N-Queens Peroblem no phrement neords exturn False Inteams

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weate a peroejeram to solve n-Queens peroblem with python code.

ALMORITHMS-

all zero ('o') It indicates no auen placed on that ull.

Step 2: Place Queens column by column:

-> start with the first column -> Teny placing queen in each now of the

russent column. Step 3: wheck if placing Queen is safe:

-> NO aruns is in the same now

-> NO others is in the Same upper deagonal

-> NO other queen is in the same lower dragond.

sty 4: recursion:

-> It a safe position is found, place the queen ('i') and move to next column using recursion.

Aten 5: Base case:

-> If all ansens are successfully placed the alyonithm meturins 'True' Indicating that the Solution is found.

-> If placing the Queen in the aucuent column Step 6: Backteack: does not lead to solution Algoenthin Bockteracks At the presions coleumn and terms next now.

- 4 algorithm exhausts all passiblities and StyT: No solution: no placement works entween 'False' Ardicating that no solution exists for given 'N'. Example: 8 8 4x4 materix. 8 RITHMS tral wat Queen placed column: each now folia auce is safe: Es the stamo sions the storne repper Ato same longer 0 Le position in found, whole the quen next when using eleculation. skidensfilly placed she Oten 50 0 Garag shot the 13 10 m 8 the Queen Bouldsondes teens ment sicus

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Output ?-
Lode:-
               * Enter the ble of the board (11): 4
def is_ safe (board, evous, col, N);
                                solution found:
   for 9 in range (col):
                                    0100
     If leaved [evero][i] = = 1:
                                   0001
       section false
   fori, 3 in Zig (erange (erous, -1, -1), erange (xols, -1, -1);
     & board [i] [i] = = 1: hat for alie at testing a
   fou i 3 in Zin Carange (2000, N, D, mange (col, -1, -1)):
                           00010000
      if loand [?] [3] == 1:
                           100000000
        return false
                           00000010
                           00001000
    section tem
   def solve-n-queens (board, col, N):
       24 col >= N:
        section teme
      for ? in starge (N):
        if is-safe (board, i, cel, N):
            board [i] [col] = 1
           If solve-n-queens (board, col+1, N):
              sceturen teme
           board [i] [col] = 0
       retween false
   def print_board (board, N):
           peant (" ". 3oin (stuccell) for cell in 2000)
        for now in board:
    N= eht Carput ("Enter the size of board (N):"))
       board = [[0] & N four is evange CN].
    of solve-N-queens (board, O, N):
                                         Result:
  peant ("solution founds")
   else:
         Peunt ("NO solution exists")
```

Output: * Enter the size of the board CN): 4 It is safe (beard, saces alon): solution found: 1000) yours 12 9 400) 0010 if search [now] Is = = 1? 1000 1000 000 1 (evens) (evens) -1,-0, even 000 00 00000 gustine false * Enter the size of the board CN: 8 perturn false Solution found: 00000010 1 poored [3] [3] == 18 00000001 section false 01000000 00010000 sustainen some 00000100 44 server-u- dineres (person 00000100 Il coloren; sectusin Leans for ? In starge (N): 24 Rs- safe (board, 9 2 cal, N); board [9] [cal] = 1 If Lower n- queens (board, col+1, N): sectures seems beaud [1] [col] = 0 seturen false def perint because (Escends N): four now in beauti peant (" " soin (starcido) for tell in score) N= that (hopers ("Enter the sine of board (N):")) peads : Las to most in most in a tost : propod Thus, the N-Buen peroblem is executed and Result: output is received successfully. Perent C'NE solution exists")