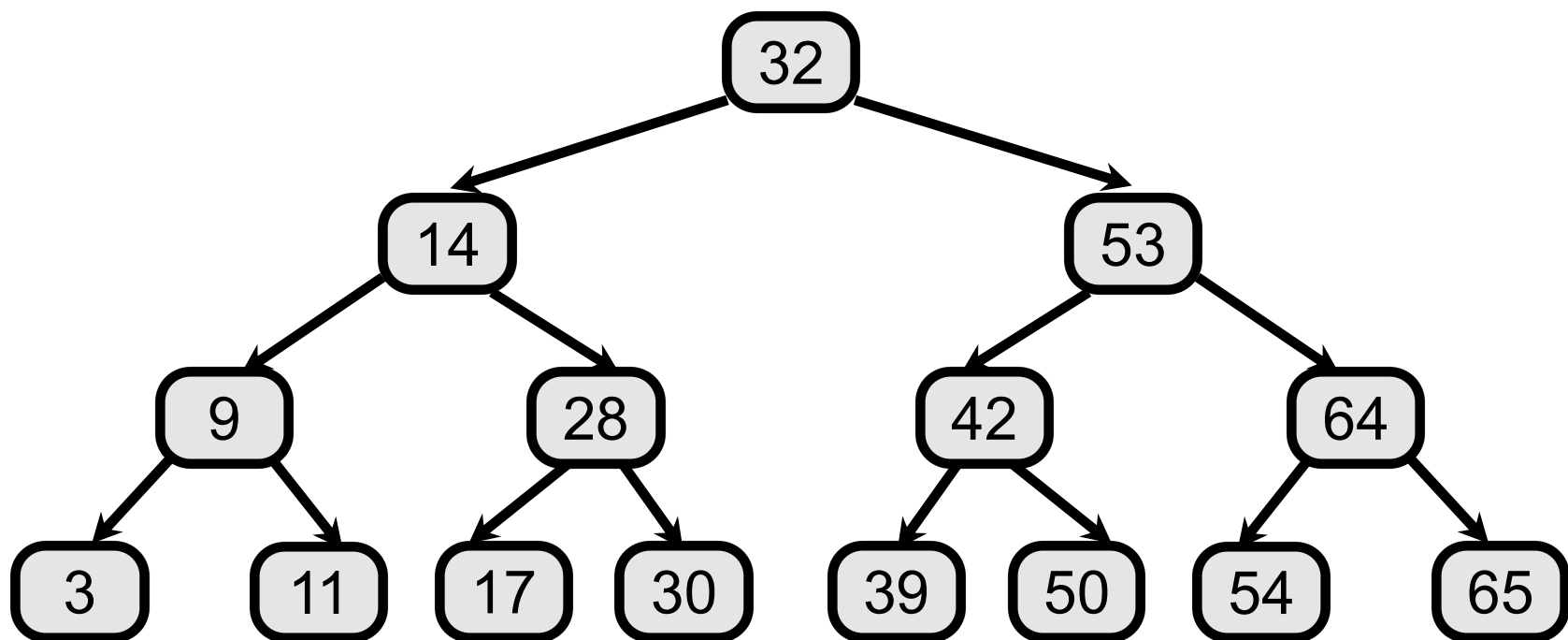


Binary Search Trees: Exercises

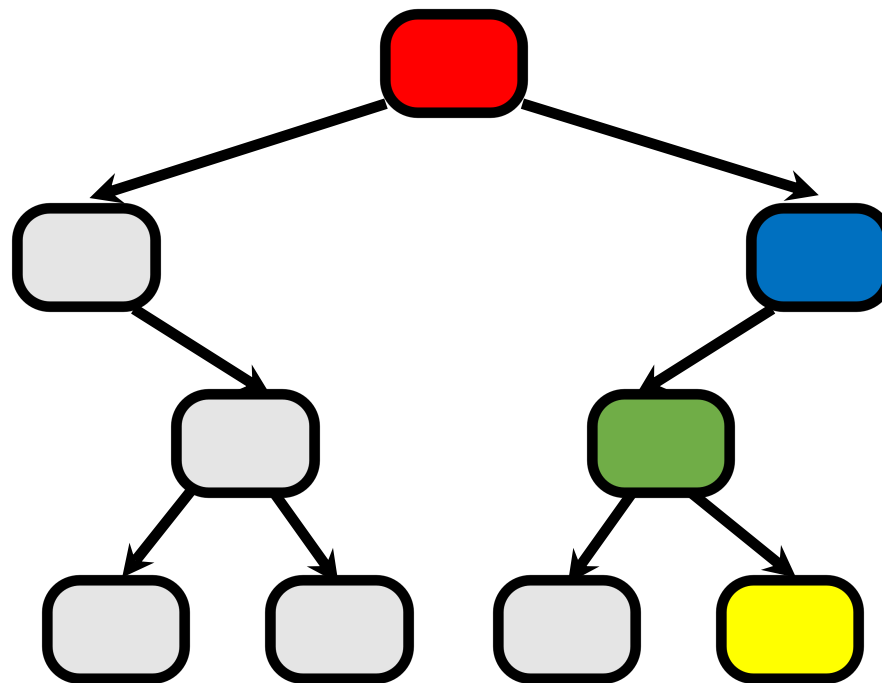
Semester 2, 2020

Kris Ehinger

Review: Binary search tree

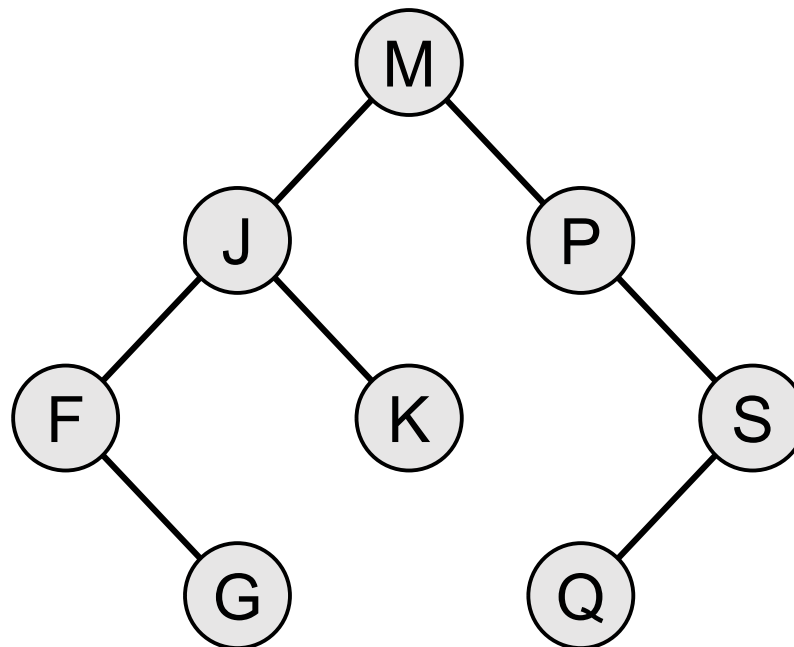


Review: Tree traversal



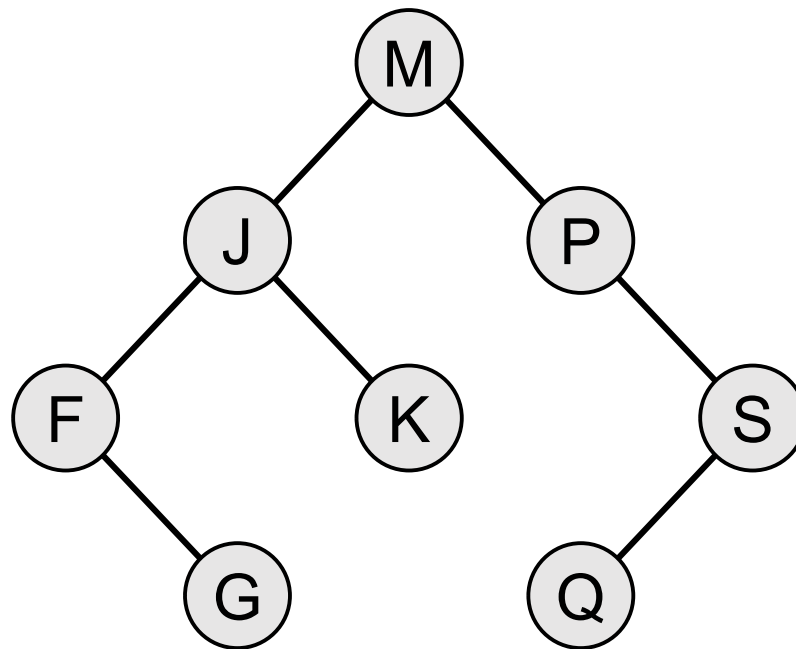
Tree traversal

- What is the output of recursive post-order tree traversal? Assume that `visit(t)` prints the node's key.

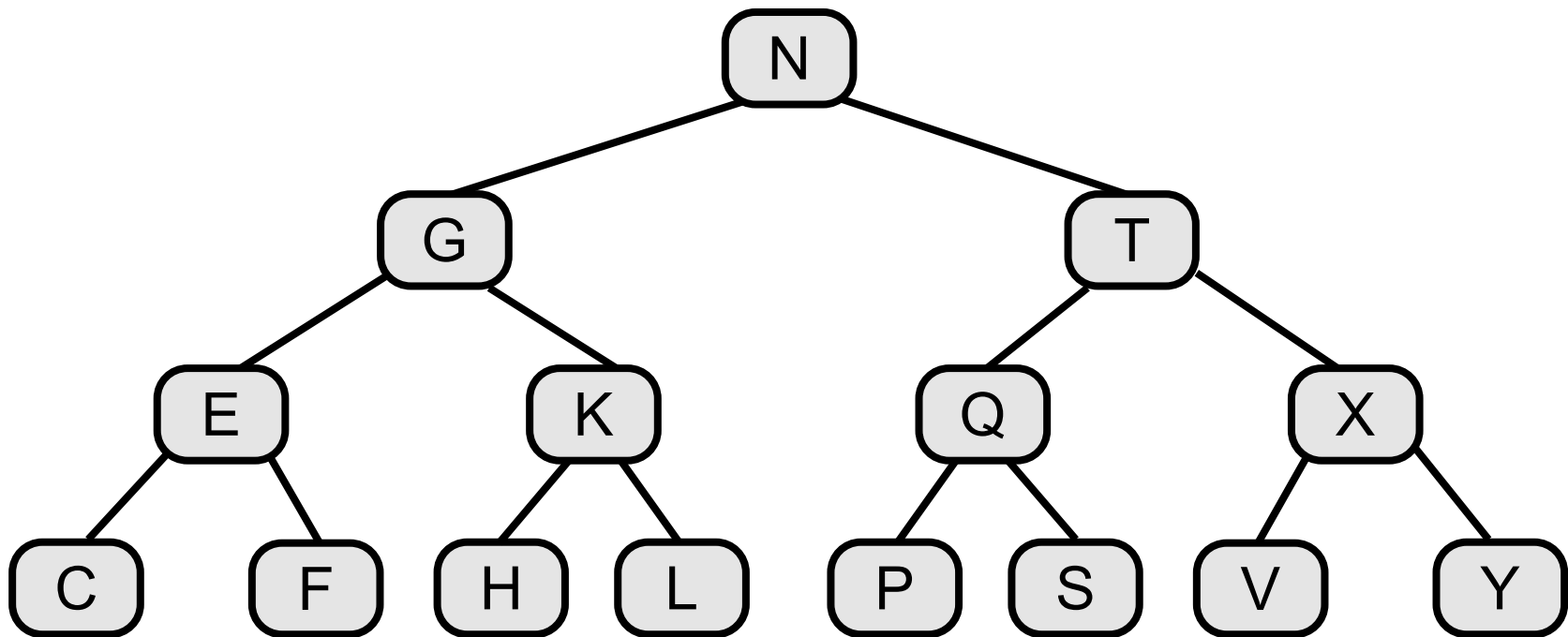


Tree traversal

- What is the output of recursive pre-order tree traversal? Assume that `visit(t)` prints the node's key.

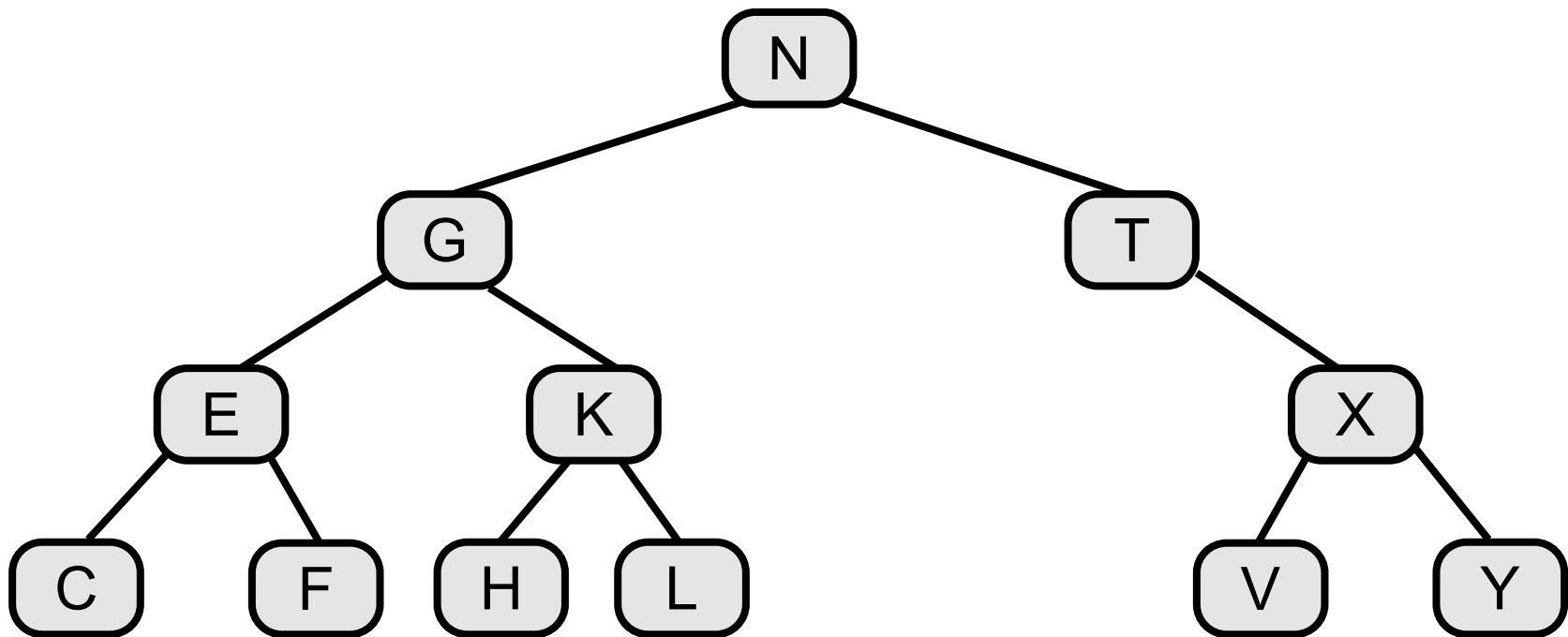


In-order predecessor / successor



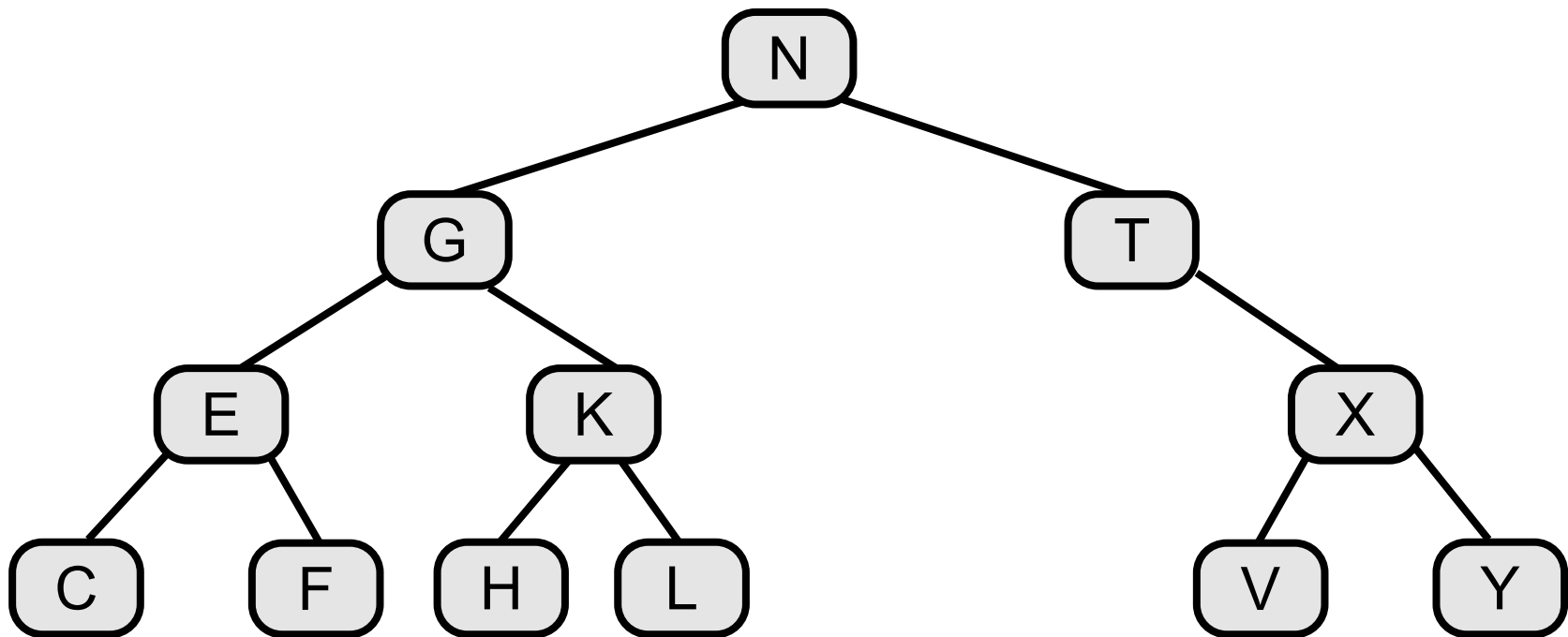
Node deletion

- How to delete?



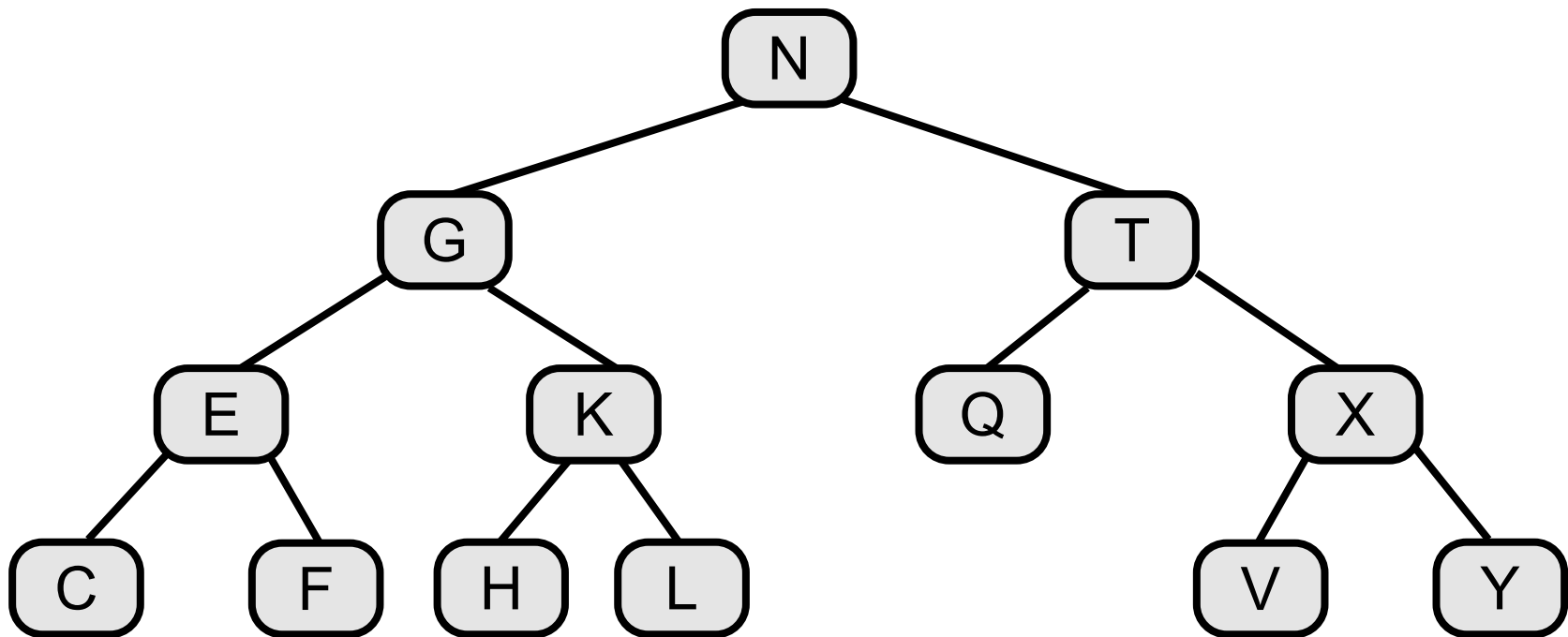
Node deletion

- How to delete?



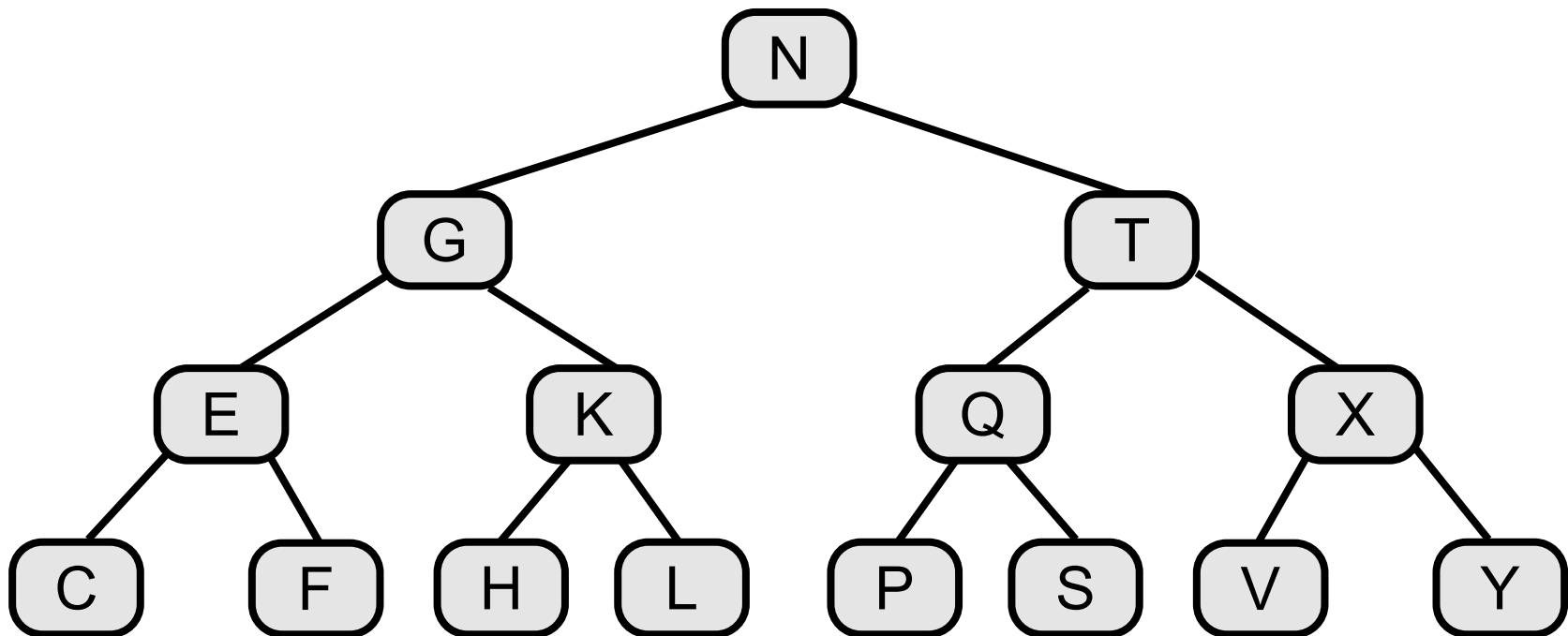
Node deletion

- How to delete?

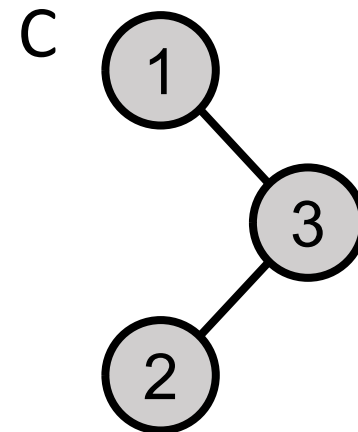
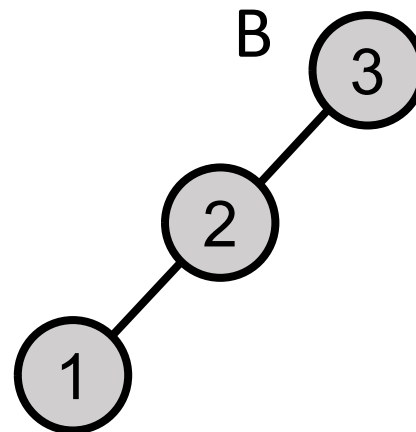
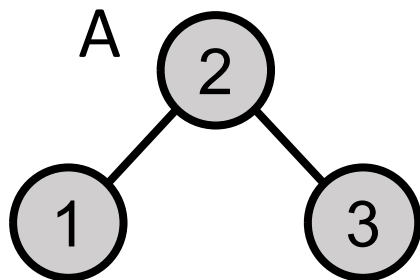


Node deletion

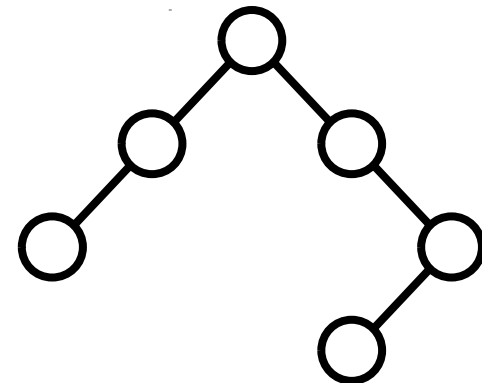
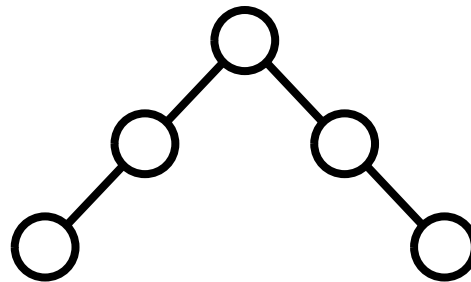
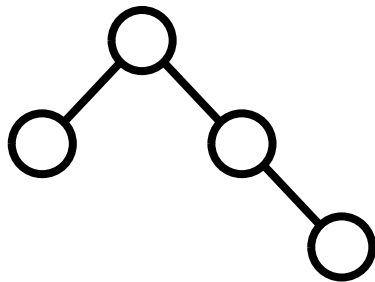
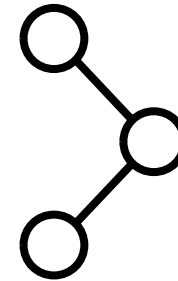
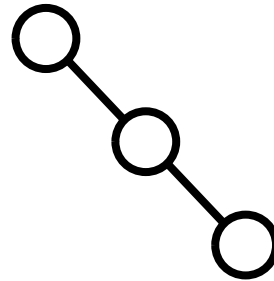
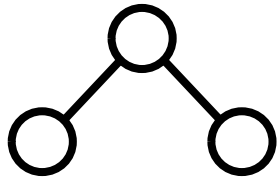
- How to delete?



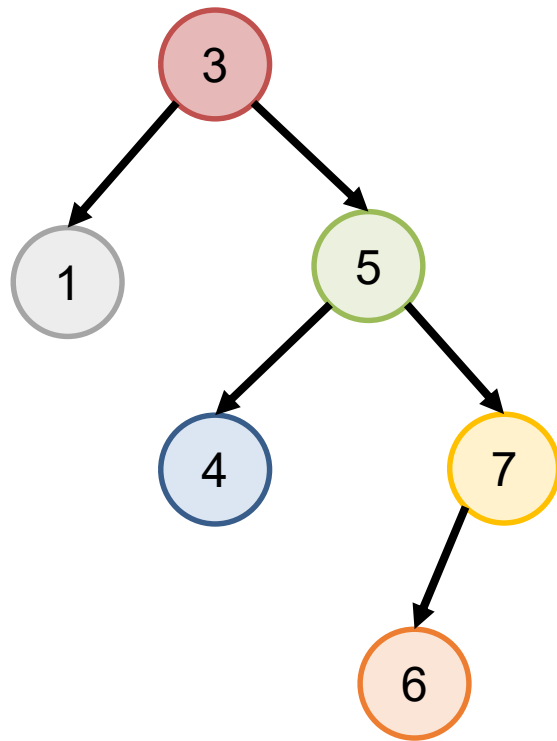
Review: Binary search trees



Are these trees AVL balanced?

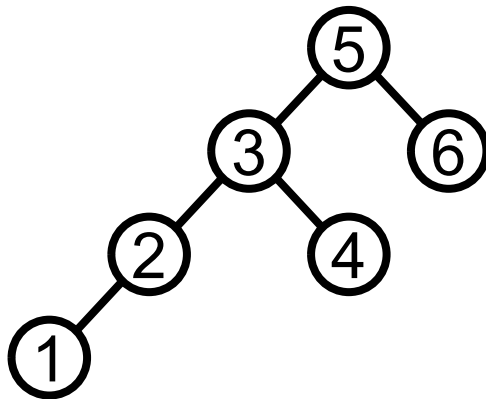


AVL rotation

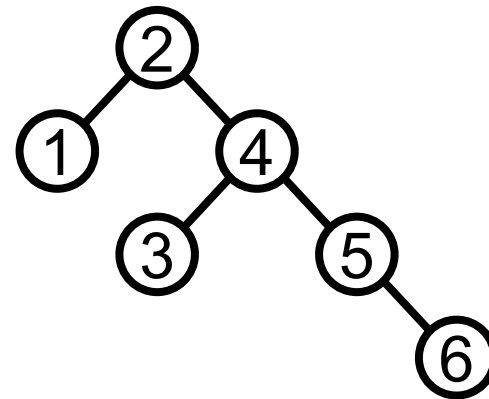


Review: Rotation

Tree 1

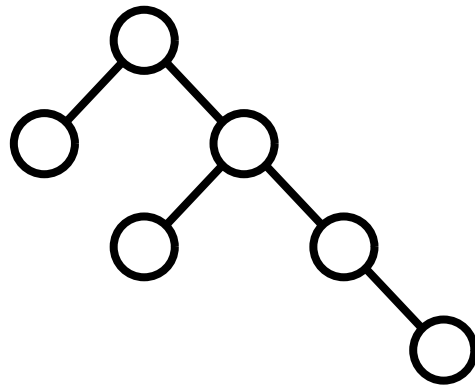


Tree 2

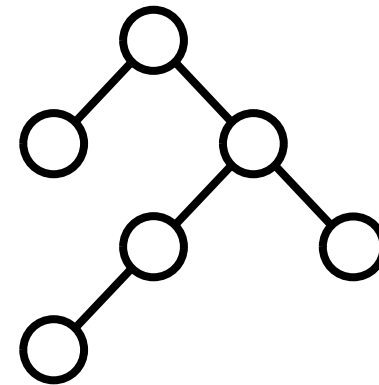


Review: AVL imbalance

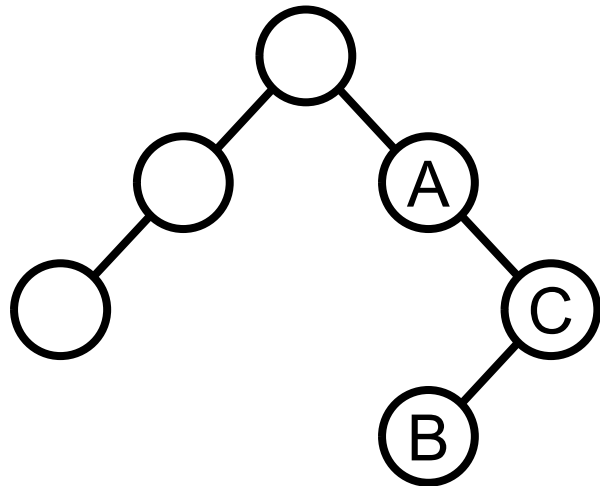
Tree 1



Tree 2



Why double rotation?



Exercise: AVL trees

