Problem F. Equivalent Rewriting

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	1024 megabytes

There is a sequence A of length m where all elements equal to 0. We will then execute n operations on A in order. The i-th operation can be denoted as p_i distinct integers $b_{i,1}, b_{i,2}, \cdots, b_{i,p_i}$, indicating that we'll change the value of the $b_{i,j}$-th element in the sequence to i for all $1 \le j \le p_i$. Let R be the resulting sequence after all operations.

We now require you to rearrange the operations but still produce the same result. More formally, let $q_1, q_2, \cdots, q_n$ be a permutation of n that differs from $1, 2, \cdots, n$. You'll execute the q_1-th, q_2-th, ..., q_n-th operation on sequence A in order, and the final resulting sequence must equal to R. Your task is to find such permutation or state that it does not exist.

Recall that a permutation of n is a sequence of length n in which each integer from 1 to n (both inclusive) appears exactly once. Let $x_1, x_2, \cdots, x_n$ and $y_1, y_2, \cdots, y_n$ be two permutations of n. We say they're different if there exists an integer k such that $1 \le k \le n$ and $x_k \neq y_k$.

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 ($1 \le n, m \le 10^5$) indicating the number of operations and the length of the sequence.

For the following n lines, the i-th line first contains an integer p_i ($1 \le p_i \le m$) indicating the number of elements changed by the i-th operation. Then p_i distinct integers $b_{i,1}, b_{i,2}, \cdots, b_{i,p_i}$ follow ($1 \le b_{i,j} \le m$) indicating the index of the elements to be changed.

It is guaranteed that the sum of $(n + m)$ of all test cases will not exceed 2×10^6, and the sum of p_i of all test cases will not exceed 10^6.

Output

For each test case, if such permutation exists, first output `Yes` in one line. Then output n integers $q_1, q_2, \cdots, q_n$ separated by a space in the second line indicating the answer. If there are multiple valid answers, you can output any of them.

If there is no such permutation, simply output `No` in one line.

Please, DO NOT output extra spaces at the end of each line, or your solution may be considered incorrect!

Example

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

Note

For the first sample test case, by executing the operations in either order of $\{1, 2, 3\}$ or $\{3, 1, 2\}$ yields the same resulting sequence $\{1, 3, 2, 0, 2, 3\}$.