q_i in the spanning tree. If no valid spanning tree exists just output "No" (without quotes) in one line.

Example

standard input	standard output
2 6 9 1 2 1 3 1 4 2 3 2 4 3 4 4 5 4 6 4 6 3 4 1 3 2 3 3 3 1 2	Yes 1 2 1 3 1 4 4 5 4 6 No

Note

For the first sample test case, the maximum degree among all vertices in the spanning tree is 3 (both vertex 1 and vertex 4 has a degree of 3). As $3 \le \frac{6}{2}$ this is a valid answer.

For the second sample test case, it's obvious that any spanning tree will have a vertex with degree of 2, as $2 > \frac{3}{2}$ no valid answer exists.