

Task 1

Code

```
#include<iostream>
#define N 8

using namespace std;

void printBoard(int board[N][N])
{
    for (int i = 0; i < N; i++)
        for (int j = 0; j < N; j++)
            cout << board[i][j] << " " << endl;
}

bool isValid(int board[N][N], int row, int col)
{
    for (int i = 0; i < col; i++)
        if (board[row][i])
            return false;

    for (int i = row, j = col; i >= 0 && j >= 0; i--, j--)
        if (board[i][j])
            return false;

    for (int i = row, j = col; j >= 0 && i < N; i++, j--)
        if (board[i][j])
            return false;

    return true;
}

bool solveNQueen(int board[N][N], int col)
{
    if (col >= N)
        return true;

    for (int i = 0; i < N; i++)
        if (isValid(board, i, col))
        {
            board[i][col] = 1;
```

```

        if (solveNQueen(board, col + 1))
            return true;

        board[i][col] = 0;
    }

    return false;
}

bool checkSolution()
{
    int board[N][N];

    for (int i = 0; i < N; i++)
        for (int j = 0; j < N; j++)
            board[i][j] = 0;

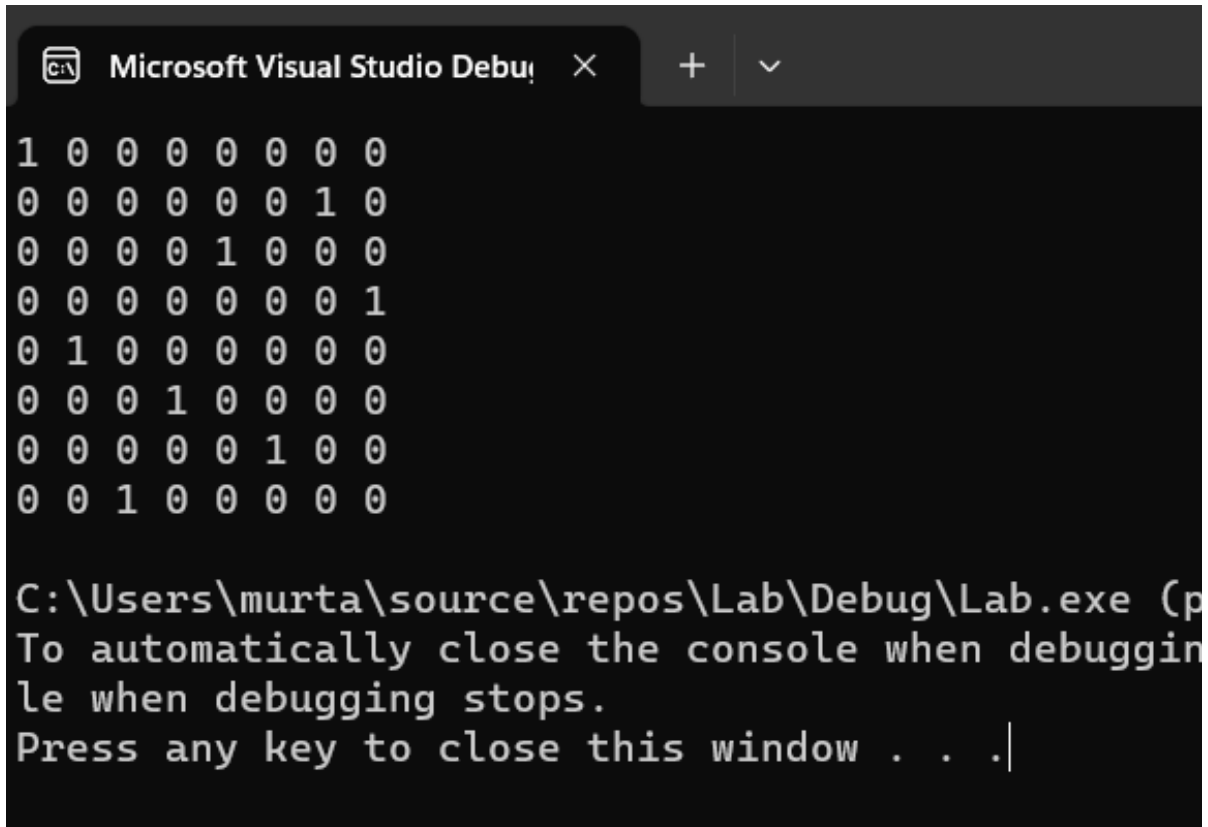
    if (solveNQueen(board, 0) == false)
    {
        cout << "Solution does not exist";
        return false;
    }

    printBoard(board);
    return true;
}

int main() { checkSolution(); }

```

Solution



```
Microsoft Visual Studio Debug Console
1 0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0
0 0 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 1
0 1 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0 0
0 0 0 0 0 1 0 0 0
0 0 1 0 0 0 0 0 0

C:\Users\murta\source\repos\Lab\Debug\Lab.exe (p
To automatically close the console when debuggin
le when debugging stops.
Press any key to close this window . . .|
```