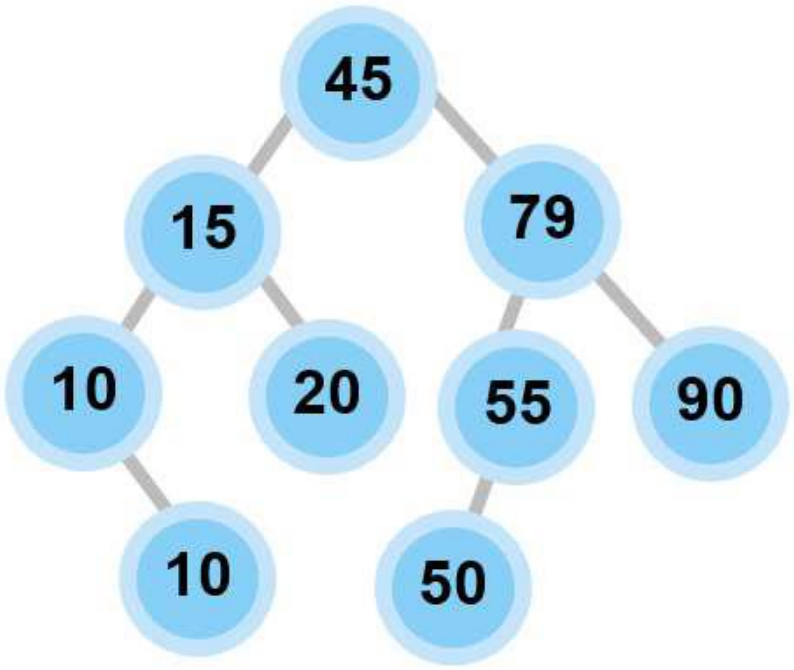
First part: Please solve these problems using pen and paper or in a Word document, whichever you prefer. Draw the tree or write the output as shown in the examples in the Session Folder.

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



Pre-Order: [45 15 10 10 20 79 55 50 90]

In-Order: [10 10 15 20 45 50 55 79 90]

Post-Order: [10 10 20 15 50 55 90 79 45]

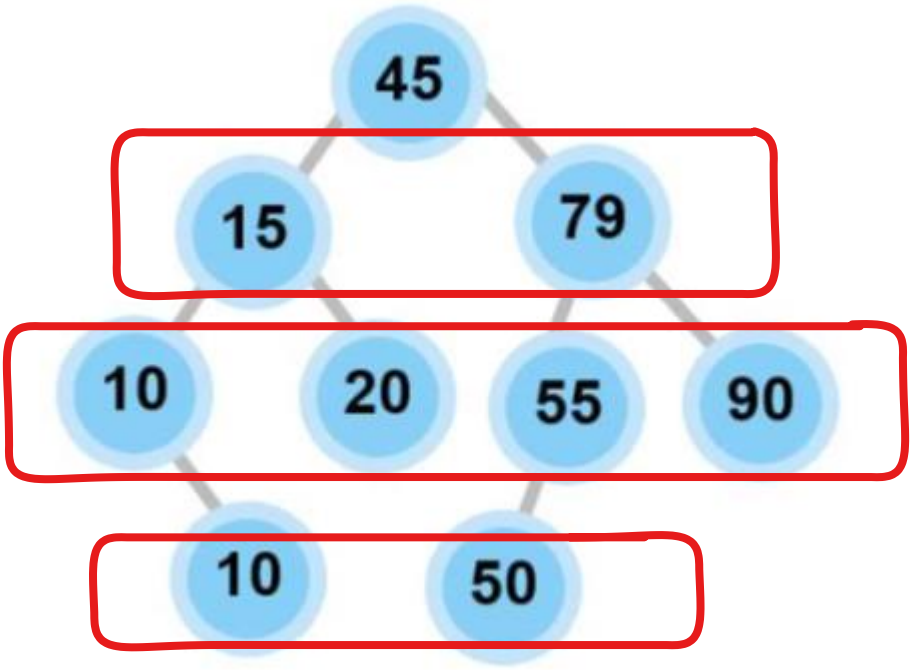
B) for the last tree write (which element is siblings , write all leaves , how many levels in this tree) what kind of this tree ?

1. which element is siblings ?

   (15, 79) , (10, 20, 55, 90) , (10, 50)

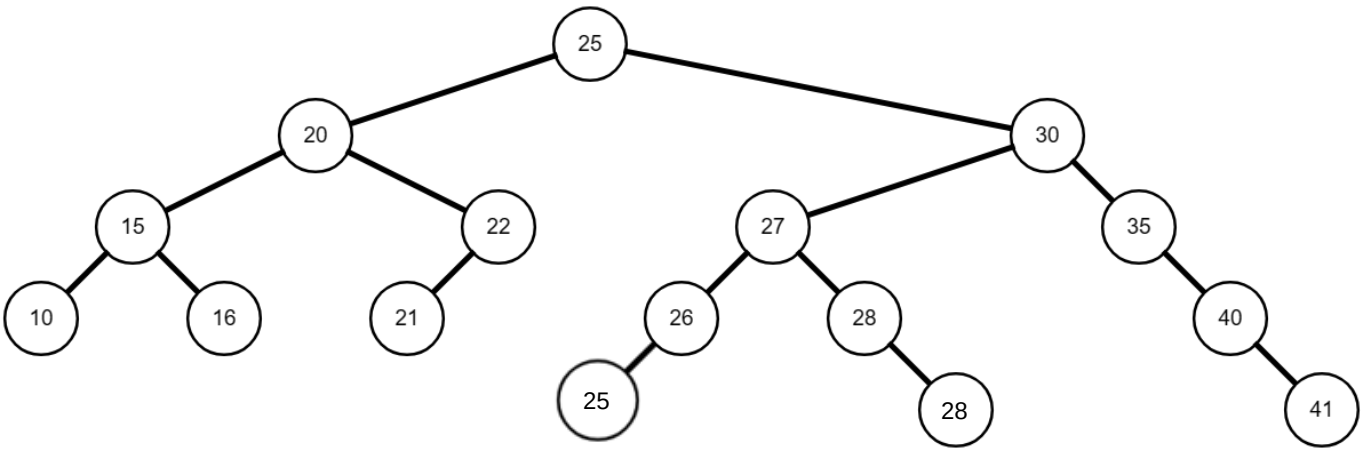
2. write all leaves ?
   (10, 20, 50, 90)

3. how many levels in this tree ? 4



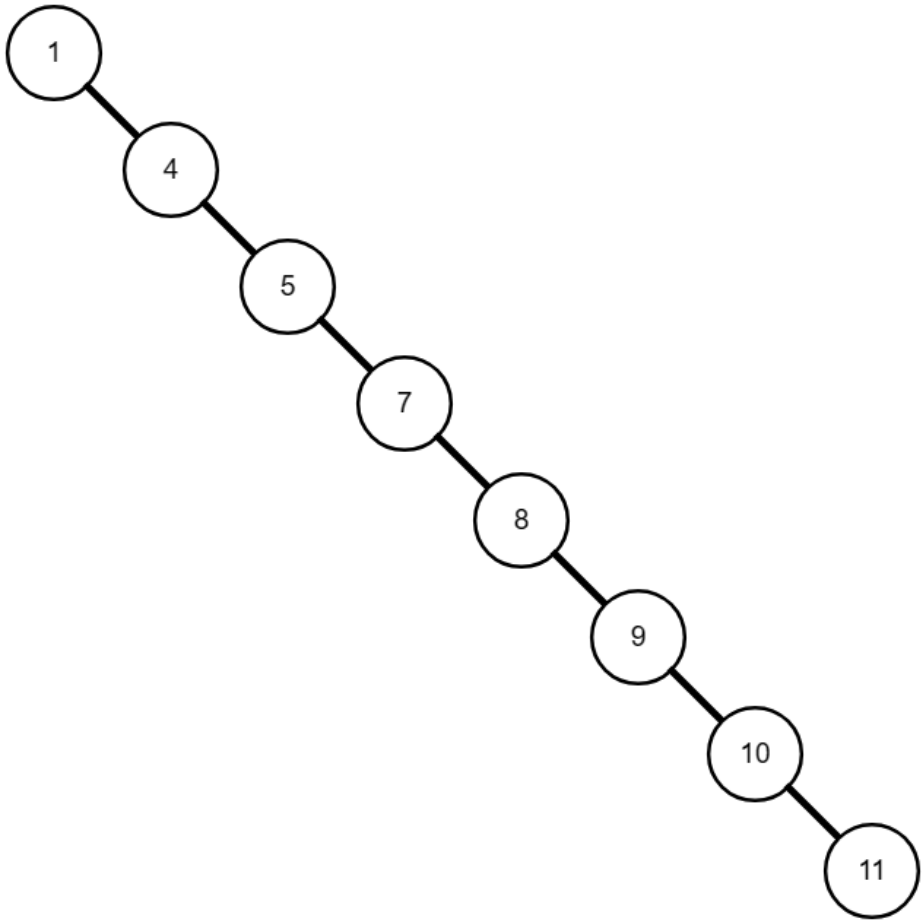
2) Add the following numbers to a binary search tree. Draw the final tree after add this elements.

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.

All numbers in right side



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