

1. What are the three types of Depth First Traversal

Pre-order

In-order

Post-order

2. Briefly explain the identified traversal methods

Pre-order: VLR

In-order: LVR

Post-order: LRV

3. Explain the terms used in trees

Root- 6

Parent- 6,19,3,12

Child- 19,12,7...

Leaves- 2,4,7,15 (nodes with no children)

Siblings- 2,4 (children of the same parent)

Node- 2,3,6, (edges define parent and child nodes)

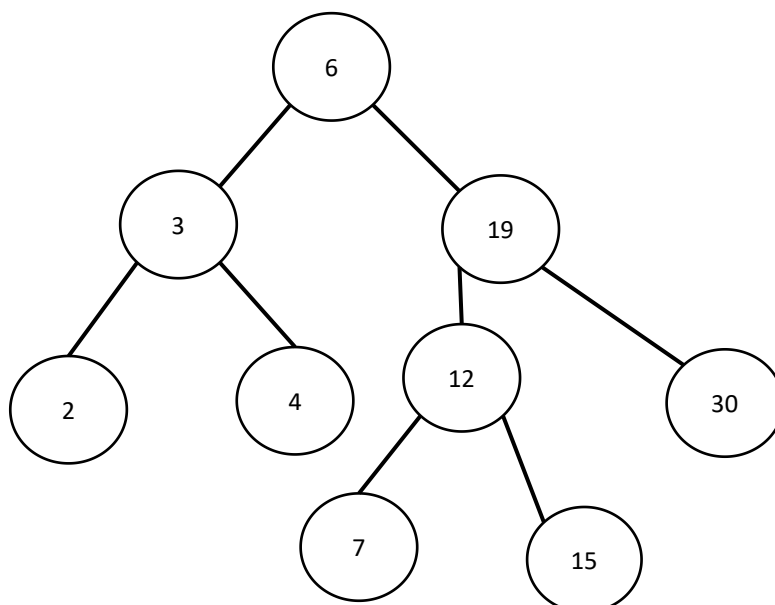
Depth

Height

4. You have been given the following integer array

Array : 6,19,3,4,2,30,12,15,7

a) Draw a binary search tree based on the given array



b) Get the outputs of post-order, pre-order and in-order using the tree that you identified

Pre-order: {6,3,2,4,19,12,7,15,30}

In-order: {2,3,4,6,7,12,15,19,30}

Post-order: {2,4,3,7,15,12,30,19,6}

5. Identify the practical use of the types of DFT types

For sorting purposes- in-order

Can calculate signal's frequency spectrum