**1.Write a program to solve 8 Queens problem**

**Aim:** A program to solve 8 Queens problem

**Code:**

class GFG:

def \_\_init\_\_(self, N):

self.N = N

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

def is\_safe(self, row, col):

for i in range(col):

if self.board[row][i] == 1:

return False

for i, j in zip(range(row, -1, -1), range(col, -1, -1)):

if self.board[i][j] == 1:

return False

for i, j in zip(range(row, self.N, 1), range(col, -1, -1)):

if self.board[i][j] == 1:

return False

return True

def solve\_nq\_util(self, col):

if col >= self.N:

return True

for i in range(self.N):

if self.is\_safe(i, col):

self.board[i][col] = 1

if self.solve\_nq\_util(col + 1):

return True

self.board[i][col] = 0

return False

def solve\_nq(self):

if not self.solve\_nq\_util(0):

print("Solution does not exist")

return False

self.print\_solution(self.board)

return True

def print\_solution(self, board):

for i in range(self.N):

for j in range(self.N):

print(board[i][j], end=" ")

print()

**OUT PUT:**

**n = 4**

**game = GFG(n)**

**game.solve\_nq()**

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