Problem E
Biology Test
Time limit: 1 second

Biologists have discovered some new information about species evolution, which supports Darwin's theory that each species has exactly one direct ancestor.

Species u is considered an ancestor of species v if there exists a sequence of species $u = x_1, x_2, \ldots, x_k = v$ such that x_i is the direct ancestor of x_{i+1} for all $i = 1, 2, \ldots, k - 1$. There are n species, and biologists have collected $n - 1$ pieces of ancestor information. All information is consistent with the rule that if u is an ancestor of v, then v cannot be an ancestor of u; in other words, there are no cycles in the ancestry relationships. And no two different species are the direct ancestor of the same species.

The biologists now want to check the ancestor relationship between some pairs of species. Given the ancestral information and a set of species pairs, for each pair (x, y), you need to determine if species x is an ancestor of species y.

Input

- The first line contains an integer n — the number of species.

- The next $n - 1$ lines contain two integers a and b, indicating that species a is the direct ancestor of species b.

- The next line contains an integer T — the number of species pairs to check.

- The next T lines contain two integers x and y, representing the species pair to check if x is an ancestor of y.

Output

For each of the T pairs (x, y), output "Yes" if species x is an ancestor of species y, and "No" otherwise.

Sample Input	Sample Output
7	Yes
4 7	No
2 6	
3 4	
1 2	
4 1	
7 5	
2	
4 6	
7 4	

Constraints

- $1 \le n \le 10^5$

- $1 \le T \le 10$