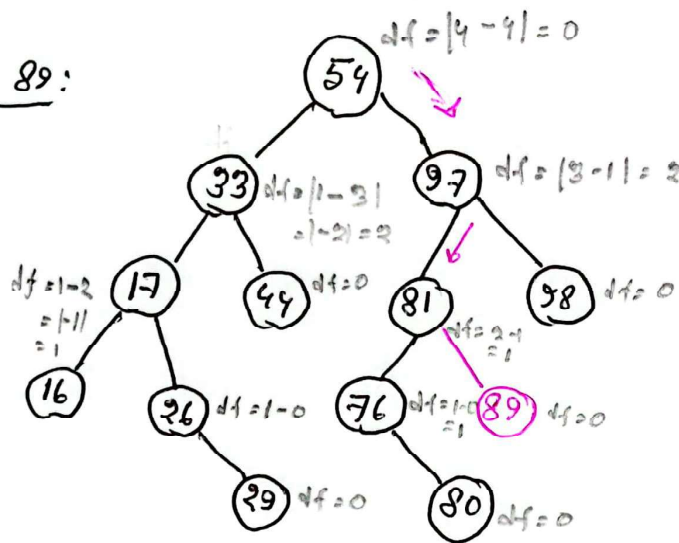Summer24 Q4

a) Pre-order: Root, left, right.

54   33   17   16 / 26   29 / 44 / 97 / 81 76 80 / 98

b) Insert 89:

c) balanced tree: height of left & right subtree of any node differ by not more than 1.

height difference of 33 & 97 is over 1. Hence, not balanced.

d) Ascending order: In-order traversal → left root right

Descending order: reverse-in order-traversal → R root L

98   97   89 81 80 76 / 54 44 33 / 29 26 17 16