CSP

Example N QUEEN :-

class NQueens:

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

self.n = n

self.chess\_table = [[0 for i in range(n)]for j in range(n)]

def print\_Queens(self):

for i in range (self.n):

for j in range (self.n):

if self.chess\_table[i][j] == 1:

print(" Q ", end =' ')

else:

print(" - ",end = ' ')

print("\n")

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

for i in range(self.n):

if self.chess\_table[row\_index][i] == 1:

return False

j = col\_index

for i in range(row\_index,-1,-1):

if i<0:

break

if self.chess\_table[i][j] == 1:

return False

j = j - 1

j = col\_index

for i in range(row\_index,self.n):

if i<0:

break

if self.chess\_table[i][j] == 1:

return False

j=j-1

return True

def solve(self,col\_index ):

if col\_index == self.n:

return True

for row\_index in range(self.n):

if self.is\_place\_safe(row\_index,col\_index):

self.chess\_table[row\_index][col\_index] = 1

if self.solve(col\_index+1):

return True

self.chess\_table[row\_index][col\_index] = 0

return False

def solveN\_Queens(self):

if self.solve(0):

self.print\_Queens()

else:

print("no solution to the problem")

queens = NQueens(4)

queens.solveN\_Queens()