Python IV – Lesson 31

Date: Jan 6, 2022

Agenda

- ► DFS
- ► Leetcode 111 using DFS
- ► Leetcode 112
- ► CCC 2016 J5

Proverbs 11:12

- "Whoever derides their neighbor has no sense, but the one who has understanding holds their tongue."
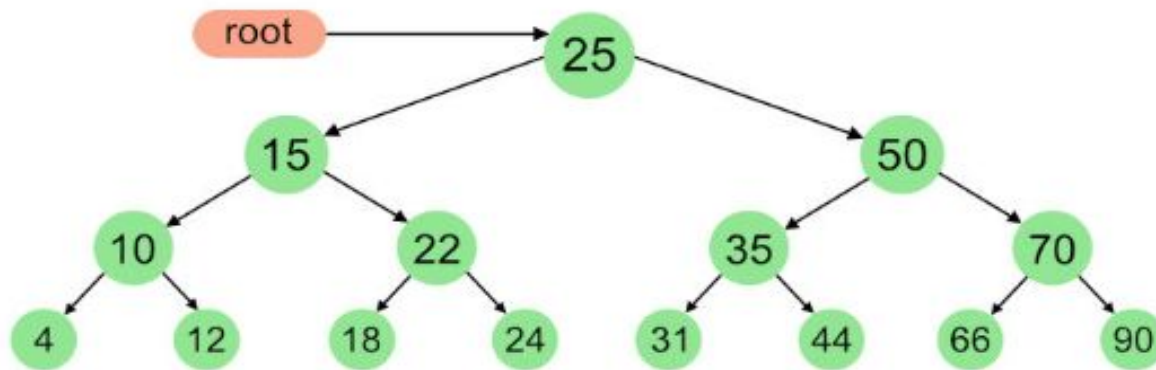
CCC questions

Introduction:

https://cemc.uwaterloo.ca/contests/computing/details.html

Past contests:

https://www.cemc.uwaterloo.ca/contests/past_contests.html

DFS

Depth First Search

We will be using recursion to keep track of all the previous (parent) nodes while traversing.

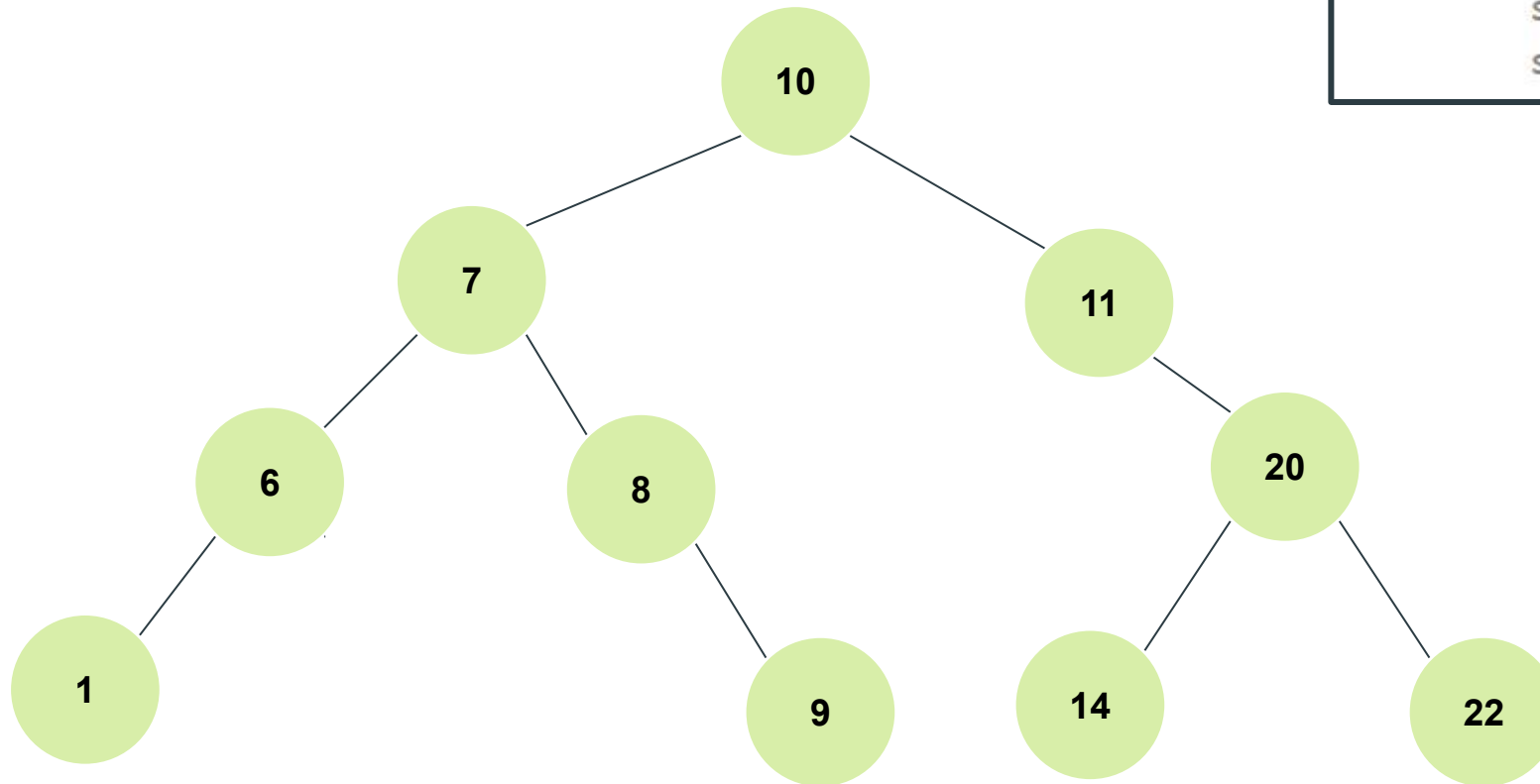InOrder(root) visits nodes in the following order:
4, 10, 12, 15, 18, 22, 24, 25, 31, 35, 44, 50, 66, 70, 90

```python
class Node:
    def __init__(self, key):
        self.left = None
        self.right = None
        self.val = key
```

1. Traverse the left subtree, i.e., call Inorder(left->subtree)

2. Visit the root.

3. Traverse the right subtree, i.e., call Inorder(right->subtree)

DFS

Depth First Search


```python
class Node:
    def __init__(self, key):
        self.left = None
        self.right = None
        self.val = key
```