

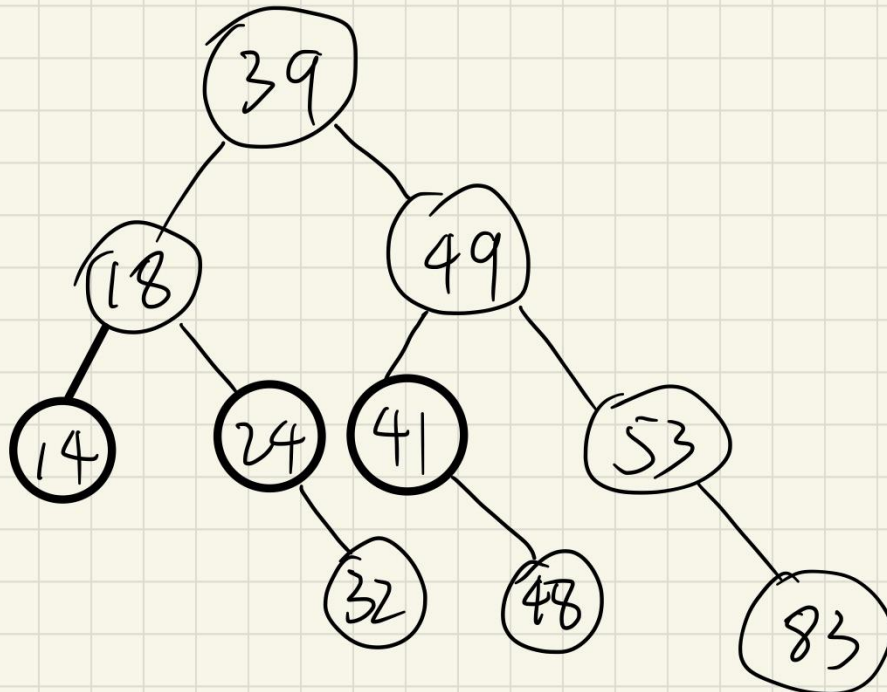
PA 6 Part 1: BST Worksheet

DSC 30 Winter 2021 - Marina Langlois

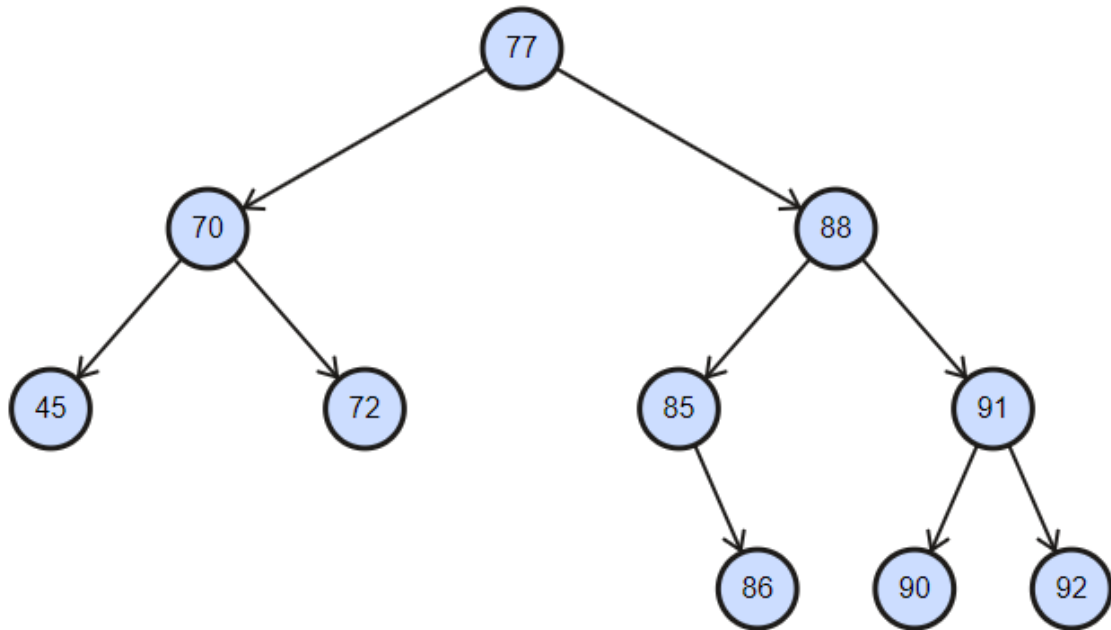
Name	Xing Hong
PID	A15867895

1. Insert the following integers in the order presented to an empty BST and draw the BST after these insertions in the box below. You don't need to show each step.

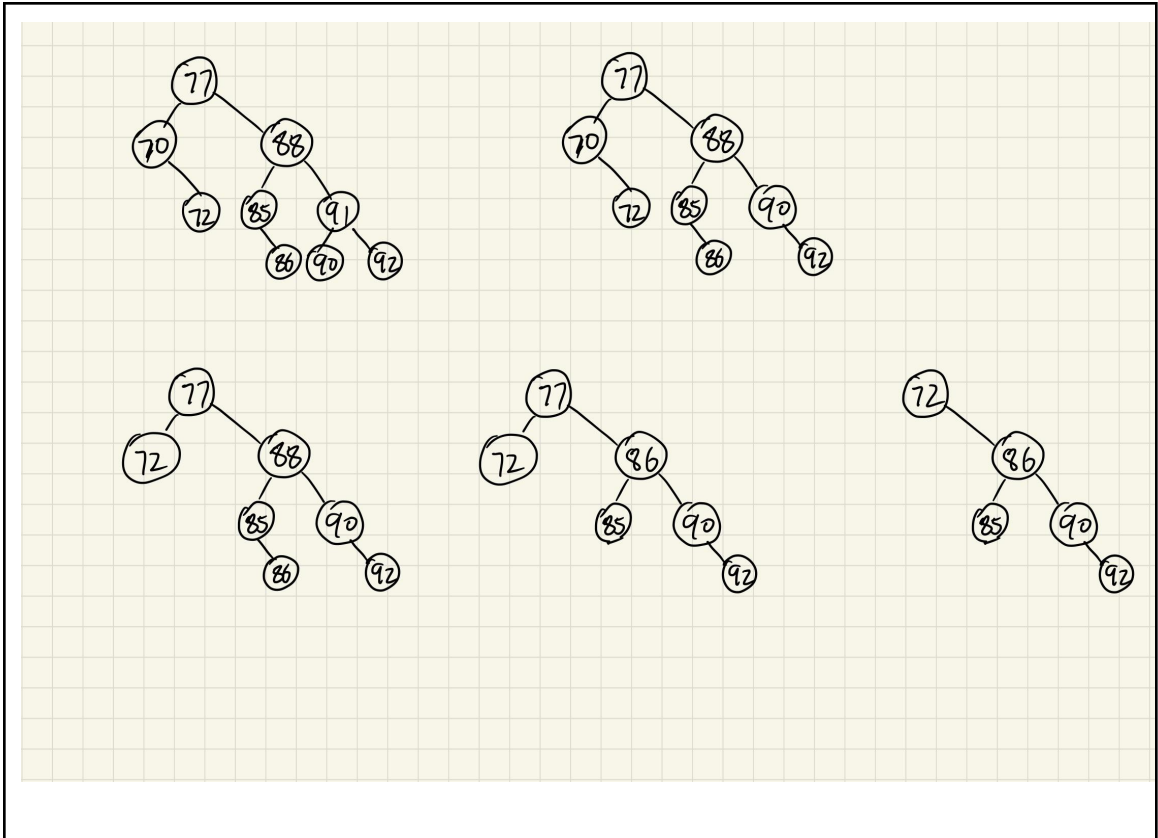
[39, 49, 18, 53, 83, 24, 14, 41, 32, 48]



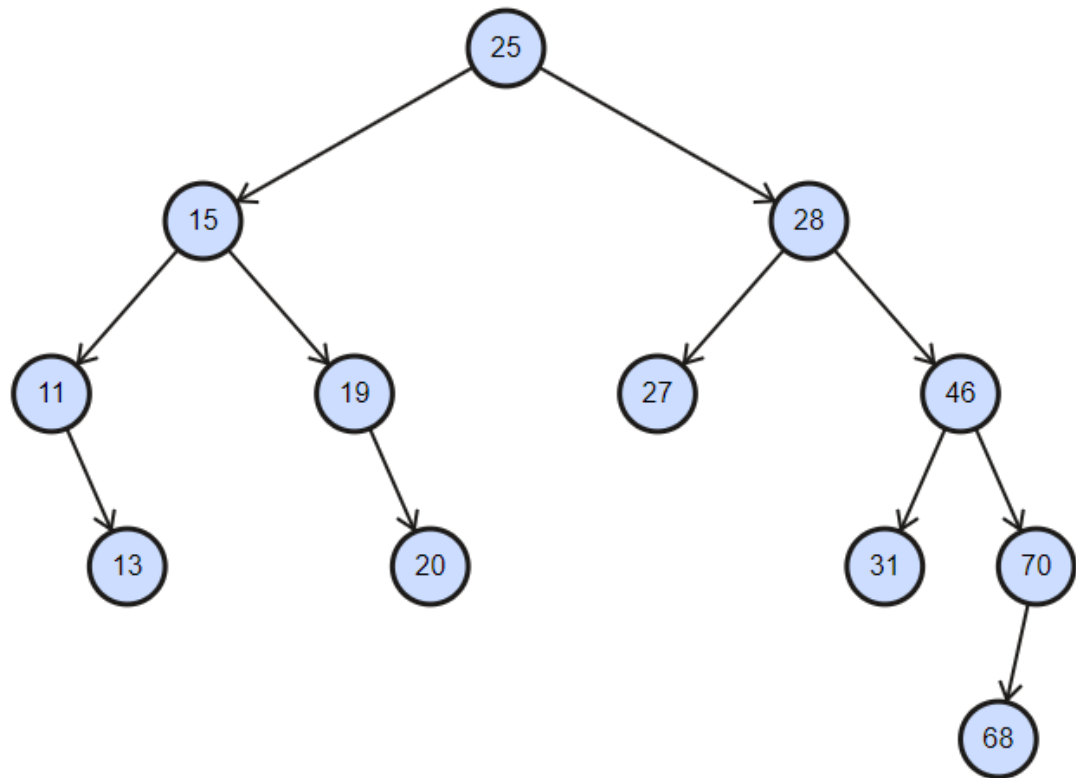
2. Remove the following integers in the order presented from the given BST and show each step of removal by drawing the BSTs after each step of removal in the box below (i.e. 5 trees in total). When removing a node with 2 children, you must replace it with its **in-order predecessor** to get credits.



Elements to remove: [45, 91, 70, 88, 77]



3. Write down the in-order, pre-order, and post-order traversal output of the following BST.



In-order	11 13 15 19 20 25 27 28 31 46 68 70
Pre-order	25 15 11 13 19 20 28 27 46 31 70 68
Post-order	13 11 20 19 15 27 31 68 70 46 28 25

4. **(Extra Credit)** Recreate the original BST using the following traversal results.

In-order	[15, 21, 24, 27, 30, 32, 36, 37, 38, 41, 55, 57]
Pre-order	[32, 30, 15, 24, 21, 27, 41, 37, 36, 38, 55, 57]

