Eren Şenoğlu CS202 HW2 Section 1

Question 1 ->

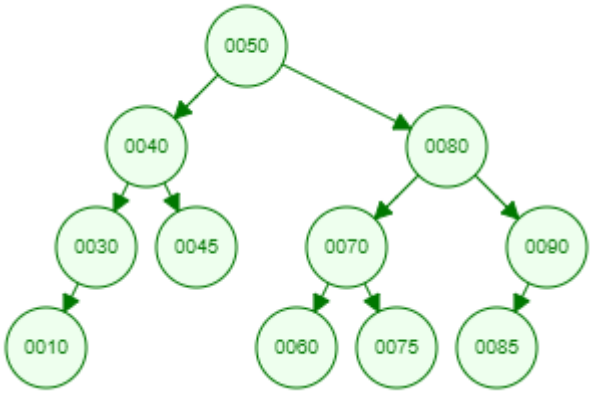
A)

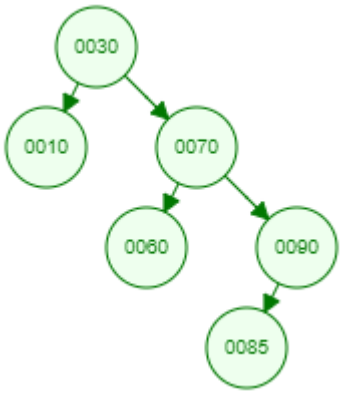
Preorder Traversal -> 1-2-4-7-8-5-9-10-12-13-3-6-11

Inorder Traversal -> 7-4-8-2-9-5-12-10-13-1-3-6-11

Postorder Traversal -> 7-8-4-9-12-13-10-5-2-11-6-3-1

B)





Question 3 ->

The worst-case running time complexities of the addNgram and printNgramFrequencies functions are Θ (n). For addNgram, we might be adding node to a tree which consists of all left childs or all right childs. Then in order to add a new node, we have to traverse all nodes, which causing us to have a Θ (n) worst-case running time complexities. For NgramFrequencies, this time distribution of nodes are independent from worst-case running time. Because no matter what kind of tree we have, we must traverse all n nodes. This causes us to have Θ (n) worst-case running time complexity.