

Problem K. Matching Problem

Input file:standard input

Output file:standard output

Time limit:4 seconds

Memory limit:1024 megabytes

Given a simple undirected connected graph G , where the number of edges equals the number of vertices, and an unrooted tree H , determine whether H can be produced by erasing vertices or edges and relabeling vertices from G .

Input

The first line contains one integer T ($1 \leq T \leq 1\,000$), denoting the number of test cases.

For each test case:

The first line contains one integer n ($3 \leq n \leq 1\,000$), denoting the number of vertices as well as edges of graph G .

The next n lines each contain two integers u, v ($1 \leq u, v \leq n$), denoting the edges of graph G . It is guaranteed that graph G contains no self-loops or multiple edges.

The next one line contains one integer m ($1 \leq m \leq n$), denoting the number of vertices of tree H .

The next $m - 1$ lines each contain two integers u, v ($1 \leq u, v \leq m$), denoting the edges of tree H .

It is guaranteed that the sum of n among all test cases does not exceed $1\,000$.

Output

Output T lines each containing one string, “Yes” if H can be produced from G , or “No” if H cannot be produced from G .

Example

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