#include <stdio.h>

#include <stdlib.h>

#define SIZE 4

void printSolution(int board[SIZE][SIZE])

{

int i, j;

for (i = 0; i < SIZE; i++)

{

for (j = 0; j < SIZE; j++)

printf(" %d ", board[i][j]);

printf("\n");

}

}

int isSafe(int board[SIZE][SIZE], int row, int col)

{

int i, j;

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

if(board[row][i])

return 0;

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

if (board[i][j])

return 0;

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

if (board[i][j])

return 0;

return 1;

}

int solveNQueen(int board[SIZE][SIZE], int col)

{

int index;

if (col >= SIZE)

return 1;

for(index = 0; index < SIZE; index++)

{

if(isSafe(board, index, col))

{

board[index][col] = 1;

if(solveNQueen(board, col+1))

return 1;

board[index][col] = 0;

}

}

return 0;

}

int main()

{

int board[SIZE][SIZE] = { {0, 0, 0, 0},

{0, 0, 0, 0},

{0, 0, 0, 0},

{0, 0, 0, 0}};

if(solveNQueen(board, 0))

printSolution(board);

else

printf("Solution doesn't exist\n");

return 0;

}