Problem F. Find a Tree

Input file:	*standard input*
Output file:	*standard output*
Time limit:	4 seconds
Memory limit:	512 mebibytes

Proper *k-coloring* of undirected graph $G(V, E)$ is a mapping $c : V \to \{1, 2, 3, \ldots, k\}$ such that for each edge $(u, v) \in E$, we have $c_u \neq c_v$.

Undirected graph is *k-colorable* if a proper k-coloring exists for it.

Chromatic number of a graph is the smallest k such that the graph is k-colorable.

Tree is a simple acyclic undirected graph.

Alice has an undirected graph with chromatic number k, and Bob has a tree on k vertices. Bob wants to find k **different** vertices $p_1, p_2, p_3, \ldots, p_k$ in Alice's graph such that for each edge (u, v) in Bob's tree, there exists an edge (p_u, p_v) in Alice's graph. Help him.

Input

The first line contains a single integer T ($1 \leq T \leq 10^6$), the number of test cases to solve. Description of T testcases follows. Each testcase is described as follows.

The first line contains three integers n, m, and k ($1 \leq n, k \leq 10^6$, $0 \leq m \leq 10^6$), the number of vertices and edges of Alice's graph and its chromatic number, respectively.

Each of the next m lines contains a pair of integers u_i and v_i ($1 \leq u_i, v_i \leq n, u_i \neq v_i$) describing an edge of Alice's graph. It is guaranteed that there are no multiple edges and that Alice's graph has chromatic number exactly equal to k.

Each of the next $k - 1$ lines contains a pair of integers p_i and q_i ($1 \leq p_i, q_i \leq k$, $p_i \neq q_i$) describing an edge in Bob's tree. It is guaranteed that the given set of edges forms a tree.

It is guaranteed that the sum of n in all test cases, as well as the sum of m in all test cases, does not exceed 10^6.

Output

For each testcase, output the answer in the following format.

If it is impossible to find the required k vertices in Alice's graph, print "`No`".

Otherwise, print "`Yes`" in the first line. In the second line, print k different integers p_i ($1 \leq p_i \leq n$): the numbers of vertices in Alice's graph corresponding to the respective vertices of Bob's tree. If there are several possible answers, print any one of them.

Example

<table>
<tr><th>standard input</th><th>standard output</th></tr>
<tr><td><pre>3
6 6 3
1 2
2 3
3 1
1 4
2 5
3 6
1 2
2 3
4 6 4
1 2
1 3
1 4
2 3
2 4
3 4
1 2
1 3
1 4
5 4 3
1 2
3 4
4 5
5 3
1 2
2 3</pre></td><td><pre>Yes
3 2 1
Yes
4 1 2 3
Yes
5 4 3</pre></td></tr>
</table>