Problem H
Walkway Orientation Plan
Time limit: 1 second

At a large university campus, multiple buildings are linked by pedestrian pathways. The university has always made sure that students and staff can walk between any two buildings using these paths. Initially, many of these pathways were bidirectional, allowing movement in both directions.

Recently, due to overcrowding and congestion during class transitions, the university planning committee is contemplating converting some of the bidirectional pathways into unidirectional ones. However, they need to proceed with caution to ensure that:

- Every building remains accessible from every other building (i.e., the campus stays fully navigable).

- The walking distance between any two buildings does not increase significantly.

Specifically, for any two buildings, if the original shortest walking distance was x, the new walking distance must not exceed $A \cdot x + B$, where A and B are constants determined by the committee.

Your task is to create a program that assesses a proposed walkway orientation plan and checks if it meets these requirements.

Input Format

The input contains several test cases. Each case is structured as follows:

- The first line contains a non-negative integer n ($3 \le n \le 100$), indicating the number of buildings on campus. Buildings are labeled from 1 through n.

- The next n lines describe the original (undirected) walkway layout. Each line begins with the building number i, followed by the building numbers that are directly connected to i by a two-way path.

- The following n lines specify the proposed (directed)
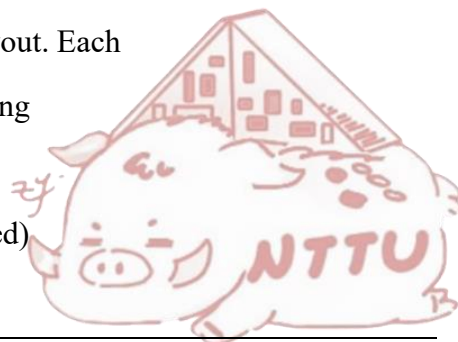
configuration. Each of these lines also begins with a building number i, followed by the buildings that i can directly reach via one-way walkways under the new proposal. The case description ends with a line with two integer values A and B ($0 \le A \le 10, 0 \le B \le 10$).

The last test case is followed by a line containing a single '0'.

Output Format

For each case, print one line containing the word 'Yes' if the proposal satisfies the given requirements, or the word 'No' otherwise, followed by the maximum value among all the shortest paths between two buildings in the original walkway network.

Sample Input

```
3
1 2
2 1 3
3 1 2
1 2
2 3
3 1
0 2
5
1 2 3
2 1 5
3 4 5 1
4 3 5
5 2 3 4
1 2
2 5
3 1 4
4 5
5 3
2 0
0
```

Sample Output

```
Yes 2
No 2
```