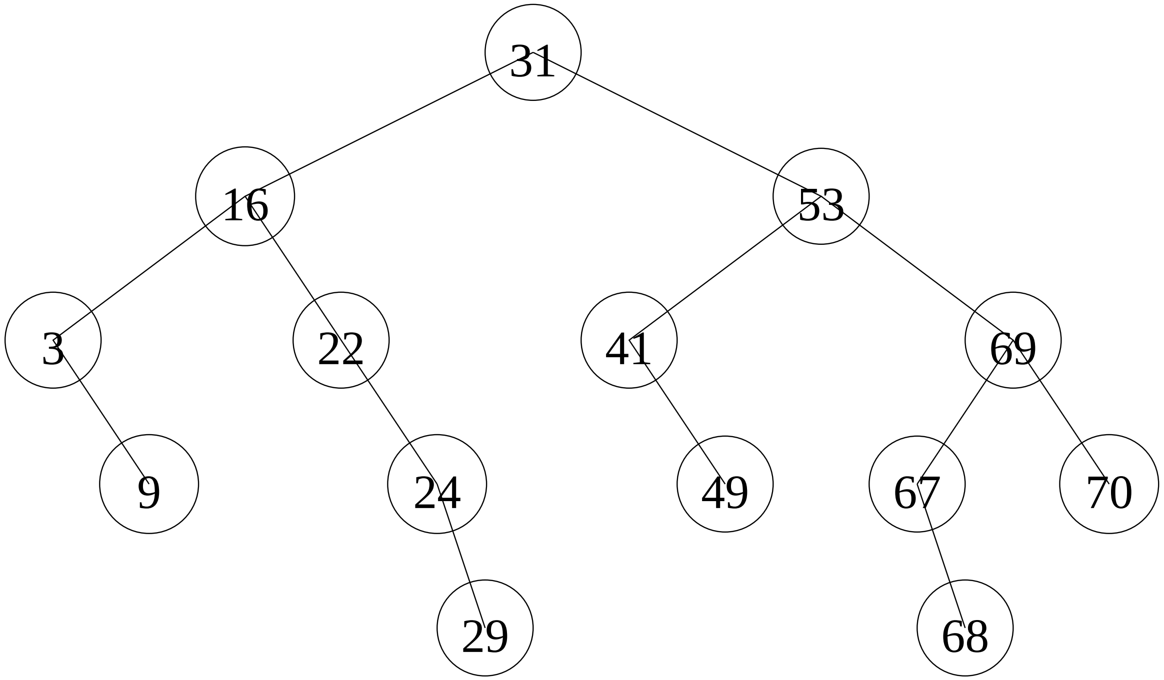
Overview

- Announcements
  - Milestone #2 due date changed to Fri, Apr 7 at 10AM.
  - Exam #2 on Wed, Apr 5 at 7:30PM in DH 1064.
- Binary Search Trees
- Iterator Pattern

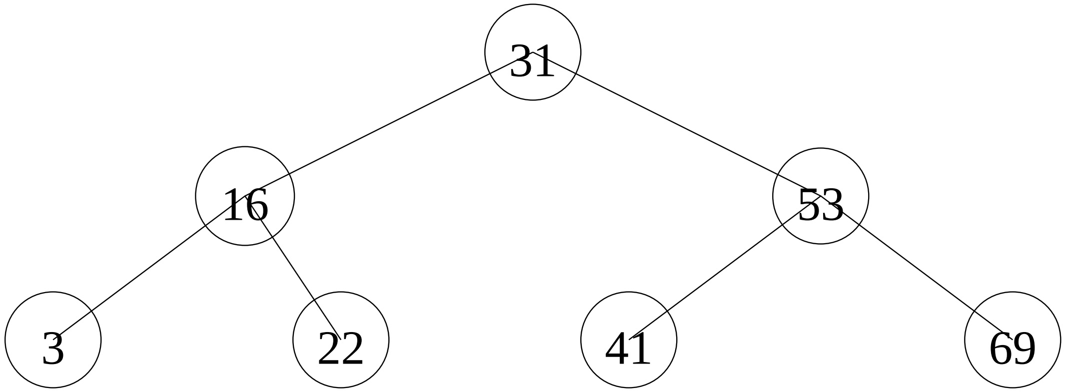
Binary Search Trees

- In a binary search tree, each node's key is greater than its left child's key and less than its right child's key.



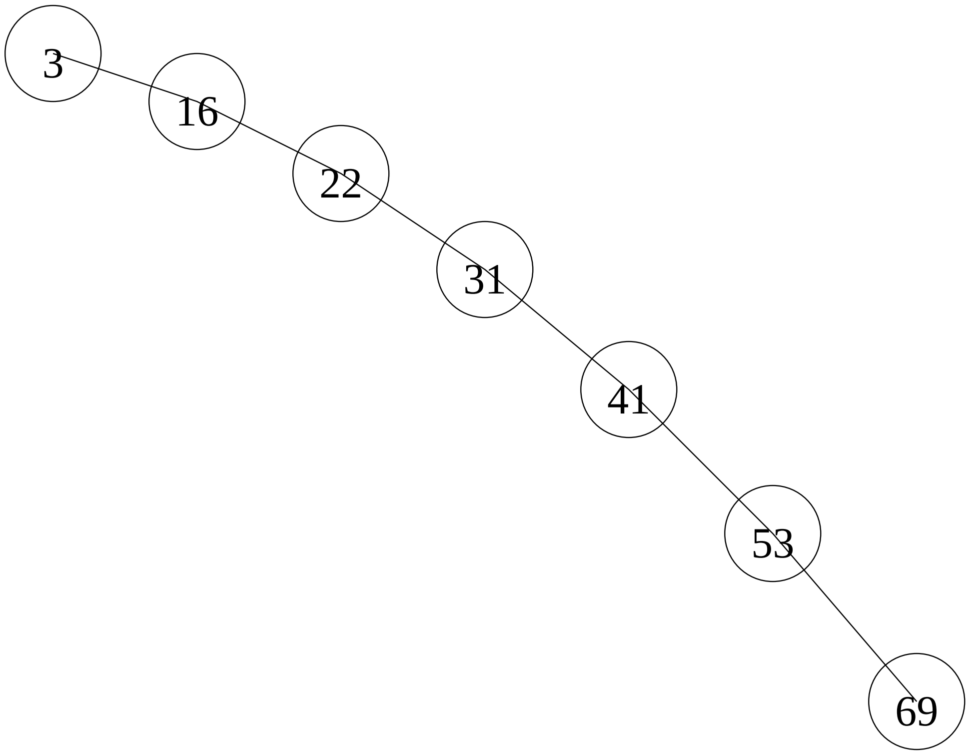
Binary Search Trees (cont.)

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



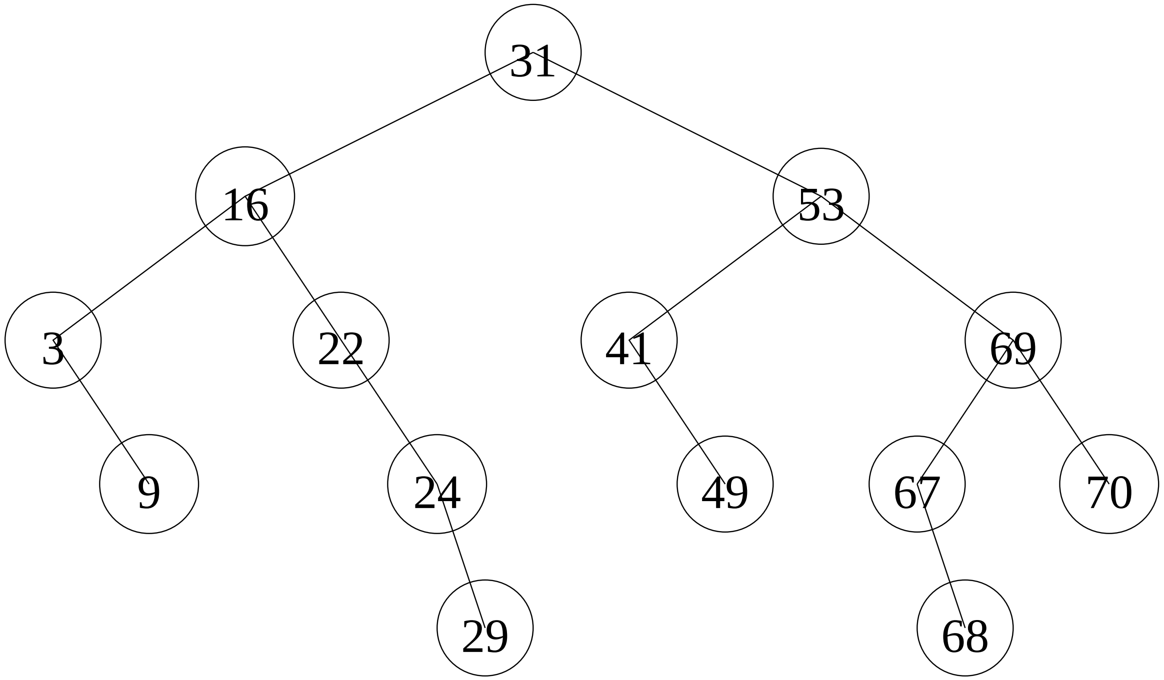
Binary Search Trees (cont.)

- 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.