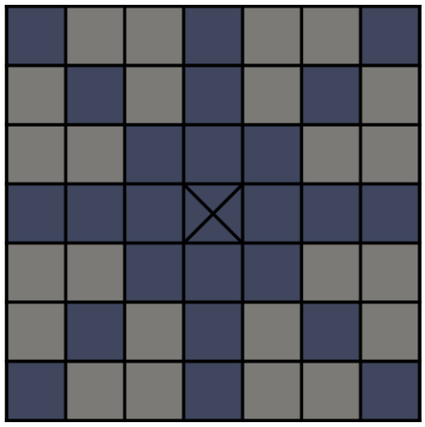
CS112 - Homework

N-Queens

You are an event coordinator for a royal event where king of N countries attend. Each king accompanies with one queen. Your job is to arrange seats for the queens in a hall consists of $N \times N$ seats while the kings are having meeting.

There a rule that no queen is allowed to see another. To simplify the problem, each queen can look in 8 directions:

- Front
- Back
- Right
- Left
- and 4 directions in between



A queen sees another went the other queen is on the path in one of the 8 directions listed above.

Input:

- N for the size of the area and numbers of queens.

$N = 8$

Output:

1 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0
0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 1
0 1 0 0 0 0 0 0
0 0 0 1 0 0 0 0
0 0 0 0 0 1 0 0
0 0 1 0 0 0 0 0

Use branch and bound to solve the problem in a ColabNotebook.