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Ex no : 01

Ex name : 8 Queens problem

Program:

N = 8 def print\_board(board): for row in board: print(" ".join(row)) print("\n" + "-" \* 16 + "\n")

def is\_safe(board, row, col):

for i in range(row):  
 if board[i][col] == "Q":  
 return False

for i, j in zip(range(row, -1, -1), range(col, -1, -1)):  
 if board[i][j] == "Q":  
 return False  
for i, j in zip(range(row, -1, -1), range(col, N)):  
 if board[i][j] == "Q":  
 return False  
return True  
 def solve(board, row): if row == N: print\_board(board) return Trueres = False  
for col in range(N):  
 if is\_safe(board, row, col):  
 board[row][col] = "Q"  
 res = solve(board, row + 1) or res  
 board[row][col] = "."  
return res  
 def solve\_n\_queens(): board = [["." for \_ in range(N)] for \_ in range(N)] if not solve(board, 0): print("No solution exists")

solve\_n\_queens()

Output:

