Problem C. Black and White Board

Input file:	*standard input*
Output file:	*standard output*
Time limit:	5 seconds
Memory limit:	256 mebibytes

You are given a chessboard of size $n \times m$. The cells are painted black and white such that the cell $(1, 1)$ is white, and any two adjacent cells have different color. Some cells of the chessboard are banned.

Your task is to find a connected figure on the chessboard which does not contain banned cells and contains exactly w white cells and b black cells. Two cells are adjacent if they share a side.

Input

The first line contains three integers n, m and k ($1 \le n, m \le 10$, $0 \le k \le n \cdot m$): the number of rows of the chessboard, the number of columns of the chessboard and the number of banned cells.

The following k lines contain the coordinates of banned cells. Each of these lines contains a pair of integers x_i and y_i ($1 \le x_i \le n$, $1 \le y_i \le m$): the coordinates of a banned cell. All banned cells are distinct.

The last line contains two integers w and b ($0 \le w, b \le n \cdot m$, $w + b > 0$).

Output

If it is impossible to find a connected figure without banned cells with w white cells and b black cells, print a single line containing "`:-(`" without quotes.

Otherwise, print n lines containing m characters each which describe the figure. The lines must consist of characters "`O`", "`X`" and "`.`":

- character "`O`" means a white cell which is included in the desired figure,
- character "`X`" means a black cell which is included in the desired figure,
- character "`.`" means a cell which is not included in the desired figure.

If there are several possible answers, print any one of them.

Examples

standard input	standard output
3 4 2 2 2 2 3 3 3	.... X..O OXOX
8 10 1 1 5 19 9	....X...XOX. ..O...O... ..XO.OXO.. ..O.O.O.O. .OXOXOXOXO ..O.O.O.O. ....