Puzzle: Sashigane

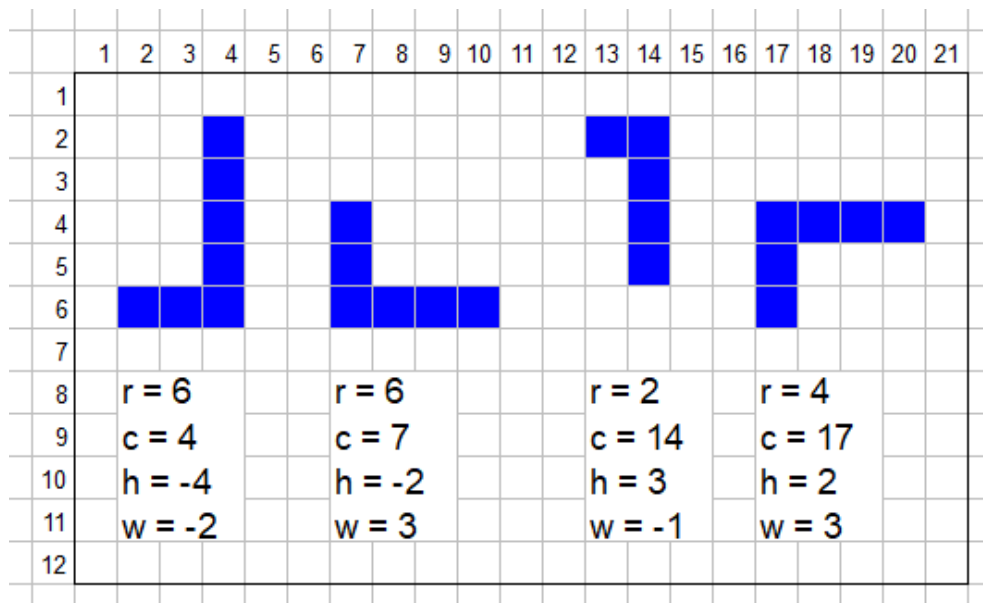|	
Input file:	standard input
Output file:	standard output
Time limit:	1 second
Memory limit:	1024 megabytes

Given a grid with n rows and n columns, there is exactly one black cell in the grid and all other cells are white. Let (i, j) be the cell on the i-th row and the j-th column, this black cell is located at (b_i, b_j).

You need to cover all white cells with some L-shapes, so that each white cell is covered by exactly one L-shape and the only black cell is not covered by any L-shape. L-shapes must not exceed the boundary of the grid.

More formally, an L-shape in the grid is uniquely determined by four integers (r, c, h, w), where (r, c) determines the turning point of the L-shape, and h and w determine the direction and lengths of the two arms of the L-shape. The four integers must satisfy $1 \le r, c \le n$, $1 \le r + h \le n$, $1 \le c + w \le n$, $h \neq 0$, $w \neq 0$.

- If $h < 0$, then all cells (i, c) satisfying $r + h \le i \le r$ belong to this L-shape; Otherwise if $h > 0$, all cells (i, c) satisfying $r \le i \le r + h$ belong to this L-shape.

- If $w < 0$, then all cells (r, j) satisfying $c + w \le j \le c$ belong to this L-shape; Otherwise if $w > 0$, all cells (r, j) satisfying $c \le j \le c + w$ belong to this L-shape.

The following image illustrates some L-shapes.

Input

There is only one test case in each test file.

The first line contains three integers n, b_i and b_j ($1 \le n \le 10^3$, $1 \le b_i, b_j \le n$) indicating the size of the grid and the position of the black cell.

Output

If a valid answer exists first output Yes in the first line, then in the second line output an integer k ($0 \le k \le \frac{n^2-1}{3}$) indicating the number of L-shapes to cover white cells. Then output k lines where the i-th

line contains four integers r_i, c_i, h_i, w_i separated by a space indicating that the i-th L-shape is uniquely determined by (r_i, c_i, h_i, w_i). If there are multiple valid answers you can print any of them.

If there is no valid answer, just output `No` in one line.

Examples

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

Note

We illustrate the first sample test case as follows.