Today's topics: B-trees, selection sorting. Textbook §§ 8.1–8.3, 19.7, 19.8.
Next class: Review, term projects. Textbook Chapters 18, 19, 20, 8.1–8.3.

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

2. Depict the action of *selection sort* on the following array. Assuming a typical nested-loop implementation, depict the state of the array after each iteration of the outer loop.

$$49, 38, 9, 27, 39, 54, 8, 1, 3, 76$$

3. Depict the result of inserting the following keys, in the order presented, into an initially empty **B-tree** with parameters $M = 4$ 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.*

$$40, 41, 52, 63$$

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

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