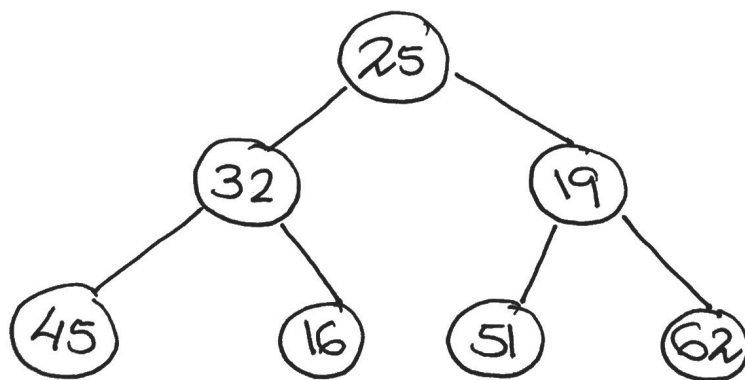
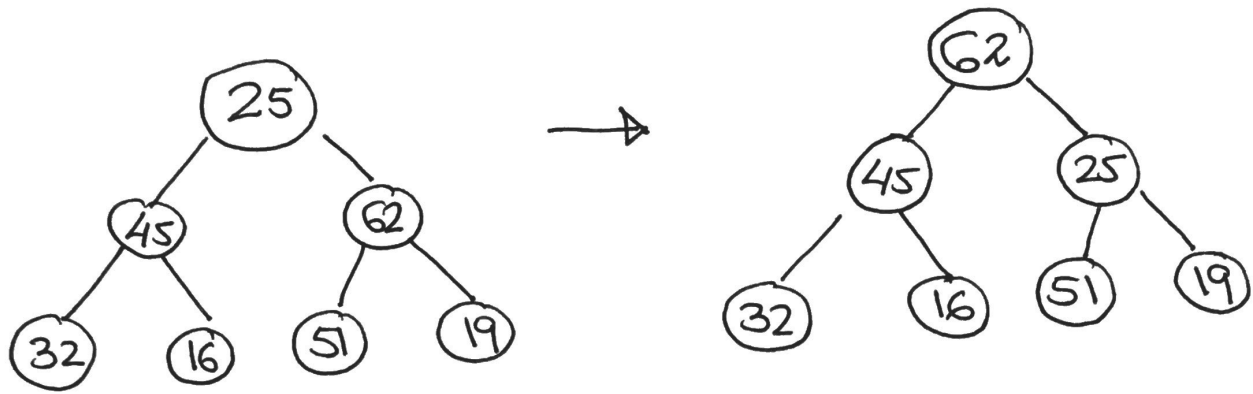


Heaps

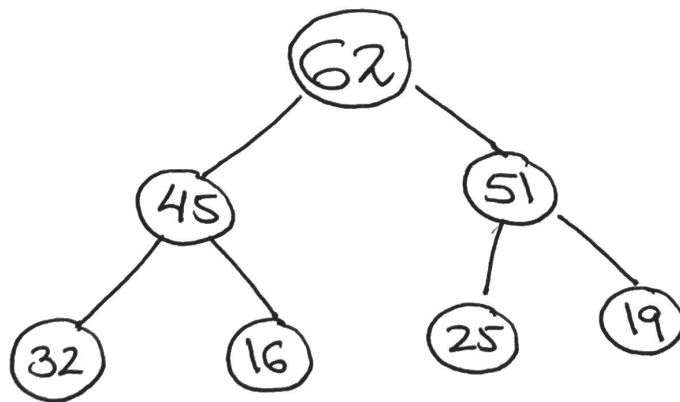
- A heap is a complete tree.
- Max heap: root is greater or equal to its children — recursively holds for the left subtree and right subtree
- Min heap: root is less than or equal to its children recursively
- Create a heap with the following numbers: 25, 32, 19, 45, 16, 51, 62
- First create a complete tree



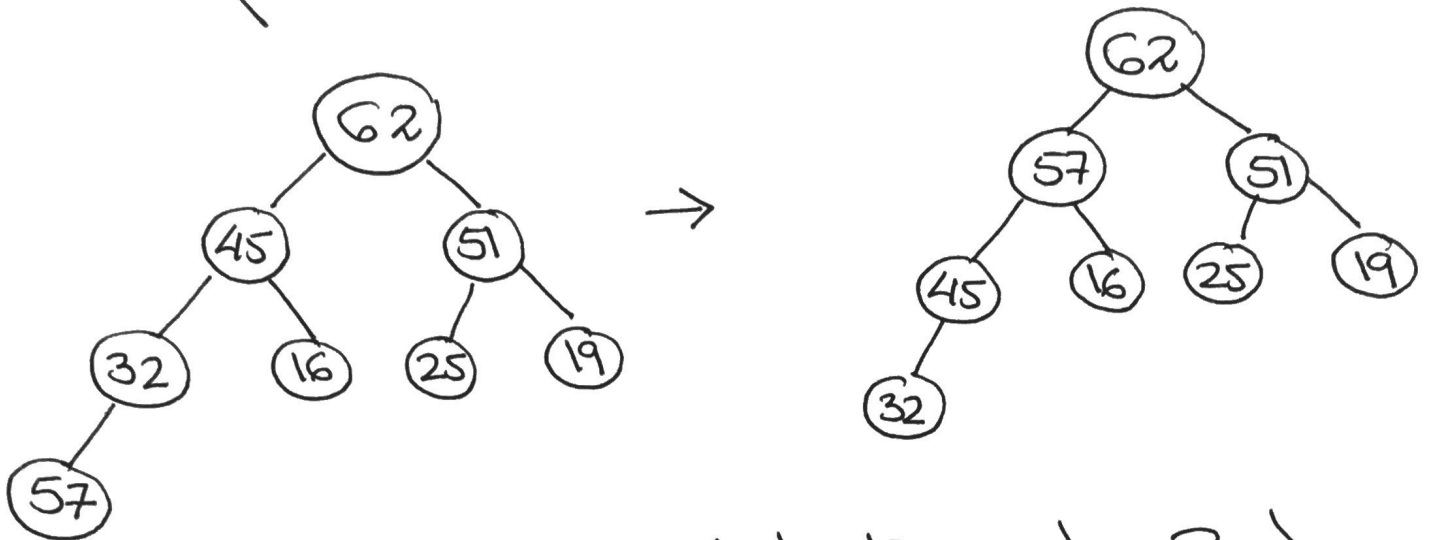
- Start from the bottom level and work upwards making sure that the heap property is preserved



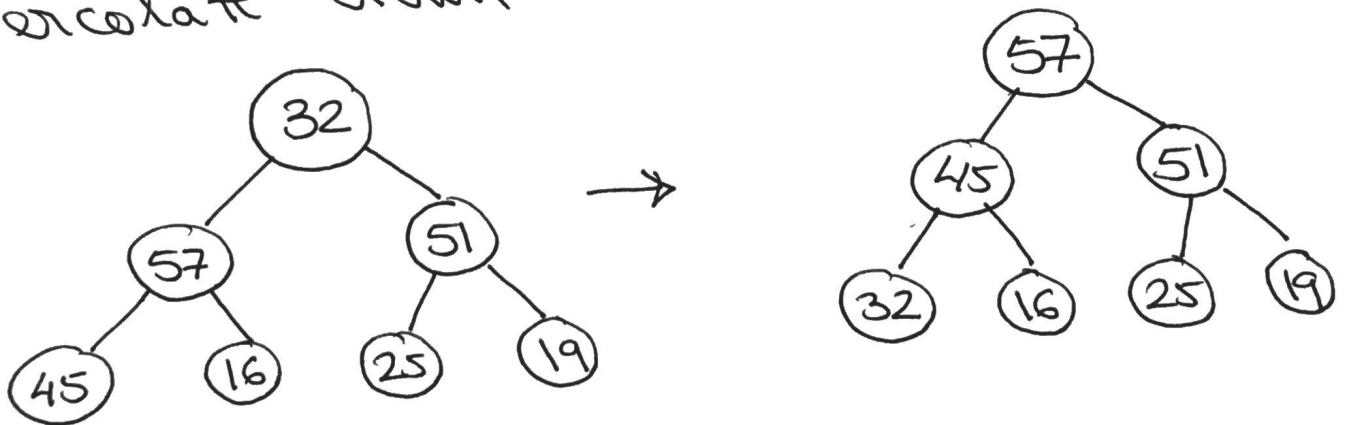
- Now start from the top level and work downwards making sure that the heap property is preserved



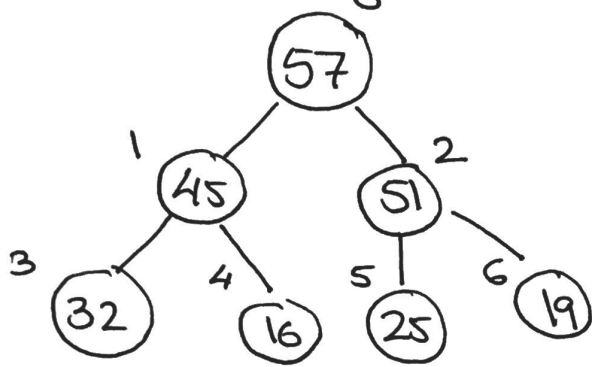
- Insert - always at the end of the heap and then percolate up



- Delete - always delete the root. Replace the root with the last element and percolate down



- Heaps are stored in indexed arrays



0	1	2	3	4	5	6
57	45	51	32	16	25	19