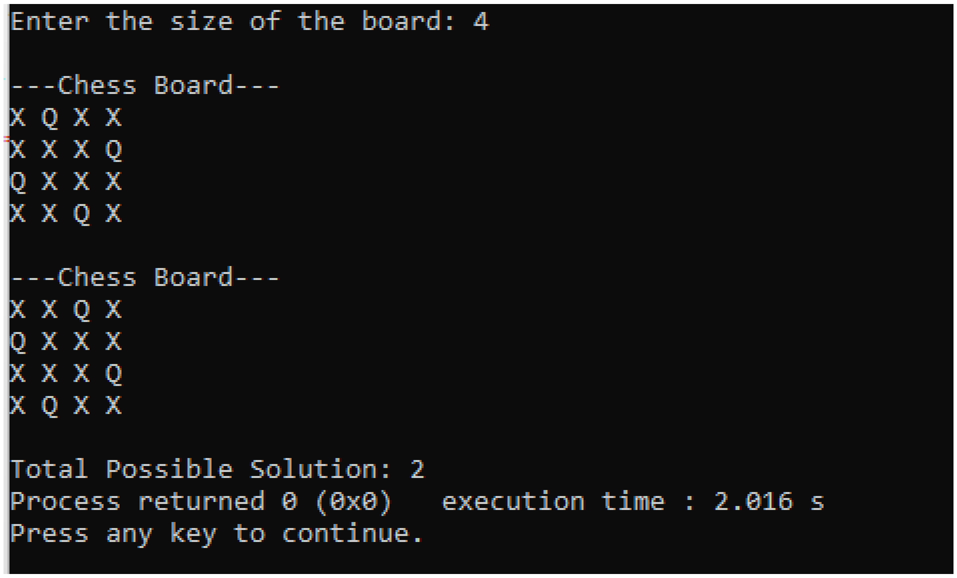
NQueens

```
#include <stdio.h>

int n, count=0;

int isSafe(char board[n][n], int row, int col)
{
    for (int i = row - 1; i >= 0; i--)
    {
        if (board[i][col] == 'Q')
        {
            return 0;
        }
    }

    for (int i = row - 1, j = col - 1; i >= 0 && j >= 0; i--, j--)
    {
        if (board[i][j] == 'Q')
        {
            return 0;
        }
    }

    for (int i = row - 1, j = col + 1; i >= 0 && j < n; i--, j++)
    {
        if (board[i][j] == 'Q')
        {
            return 0;
        }
    }
    return 1;
}

void printBoard(char board[][n])
{
    printf("\n---Chess Board---\n");

    for (int i = 0; i < n; i++)
    {
        for (int j = 0; j < n; j++)
        {
            printf("%c ", board[i][j]);
        }
        printf("\n");
    }
}

void nQueens(char board[n][n], int row)
{
    if (row == n)
    {
        printBoard(board);
        count++;
        return;
    }

    for (int j = 0; j < n; j++)
    {
        if (isSafe(board, row, j) == 1)
        {
            board[row][j] = 'Q';
            nQueens(board, row + 1);
            board[row][j] = 'X';
        }
    }
}

int main()
{
    printf("Enter the size of the board: ");
    scanf("%d", &n);

    char board[n][n];

    for (int i = 0; i < n; i++)
    {
        for (int j = 0; j < n; j++)
        {
            board[i][j] = 'X';
        }
    }
    nQueens(board, 0);
    printf("\nTotal Possible Solution: %d ",count);
}
```



```
Enter the size of the board: 4

---Chess Board---
X Q X X
X X X Q
Q X X X
X X Q X

---Chess Board---
X X Q X
Q X X X
X X X Q
X Q X X

Total Possible Solution: 2
Process returned 0 (0x0)   execution time : 2.016 s
Press any key to continue.
```