

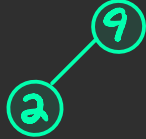
Homework 1: BST

Carter
Mullenix

- Start with empty tree and Insert 9:

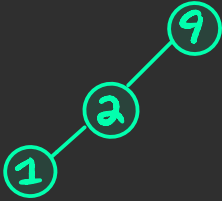


- Insert 2:



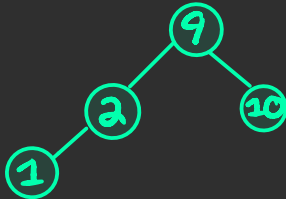
2 is smaller than 9 so it goes to the left.

- Insert 1:



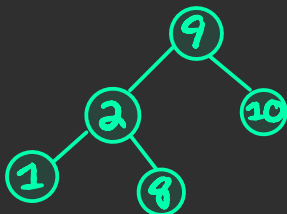
1 is smaller than 9 and 2, so it goes to the left of 2.

- Insert 10:



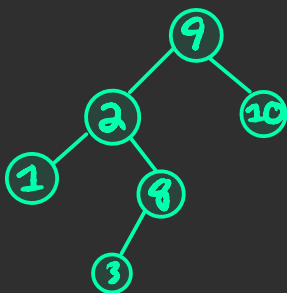
10 is larger than 9 so it goes to the right of 9.

- Insert 8:



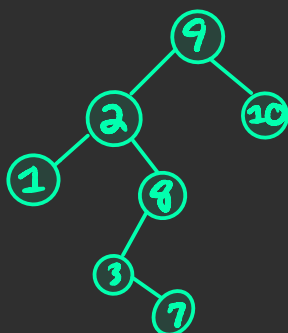
8 is smaller than 9 but larger than 2 so it goes to the right of 2.

- Insert 3 :



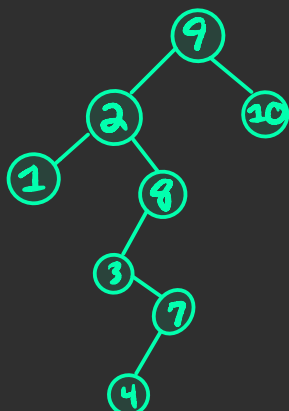
3 is smaller than 9, larger than 2, and smaller than 8, so it goes to the left of 8.

- Insert 7:



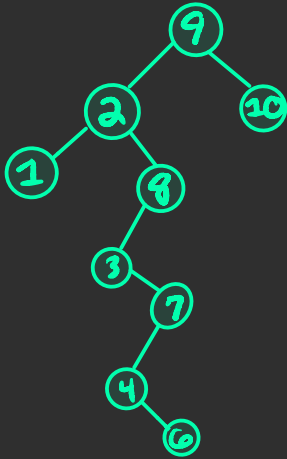
7 is smaller than 9, larger than 2, smaller than 8, and larger than 3, so it goes to the right of 3.

- Insert 4:



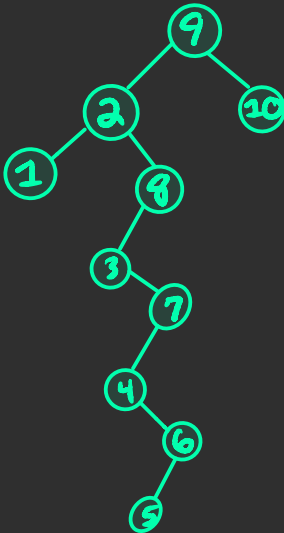
4 is smaller than 9, larger than 2, smaller than 8, larger than 3, and smaller than 7, so it goes to the left of 7.

- Insert 6:



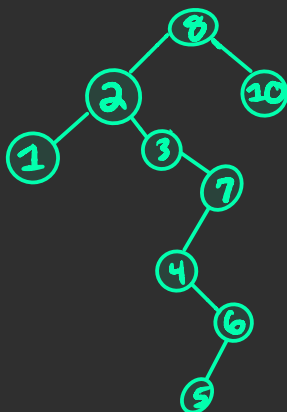
6 is smaller than 9, larger than 2, smaller than 8, larger than 3, smaller than 7, and larger than 4, so it goes to the right of 4.

- Insert 5:



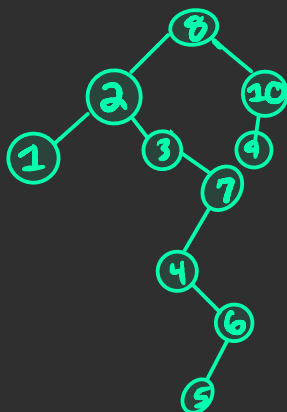
5 is smaller than 9, larger than 2, smaller than 8, larger than 3, smaller than 7, larger than 4, and smaller than 6, so it goes to the left of 6.

- Delete 9:



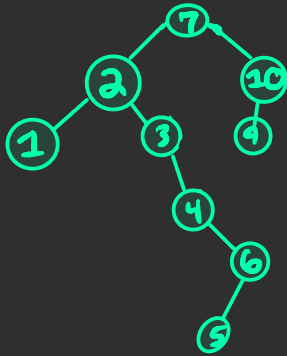
If you delete 9, 8 gets promoted because it is the largest on the left and 3 goes to the right of 2.

- Insert 9:



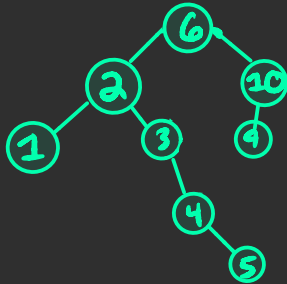
9 is larger than 8 and smaller than 10, so it goes to the left of 10.

- Delete 8 :



If you delete 8, 7 gets promoted and 4 goes to the right of 3.

- Delete 7 :



If you delete 7, 6 gets promoted and 5 goes to the right of 4.