

8 Queens Problem

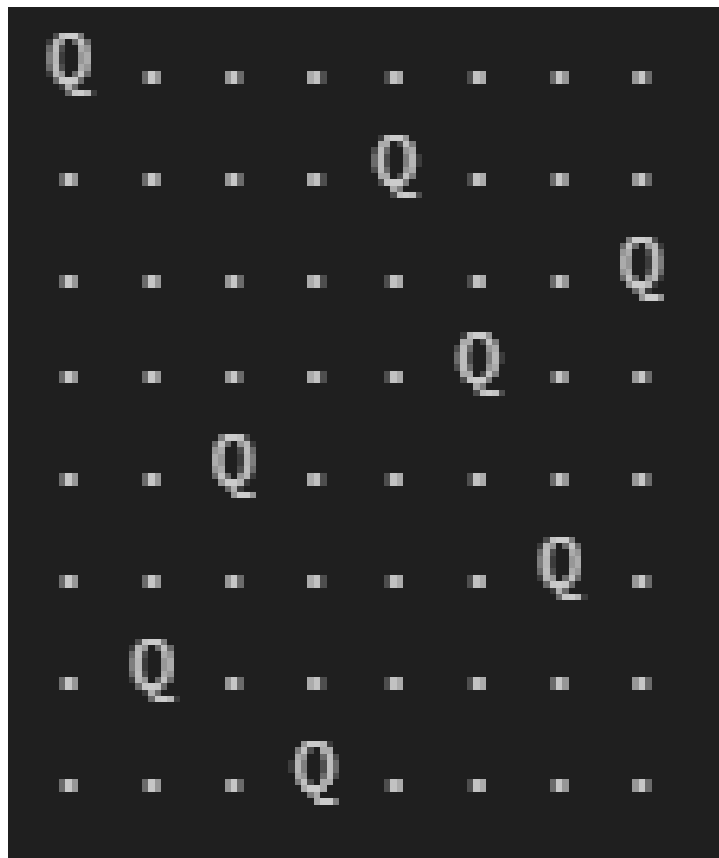
AIM:

To compute how to place 8 Queens without any hinderance

Program:

```
def print_solution(board):
    for row in board:
        print(" ".join(row))
    print()
def is_safe(board, row, col, n):
    for i in range(row):
        if board[i][col] == "Q":
            return False
    i, j = row, col
    while i >= 0 and j >= 0:
        if board[i][j] == "Q":
            return False
        i -= 1
        j -= 1
    i, j = row, col
    while i >= 0 and j < n:
        if board[i][j] == "Q":
            return False
        i -= 1
        j += 1
    return True
def solve_n_queens(board, row, n):
    if row == n:
        print_solution(board)
        return
    for col in range(n):
        if is_safe(board, row, col, n):
            board[row][col] = "Q"
            solve_n_queens(board, row + 1, n)
            board[row][col] = "."
def n_queens(n):
    board = [["." for _ in range(n)] for _ in range(n)]
    solve_n_queens(board, 0, n)
n = 8
n_queens(n)
```

Output:



Result:

The queens are placed in appropriate positions