COS212 (Data Structures and Algorithms)

Tutorial Exercise 6
2021/05/18

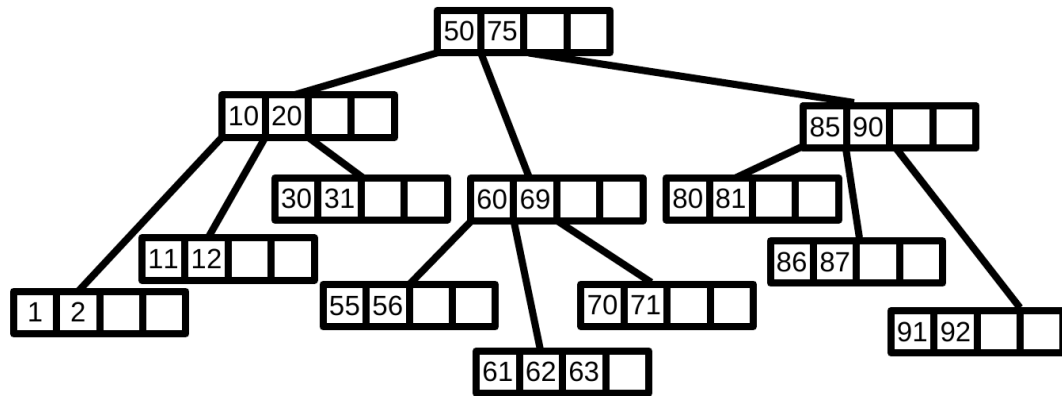**Question 1** Multiway Trees . . . . (6 marks)

   1.1 [1 point] Why must the order M of a B-tree be an odd number?

   1.2 [3 points] Consider the B-tree in the figure. Use the direct **successor** to perform delete-by-copying and delete the key 75 from this tree. Draw the final tree after the aforementioned delete has successfully taken place.

   1.3 [1 point] For a B-tree of height 6 and M = 5, what is the minimum number of leaf nodes this tree should have?

   1.4 [1 point] What is the maximum number of leaf nodes in a B+ tree with $M = 7$ containing 900 keys?