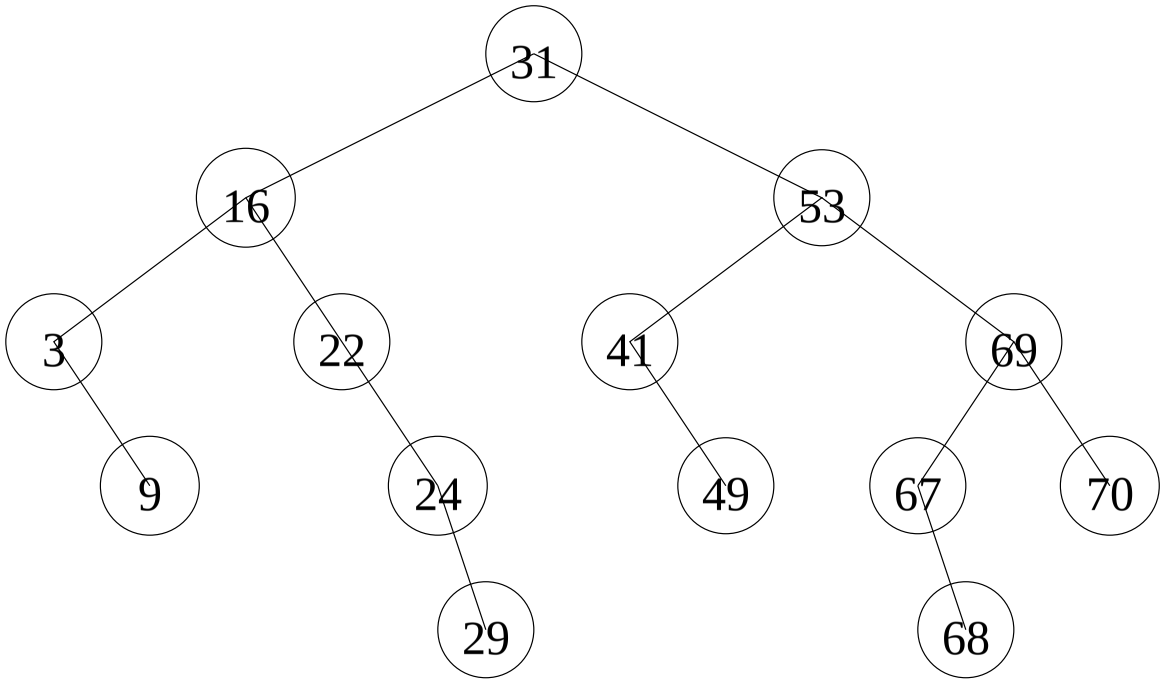
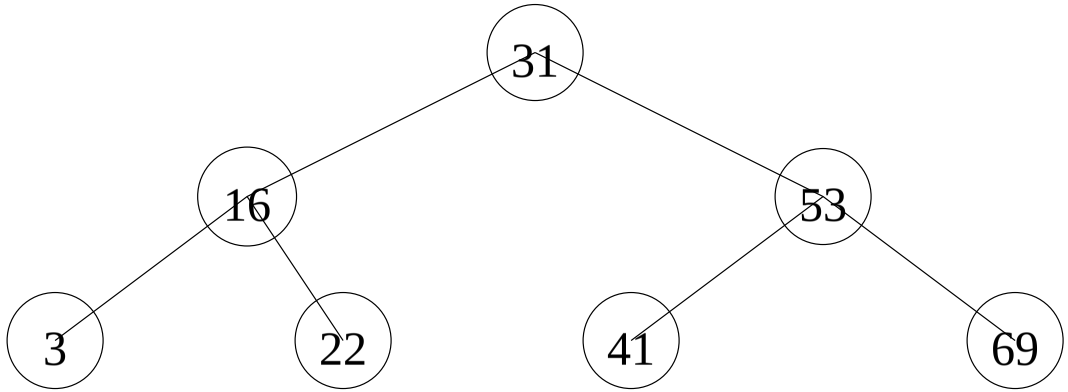
A Binary Search Tree (BST)

- The defining property of a BST is that
  - for each node n in the tree, every key in n's left subtree is less than n's key and every key in n's right subtree is greater than n's key.



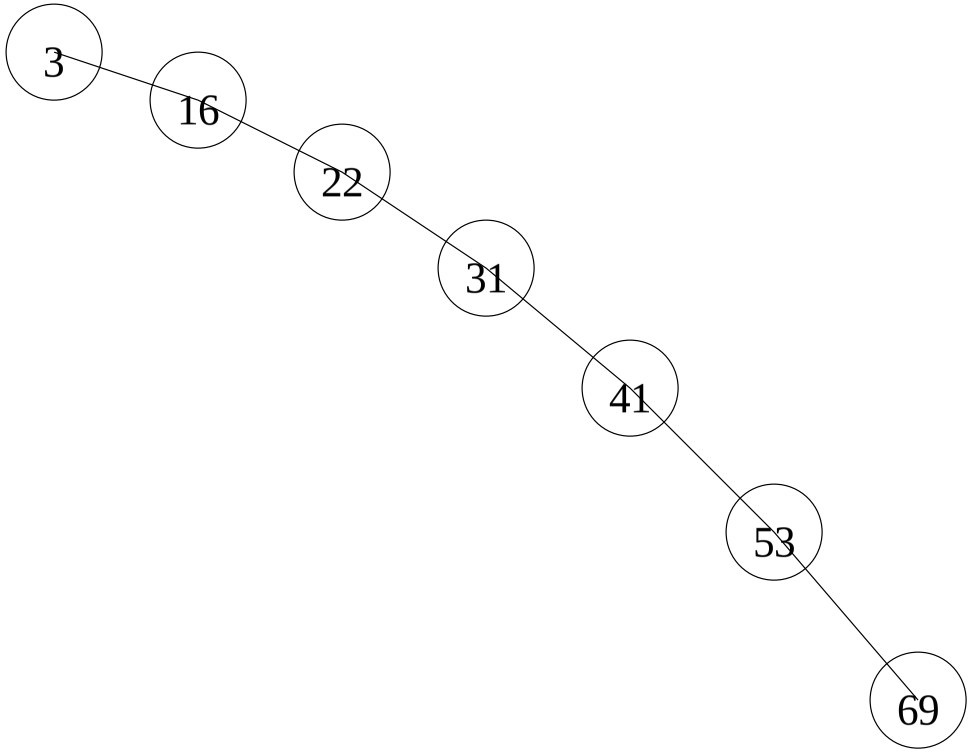
Binary Search Trees

- How many steps (in the worst case) would it take to find a key in the following tree?



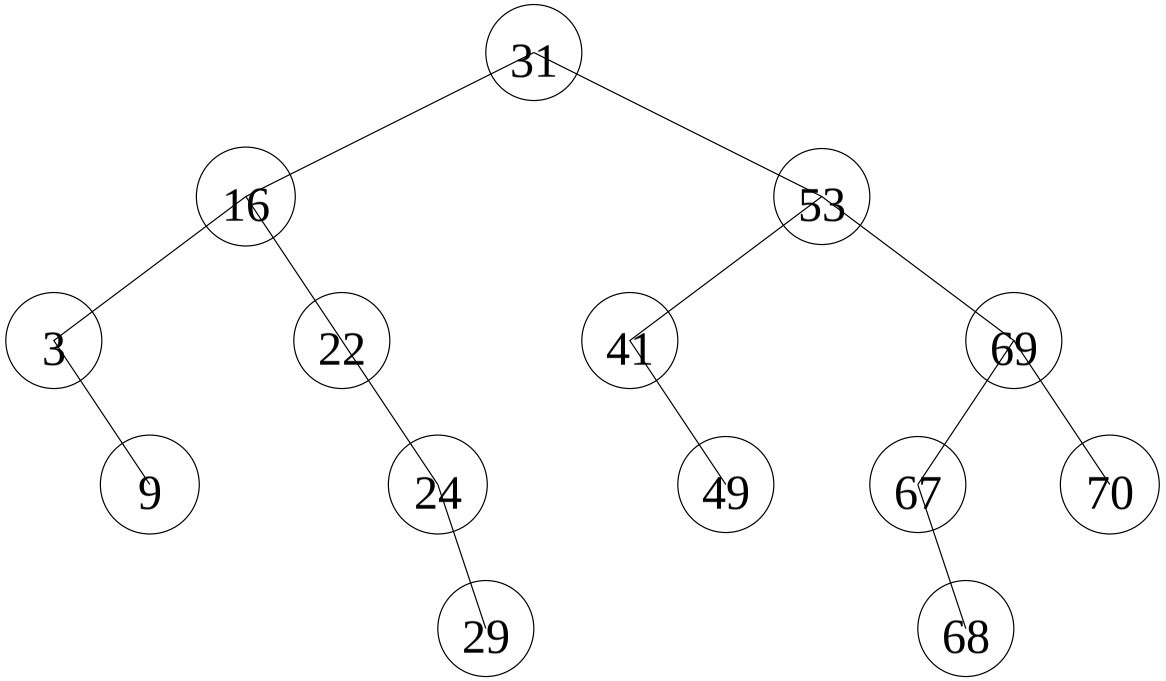
Binary Search Trees (cont.)

- The same keys might be arranged to form a "perfectly" unbalanced tree.



Binary Search Trees Insertion

- Where would 30 go into the following tree? Where would 32 go? Where would 79 go?



Binary Search Trees Deletion

- Deleting a leaf node, e.g., 68, is easy.
- Deleting an "interior" node, e.g., 53, is hard.