HEAP

A heap is Tree-based data structure where the tree is a complete binary tree. Heaps are of two types-

1. Max Heap - The key present in the root node is the greatest among the keys of all its children.
2. Min Heap - The key present in the root node is the least among the keys of all its children.

Operations on heap-

* Insertion:

1. Add the element to the bottom of the heap
2. Compare the key of the newly added element with its parent
3. In a Max Heap, if the newly added element is greater than the parent, swap the element and return to the previous step. In a Min Heap, if the newly added element is lesser than the parent, swap the element and return to the previous step.

* Deletion:

1. Replace the root with the last element
2. Comapare the key of the root with its children
3. In a Max Heap, if the root is lesser than the parent, swap the element and return to the previous step. In a Min Heap, if the root is greater than the parent, swap the element and return to the previous step.