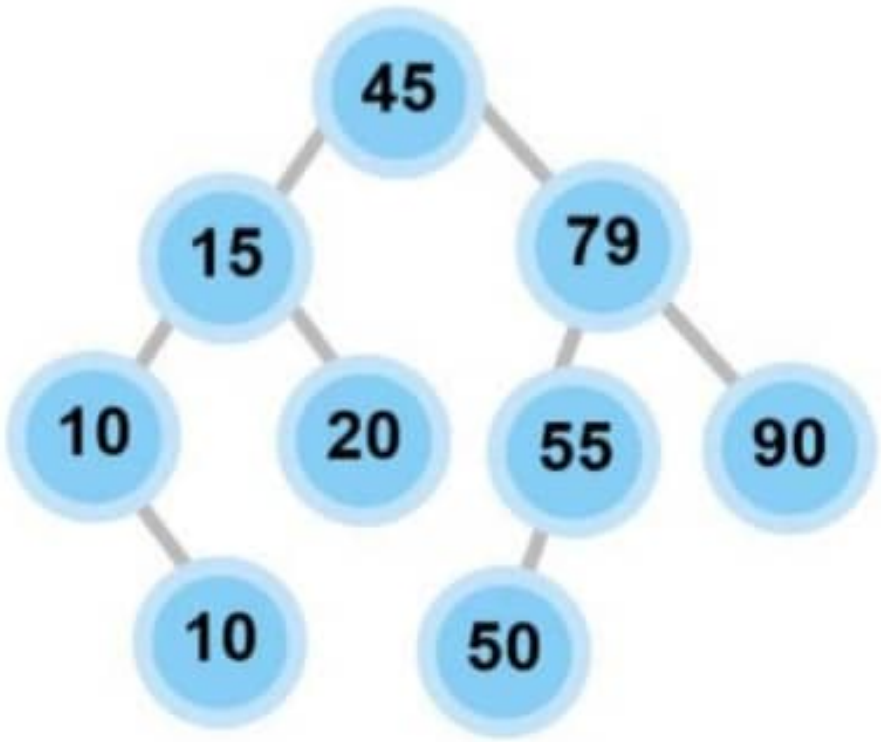
1) A) Traverse this following tree using all the traversal algorithms you learned.



B) for the last tree write (which element is siblings , write all leaves , how many levels in this tree) what kind of this tree ?

(a)

⇒ In-order traversal :- (left, root, right)

10, 10, 15, 20, 45, 50, 55, 79, 90

⇒ Pre-order traversal :- (root, left, right)

45, 15, 10, 10, 20, 79, 55, 50, 90

⇒ Post-order traversal :- (left, right, root)

10, 10, 20, 15, 50, 55, 90, 79, 45

(b)

1- Siblings :- (The same Parent)

15 and 79
10 and 20
55 and 90

2- Leaves :- (doesn't have child)

10 (right child of 10)
20 (right child of 15)
50 (left child of 55)
90 (right child of 79)

3- levels → There are [4] levels

level 0 → 45
level 1 → 15, 79
level 2 → 10, 20, 55, 90
level 3 → 10, 50

4- The kind of BT tree is a Binary Search tree.

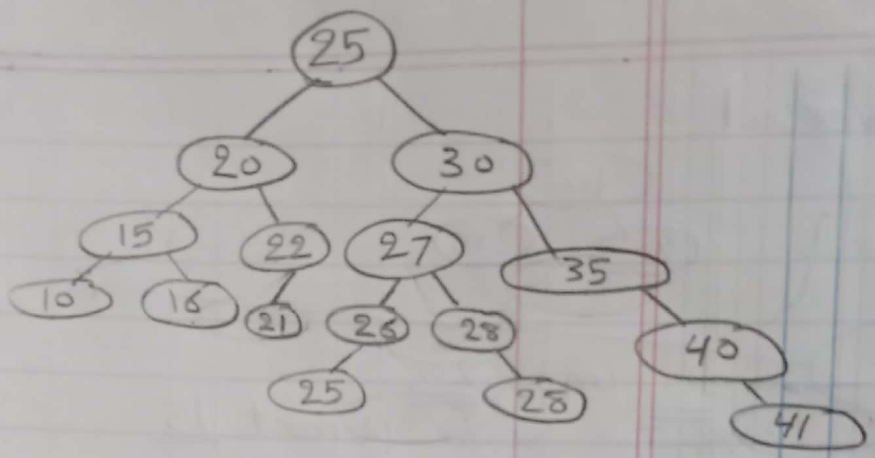
2) Add the following numbers to a binary search tree. Draw the final tree after add this elements.

a) [25,30,27,20,35,40,41,28,26,28,15,22,21,16,10,25]

b) [1 , 4 , 5 ,7 , 8 , 9 , 10, 11] , in this tree do you observe any patterns or anomalies? If so, please describe them.

2

a



b