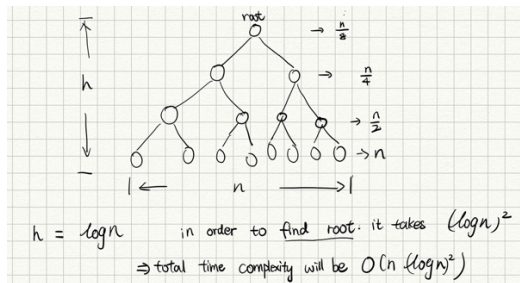


- a. I chose dynamic array as my data structure.

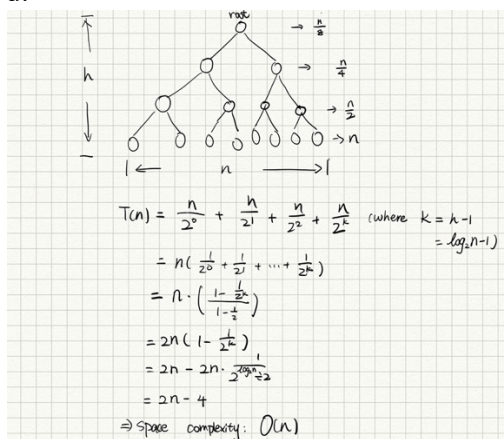
Reasons: (1): If I use node-base structure, each node will contain 2 pointers (left – right child), which will consume more memory than array.

(2): Since the binary tree is a complete binary tree  $\rightarrow$  number of leaves and internal nodes are known  $\rightarrow$  the size of the binary tree is fixed  $\rightarrow$  use dynamic array will be the best choice

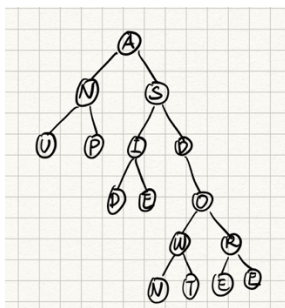
c.



d.



## Exercise 2:



Reasons:

- (1) In preorder sequence, the first letter (A) is the root of the tree.
- (2) In inorder sequence, UNP. (A). DIESDNWTOERE, we can see that everything before A is on the left sub-tree, and everything on the right is right sub-tree.
- (3) Use inorder traversal's rule (LVR) recursively to construct the right sub-tree.