

## B. OR in Matrix

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

Let's define logical *OR* as an operation on two logical values (i. e. values that belong to the set  $\{0, 1\}$ ) that is equal to 1 if either or both of the logical values is set to 1, otherwise it is 0. We can define logical *OR* of three or more logical values in the same manner:

where is equal to 1 if some  $a_i = 1$ , otherwise it is equal to 0.

Nam has a matrix  $A$  consisting of  $m$  rows and  $n$  columns. The rows are numbered from 1 to  $m$ , columns are numbered from 1 to  $n$ . Element at row  $i$  ( $1 \leq i \leq m$ ) and column  $j$  ( $1 \leq j \leq n$ ) is denoted as  $A_{ij}$ . All elements of  $A$  are either 0 or 1. From matrix  $A$ , Nam creates another matrix  $B$  of the same size using formula:

( $B_{ij}$  is *OR* of all elements in row  $i$  and column  $j$  of matrix  $A$ )

Nam gives you matrix  $B$  and challenges you to guess matrix  $A$ . Although Nam is smart, he could probably make a mistake while calculating matrix  $B$ , since size of  $A$  can be large.

### Input

The first line contains two integer  $m$  and  $n$  ( $1 \leq m, n \leq 100$ ), number of rows and number of columns of matrices respectively.

The next  $m$  lines each contain  $n$  integers separated by spaces describing rows of matrix  $B$  (each element of  $B$  is either 0 or 1).

### Output

In the first line, print "NO" if Nam has made a mistake when calculating  $B$ , otherwise print "YES". If the first line is "YES", then also print  $m$  rows consisting of  $n$  integers representing matrix  $A$  that can produce given matrix  $B$ . If there are several solutions print any one.

### Examples

input

```
2 2
1 0
0 0
```

output

NO

input

```
2 3
1 1 1
1 1 1
```

output

```
YES
1 1 1
1 1 1
```

input

2	3
0	1 0
1	1 1

output
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YES
0 0 0
0 1 0