

Lab Assignment - 1

2.a.) For the implementation 1, it follows ~~an~~ a recursive approach and it produces a full binary tree with ~~at~~ each level containing 2^n function calls. So, with larger value of input the number of function calls grows at an exponential rate of 2^n . So, ~~it~~ its time complexity would be $O(2^n)$. On ~~the~~ other hand for implementation 2, it follows an iterative approach where it creates an array and the loop runs for $n-1$ times. Hence it will give a linear time complexity which would be $O(n)$.