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EXP NO : 1

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EXP NAME : IMPLEMENT EIGHT QUEENS PROBLEM

PROGRAM :

```
N = 8
def print_board(queens):
    for row in range(N):
        line = ["."] * N
        line[queens[row]] = "Q"
        print("".join(line))
    print("\n" + "-" * (2 * N) + "\n")
def is_safe(queens, row, col):
    for i in range(row):
        if queens[i] == col or abs(queens[i] - col) == abs(i - row):
            return False
    return True
def place_queens(row, queens):
    if row == N:
        print_board(queens)
        return
    for col in range(N):
        if is_safe(queens, row, col):
            queens[row] = col
            place_queens(row + 1, queens)
def solve_n_queens():
    queens = [-1] * N
    place_queens(0, queens)
solve_n_queens()
```

OUTPUT:

. . . . Q . . .
. . . Q
Q
. Q .
. Q
. Q
. Q . .
. . . . Q

. . . . Q . . .
. . . Q
. Q
. . . . Q
. Q .
Q
. Q . .
. Q
