Problem I. Similarity Graph

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	1024 mebibytes

Let p and q be two permutations of $\{1, 2, \ldots, N\}$.

A *similarity graph* of p and q, $S(p, q)$, is defined as follows:

- $S(p, q)$ has N labeled vertices, numbered from 1 to N.
- There is a edge between vertices i and j $(1 \le i < j \le N)$ if and only if $p_i < p_j$ and $q_i < q_j$ are both true, or both false.

You are given a simple undirected graph G with N labeled vertices, numbered from 1 to N.

Find a pair (p, q) of permutations of $\{1, 2, \ldots, N\}$ satisfying $S(p, q) = G$.

Input

The first line contains one integer, N.

Each of the next N lines contains N space-separated integers. The j-th integer of the i-th line, $E(i, j)$, is 1 if there is an edge between vertices i and j, or 0 otherwise.

- $1 \le N \le 100$
- $0 \le E(i, j) \le 1$ $(1 \le i, j \le N)$
- $E(i, j) = E(j, i)$ $(1 \le i < j \le N)$
- $E(i, i) = 0$ $(1 \le i \le N)$

Output

If it is impossible to find p and q satisfying the condition, output `NO`.

Otherwise, output `YES` on the first line. On the following two lines, output p and q. If there are multiple answers, output any one of them.

Examples

standard input	*standard output*
4 0 1 0 1 1 0 0 0 0 0 0 1 1 0 1 0	YES 1 2 3 4 2 4 1 3
6 0 1 0 1 0 1 1 0 0 0 1 0 0 0 0 1 1 1 1 0 1 0 0 0 0 1 1 0 0 0 1 0 1 0 0 0	NO