

## E. Neatness

time limit per test: 2 seconds  
memory limit per test: 256 megabytes  
input: standard input  
output: standard output

Simon loves neatness. So before he goes to bed, Simon wants to complete all chores in the house.

Simon's house looks like a rectangular table consisting of  $n$  rows and  $n$  columns from above. All rows of the table are numbered from 1 to  $n$  from top to bottom. All columns of the table are numbered from 1 to  $n$  from left to right. Each cell of the table is a room. Pair  $(x, y)$  denotes the room, located at the intersection of the  $x$ -th row and the  $y$ -th column. For each room we know if the light is on or not there.

Initially Simon is in room  $(x_0, y_0)$ . He wants to turn off the lights in all the rooms in the house, and then return to room  $(x_0, y_0)$ . Suppose that at the current moment Simon is in the room  $(x, y)$ . To reach the desired result, he can perform the following steps:

1. The format of the action is "1". The action is to turn on the light in room  $(x, y)$ . Simon cannot do it if the room already has light on.
2. The format of the action is "2". The action is to turn off the light in room  $(x, y)$ . Simon cannot do it if the room already has light off.
3. The format of the action is "dir" ( $dir$  is a character). The action is to move to a side-adjacent room in direction  $dir$ . The direction can be left, right, up or down (the corresponding dir is L, R, U or D). Additionally, Simon can move only if he see a light in the direction  $dir$ . More formally, if we represent the room, Simon wants to go, as  $(nx, ny)$ , there should be an integer  $k$  ( $k > 0$ ), that room  $(x + (nx - x)k, y + (ny - y)k)$  has a light. Of course, Simon cannot move out of his house.

Help Simon, find the sequence of actions that lets him achieve the desired result.

### Input

The first line contains three positive integers  $n, x_0, y_0$  ( $2 \leq n \leq 500, 1 \leq x_0, y_0 \leq n$ ).

Next  $n$  lines contain the description of rooms in the house. The  $i$ -th line contains  $n$  space-separated integers  $a_{i1}, a_{i2}, \dots, a_{in}$ . If number  $a_{ij}$  equals zero, then room  $(i, j)$  has light off, and if number  $a_{ij}$  equals one, then room  $(i, j)$  has light on. It is guaranteed that at least one room has light on.

### Output

If there is no desired sequence of actions, print "NO" (without the quotes). Otherwise, print "YES" (without the quotes) and the description of the required sequence of actions as a string. Note that you do not have to minimize the length of the sequence of actions but you shouldn't use more than  $3 \cdot 10^6$  actions.

### Examples

input
3 1 1 1 0 0 0 1 0 1 0 0
output
YES D1R2L2D2UU2

input
3 1 1 1 0 0

0 1 0 0 0 1
output
NO