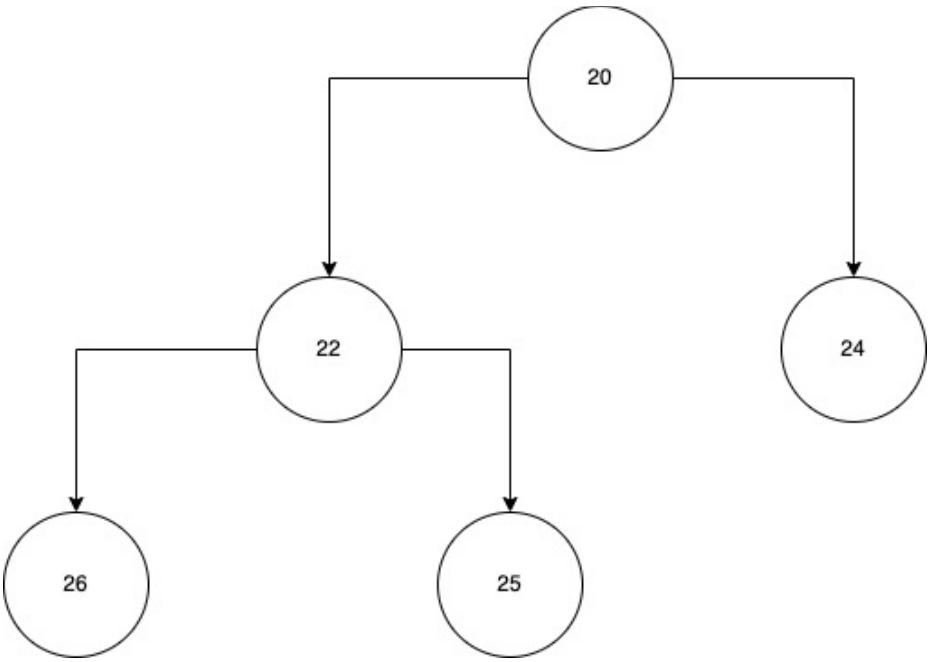
Heaps and easy problems
Pre-read

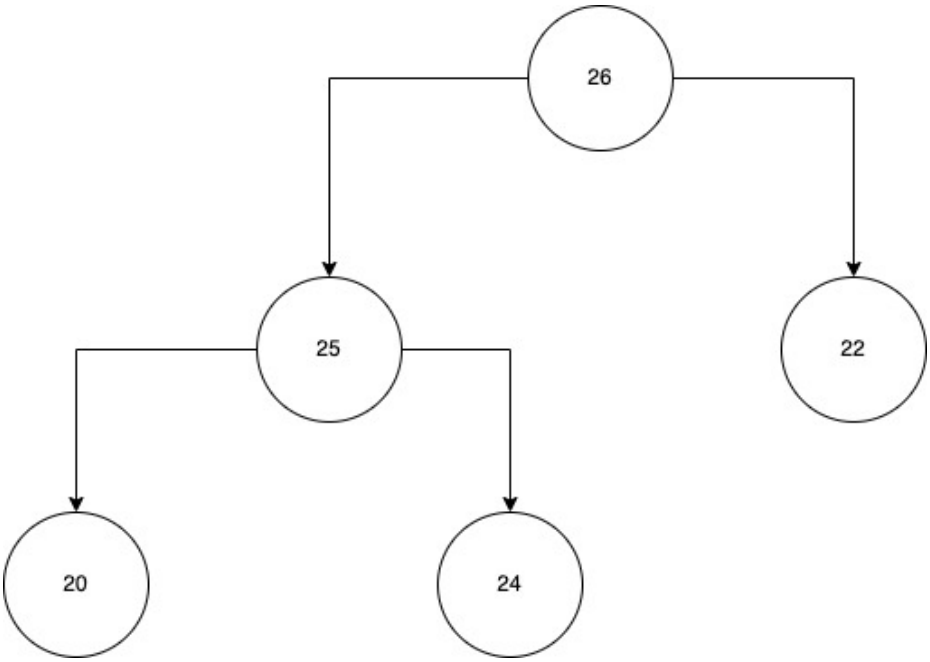
Relevel
by Unacademy

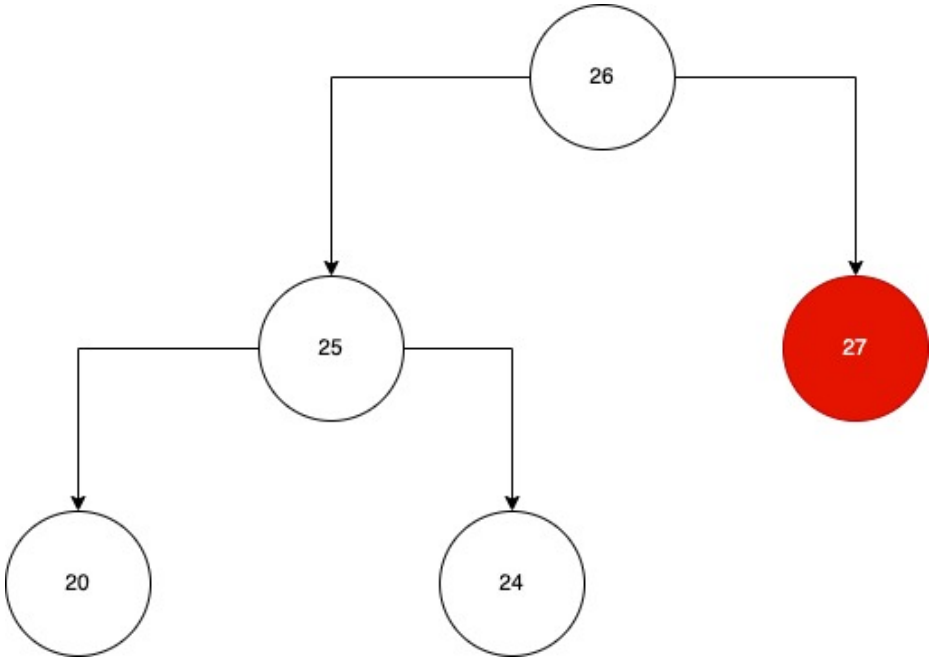
As we have already learned about binary trees, binary heaps are nothing but a special case of binary trees with a condition. ie For a heap, every parent node will have at most two child nodes and the special condition is that all child nodes must strictly be either greater or lesser than the parent. Hence, if all parent nodes are less than its child nodes, it is known as min-heap and if the parent node is greater than its child node, it is known as max-heap.

Given below is an example of a min-heap:



As explained above, any parent node has a higher value than its child node, and any parent has at most two nodes; hence, it qualifies as a max-heap.





Let us consider the above example. The above tree is not a heap because it violates the condition of both min and max heap.
The above example can't be a max heap as the highlighted red node is bigger than the root node. Also, it doesn't follow the condition that child nodes should be strictly less than parent nodes.
The above example can't be a min-heap as apart from the red node, every other node is less than the parent node.