八皇后问题

import random  
  
def conflict(state,nextx):  
 nexty = len(state)  
 for i in range(nexty):  
 if abs(state[i]-nextx) in (0,nexty-i):#若下一个皇后和前面的皇后列相同或者在一条对角线上，则冲突  
 return True  
 return False  
  
def queens(num=8,state=()):  
 for pos in range(num):  
 if not conflict(state,pos):#位置不冲突  
 if len(state) == num - 1:#若是最后一个皇后，则返回该位置  
 yield (pos,)  
 else:#若不是最后一个皇后，则将该位置返回到state元组并传给后面的皇后  
 for result in queens(num,state + (pos,)):  
 yield (pos,) + result  
  
def prettyp(solution):  
 def line(pos,length = len(solution)):  
 return 'O '\*(pos)+'X '+'O '\*(length-pos-1)  
 for pos in solution:  
 print(line(pos))  
  
prettyp(random.choice(list(queens(8))))

运行结果

