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1. Summarize B+ tree constraints

- Leaf Nodes
    - Each entry consists of a key value and a pointer to the storage location of data matching the key
    - Leaf nodes are organized into a linked list pages, chaining the leaf nodes
- Internal Node
    - Each entry consists of a reference value (key) and a pointer to the leaf nodes
    - Data pointed to are less than or equal to the corresponding reference value (key)
- Root Node
    - A root node consists of one or more reference values (keys) and pointers to the leaf nodes (or internal nodes)

2. Max Indices

- For an n-order B+ tree with a height of h, what is the maximum number of records indexed?
    - $r_{max} = n^h - n^{h-1}$
- For an n-order B+ tree with a height of h, what is the minimum number of records indexed?
    - $r_{min} = 2\left[\frac{n}{2}\right]^{h-1}$

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

- There is underflow occurring at the second internal node and third leaf node

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

- For 45, the key value is not found
- For 15, return the position where the pointer is located.

5. Insert key value (35, val)

- Going from left to right, the second child row will contain (in the following order) numbers 25, 30, 35.

6. Insert key value (28, val)

- Going from left to right, the second child row will contain (in the following order) numbers 25, 28, 30

7. Insert key value (72, val)