

one of the answers will be

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$\rightarrow \{0, 4, 7, 5, 2, 6, 1, 3\}$

\rightarrow (b) Implementing Hill climbing Algo, for 8-queens and explain

Always keep on improving the solution until you reach the best one.

def hill-climbing ($n=8$):

board = [random.randint(0, $n-1$)
for _ in range(n)]

while True:

current_attacks = calculate_attacking_pairs(board)
if current_attacks == 0:
return board

neighbors[]

for row in range(n):

for col in range(n):

if col != board[row]

Local Search algo

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- Count the no. of pairs of queens attacking each other

- for each queen, we try to move it to every other column in its row.

- choose one with the fewest attacking pairs

- If we find configuration = 0 attacks we have a solution.

~~Proceed~~

⇒ Output for A* algo:-

Solution found:

[4, 1, 5, 0, 6, 3, 7, 2]

⇒ Output for Hill climbing algo:-

Solution found:

[2, 5, 3, 1, 7, 4, 6, 0]

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