



Q-4

Write a program to implement N Queens Problems.

```
print ("Enter the number of queens")
N = int(input())
```

```
board = [[0]*N for _ in range(N)]
```

```
def attack(i, j):
    for k in range(0, N):
        if board[i][k] == 1 or board[k][j] == 1;
            return True
```

```
    for k in range(0, N):
        for l in range(0, N):
            if (i-j == k-l) or (i+j == k+l):
                if board[k][l] == 1:
                    return True
```

```
    return False
```

```
def N_queens(n):
```

```
    if n == 0:
```

```
        return True
```

```
    for i in range(0, N):
```

```
        for j in range(0, N):
```

```
            if (not (attack(i, j))) and (board[i][j] != 1):
```

```
                board[i][j] = 1
```

```
                if N_queens(n-1) == True:
```

```
                    return True
```

```
                board[i][j] = 0
```

```
    return False
```

```
N_queens(N)
```

```
for i in board:
    print(i)
```