Chess

SEASON 8 – SECOND ROUND

Klimi recently started learning to play chess. Her favourite piece is the knight – she finds the way it moves really interesting. She wondered which cells can be reached by the knight.

More precisely, if she has an N by N board and some cells are already taken (meaning the knight can't step on them) and the knight is located on coordinates X_1, Y_1, she wants to find out whether it can reach cell X_2, Y_2 in exactly K moves. The target cell (X_2, Y_2) will always be different from the starting cell (X_1, Y_1) and both will always be free. X is the number of the row (top to bottom) and Y is the number of the column (left to right).

Help Klimi by writing a program which answers this question.

Input

From the first line of the file `chess.in` six numbers are inputted – N, K, X_1, Y_1, X_2 and Y_2. From each the following N lines N numbers describing a row of the board are inputted – the free cells are notated with 0 and the taken ones with 1.

Output

In the output file `chess.out` print a single word – *Yes*, if the knight can reach the target cell in exactly K moves, and otherwise – *No*.

Constraints

$3 \leq N \leq 1000$
$1 \leq K \leq 10^9$
$1 \leq X_1, X_2, Y_1, Y_2 \leq N$

Time limit: 2 sec
Memory limit: 256 MB

Sample tests

Input (chess.in)	Output (chess.out)	Input (chess.in)	Output (chess.out)
5 3 1 1 4 3 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Yes	5 3 1 1 4 3 0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0	No