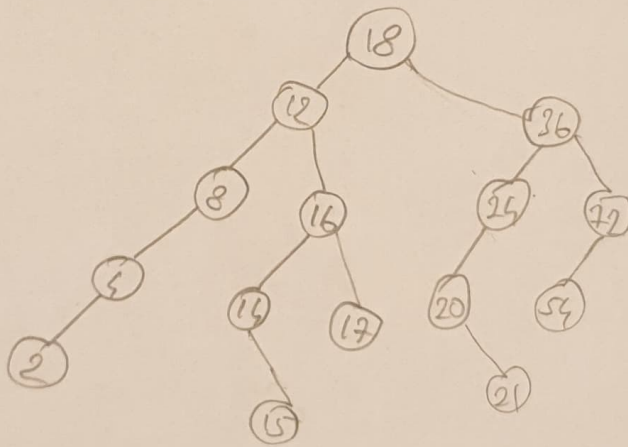


"By signing this examination, I acknowledge my responsibility and commitment to the ethic rules and I affirm that I will not give or receive any unauthorized help on this exam, and that all work will be my own."

~~Huseyin~~

- 1) a) 18, 12, 8, 4, 2, 16, 14, 15, 17, 36, 24, 20, 21, 72, 54
Pre-order (NLR)

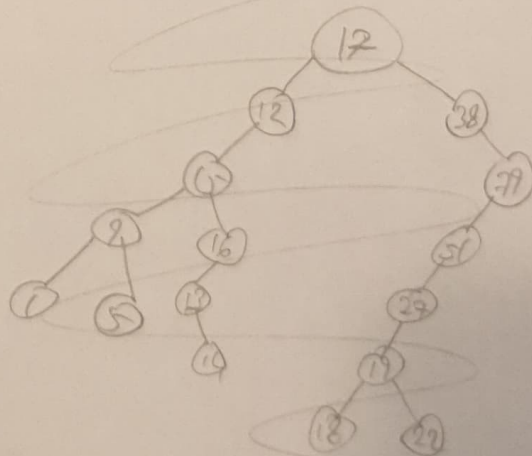


This is a BST because left side is smaller than root and right side is bigger.

- b) 1, 5, 9, 14, 13, 16, 15, 12, 18, 22, 19, 27, 51, 79, 38, 12

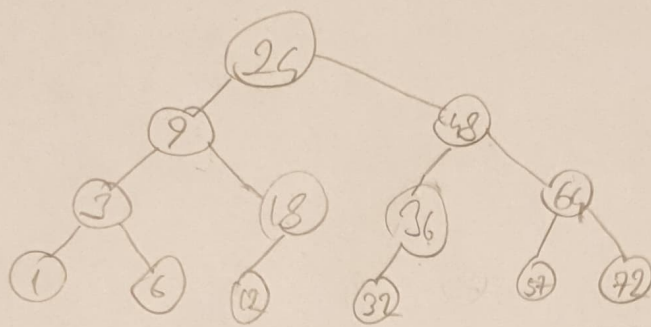
This isn't a BST X

because on the right side some numbers are smaller than 38 and they are not on its left.



c) 1, 3, 6, 9, 12, 18, 24, 32, 36, 48, 54, 64, 72

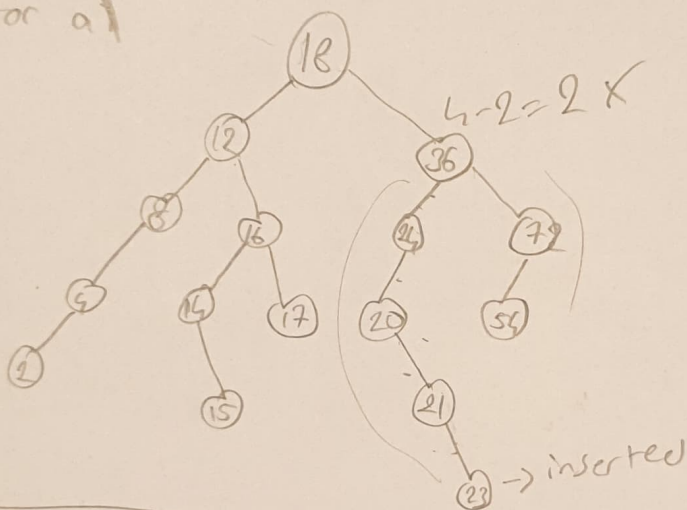
In order (LNR)



This is a BST

because left side
is smaller than root
and right side is bigger

d) for a)

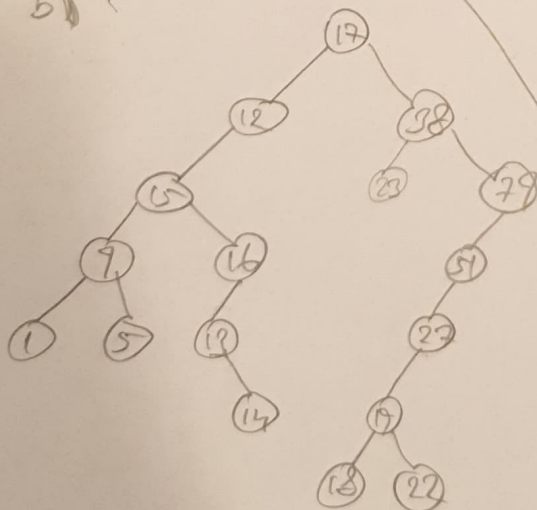


AVL property doesn't hold
because there are 4 edges
on the left and 2 edges
on the right so it is

not ≤ 1

We have to do RR rotation

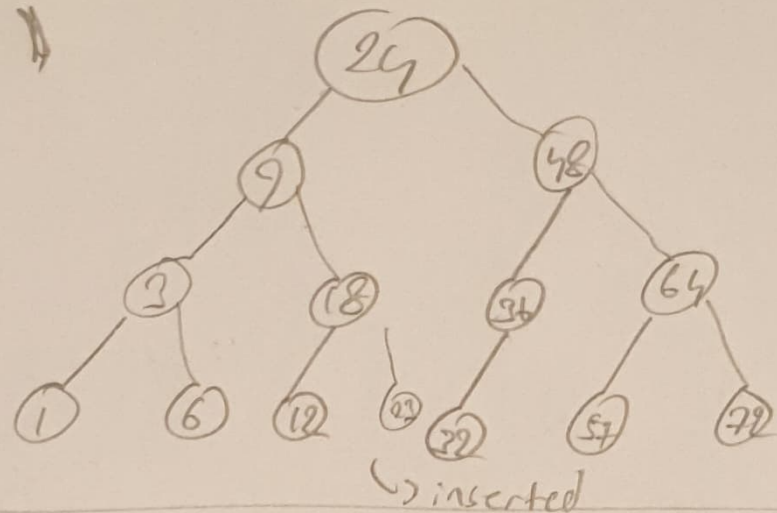
for b)



AVL property doesn't hold
they are not balanced.

This one wasn't
a BST but
I draw it again to
take a look

for c)



AVL property holds

