고 급 문 제 해 결

<문제 14.8>

정렬된 배열에서 높이가 최소인

이진 탐색 트리 만들기

2018117543 한재성

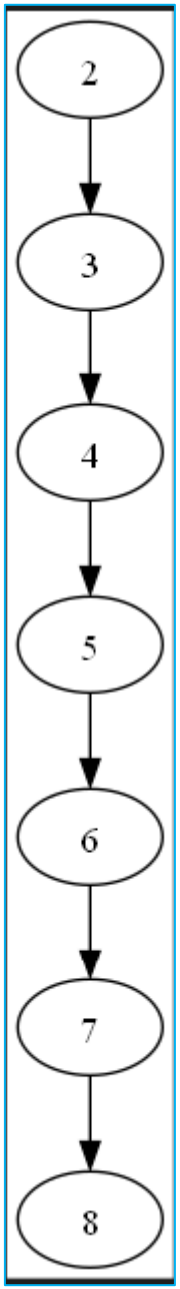
Chapter 14

Binary Search Tree

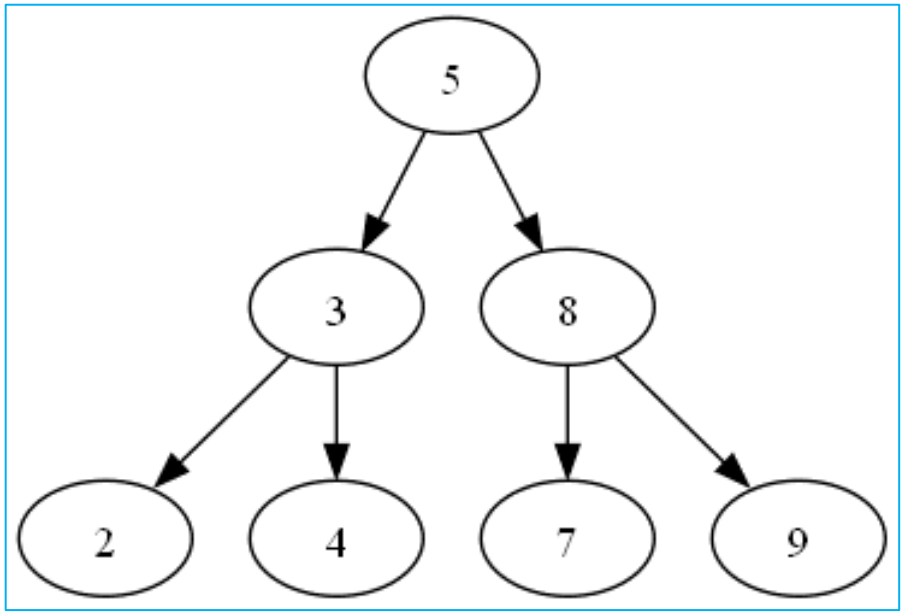
14.8 정렬된 배열에서 높이가 최소인 이진 탐색 트리 만들기

[2, 3, 4, 5, 6, 7, 8]

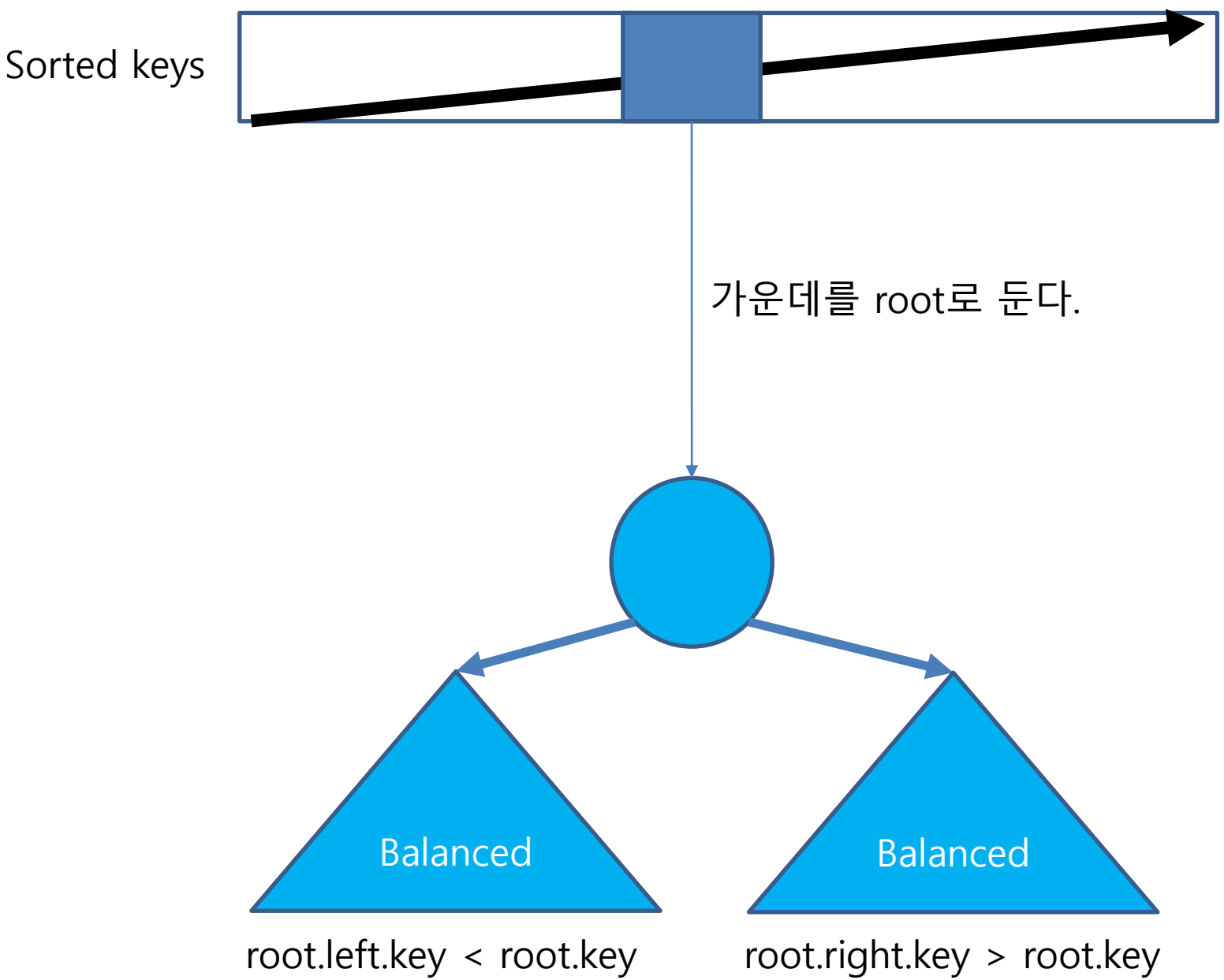
높이:최대



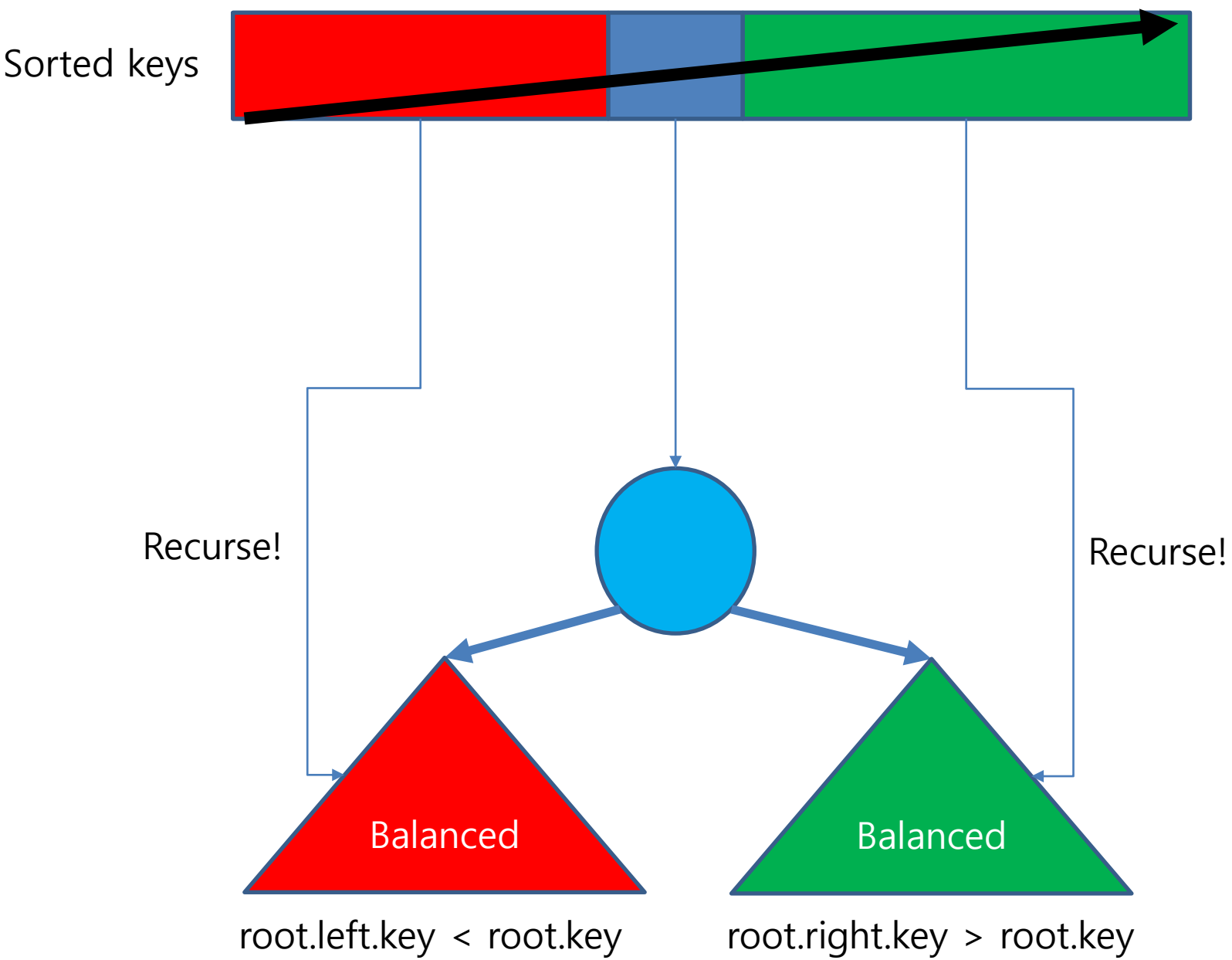
높이:최소



Recursion

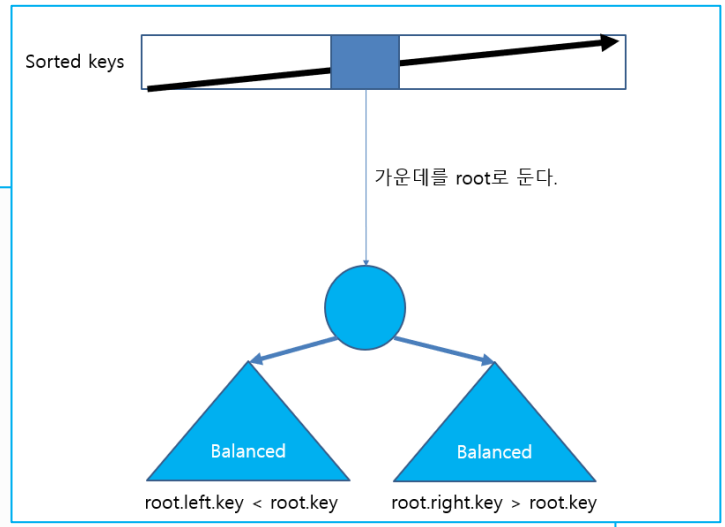

Sorted keys
가운데를 root로 둔다.
Balanced
Balanced
root.left.key < root.key
root.right.key > root.key

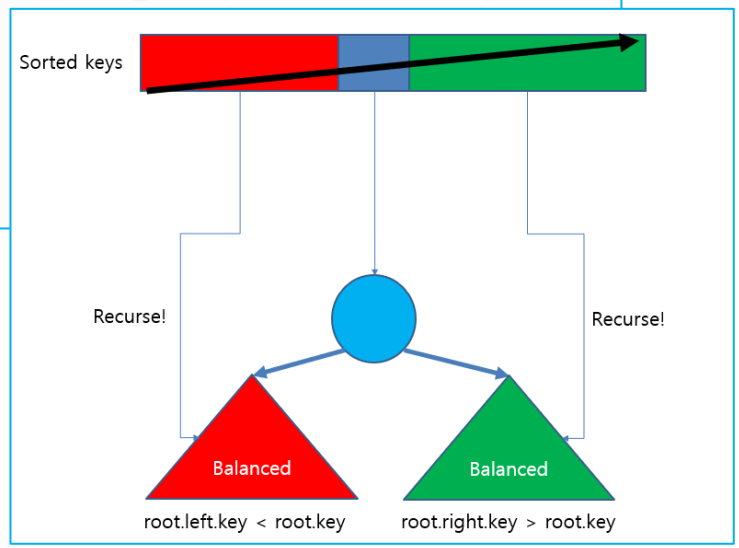
Recursion


Sorted keys
Recurse!
Recurse!
Balanced
Balanced
root.left.key < root.key
root.right.key > root.key

Code

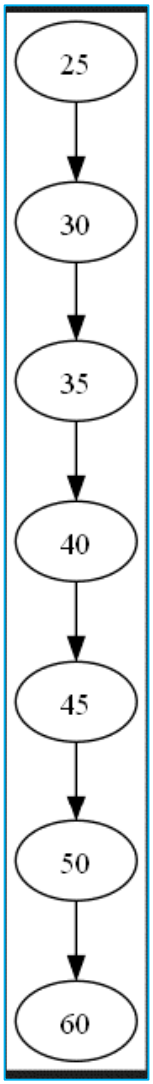
```
def min_depth_tree(root, l, r):
    if r < l:
        return None
    mid = (l + r) // 2
    root = insert(root, keys[mid])
    root_left = root_right = None
    root_left = min_depth_tree(root_left, l, mid - 1)
    root_right = min_depth_tree(root_right, mid + 1, r)
    root.left = root_left
    root.right = root_right
    return root
```

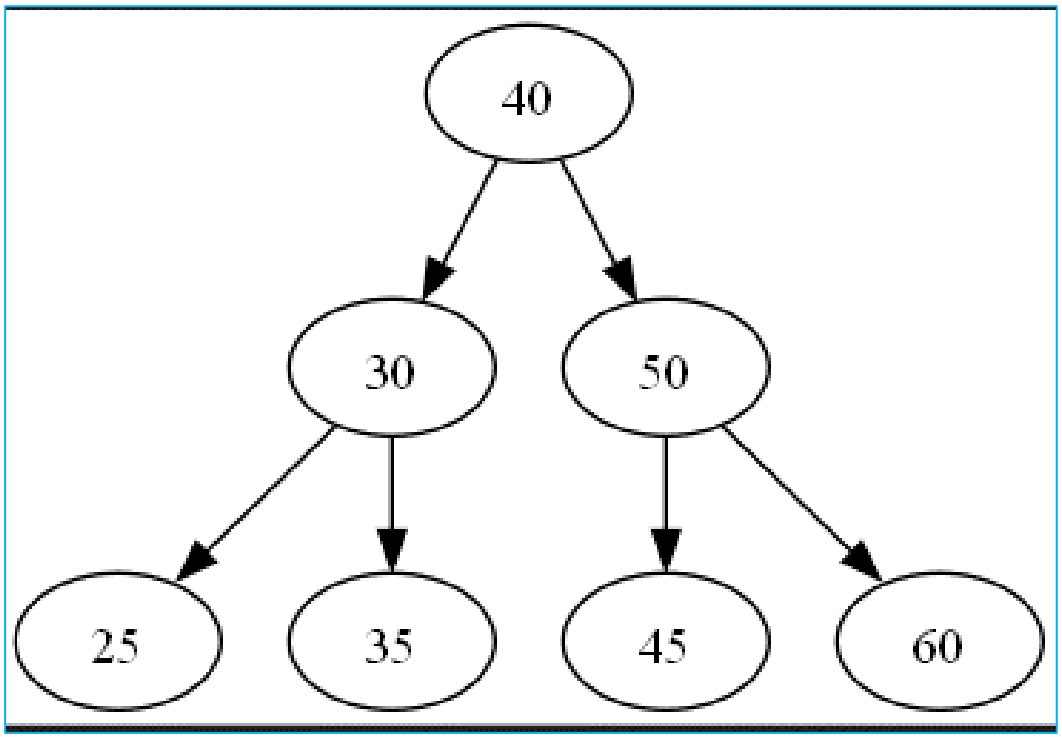




Tree visualization

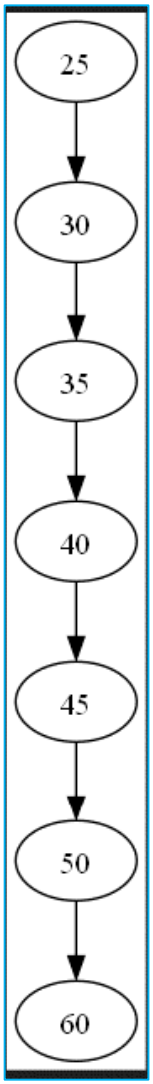
[5, 3, 7, 2, 4, 6, 8]

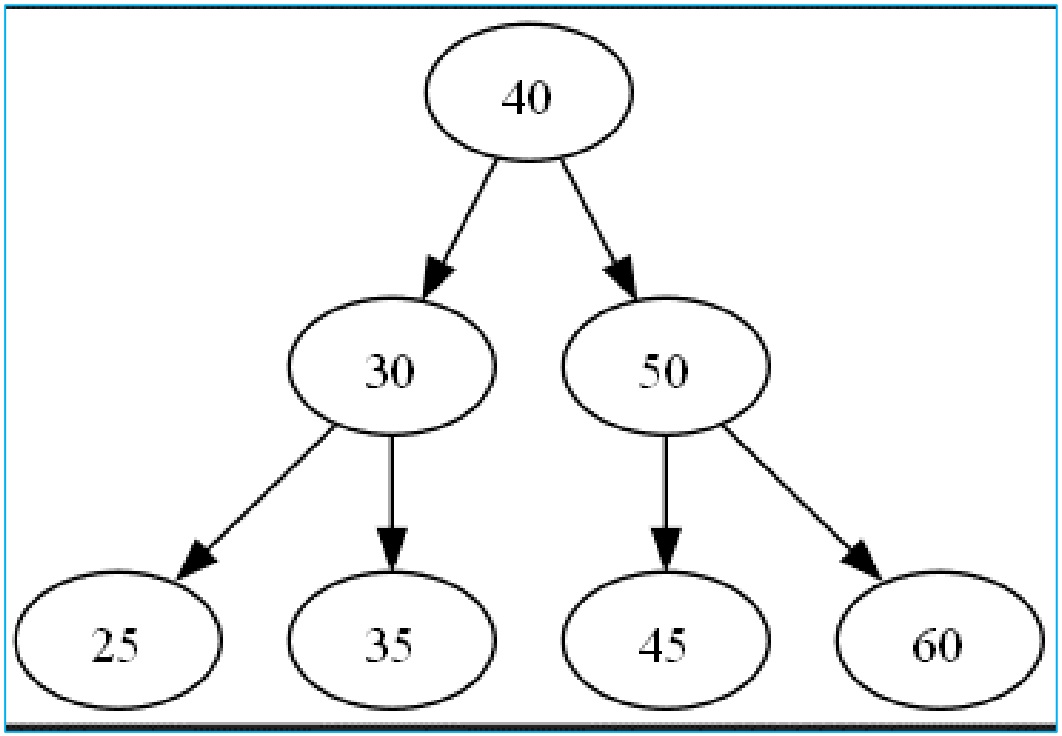




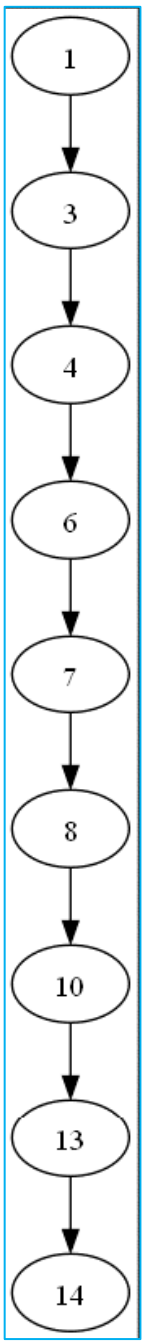
Tree visualization

[40,30,50,25,35,45,60]

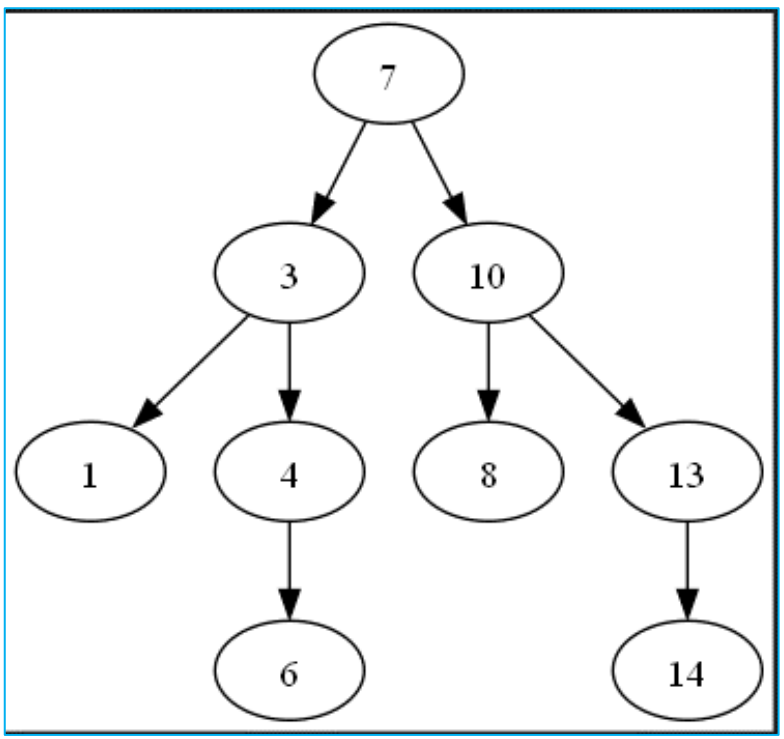




Tree visualization



[8, 3, 10, 1, 6, 14, 4, 7, 13]



Summary

- **14.8 정렬된 배열에서 높이가 최소인 이진 탐색 트리 만들기**
- **Recursion**

들어 주셔서 감사합니다