

# DataStructure

October 10, 2019

## 1 AVL (Adelson - Velskii, Landis) Tree

- binary search
- the heights of the two child subtrees of any node differ by at most one.

ex)

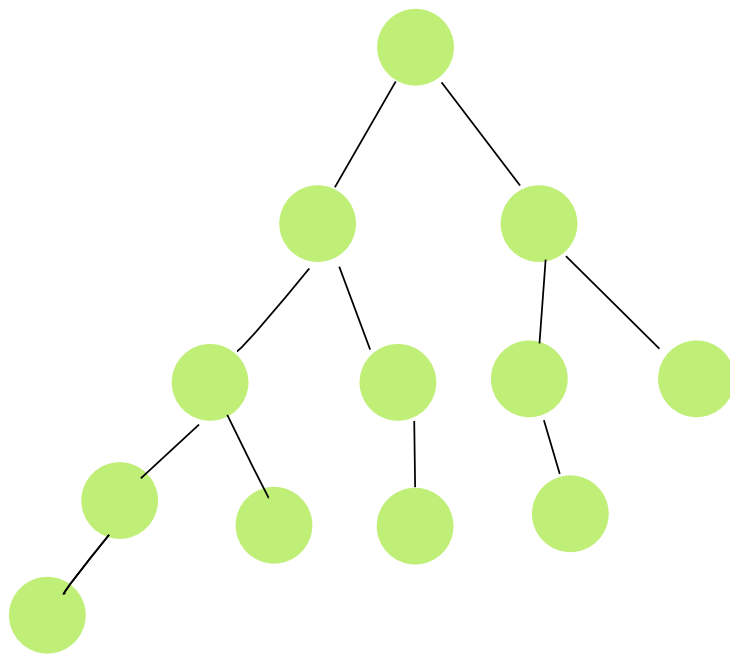


Figure 1: Example of AVL : from any node, left and right tree has height different at most 1.

\* Insertion (a,b,e)  
Single Rotation :

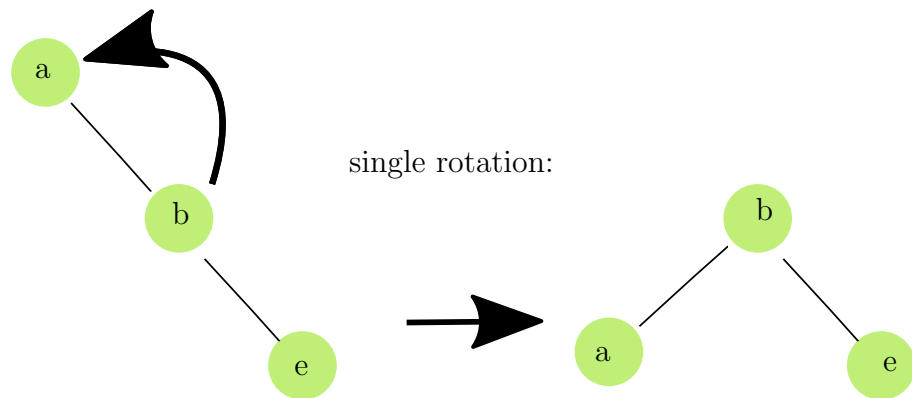


Figure 2: single rotation on a,b,e

Double Rotation:

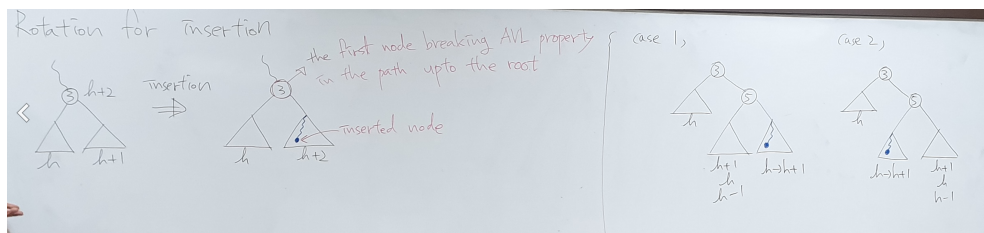


Figure 3:

Double rotation:

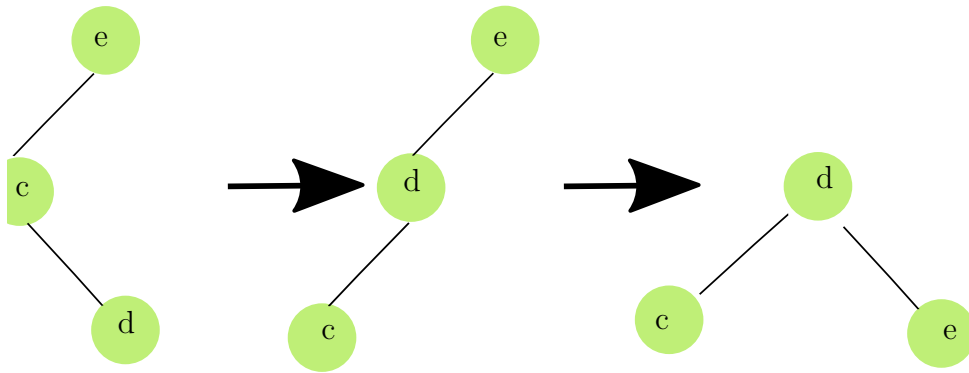


Figure 4: Double rotation on c,d

Rotation for insertion: