**AI FOR LLM- CSA1704**

**2. 8 QUEENS PROBLEM**

**CODE:**

def print\_solution(board):

for row in board:

line = ""

for col in row:

line += "Q " if col else ". "

print(line)

print("\n" + "-" \* 16 + "\n")

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

# Check column

for i in range(row):

if board[i][col]:

return False

# Check upper-left diagonal

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

if board[i][j]:

return False

# Check upper-right diagonal

for i, j in zip(range(row-1, -1, -1), range(col+1, 8)):

if board[i][j]:

return False

return True

def solve(board, row):

if row == 8:

print\_solution(board)

return True # Change to False if you want all solutions

for col in range(8):

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

board[row][col] = 1

if solve(board, row + 1):

return True

board[row][col] = 0 # Backtrack

return False

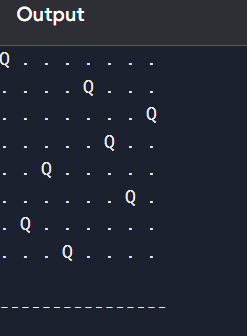
# Initialize empty board

board = [[0 for \_ in range(8)] for \_ in range(8)]

# Solve the problem

solve(board, 0)

**OUTPUT:**

****