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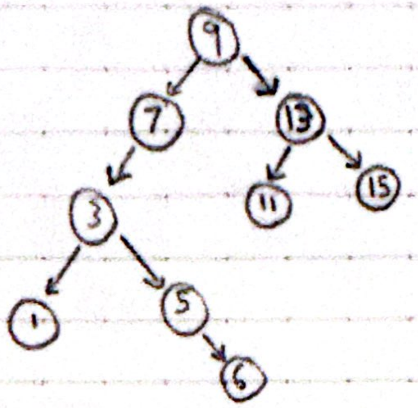
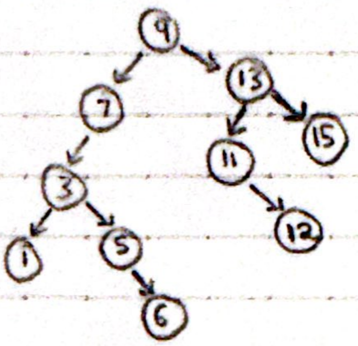
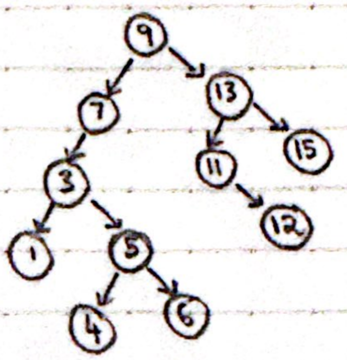
Q1. bst[6] = None



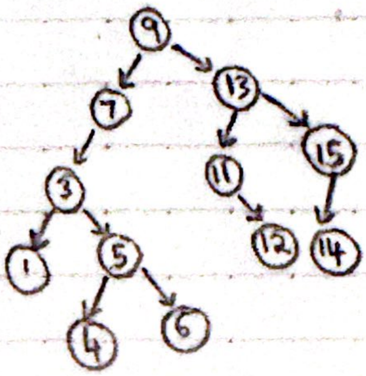
bst[12] = None



bst[4] = None



bst[14] = None



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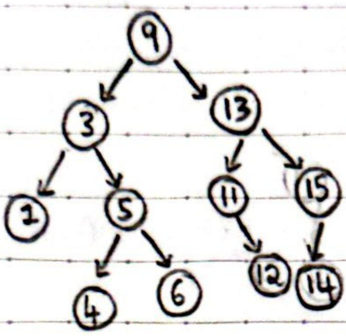
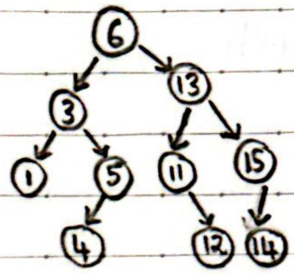
Q1 continued

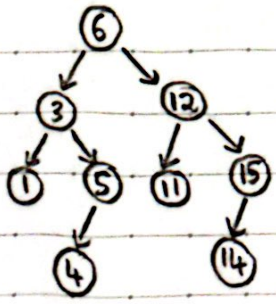
del bst[7]



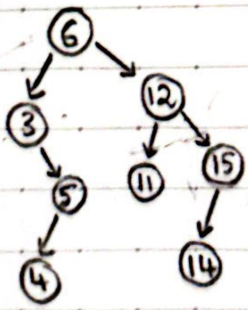
del bst[9]



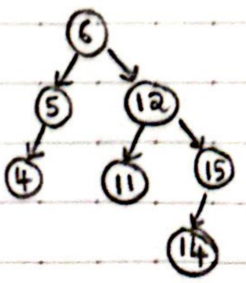
del bst[13]



del bst[1]



del bst[3]



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Q2c. In section (a), you insert to the same path each time, meaning the first insert would be moving 0 elements, the second element moving 1 element and the n^{th} insert, moving $n-1$ elements.

$\therefore$ summation is $0+1+2+3+..+n-1 = \frac{n(n-1)}{2} = \Theta(n^2)$

In section (b), the list is split in half each time and an element is inserted in the tree. We know that insertion is $\Theta(h)$

$\therefore$ summation is $\underbrace{(\log n + \dots + \log n)}_{n \text{ times}} + h$

$= n(\log n) + h$

$= \Theta(n\log n) + \Theta(h) = \Theta(n\log n)$