

# CS 4750: Database Systems (Spring 2026)

## Activity: B+ tree (get started)

(no submission)

### Purpose:

- Understand the concepts of indexing
- Use B+ tree to insert or delete keys
- Get ready to work on homework assignment and prepare for exam 3

You may make a copy of a worksheet and complete this activity or type your answers in any text editor. You may work alone or with 2-3 other students in this course.

Answer the following questions

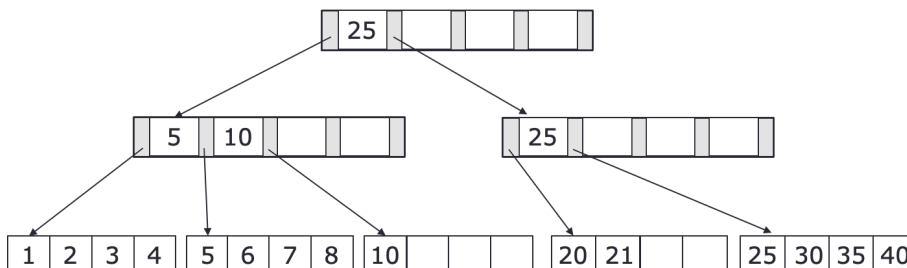
1. Summarize **B+ tree constraints**

- Leaf nodes
- Internal nodes
- Root node

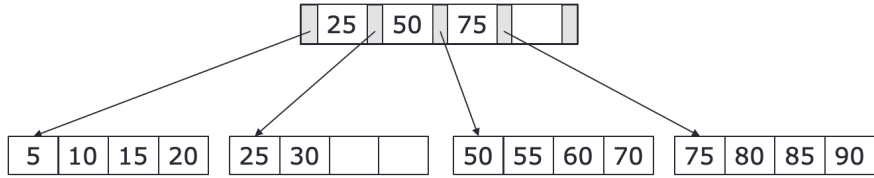
2. **Max indices**

- For an n-order B+ tree with a height of h, what is the maximum number of records indexed?
- For an n-order B+ tree with a height of h, what is the minimum number of records indexed?

3. Consider the following tree, identify everything that violates the **constraints**

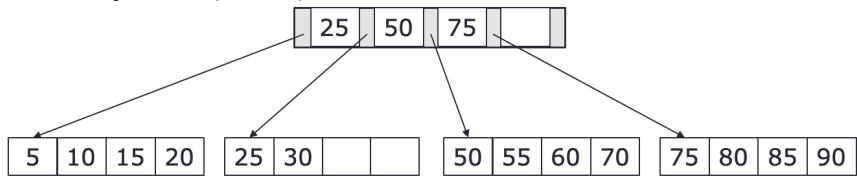


4. What would happen if we want to **find the key values** 45 and 15?

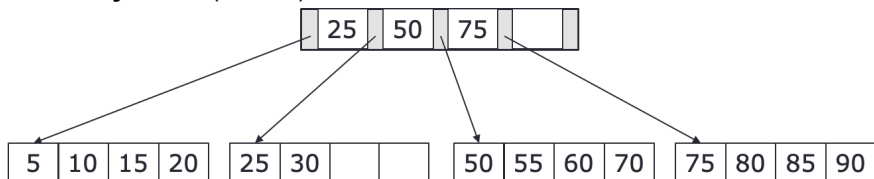


Briefly describe how 45 and 15 are searched.

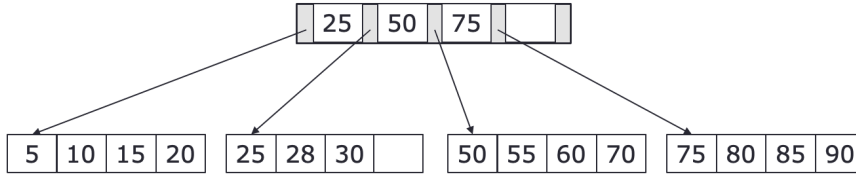
5. **Insert key value** (35, val) into the tree



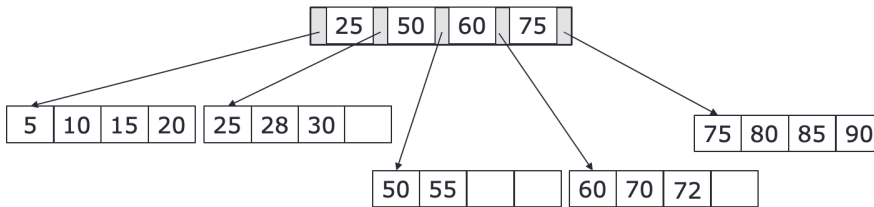
6. **Insert key value** (28, val) into the tree



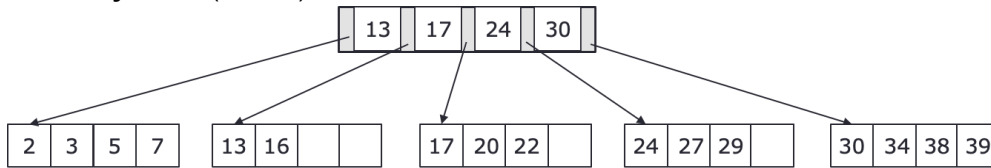
7. Insert key value (72, val) into the tree



8. Insert key value (95, val) into the tree



9. Insert key value (23, val) into the tree



10. Insert key value (8, val) into the tree

