The Quest for Harmony: 5-Day Challenge with Project Descriptions

Welcome to the epic 5-day quest. Each day, you'll master crucial techniques in Binary Trees (BT), Binary Search Trees (BST), and Balanced Binary Search Trees (BBST). Below are detailed project descriptions for each set of methods to empower your journey.

Day 1: The Foundation

Binary Trees (BT)

- **Boundary Traversal**: Traverse around the tree's boundary counter-clockwise.
- **Vertical Order Traversal**: Traverse and group nodes vertically.
- **Bottom View**: Print the bottom view of the tree from left to right.
- **Sum of Nodes at Kth Level**: Calculate the sum of nodes at a specific depth.

Binary Search Trees (BST)

- **Check if BST is Full**: Determine if each node has either 0 or 2 children.
- **Second Largest Element**: Identify the second largest node value.
- **Floor and Ceil of a Value**: Find floor and ceil for a given key.
- **Count Nodes within Range**: Count nodes within a specified range.

Balanced Binary Search Trees (BBST)

- **Construct Balanced BST from Sorted Array**: Create a balanced BST from sorted array data.
- **AVL Tree Check**: Check if a BST is AVL-balanced.
- **Delete Node from AVL Tree**: Remove nodes while maintaining AVL tree balance.
- **Convert BST to Balanced BST**: Transform an unbalanced BST to balanced.