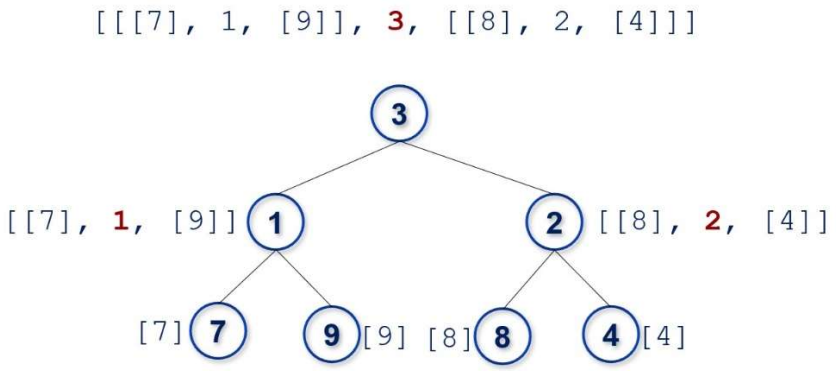
Week 10 - Recursion

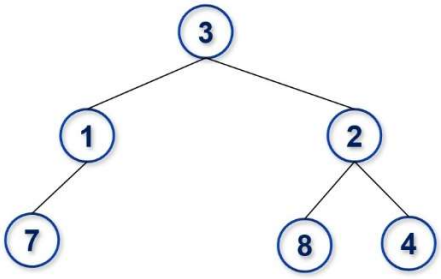
Recall the *complete binary tree* (CBT) data structure introduced in Module-5B (LAMS). We used a list to represent a CBT, as follows:



Discussion 1

How could we extend the above representation to *binary trees* (BT), in which a parent node could have one or two child nodes?

For example, the following tree is a binary tree (BT). Notice that the node labelled 1 has no right child.



Discussion 2

How do we extend the `numOfNodes()` function to allow for BTs?

Discussion 3

How do we extend the `sumNodes()` to allow for BTs?

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Discussion 4

How do we extend the `maxNodes()` function to allow for BTs?

Discussion 5

How do we extend the `minNodes()` function to allow for BTs?

Discussion 6

How do we extend the `mirror()` function to allow for BTs?