

## HeapSort Algorithm

1) Build heap  $\rightarrow$  minheap or maxheap (Increasing or Decreasing sorted fashion)  
 $\hookrightarrow$   $O(n)$   
 $\downarrow$   
minheap  $\hookrightarrow$  maxheap

2) Delete all the elements step by step  
 $\hookrightarrow$  & store those deleted elements in any data structure  
 $\hookrightarrow$   $O(n \log n)$

$$\begin{aligned}\text{Time complexity} &= O(n) + O(n \log n) \\ &= O(n \log n)\end{aligned}$$

heapq  $\rightarrow$  Python