

Grow Heap as a Binary Tree

Priority	
Value	Name
66	Mary Smith
102	John Doe
78	Maria Garcia
94	Rajesh Patel
105	Malia AlFaleh
106	Li Sung
107	Jamal Brown
108	Latisha Ford
109	Su Chan
30	Bob O'Leary
71	Aziz Gupta
82	Roman Zwyzkovich
83	Josh Miller
19	Rosie O'Brien
65	Stan Anderson
6	Bob O'Leary Sr.
102	Lynn VanderCook
118	Mohsin Waleed
119	Abdalla AlSaid
105	Ling Yin
6	Jim O'Leary

N is 21 now

Rule for ties: NO swap in WalkUp
(which is used in HeapInsert)

Heap height 5

SINCE WE'RE STARTING AT 0 NOT 1:

LeftCh of node at i is at $2i + 1$

RightCh of node at i is at $2i + 2$

Parent of node at i is at $(i - 1) / 2$

Final Heap as Stored

N 21

Sub script	heapNode PriorityValue	Name (if a tie)
0	6	Bob O'Leary Sr.
1	6	Jim O'Leary
2	30	Bob O'Leary
3	66	Mary Smith
4	19	Rosie O'Brien
5	82	Roman Zwyzkovich
6	65	Stan Anderson
7	102	John Doe
8	109	Su Chan
9	71	Aziz Gupta
10	94	Rajesh Patel
11	106	Li Sung
12	83	Josh Miller
13	107	Jamal Brown
14	78	Maria Garcia
15	108	Latisha Ford
16	102	Lynn VanderCook
17	118	Mohsin Waleed
18	119	Abdalla AlSaid
19	105	Ling Yin
20	105	Malia AlFaleh
21	Available nodes from here down (contain garbage)	

After opening, including the 6am crowd only. This does NOT include new customers later in the day NOR any customers having been served.