

A310 O2 (BST)

(9)

Insert 9 - It becomes the root

Insert 2:

(2)

2 is smaller than 9 so it goes left

Insert 1:

(9)

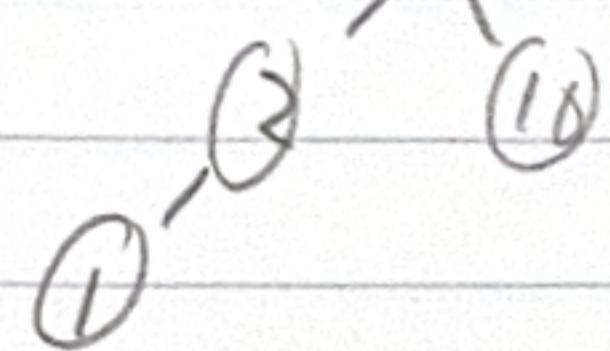
1 < 9 so it goes left. 1 is also less than 2 so it goes left of 2



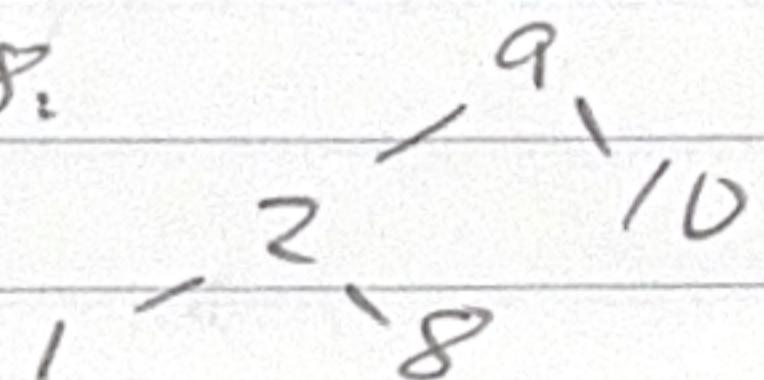
Insert 10:

(9)

10 is greater than 9, so it goes right.

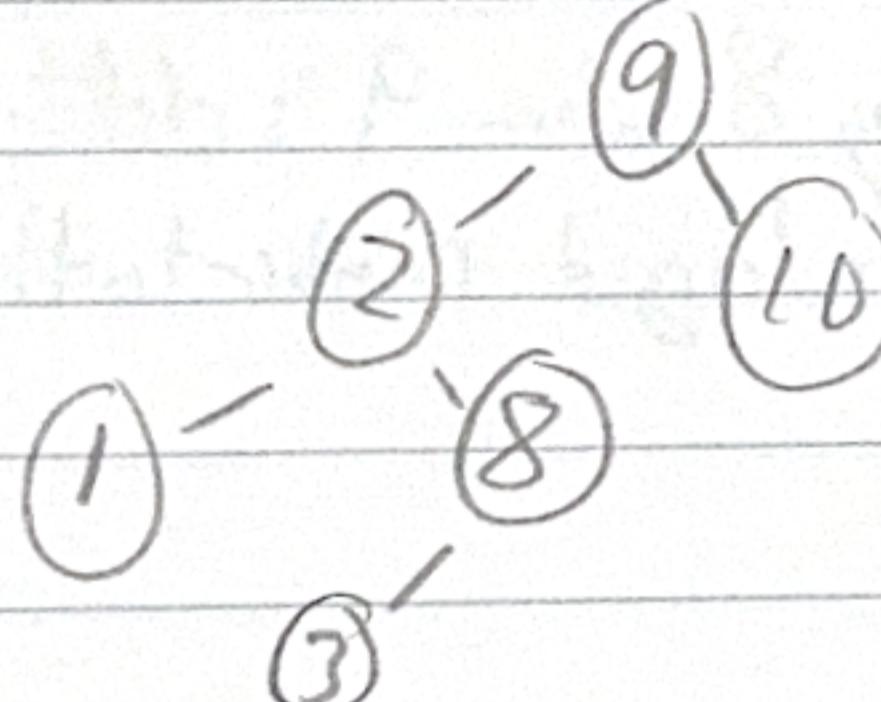


Insert 8:



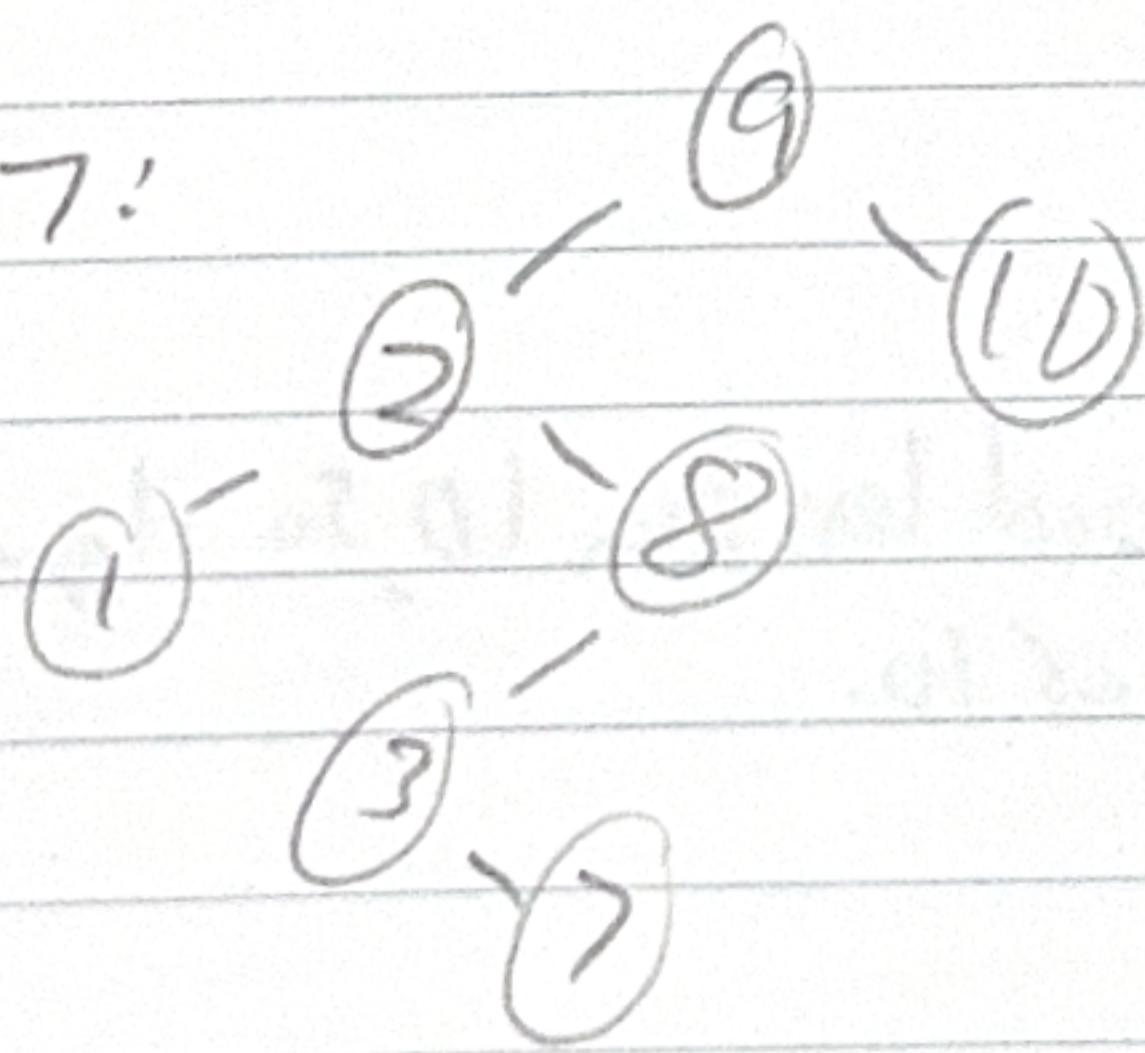
8 goes left of 9, and since right of 2 is empty + 8 > 2, it goes right.

Insert 3:



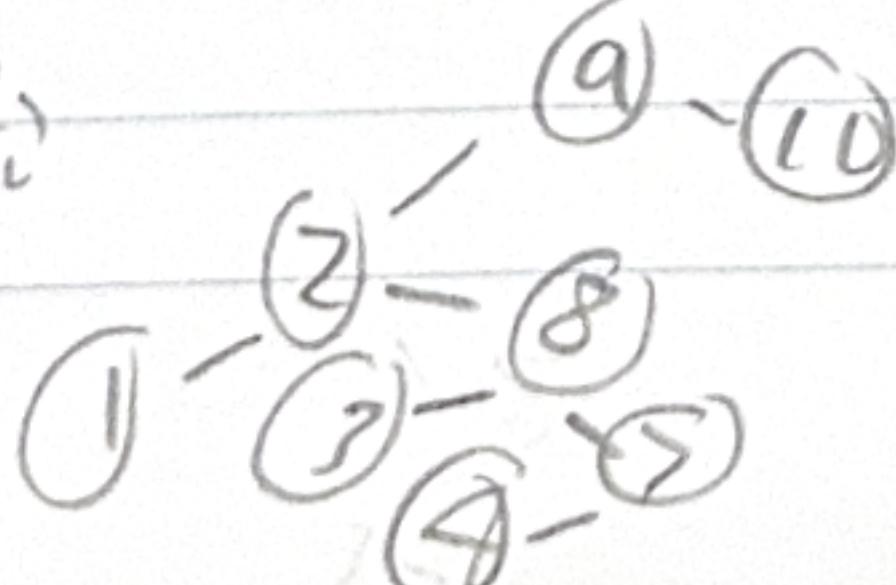
3 is < 9 and > 2, so it becomes a right child.
left of 8 because 8 > 3

Insert 7:



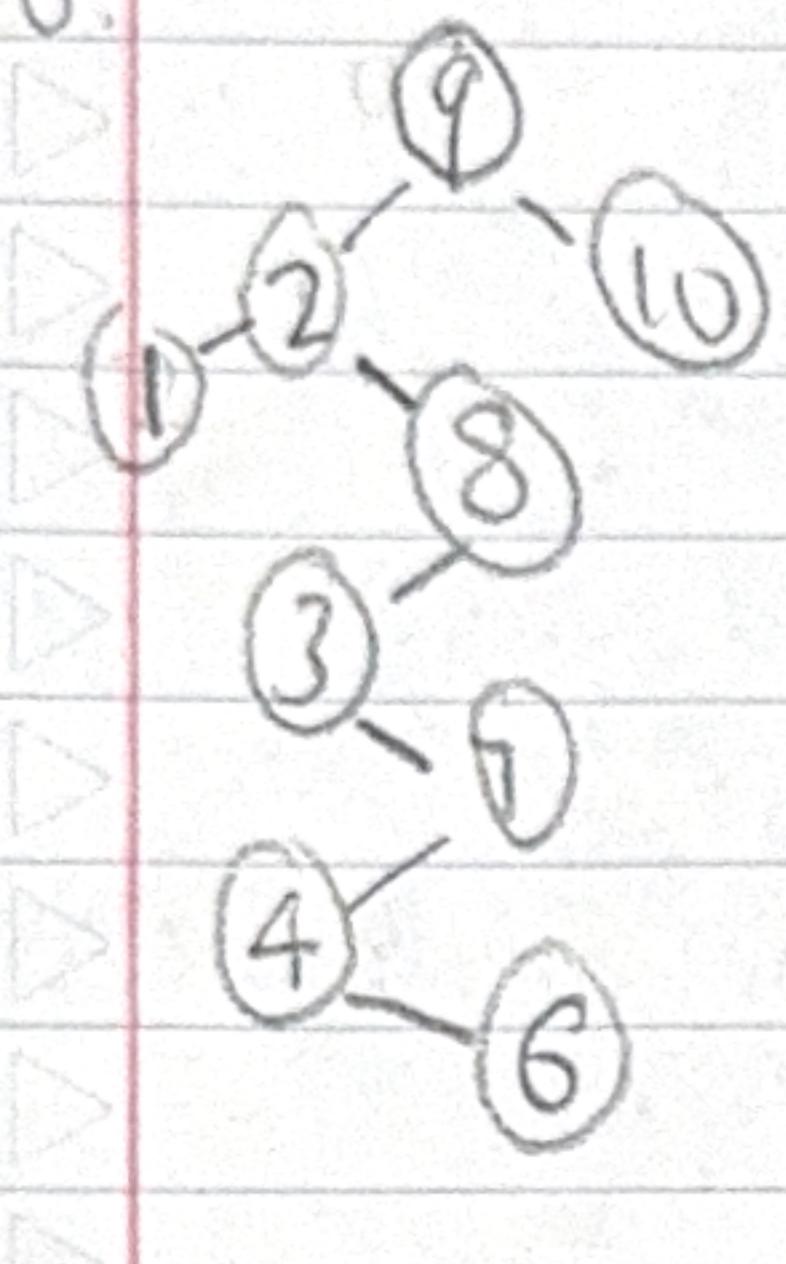
7 is < 9, > 2, > 3, so it goes right of 3

Insert 4:



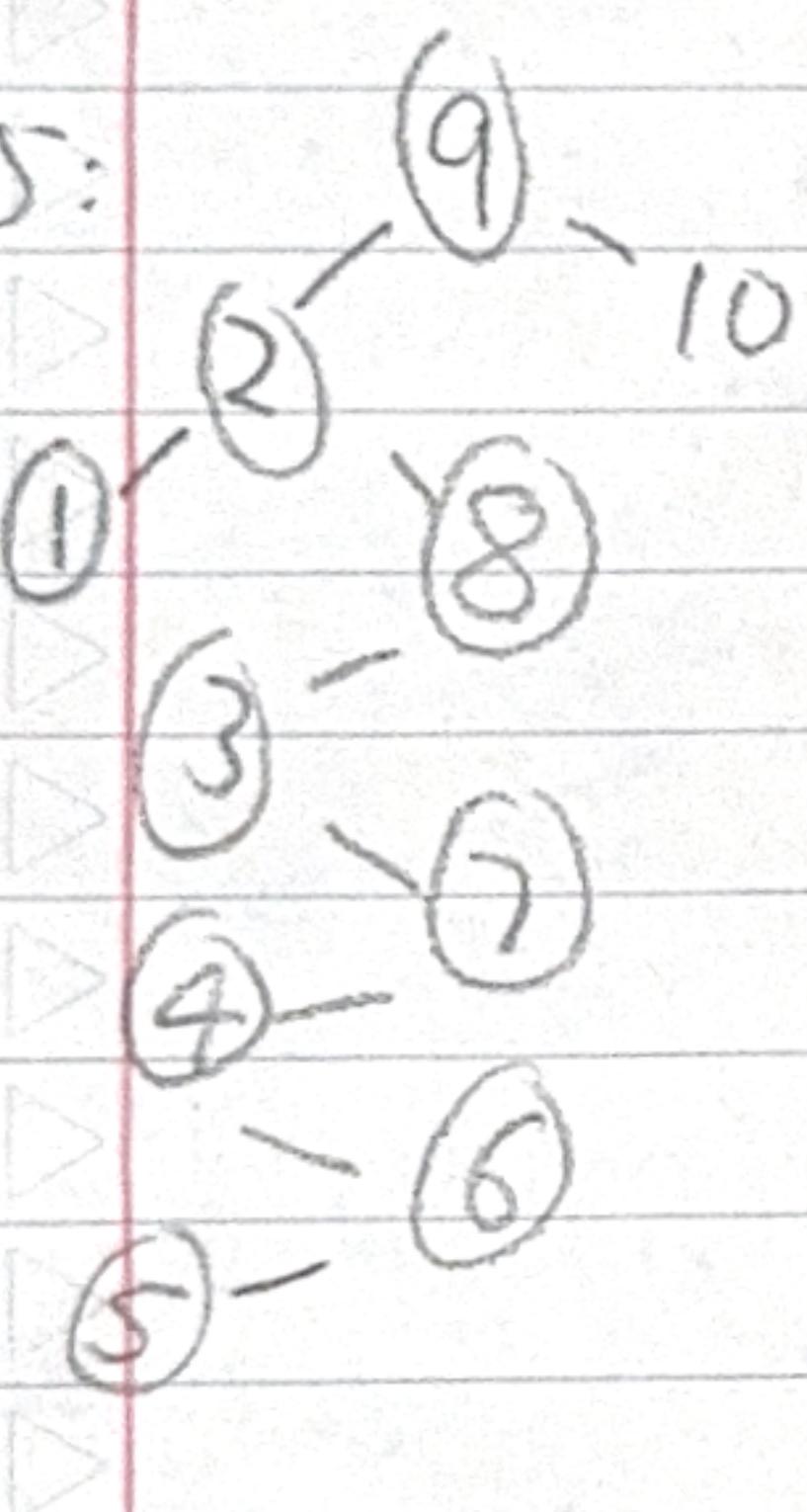
4 > 3, but 4 < 7 so 4 goes to the left of 7.

Insert 6:



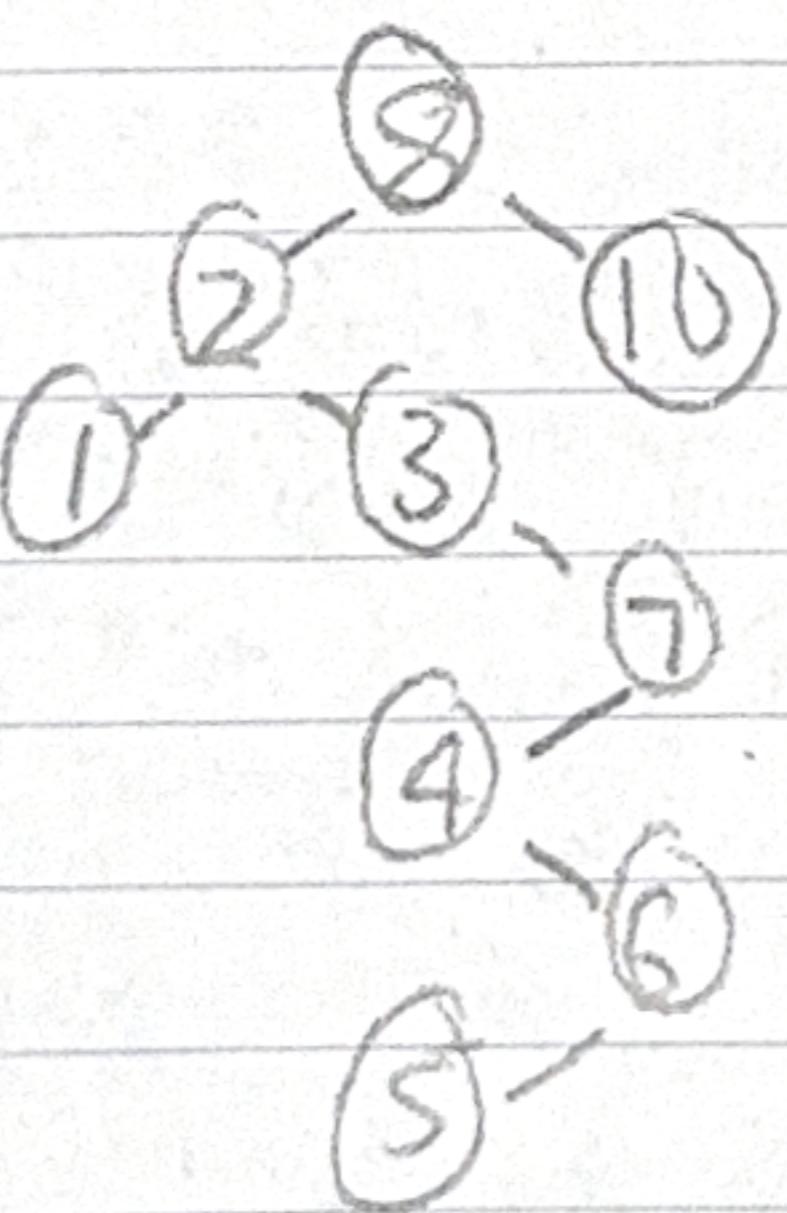
$6 < 7$, and $6 > 4$, so 6 goes right of 4.

Insert 5:



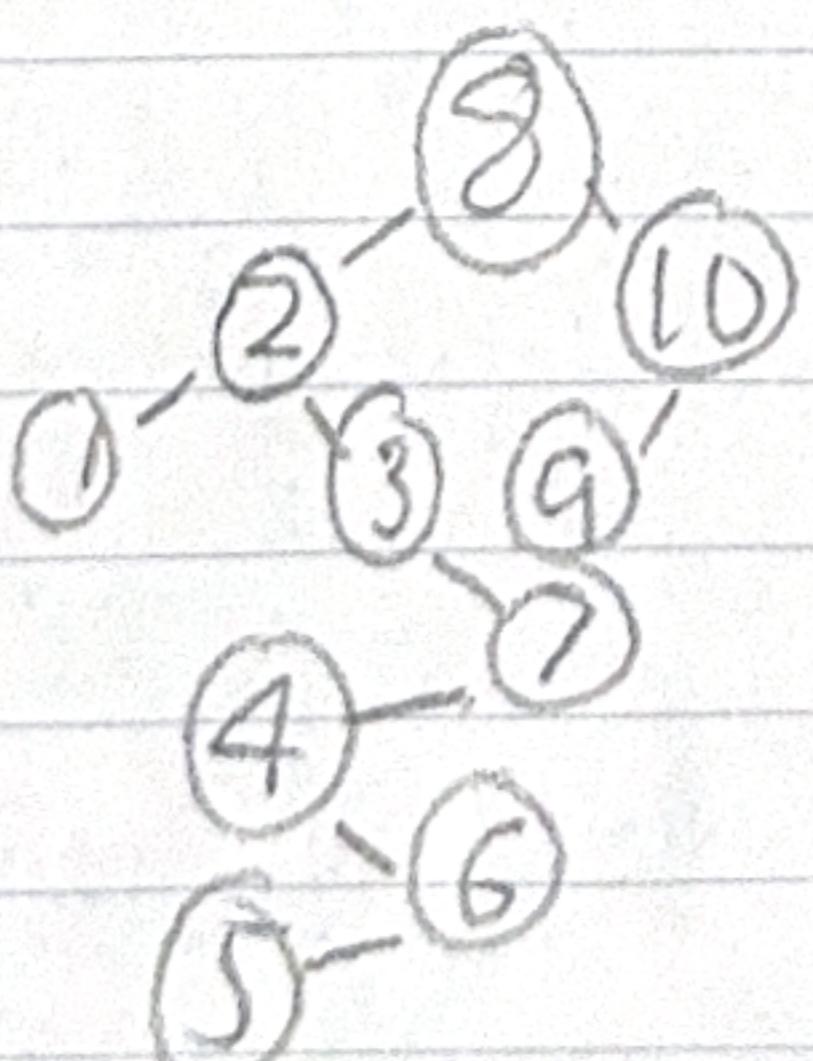
$5 > 4$, but less than 6, so 5 goes to the left of 6.

Delete 9:



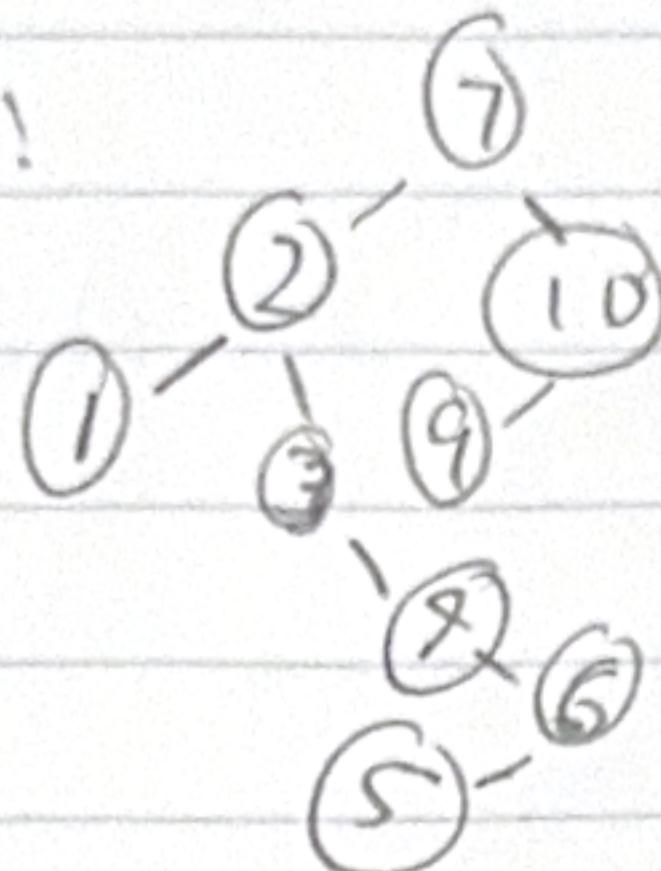
9 gets replaced by 8 when 9 is deleted. 8 becomes the root, since it is the largest number to the left of 9.

Insert 9:



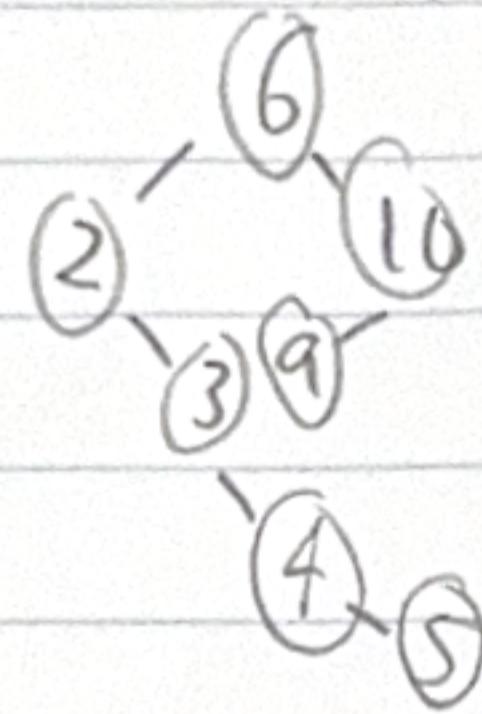
$9 > 8$, and less than 10, so it goes right of 8 and left of 10.

Delete Root!



When root 8 is deleted, it is replaced by the next biggest number on the left.

Delete root:



7 gets deleted, so the root is once again replaced by the largest value on the left.