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 4: Advanced Techniques

Binary Trees (BT)

- **Serialize and Deserialize Binary Tree**: Convert binary tree to and from string representation.
- **Cousins in Binary Tree**: Identify cousin nodes at the same level.
- **Maximum Width**: Calculate maximum number of nodes at any level.
- **Zigzag Traversal**: Perform zigzag (spiral) level order traversal.

Binary Search Trees (BST)

- **Largest BST Subtree**: Find largest subtree that is also a BST.
- **Merge Two BSTs**: Combine two BSTs into one.
- **Print BST Keys in Given Range**: Print all keys within a specified range.
- **BST from Postorder**: Construct BST using postorder traversal.

Balanced Binary Search Trees (BBST)

- **AVL Tree Inorder Successor**: Find inorder successor in AVL tree.
- **AVL Tree Level Order Traversal**: Traverse AVL tree level-by-level.
- **AVL Tree Path Sum**: Determine if a path sum exists.
- **Convert AVL to Min Heap**: Convert AVL tree into a min-heap.