**Name:** Moin Tamboli

**Roll no.:** COTC64

**Practical No. 4**

**Source Code:**

print("Enter the number of queens: ")

N=int(input())

#Chessboard:

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

def is\_attack(i,j):

for k in range(0,N):

if board [i][k]==1 or board[k][j]==1:

return True

#Checking Diagonals:

for k in range(0,N):

for l in range(0,N):

if(k+l==i+j) or (k-l==i-j):

if board[k][l]==1:

return True

return False

def N\_queen(n):

if n==0:

return True

for i in range(0,N):

for j in range(0,N):

'''checking if we can place a queen here or no queen wi'''

if (not(is\_attack(i,j))) and (board[i][j]!=1):

board[i][j]=1

#Recursion

if N\_queen(n-1)==True:

return True

board[i][j]=0

return False

N\_queen(N)

for i in board:

print(i)

**Output:**

Enter the number of queens: 4

[0, 1, 0, 0]

[0, 0, 0, 1]

[1, 0, 0, 0]

[0, 0, 1, 0]