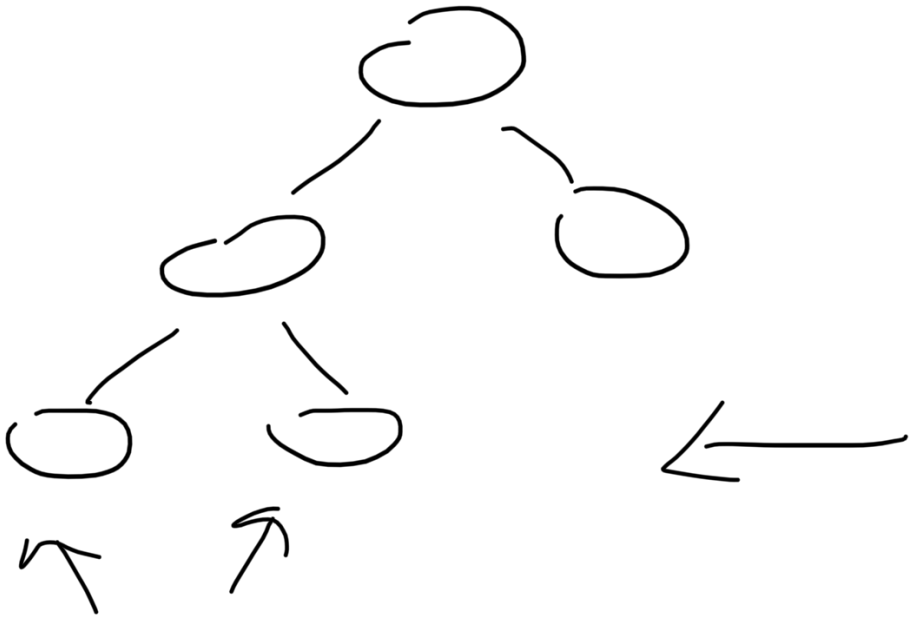
CS32 Week 10

Priority Queues:

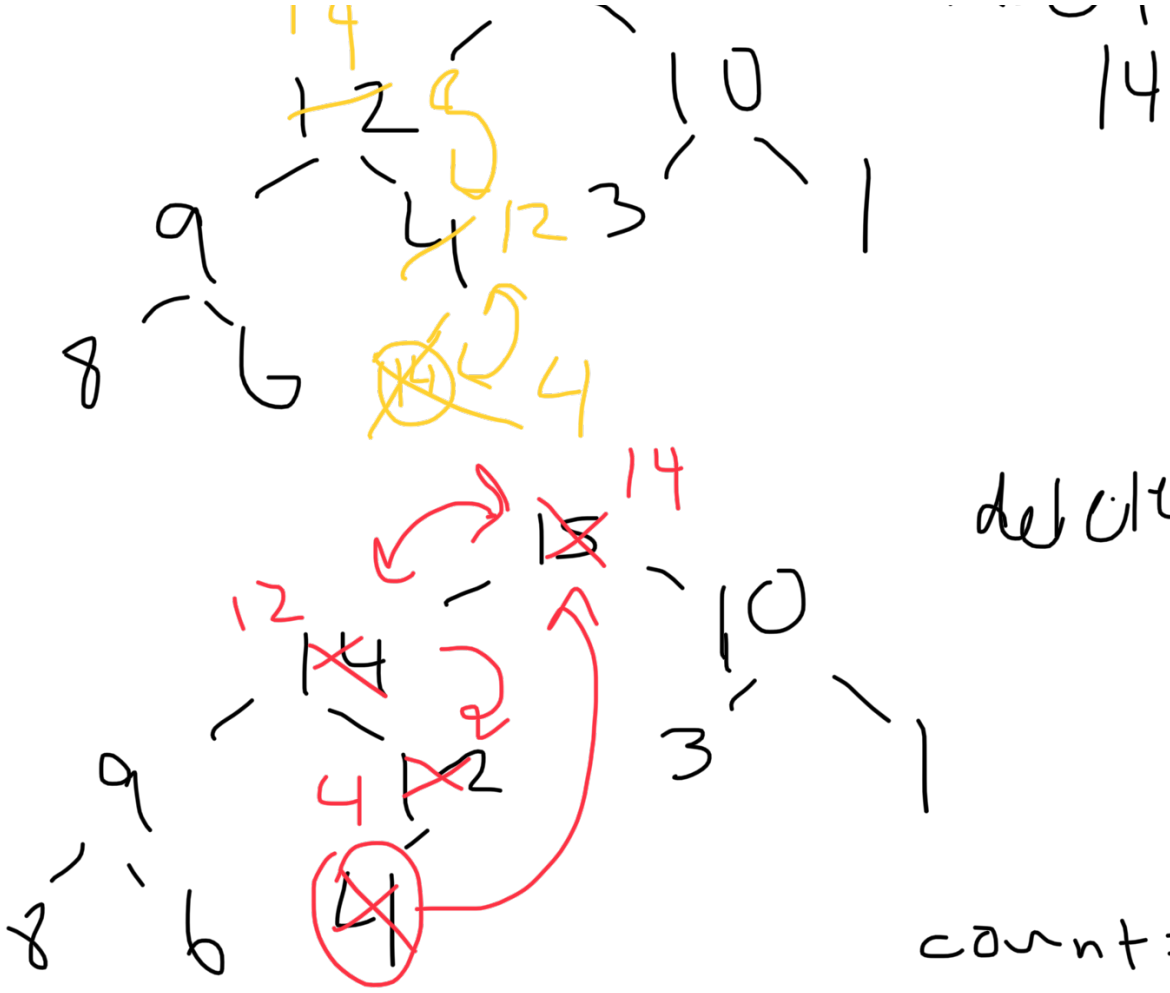
- **Insert values**
- **Remove highest priority value**
- **Get highest priority value**

Heap
complete binary tree



Maxheap
value contained by a node >= all child nodes

15 insert



delete

count =

0	1	2	3	4	5	6	7	8	9	..
14	12	10	9	4	3	1	8	6	_	_

top

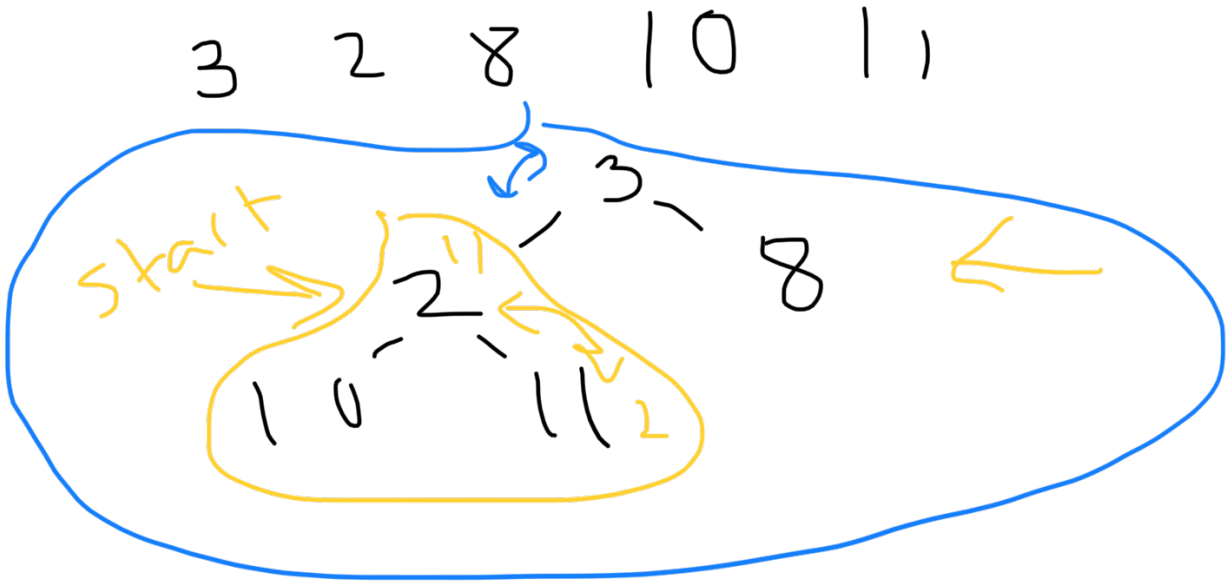
left(i) = (2 × i) + 1

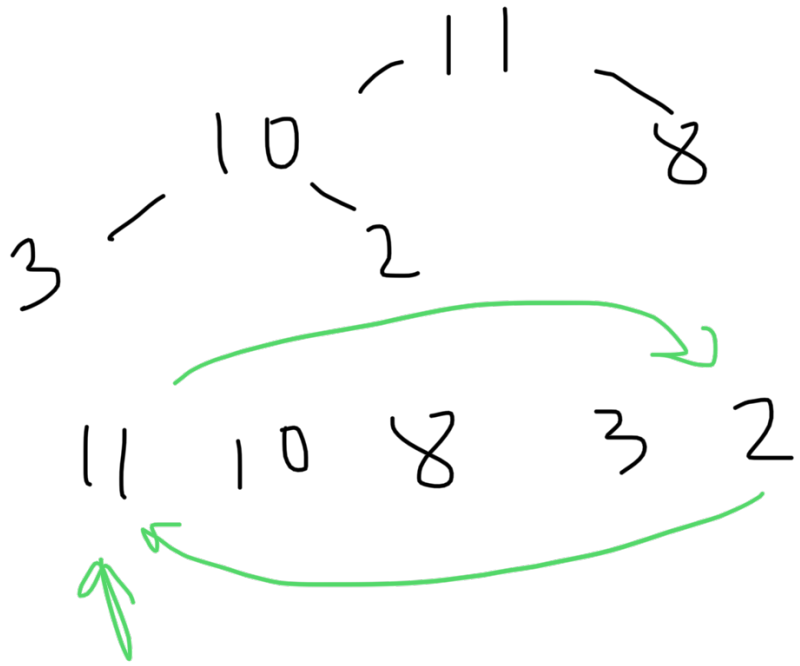
right(i) = (2 × i) + 2

parent(i) = ⌊(i − 1)/2⌋

O(logn)

Heapsort





2 3 8 10 11

$O(n \log n)$