

In [4]:

```

n = int(input('enter number of queens:'))
board = [[0 for i in range(n)]for i in range(n)]

def check_column(board, row, column):
    for i in range(row, -1, -1):
        if board[i][column] == 1:
            return False
    return True

def check_diagonal(board, row, column):
    for i,j in zip(range(row, -1, -1), range(column, -1, -1)):
        if board[i][j] == 1:
            return False

    for i, j in zip(range(row, -1, -1), range(column, n, 1)):
        if board[i][j] == 1:
            return False

    return True

def nqn(board, row):
    if row == n:
        return True

    for i in range(n):
        if check_column(board, row, i) and check_diagonal(board, row, i):
            board[row][i] = 1
            if nqn(board, row+1):
                return True
            board[row][i] = 0
    return False

nqn(board, 0)
for i in board:
    print(i)

```

```

enter number of queens:8
[1, 0, 0, 0, 0, 0, 0, 0]
[0, 0, 0, 0, 1, 0, 0, 0]
[0, 0, 0, 0, 0, 0, 0, 1]
[0, 0, 0, 0, 0, 1, 0, 0]
[0, 0, 1, 0, 0, 0, 0, 0]
[0, 0, 0, 0, 0, 0, 1, 0]
[0, 1, 0, 0, 0, 0, 0, 0]
[0, 0, 0, 1, 0, 0, 0, 0]

```