EXPERIMENT -02 8-Queens (backtracking)

AIM:

place 8 queens so none attack each other.

CODE:

# eight\_queens.py

def solve(n=8):

cols, diag1, diag2 = set(), set(), set()

board=[]

res=[]

def backtrack(r=0):

if r==n:

res.append(board.copy()); return

for c in range(n):

if c in cols or (r+c) in diag1 or (r-c) in diag2: continue

cols.add(c); diag1.add(r+c); diag2.add(r-c)

board.append(c)

backtrack(r+1)

board.pop(); cols.remove(c); diag1.remove(r+c); diag2.remove(r-c)

backtrack()

return res

if \_\_name\_\_=='\_\_main\_\_':

solutions=solve()

print("Count:",len(solutions))

print("One solution (columns per row):",solutions[0])

OUTPUT:

