

- 4.9** (a) Show the result of inserting 3, 1, 4, 6, 9, 2, 5, 7 into an initially empty binary search tree.
(b) Show the result of deleting the root.

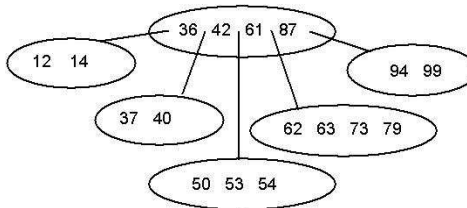
- 4.18** (a) Give a precise expression for the minimum number of nodes in an AVL tree of height h .
(b) What is the minimum number of nodes in an AVL tree of height 15?

- 4.19** Show the result of inserting 2, 1, 4, 5, 9, 3, 6, 7 into an initially empty AVL tree.

- 4.25** (a) How many bits are required per node to store the height of a node in a N -node AVL tree?
(b) What is the smallest AVL tree that overflows an 8-bit height counter?

B-tree Starting with the following B-tree of order 5, perform the indicated operations and show the result after the following operations in sequence, and be sure to redraw the tree after a node merge.

Delete 50, Delete 36, Delete 73, Delete 99, Delete 40.



B-tree Starting with the following B-tree of order 5, perform the indicated operations and show the result after each operation, and be sure to redraw the tree after a node split. When a node overflows, split it immediately.

Insert 62, Insert 54, Insert 99, Insert 61, Insert 20.

