Exercise 11: Binary Tree

Q1: Write a set of functions to implement a binary search tree. The implemented functions should do the following tasks:
1- Insert a node to the tree
2- Traverse the tree using breadth first algorithms and print the order of the traversed nodes.
3- Traverse the tree using depth first pre-order algorithm and print the order of the traversed nodes.
4- Traverse the tree using depth first in-order algorithm and print the order of the traversed nodes.
5- Traverse the tree using depth first post-order algorithm and print the order of the traversed nodes.
6- Search for a node in the tree if it exists or not.
2- Delete a node from the tree.
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Q2: Use the insert function implemented in Q1 to create the following trees and display them using the pre-order depth first traverse.

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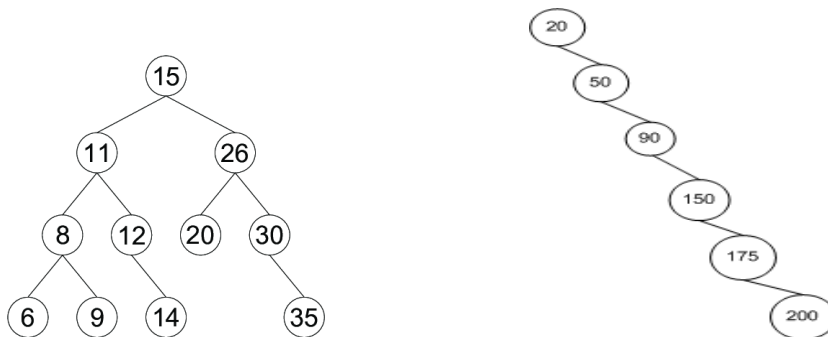
Q3: Use the implemented delete function to delete from the tree as shown in the following figures.

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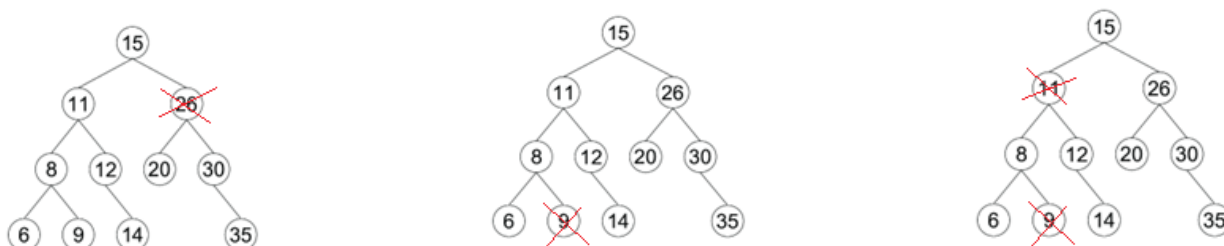
Q4: Use the insert function implemented in Q1 to create the following trees and then search for the nodes containing the following key values:
   1- 20   2- 155