

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 5: Mastery Level

Binary Trees (BT)

- **Construct Tree from Inorder and Preorder:** Build tree using inorder and preorder traversals.
- **Construct Tree from Inorder and Postorder:** Build tree using inorder and postorder traversals.
- **Tree Diameter:** Calculate longest path in the tree.
- **Path Sum III:** Count paths summing to a given value.

Binary Search Trees (BST)

- **Median of BST:** Calculate median node value.
- **Count BST Subtrees:** Count all subtrees that maintain BST properties.
- **Construct BST from Level Order:** Create BST from level order traversal.
- **Ceil of BST for each Query:** Find ceil value for multiple queries.

Balanced Binary Search Trees (BBST)

- **Split AVL Tree:** Split AVL tree based on pivot value.
- **Join AVL Trees:** Join two AVL trees into one.
- **AVL Tree Boundary Traversal:** Perform boundary traversal in AVL tree.
- **AVL Tree Maximum Width:** Calculate maximum width of AVL tree.