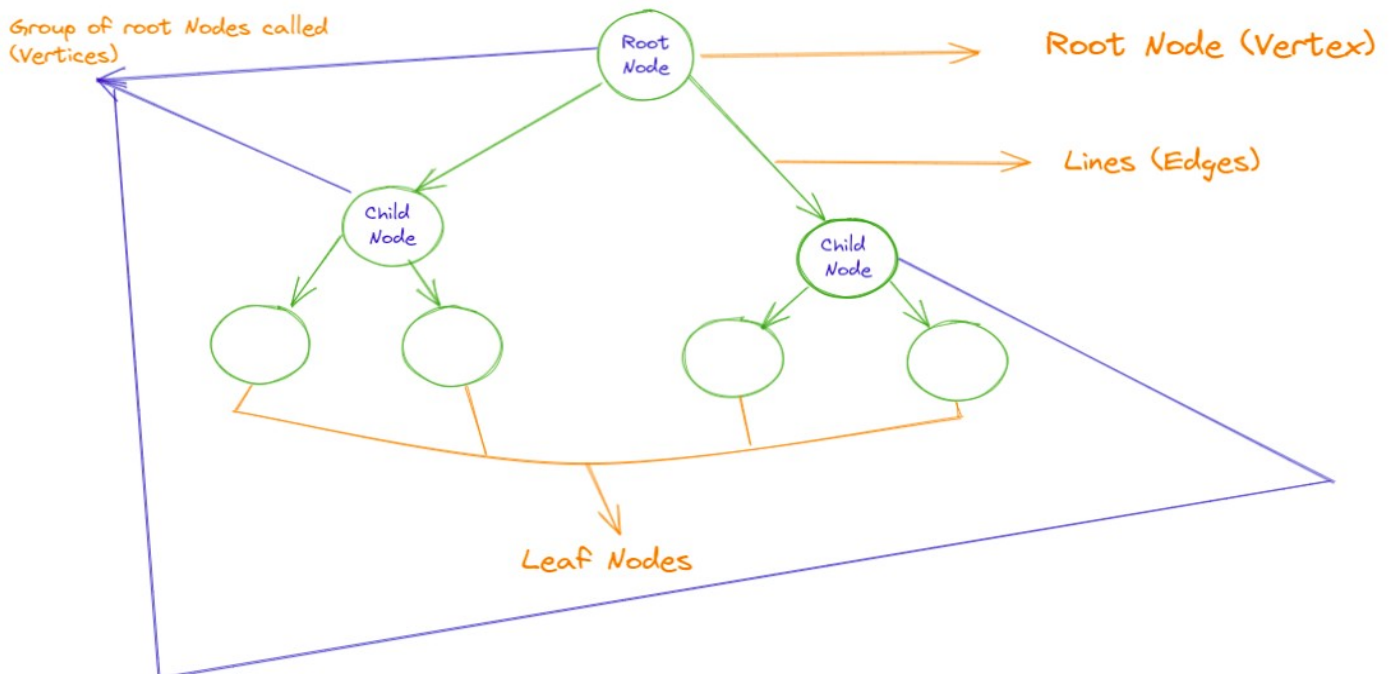


Trees:

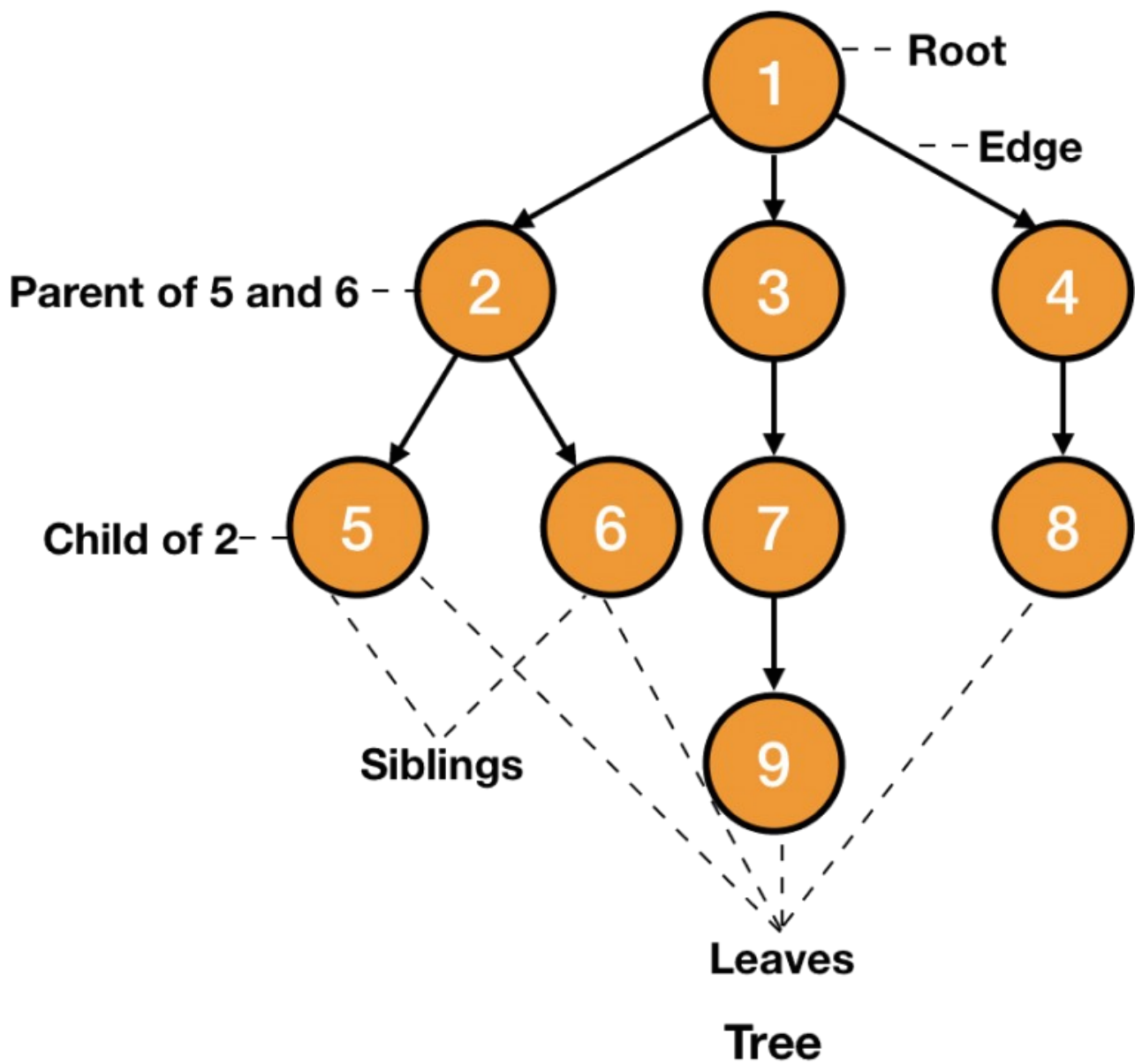
A tree contains a collection of **nodes** (also called vertices) where a pair of nodes are connected to each other with an **edge**. Unlike a **graph** a tree has no cycles (so it's called acyclic).

In Trees We point the many other nodes

Tree Hierarchy Diagram



Examples of Tree Data Structure:




>  Downloads

>  Music

>  Pictures


>  Videos

✓  OS (C:)

>  Apps

 DELL

✓  Drivers

✓  audio

✓  1P77M

✓  0

✓  Drivers

✓  I

✓  I

>  AS

Tree Data Structure Terminologies:

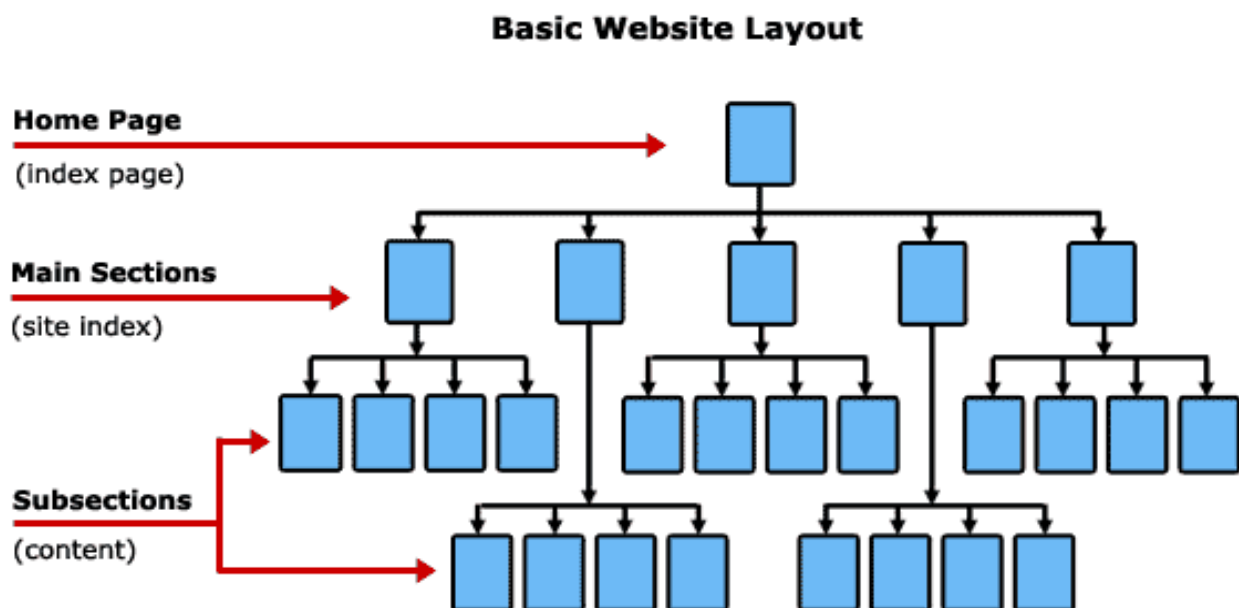
Height:

Height of a tree is the length of longest path from root to leaf node. It is calculated with total number of edges

Depth:

Number of edges from the root node to that node is called the Depth of that node.

Depth of a tree = Height of tree - 1



If suppose we want to use the tree means, we define some set of rules for the particular tree.

At that time, we implement the set of rules in the tree means, it will form the different types of trees like binary search tree, AVL tree.

Types of different data structures

Tries:

If we want to retrieve any data, that time we use this trie.

(Ex: Auto Complete, Auto message suggestions)

Heap

Heap in data structure, it is called only the binary tree

Types of Heap:

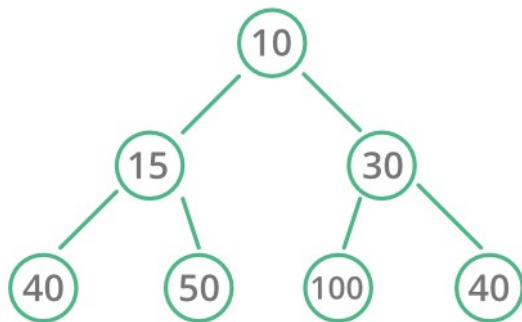
1. Min Heap

In the min heap, Root node has an only minimum value

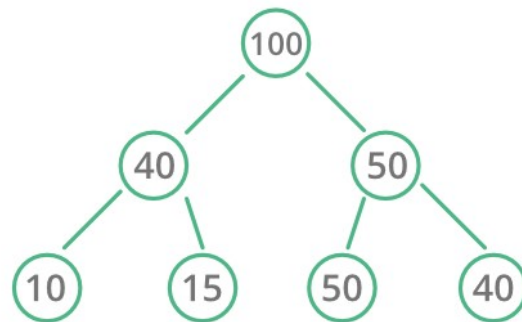
2. Max Heap

In the max heap, Root node has an only maximum value

Heap Data Structure



Min Heap



Max Heap