

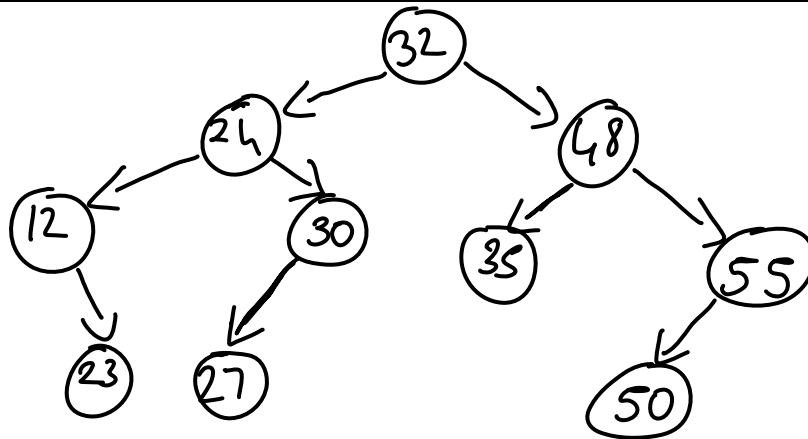
PA 6 Part 1: BST Worksheet

DSC 30 Spring 2020 - Marina Langlois

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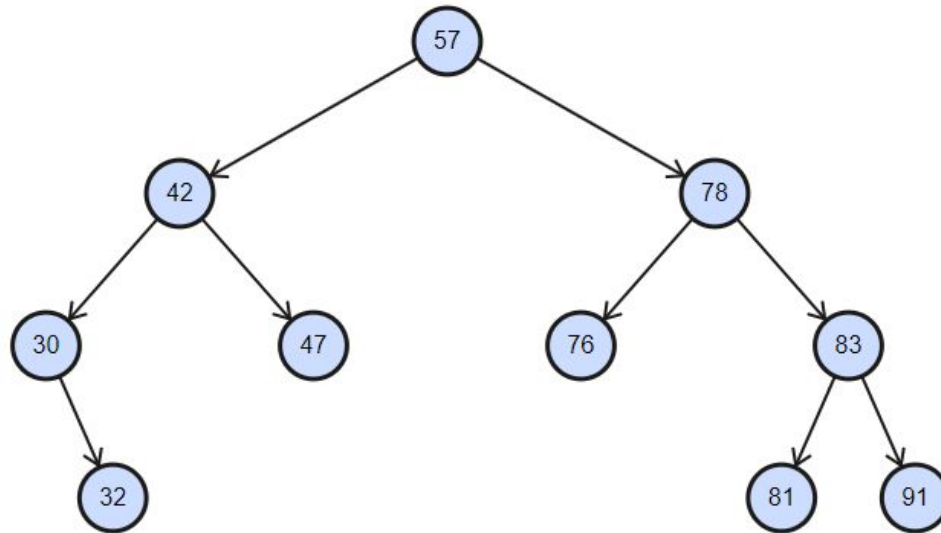
1. Insert the following integers in the order presented to an empty BST and draw the resulted BST in the box below.

Elements to insert: ~~[32, 24, 12, 48, 35, 23, 30, 27, 55, 50]~~

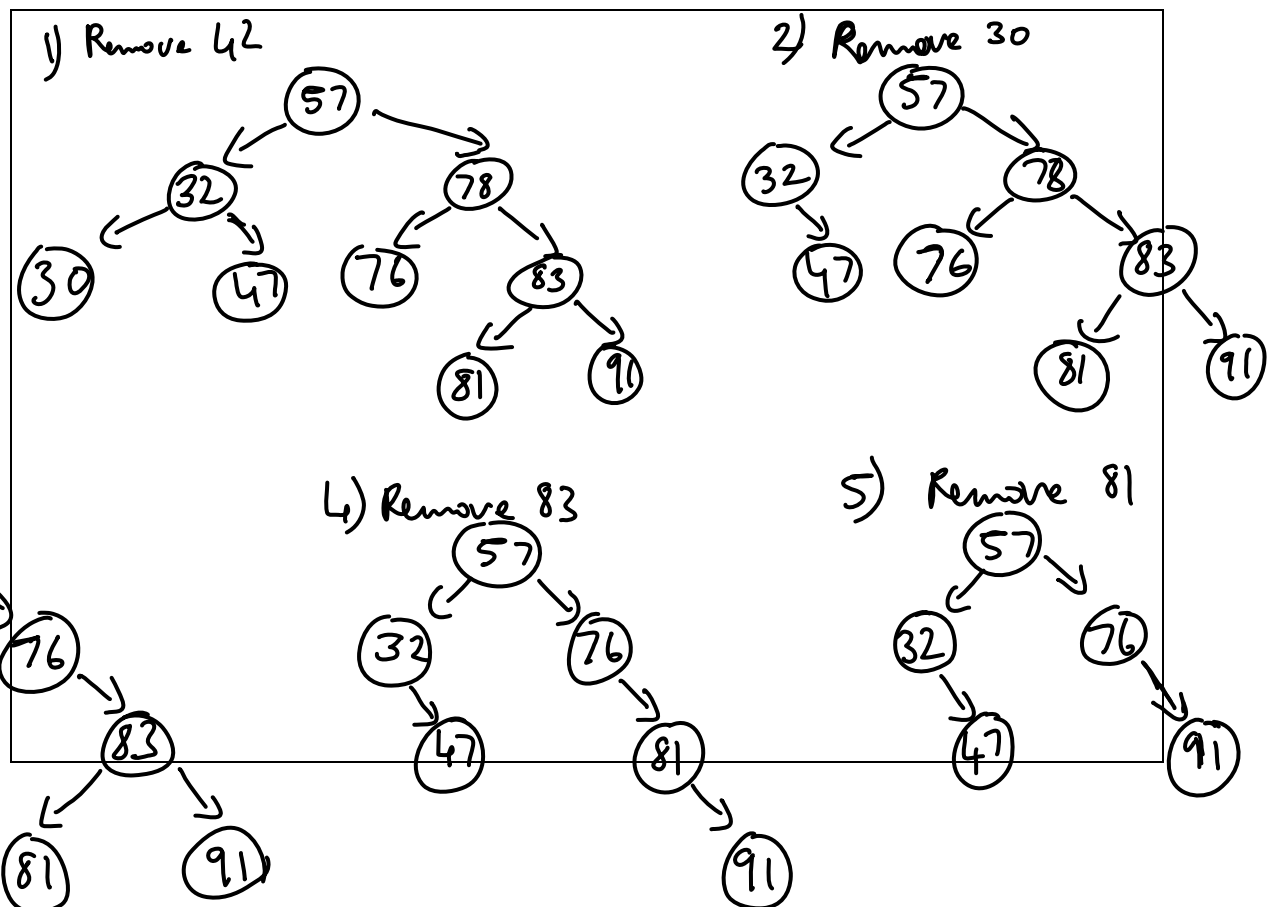


2. Remove the following integers in the order presented from the given BST and show each step of removal by drawing the resulted BSTs after each removal in the box below (i.e. 5 trees in total).

BST before removing specified elements:



Elements to remove: [42, 30, 78, 83, 81]



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

In order:

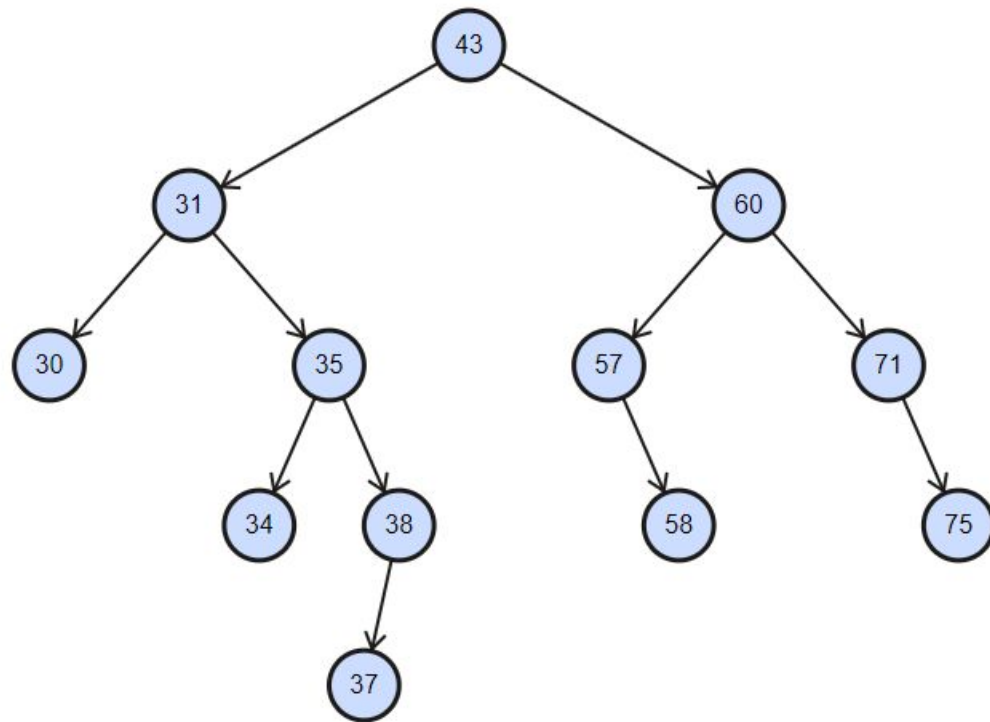
- 1) left
- 2) node
- 3) right

Pre-order:

- 1) node
- 2) left
- 3) right

Postorder:

- 1) left
- 2) right
- 3) node



In-order	30, 31, 34, 35, 37, 38, 43, 57, 58, 60, 71, 75
Pre-order	43, 31, 30, 35, 34, 38, 37, 60, 57, 58, 71, 75
Post-order	30, 34, 37, 38, 35, 31, 58, 57, 75, 71, 60, 43

Inorder:

left → node
→ right

Pre-order:

node →
left → right

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

In-order	[25, 31, 36, 37, <u>39</u> , <u>47</u> , <u>50</u> , 54, 60, 70, 75, 76]
Pre-order	[39, 36, 25, 31, 37, 60, <u>54</u> , <u>47</u> , 50, 75, 70, 76]

