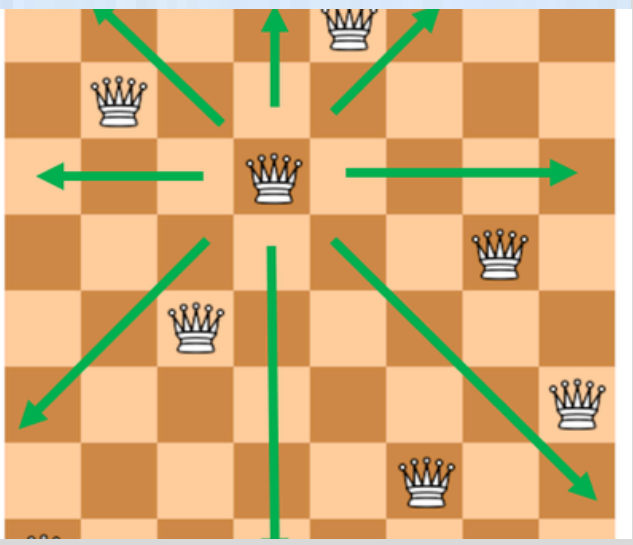
N-QUEENS PROBLEM



What is Queen's Algorithm?

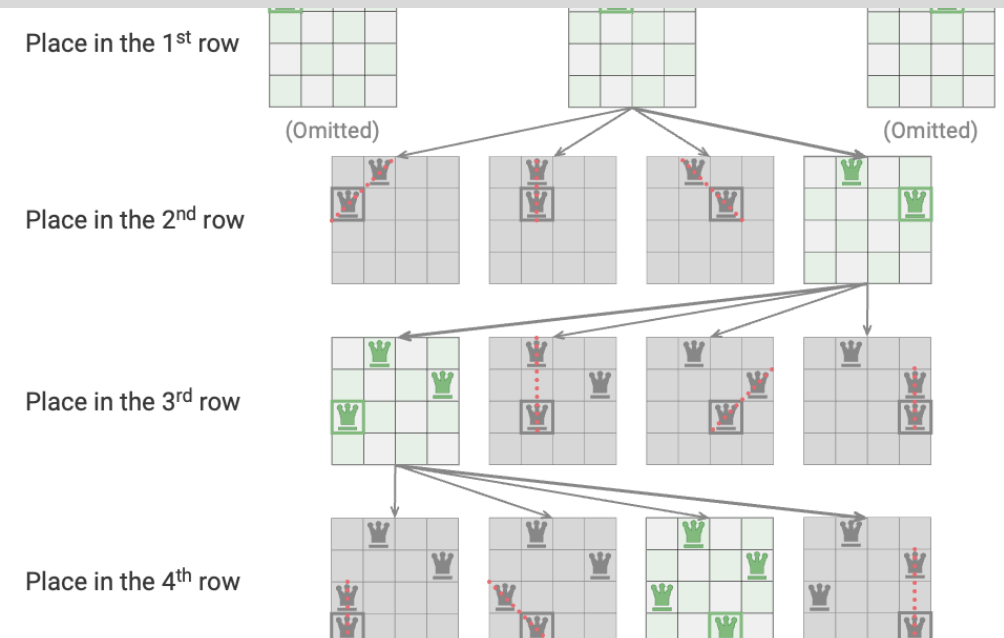
It solves the N-Queens Problem: placing N queens on an N×N chessboard such that no two queens attack each other.

ALGORITHM

Algorithm Backtrack(X[1.....i])
// Gives a template of a generic backtracking algorithm
// input: X[1...i] specifies first i promising components of a solution
// output: All the tuples representing the problems solutions
if X[1...i] is a solution write X[1...i]
else
for each element x ϵ Si+1 consistent with X[1....i] and the constraints do
X[i+1] x
Backtrack(X[1....i+1])

Time Complexity: O(n!), for generating all permutations.
Space Complexity: O(n)

Technique used:
Backtracking
Backtracking tries placing queens row by row and backs up when a conflict is found.



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