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Sairam

Date
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5-CSE-10

Part-B

Q.2] Backtracking:-

Backtracking can be defined as an algorithmic technique for solving problems recursively by trying to build a solution one piece at a time, removing those solutions that fail to satisfy the constraints of the problem at any point of time.

—> ALGORITHM OF N-QUEENS:-

Backtrack (X[1....i])
//Gives a template of generic backtracking algorithm.
//Input: X[1i] specifies first i promising components of a solution.
//Output: All tuples representing the problem's solution.
if X[1i] is a solution write X[1...i]
else
for each element x ∈ S; +J consistent with X[1i] and the constraints do
X[i+1] * -X
Backtrack (X[1...i+1]J.

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→ 4*4 queens problem:

↳ State Space Tree :-