Assignment 4
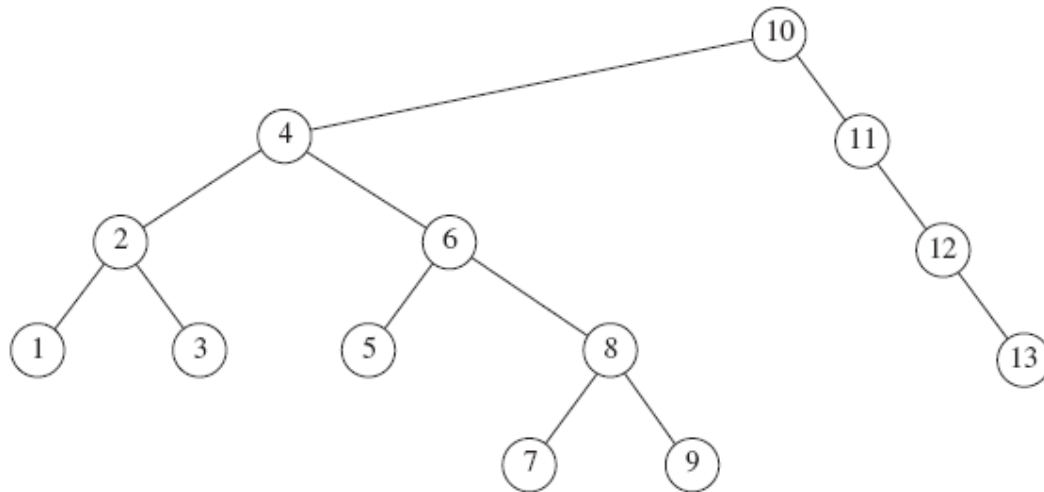
1. Write the remaining procedures to implement AVL single and double rotation (right-right and right-left cases).   [10 Points]

2. Splay Tree

Figure 4.72 Tree for Exercise 4.27

   a. Show the result of accessing the keys 3,9,1,5 in order in the splay tree   [5 Points]
   b. Show the result of deleting key 6 after doing (a).   [5 Points]

3. Two binary trees are similar if they are both empty or both nonempty and have similar left and right subtree. Write a method to decide whether two binary tree are similar. What is the running time of your method?   [10 Points]

4. **B-trees**   [10 Points]
   a. Given the following parameters:

1 Page on disk = 2048 bytes

Disk access time = 1milli-sec per byte

Pointer = 4 bytes

Key = 8 bytes

Data = 512 bytes per record (includes key)

What are the best values for M and L.

   b. Insert the following values in this order, into a B-tree where M = 3 and L =2.

8, 4, 6, 2, 3, 1, 7, 9