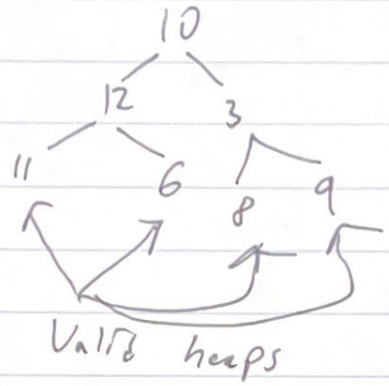
Misha Khmelkov

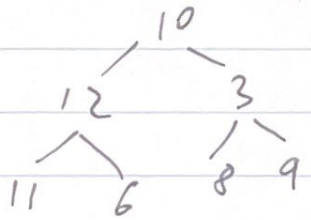
4. a. [10, 12, 3, 11, 6, 8, 9]



so, start at 3 (index 2)

heapify (2)

3 is less than 8 or 9, so no swapping is performed

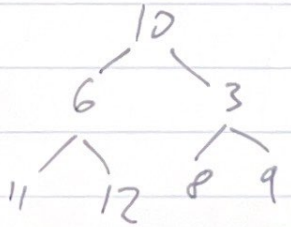


[10, 12, 3, 11, 6, 8, 9]

heapify (1)

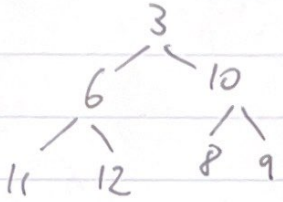
6 < 12. swap

[10, 6, 3, 11, 12, 8, 9]

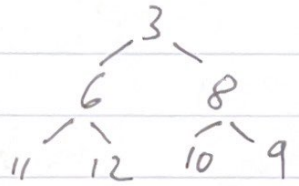


heapify (0)

3 < 10. swap

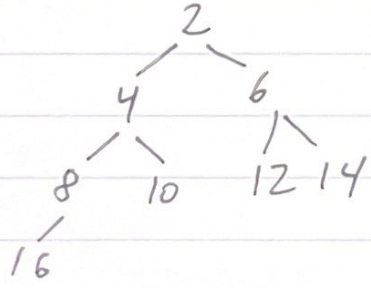


8 < 10. swap

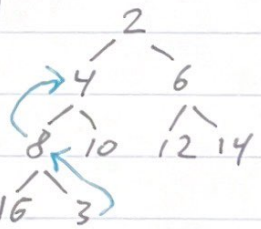


[3, 6, 8, 11, 12, 10, 9]

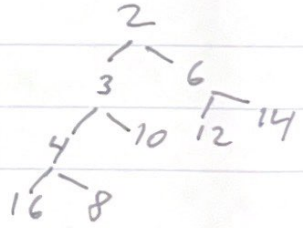
b. Initial configuration:



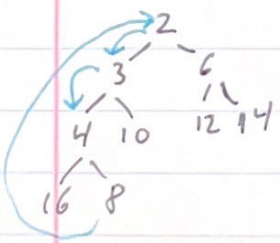
Insert 3:



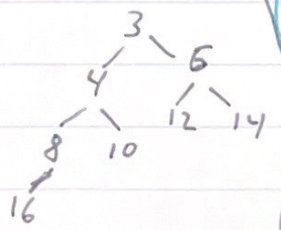
Final answer:



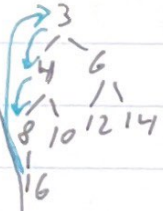
Pop:



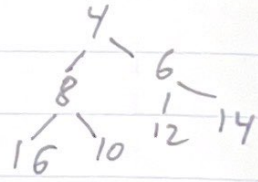
Final answer:



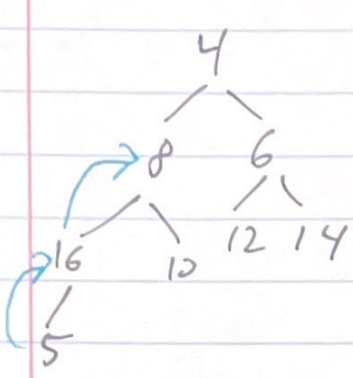
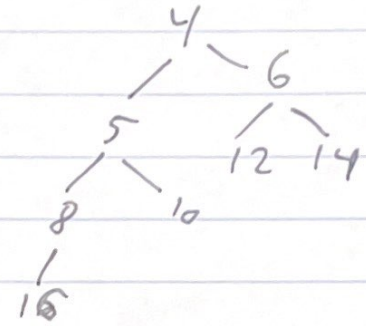
Pop #2:



Final answer:



Insert 5:



Final answer: