In [1]:
```python
#KRISHNA KUMAR D-111723102099
def is_safe(i, j):

    for k in range(N):
        if board[i][k] == 1 or board[k][j] == 1:
            return False


    for k in range(N):
        for l in range(N):
            if (k + l == i + j or k - l == i - j) and board[k][l] == 1:
                return False

    return True



def solve_n_queens(n):

    if n == 0:
        return True

    for i in range(N):
        for j in range(N):

            if is_safe(i, j) and board[i][j] != 1:
                board[i][j] = 1

                if solve_n_queens(n - 1):
                    return True

                board[i][j] = 0

    return False



if __name__ == "__main__":

    print("Enter the number of queens:")
    N = int(input())


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


    if solve_n_queens(N):
        print("Solution exists. Placements of queens:")
        for row in board:
            print(row)
    else:
        print("No solution exists.")
```

```
Enter the number of queens:
Solution exists. Placements of queens:
[1, 0, 0, 0, 0, 0, 0]
[0, 0, 1, 0, 0, 0, 0]
[0, 0, 0, 0, 1, 0, 0]
[0, 0, 0, 0, 0, 0, 1]
[0, 1, 0, 0, 0, 0, 0]
[0, 0, 0, 1, 0, 0, 0]
[0, 0, 0, 0, 0, 1, 0]
```

In [ ]: