**2 Write the python program to solve 8-Queen problem**

**Program:**

N = 8

def print\_board(board):

for row in board:

print(" ".join("Q" if col else "." for col in row))

print()

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

# Check column

for i in range(row):

if board[i][col]:

return False

# Check left diagonal

for i, j in zip(range(row - 1, -1, -1), range(col - 1, -1, -1)):

if board[i][j]:

return False

# Check right diagonal

for i, j in zip(range(row - 1, -1, -1), range(col + 1, N)):

if board[i][j]:

return False

return True

def solve(board, row):

if row == N:

print\_board(board)

return True # To stop at the first solution, remove this to find all

for col in range(N):

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

board[row][col] = 1

if solve(board, row + 1):

return True

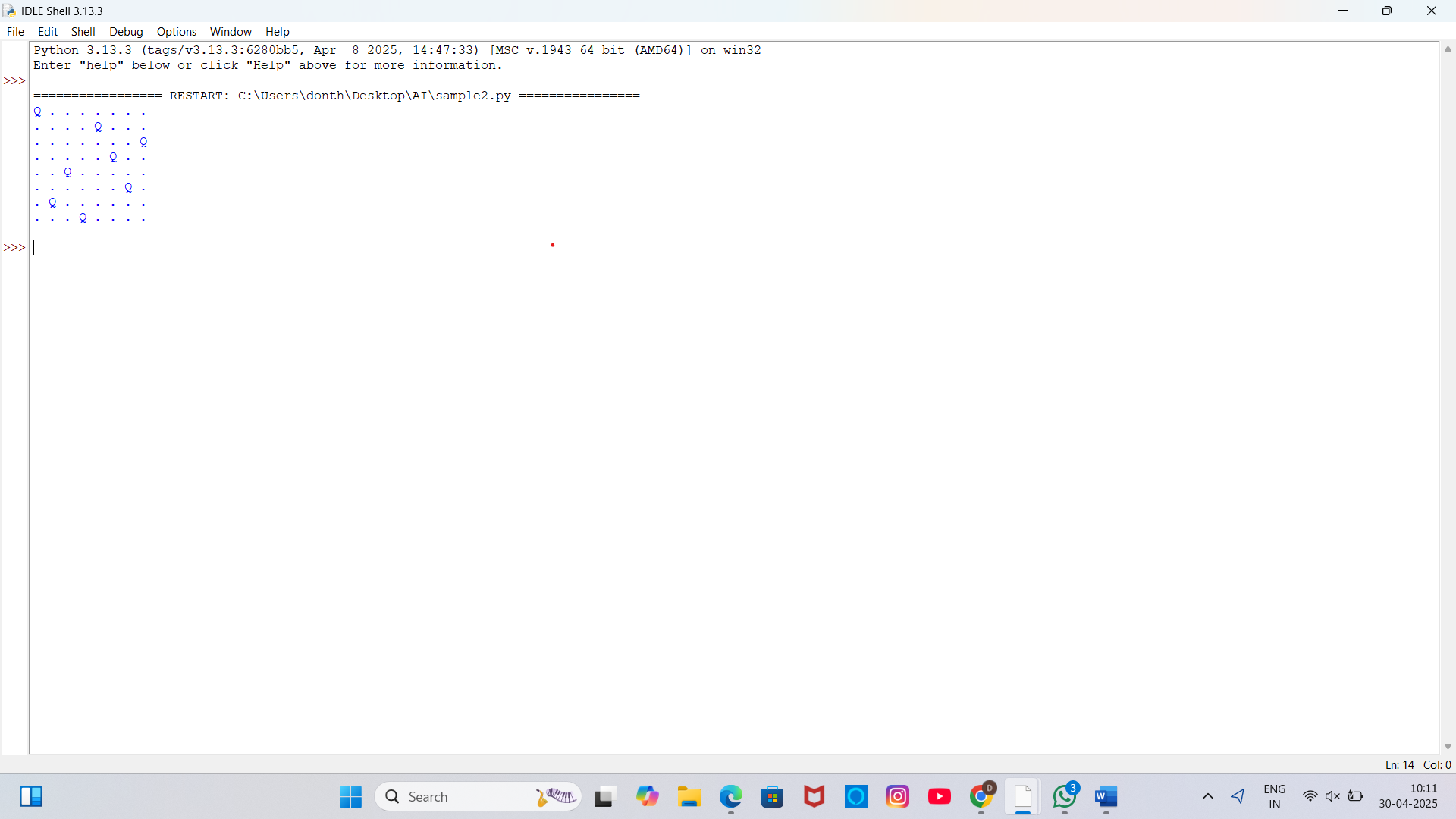
board[row][col] = 0 # Backtrack

return False

board = [[0] \* N for \_ in range(N)]

solve(board, 0)

**output:**

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