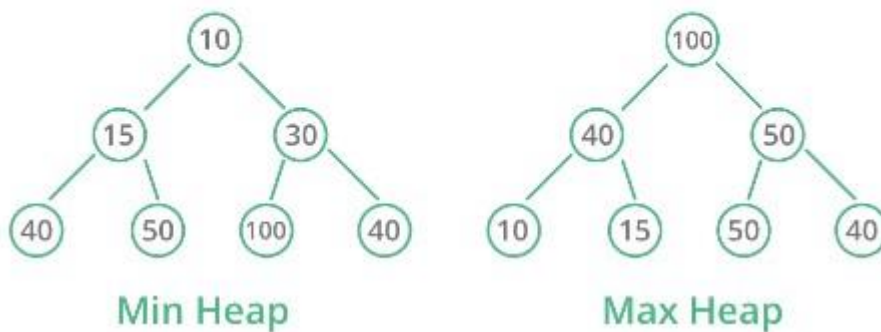


## HEAP

A **Heap** is a complete binary tree data structure that satisfies the heap property: for every node, the value of its children is less than or equal to its own value. Heaps are usually used to implement priority queues, where the smallest (or largest) element is always at the root of the tree.

### Heap Data Structure



---

## Types of Heaps

There are two main types of heaps:

- **Max Heap:** The root node contains the maximum value, and the values decrease as you move down the tree.
- **Min Heap:** The root node contains the minimum value, and the values increase as you move down the tree.