

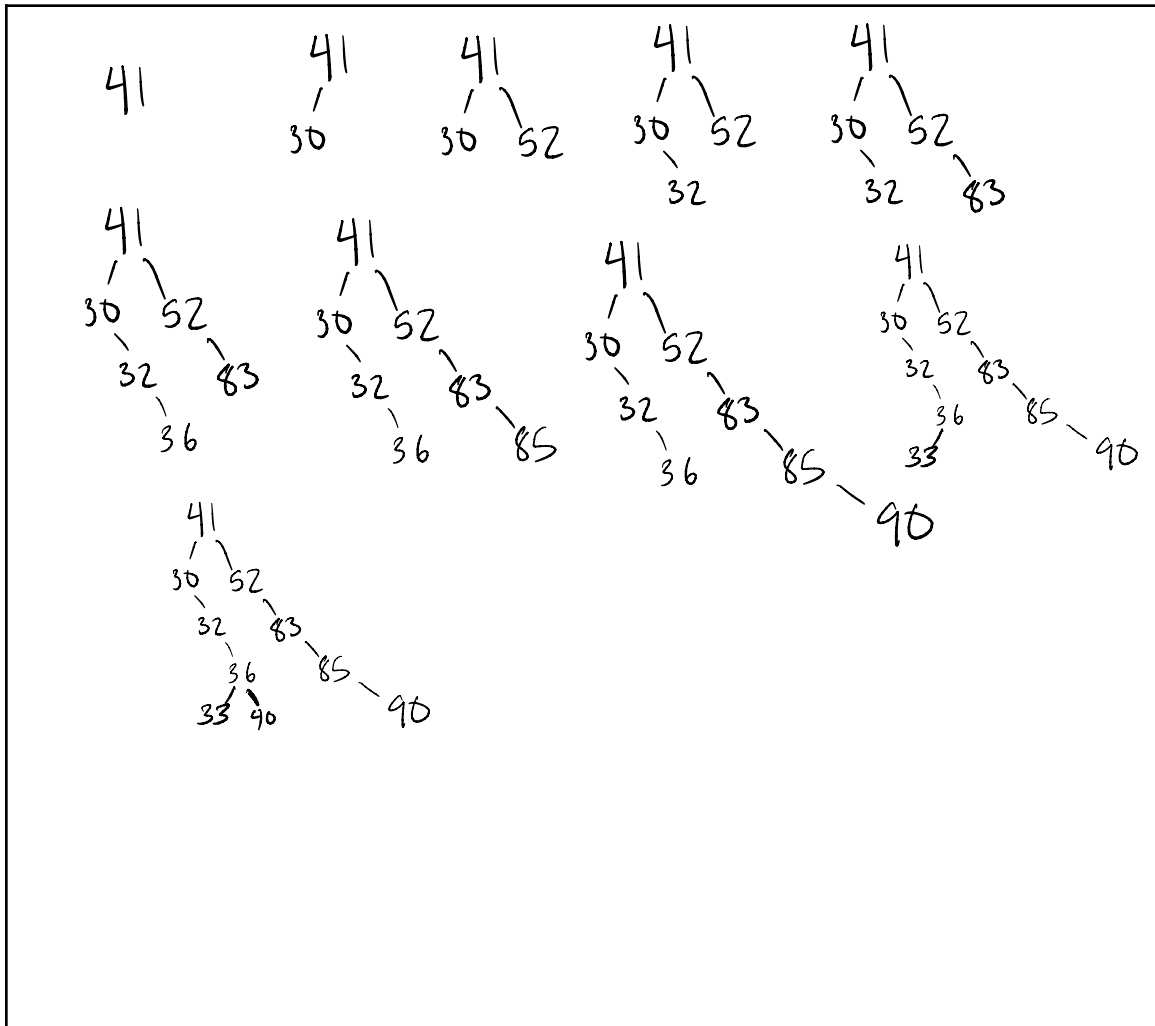
PA 6 Part 1: BST Worksheet

DSC 30 Spring 2021 - Marina Langlois

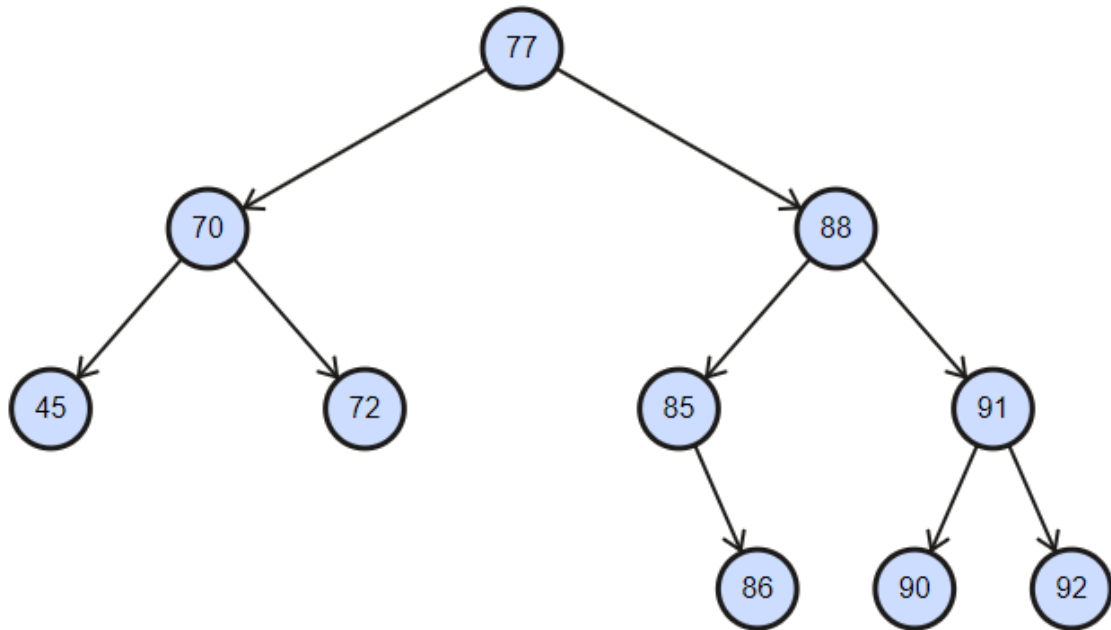
Name	Bryan Talavera
PID	A14378593

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.

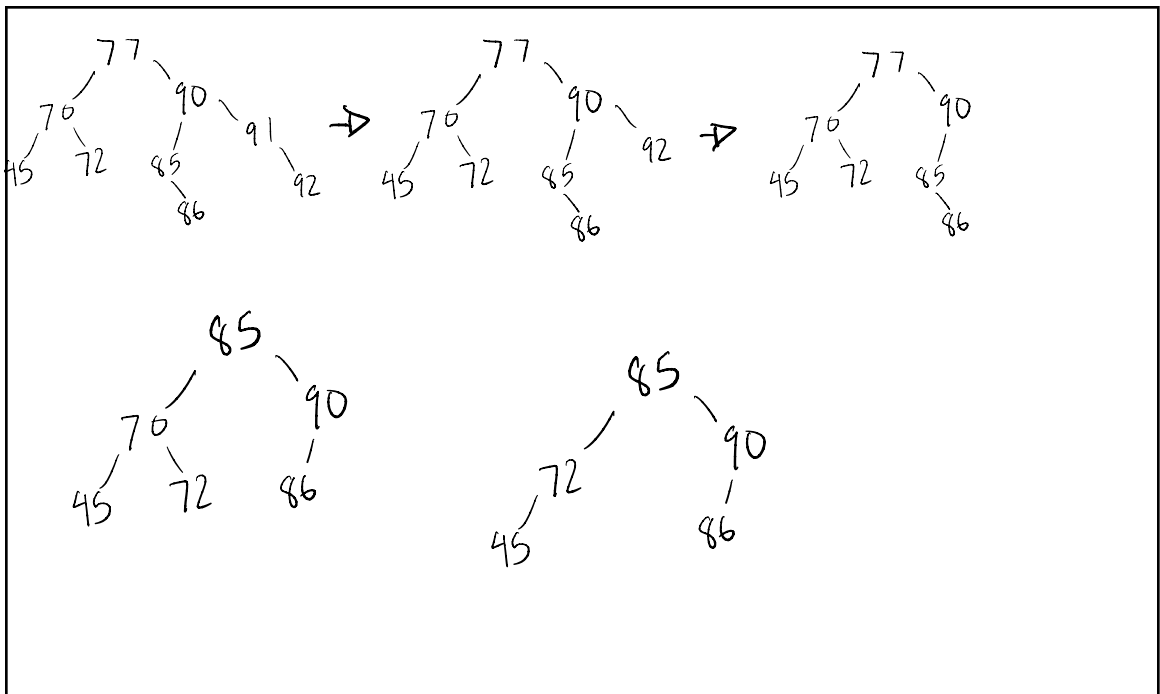
[41, 30, 52, 32, 83, 36, 85, 90, 33, 40]



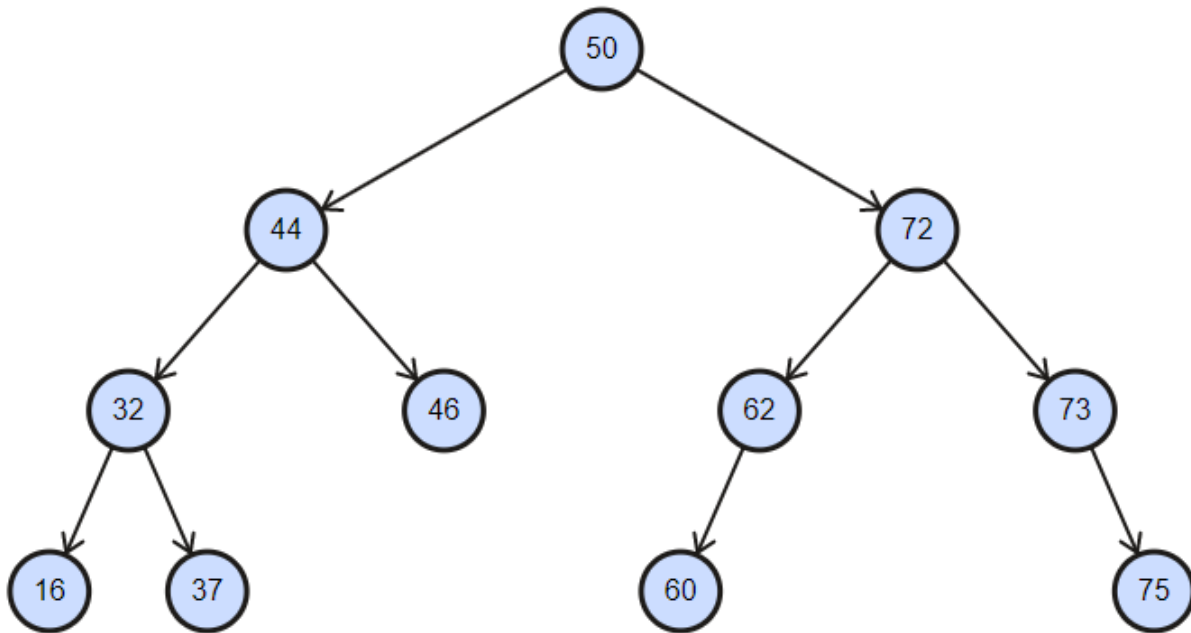
2. Remove the following integers in the order presented from the given BST and show each step of removal by drawing the BSTs after each step of removal in the box below (i.e. 5 trees in total). When removing a node with 2 children, you must replace it with its **in-order predecessor** to get credits.



Elements to remove: [88, 91, 92, 77, 70]



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



In-order	16, 32, 37, 44, 46, 50, 60, 62, 72, 73, 75
Pre-order	50, 44, 32, 16, 37, 46, 72, 62, 60, 73, 75
Post-order	16, 37, 32, 46, 44, 60, 62, 75, 73, 72, 50

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

Pre-order	[52, 42, 28, 26, 46, 48, 70, 68, 77, 75, 88, 85]
Post-order	[26, 28, 48, 46, 42, 68, 75, 85, 88, 77, 70, 52]

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