Path Sum

This problem is about checking whether any root-to-leaf path sum equals the given target.

Key Idea:

- A root to leaf path means we must end at a leaf (node with no children).
- As we traverse the tree:
  - Subtract the current node's value from target sum.
  - If we reach a leaf and target sum == 0, return true.
- Recursively check left and right subtrees.

Iterative BFS (Queue) Solution:

- Use a queue to store (node, current_sum) pairs.
- Process level by level until reaching a leaf with sum == target.

Complexity:

- Time: $O(N)$ - Visit every node once.
- Space: $O(H)$ - Height of tree ($O(N)$ worst case, $O(\log N)$ for balanced).