

4 Queen problem

Lov Dubey

September 30, 2022

1 Solution

```
import numpy as np
from itertools import permutations
def queen(a):
    for cl in permutations(range(a)):
        mtrx = np.zeros(a*a).reshape(a,a)
        check = 0
        for i in range(a):
            if check != i*(i-1)/2:
                break
        for j in range(1,a):
            if i >= j:
                if cl[i] == cl[i-j]+j or cl[i] == cl[i-j]-j:
                    check = 0
                    break
            else:
                check += 1
        else:
            continue
        if check == a*(a-1)/2:
            for r in range(a):
                mtrx[r][cl[r]] = 1
            yield mtrx
        else:
            pass
num = int(input())
print(f"Input: {num}\a")
print("solution:\a")
for m in queens(num):
    print(m, "\a")
```