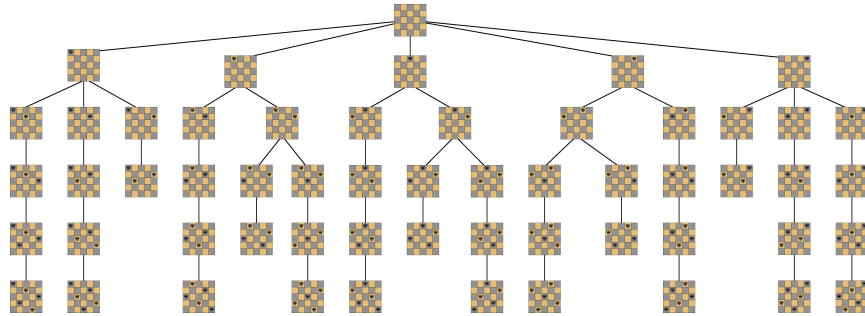


1 Exercise 3

1.1



문서 상에서 정보가 잘 표시되지 않아, 아래의 링크로 이미지 첨부해드립니다.

https://drive.google.com/file/d/1cp6DiL01rb9r1U_OdtLQHuoRETtQSUM_/view?usp=sharing

1.2

```
solution = list()

def N_Queens_new(row, n, N, board):
    if n == 0:
        return True

    for j in range(1, N+1):
        if not is_attack(row, j, board, N):
            board[row][j] = 1
            solution.append((row, j))
            if N_Queens_new(row+1, n-1, N, board):
                if n == N:
                    return solution
                else:
                    return True

            board[row][j] = 0
            solution.remove((row, j))

    return False

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

```

k = i-1
l = j-1
while k >= 1 and l >= 1:
    if board[k][l]==1:
        return True
    k = k-1
    l = l-1
k = i-1
l = j+1
while k >= 1 and l <= N:
    if board[k][l]==1:
        return True
    k = k-1
    l = l+1

return False

```