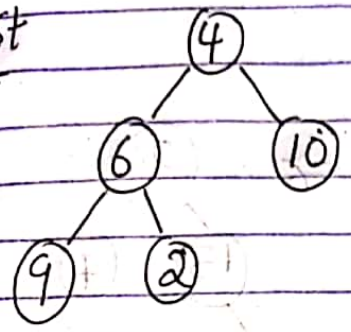
Heap Sort 4, 6, 10, 9, 2,

→ Creat heap using heapify $O(\log n)$.
→ Almost complete binary tree.

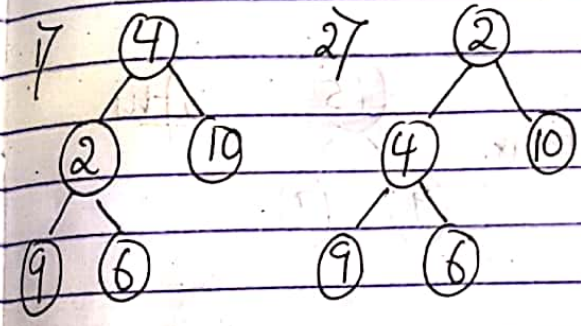
1st



Min heap → Ascending Order
Max heap → Dwending Order

T.C $n \log n$ → 1 by 1 method
$O(n)$ → by heapify

Min heap

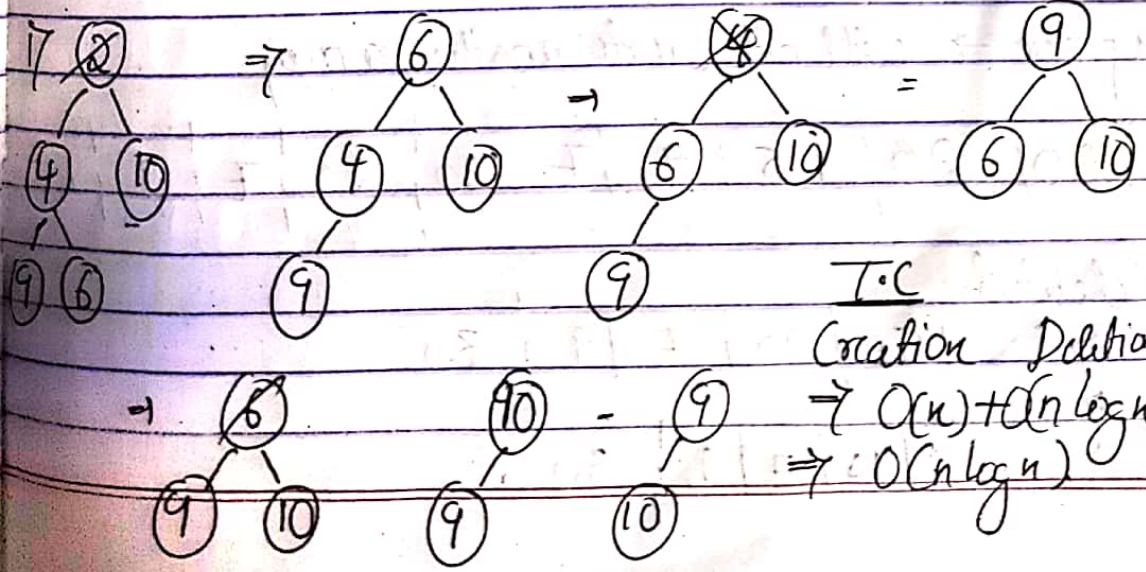


Min heap {root < child}

Delete element

Delete root and replace with last element with right most element:

2, 4, 6, 9, 10



T.C
Creation Deletion Swap
⇒ $O(n) + O(n \log n)$
⇒ $O(n \log n)$

Q) Max heap 15, 20, 7, 9, 30

→ ~~Level order traversal~~

Ans: 30, 20, 15, 9, 7