#include <stdio.h>

#include <stdlib.h>

#define MAX\_SIZE 10

void printBoard(int board[MAX\_SIZE][MAX\_SIZE], int n) {

for (int i = 0; i < n; ++i) {

for (int j = 0; j < n; ++j) {

if (board[i][j] == 1) {

printf("Q ");

} else {

printf(". ");

}

}

printf("\n");

}

printf("\n");

}

int isSafe(int board[MAX\_SIZE][MAX\_SIZE], int row, int col, int n) {

for (int i = 0; i < col; ++i) {

if (board[row][i] == 1) {

return 0;

}

}

for (int i = row, j = col; i >= 0 && j >= 0; --i, --j) {

if (board[i][j] == 1) {

return 0;

}

}

for (int i = row, j = col; i < n && j >= 0; ++i, --j) {

if (board[i][j] == 1) {

return 0;

}

}

return 1;

}

int solveNQueens(int board[MAX\_SIZE][MAX\_SIZE], int col, int n) {

if (col == n) {

printBoard(board, n);

return 1;

}

int res = 0;

for (int i = 0; i < n; ++i) {

if (isSafe(board, i, col, n)) {

board[i][col] = 1;

res = solveNQueens(board, col + 1, n) || res;

board[i][col] = 0;

}

}

return res;

}

int main() {

int n;

printf("Enter the size of the chessboard (N x N): ");

scanf("%d", &n);

int board[MAX\_SIZE][MAX\_SIZE] = {0};

int firstQueenRow;

printf("Enter the row where the first queen is placed (0-indexed): ");

scanf("%d", &firstQueenRow);

board[firstQueenRow][0] = 1;

if (!solveNQueens(board, 1, n)) {

printf("Solution does not exist.\n");

}

return 0;

}