Name :- Prem Ubhe

Div :- B 66

Code :-

```python
import json
n = 4
a = [[0 for x in range(n)] for y in range(n)]
b = {}
def isColumnSafe(r,c):
    while(r>=0):
        if (a[r][c]==1):
            return 0
        r=r-1
    return 1
def isLeftDiagonalSafe(r,c):
    while(r>=0 and c>=0):
        if(a[r][c]==1):
            return 0
        r=r-1
        c=c-1
    return 1
def isRightDiagonalSafe(r,c):
    while(r>=0 and c<n):
        if(a[r][c]==1):
            return 0
        r=r-1
        c=c+1
    return 1
# function to check given row and col position is safe or not.
# returns 0 if not safe else 1
def isSafe(row,col):
    if(isColumnSafe(row,col)== 0):
        return 0
```

```python
        if(isLeftDiagonalSafe(row,col)==0):
            return 0
        if(isRightDiagonalSafe(row,col)==0):
            return 0
        return 1
    # Recursive function to check row wise safe position for each queen(n).
    def checkBoard(r,c):
        if(r>=n):
            return
        p=0
        while(c<n):
            p = isSafe(r,c)
            if(p==1):
                a[r][c] = 1
                b.update({r:c})
                break
            c=c+1
        if(p==1):
            checkBoard(r+1,0)
        else:
            a[r-1][b.get(r-1)]=0
            checkBoard(r-1,int(b.get(r-1))+1)   # Here actual backtracking happens for previous row
    if _name_ == '_main_':
        checkBoard(0,0)
        print(a)
        with open('data.json', 'w') as f:
            json.dump(b, f)
```

Output :-

[[0, 1, 0, 0], [0, 0, 0, 1], [1, 0, 0, 0], [0, 0, 1, 0]]