

E. National Property

time limit per test: 1 second

memory limit per test: 512 megabytes

input: standard input

output: standard output

You all know that the Library of Bookland is the largest library in the world. There are dozens of thousands of books in the library.

Some long and uninteresting story was removed...

The alphabet of Bookland is so large that its letters are denoted by positive integers. Each letter can be small or large, the large version of a letter x is denoted by x' . BSCII encoding, which is used everywhere in Bookland, is made in that way so that large letters are presented in the order of the numbers they are denoted by, and small letters are presented in the order of the numbers they are denoted by, but all large letters are **before** all small letters. For example, the following conditions hold: $2 < 3$, $2' < 3'$, $3' < 2$.

A word x_1, x_2, \dots, x_a is not *lexicographically* greater than y_1, y_2, \dots, y_b if one of the two following conditions holds:

- $a \leq b$ and $x_1 = y_1, \dots, x_a = y_a$, i.e. the first word is the prefix of the second word;
- there is a position $1 \leq j \leq \min(a, b)$, such that $x_1 = y_1, \dots, x_{j-1} = y_{j-1}$ and $x_j < y_j$, i.e. at the first position where the words differ the first word has a smaller letter than the second word has.

For example, the word "3' 7 5" is before the word "2 4' 6" in lexicographical order. It is said that sequence of words is in lexicographical order if each word is not lexicographically greater than the next word in the sequence.

Denis has a sequence of words consisting of small letters only. He wants to change some letters to large (let's call this process a *capitalization*) in such a way that the sequence of words is in lexicographical order. However, he soon realized that for some reason he can't change a single letter in a single word. He only can choose a letter and change all of its occurrences in **all** words to large letters. He can perform this operation any number of times with arbitrary letters of Bookland's alphabet.

Help Denis to choose which letters he needs to capitalize (make large) in order to make the sequence of words lexicographically ordered, or determine that it is impossible.

Note that some words can be **equal**.

Input

The first line contains two integers n and m ($2 \leq n \leq 100\,000$, $1 \leq m \leq 100\,000$) — the number of words and the number of letters in Bookland's alphabet, respectively. The letters of Bookland's alphabet are denoted by integers from 1 to m .

Each of the next n lines contains a description of one word in format $l_i, s_{i,1}, s_{i,2}, \dots, s_{i,l_i}$ ($1 \leq l_i \leq 100\,000$, $1 \leq s_{i,j} \leq m$), where l_i is the length of the word, and $s_{i,j}$ is the sequence of letters in the word. The words are given in the order Denis has them in the sequence.

It is guaranteed that the total length of all words is not greater than 100 000.

Output

In the first line print "Yes" (without quotes), if it is possible to capitalize some set of letters in such a way that the sequence of words becomes lexicographically ordered. Otherwise, print "No" (without quotes).

If the required is possible, in the second line print k — the number of letters Denis has to capitalize (make large), and in the third line print k distinct integers — these letters. Note that you **don't need to minimize** the value k .

You can print the letters in any order. If there are multiple answers, print any of them.

Examples

input
4 3 1 2 1 1 3 1 3 2 2 1 1
output
Yes 2 2 3

input
6 5 2 1 2 2 1 2 3 1 2 3 2 1 5 2 4 4 2 4 4
output
Yes 0

input
4 3 4 3 2 2 1 3 1 1 3 3 2 3 3 2 3 1
output
No

Note
In the first example after Denis makes letters 2 and 3 large, the sequence looks like the following:

- 2'
- 1
- 1 3' 2'
- 1 1

The condition $2' < 1$ holds, so the first word is not lexicographically larger than the second word. The second word is the prefix of the third word, so the are in lexicographical order. As the first letters of the third and the fourth words are the same, and $3' < 1$, then the third word is not lexicographically larger than the fourth word.

In the second example the words are in lexicographical order from the beginning, so Denis can do nothing.

In the third example there is no set of letters such that if Denis capitalizes them, the sequence becomes lexicographically ordered.