

Cell Flip Game

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

You are given a binary $n \times m$ matrix A . Basically, it is just a table of n rows and m columns, each cell of which has a value of 0 or 1.

In one move, you can pick a cell (i, j) of this matrix and flip the values in it and in all cells that share a common side with it. Formally, for every cell (s, t) ($1 \leq s \leq n$, $1 \leq t \leq m$) such that $|s - i| + |t - j| \leq 1$, the transformation $A_{s,t} \leftarrow 1 - A_{s,t}$ is applied.

Find a way to make the matrix have only zero elements, or state that it is impossible.

Input

The first line contains two integers n and m ($1 \leq n, m \leq 500$), denoting the sizes of the matrix.

The i -th of the following n lines contains a binary string of m digits, corresponding to the i -th row of the matrix.

Output

If there is no solution, print the word **NO** in a single line.

Otherwise, print the word **YES** in the first line. In each of the following n lines, print a binary string of length m . These strings form a matrix with dimensions $n \times m$. Each of its elements has to be equal to 1 if and only if you intend to make a move corresponding to that cell.

Of course, the combination of all picked moves must result in the conversion of the initial matrix into the matrix consisting of only zeros.

If there are several solutions, print any of them.

You may output words in any case, upper or lower.

Example

standard input	standard output
3 4	YES
1000	0100
0001	0110
0100	1100