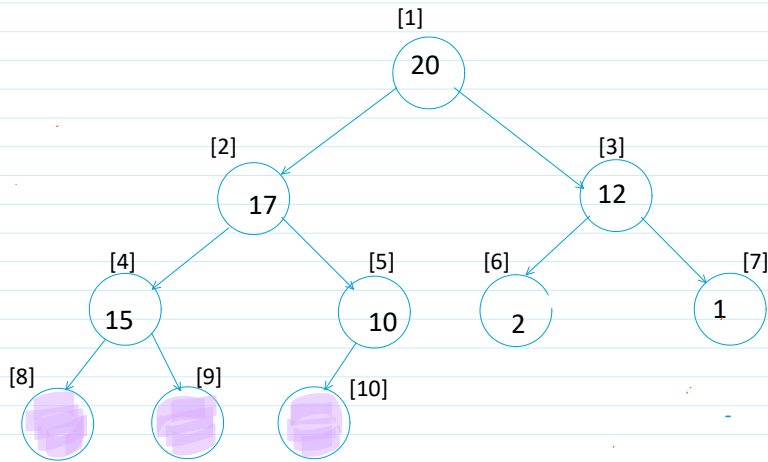


Delete 3 elements from the heap

OR

Find 3rd element

80 35 30



| [0] | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] | [9] | [10] |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| ○ | 80 | 17 | 35 | 15 | 10 | 20 | 30 | 12 | 2 | 1 |

Leaf nodes = $(n/2) + 1$ to n $(n \log n) \rightarrow \text{heapify}$ $(n \log n) \rightarrow \text{delete}$

heap sort = heapify + delete.

 $(2 \times n \log n)$ heap sort = $(n \log n) \rightarrow 2$ is constant