

Priority Queue  $\leftrightarrow$  stack  $\langle E \rangle$

Arraylist sorted  $\rightarrow$  compare  $\leftarrow$

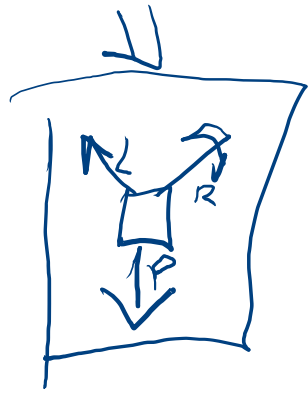
Insertion Sort  $\rightarrow$  Merge

Heap  $\rightarrow$  global min  $\uparrow$  local

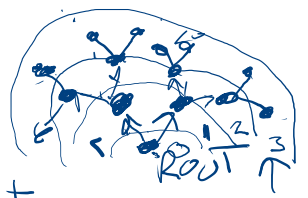
Add  $\rightarrow$  if child  $<$  parent swap

Tree Parent/child  $\rightarrow$  L/R

Heap invariant  $\rightarrow$  Parent  $<$  child

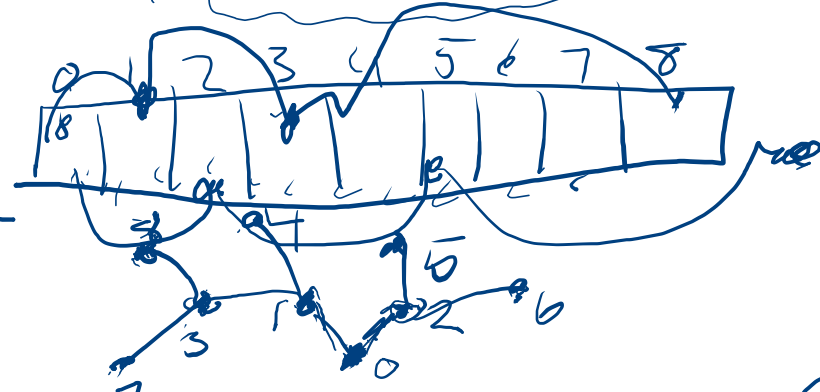


Add  $\sim \log_2(n)$   
Remove  $\sim \log_2(n)$



Nodes  
Arr

i	l	r
0	1	2
1	3	4
2	5	6
3	7	8
4	9	10



%

1

$9 = (k-1) \cdot 2$   
3/2

$$l = i \cdot 2 + 1$$
  
$$r = i \cdot 2 + 2$$