

Today's topics: catch-up; review.

Next class: Midterm Exam 1.

1. List the members of your group below. Underline your name.

2. Depict the result of inserting the following keys, in the order presented, into an initially empty B -tree with parameters $M = 3$ and $L = 3$, based on the definitions and methods in the textbook.¹ (The tree is thus a B^+ -tree.)

70, 50, 60, 65, 40, 75, 62, 63, 41, 42, 51, 52, 53, 54

Depict some intermediate states of the tree, *including at least the states after each node-splitting operation.*

Similarly, depict the result of deleting the following keys, in this order, *depicting at least the intermediate states after each node-merging operation.*

40, 41, 52, 63

¹Mark Allen Weiss, *Data Structures and Problem Solving Using Java*, 4th edition (Addison-Wesley, 2010), §19.8.

[additional space for answering the earlier question]

3. Repeat Question 2 (insertions and deletions) for an AA-tree.

4. Repeat Question 2 for a red-black tree.

5. Repeat Question 2 for an AVL tree.

6. Repeat the insertions of Question 2 for a binary min-heap, followed by four delete-min operations.