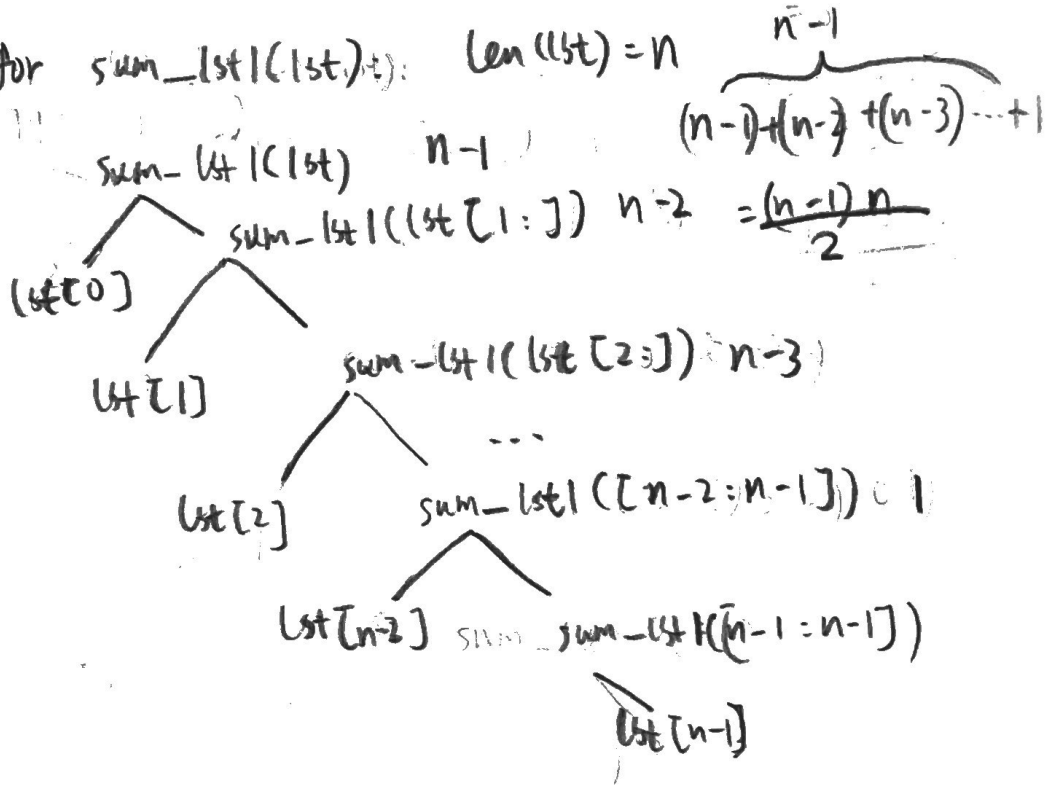
HW 2

1.

2.

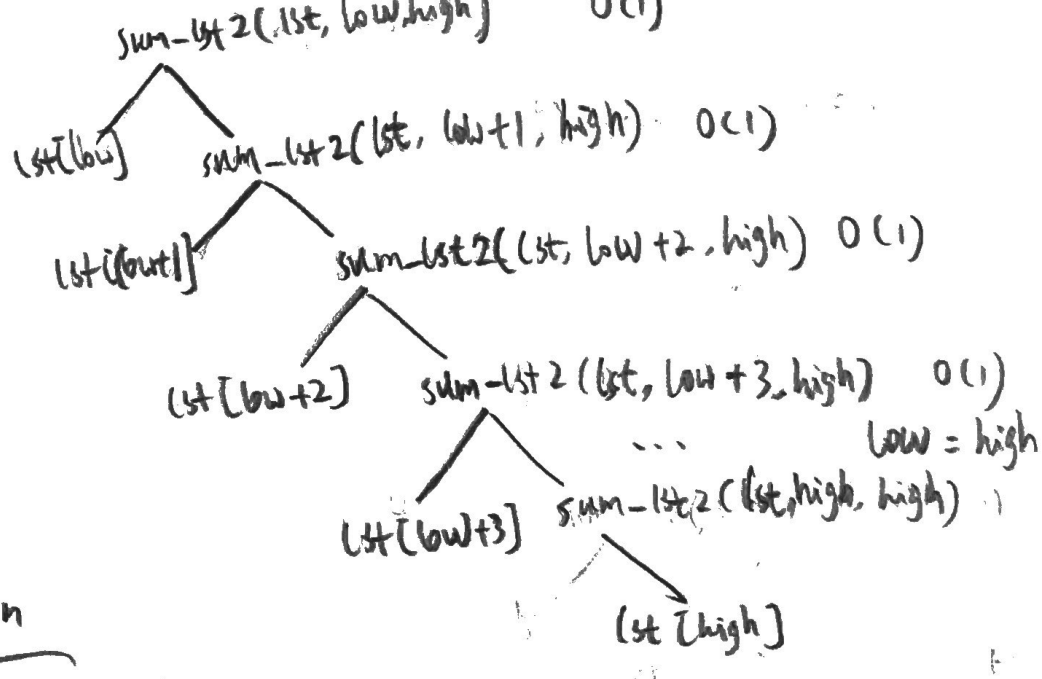
a. Recursion tree for sum_lst1(lst): len(lst) = n



$\overbrace{(n-1)+(n-2)+(n-3)\cdots+1}^{n-1} = \frac{(n-1)n}{2}$

b. $\frac{n(n-1)}{2} = O(n^2)$

a. Recursion tree for sum_lst2(lst, low, high): len(lst) = n



b. $\overbrace{1+1+1+1+\cdots}^{\text{worst case } n} = O(n)$

3. sum_lst2(lst, low, high) is asymptotically faster because it is O(n) compared to $O(n^2)$.