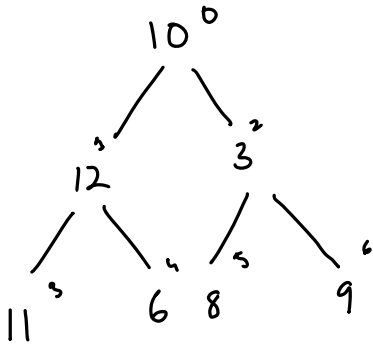


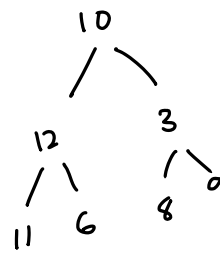
(a) Perform build-heap on following array to create a min-heap.
 a min-heap. $[10, 12, 3, 11, 6, 8, 9]$

Initial:

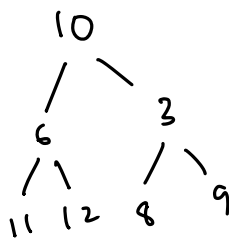
★ Start at first non-leaf node



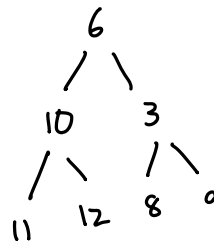
heapify(2):



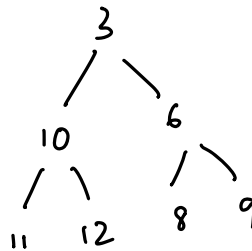
heapify(1):



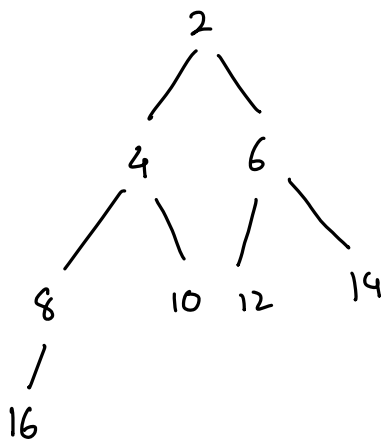
heapify(smaller child)



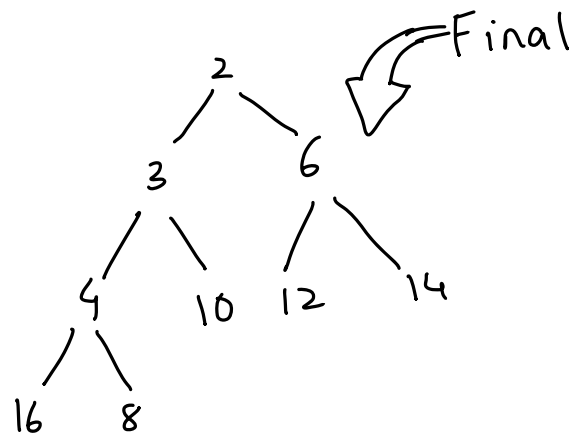
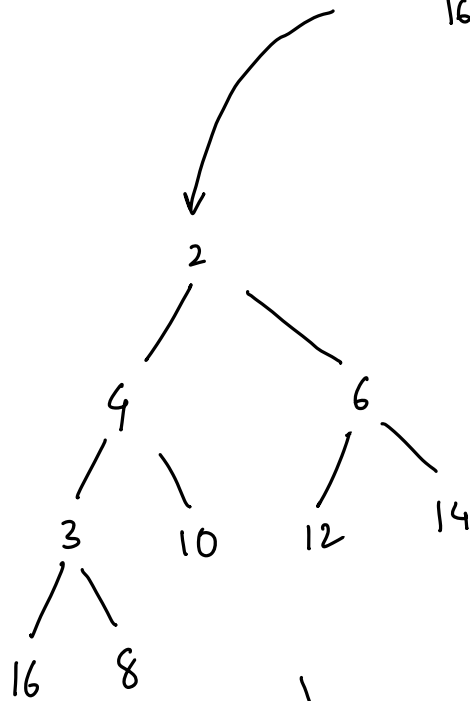
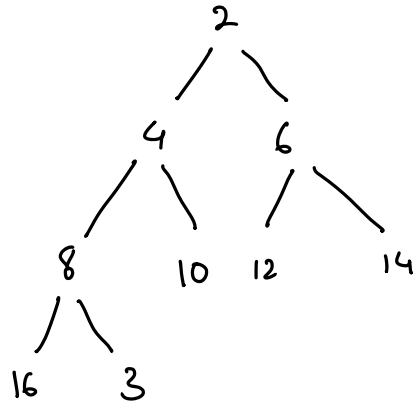
heapify(0):



(b)

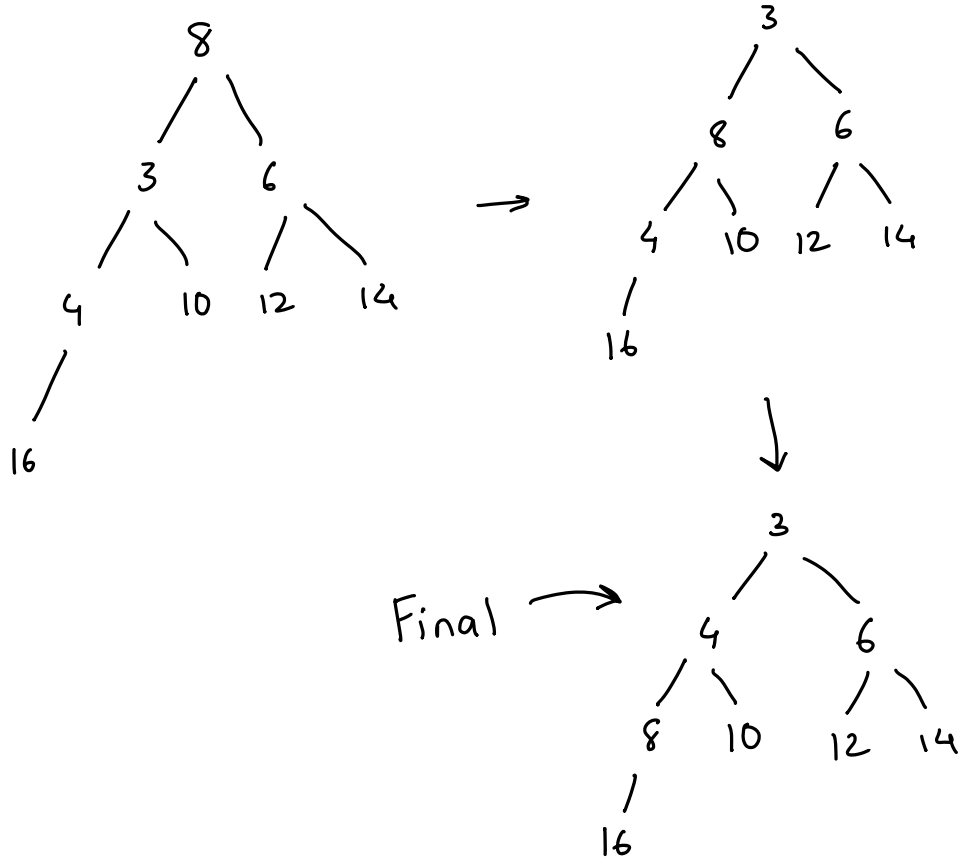


Insert 3 :



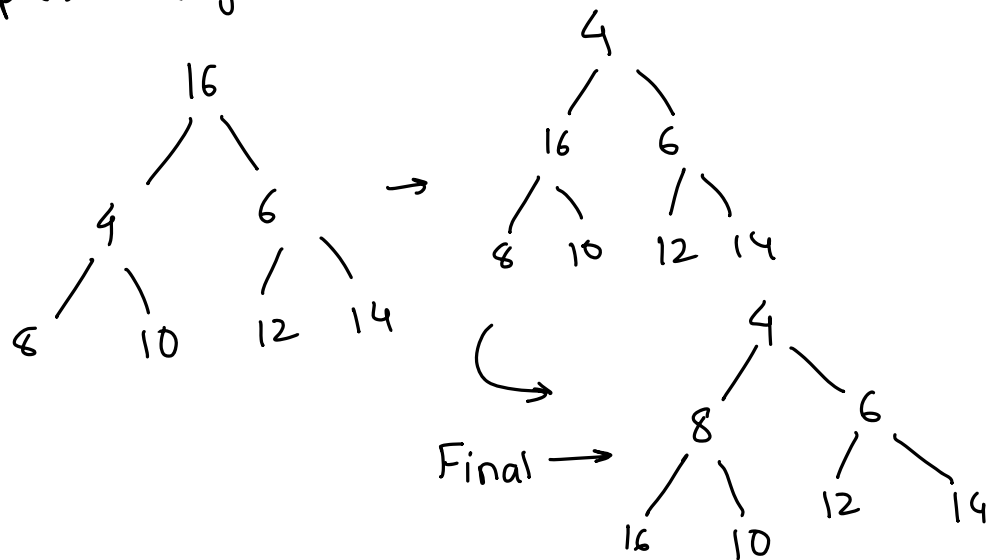
Pop() :

2

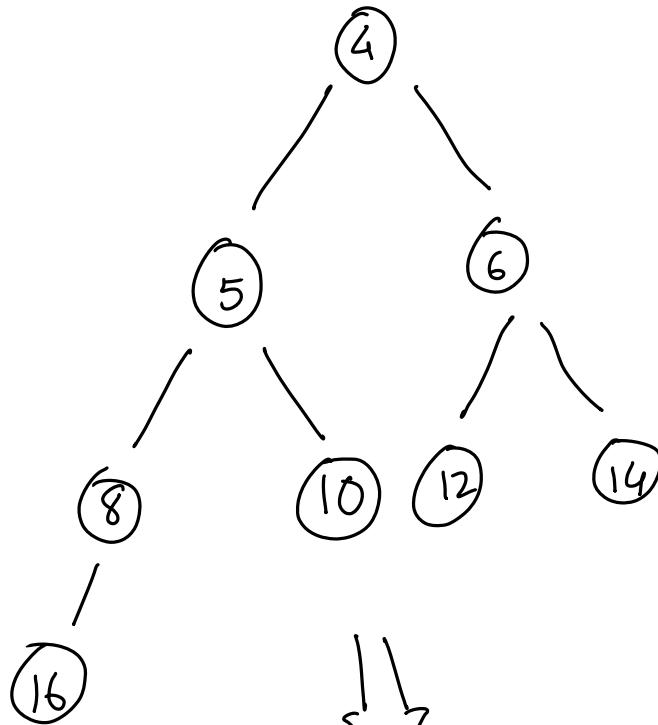
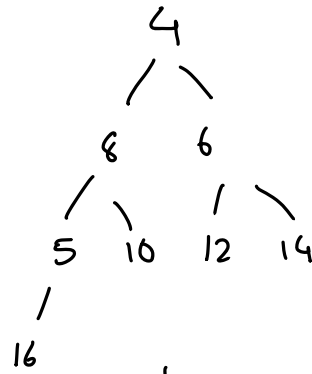
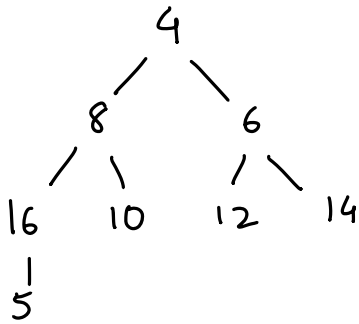


Pop() : (Again)

3



Insert 5 :



Final