

In the mystical land of Algoria, there exists an ancient forest known as the Sylvan Expanse. Within its heart stands the Tree of Wisdom, a living relic rumored to hold the secrets of the universe in its countless branches. Legends tell that those who can decipher its structure and uncover its secrets are granted unparalleled knowledge and insight.

You, an aspiring mage of the Order of the Arcane, have embarked on a quest to understand the Tree of Wisdom. However, your journey is not merely one of physical travel but of mastering the art of Binary Search Trees (BST), for the Tree of Wisdom's structure mimics that of a grand, magical BST.

To prove your worthiness and gain the ancient knowledge, you must complete several tasks demonstrating your understanding and manipulation of the BST.

**Task 1: The First Seedling** Given an array of integers representing the ages of ancient dragons, insert these ages into the Sylvan BST according to the traditional rules of binary search trees.

*Subpart A:* Implement a function that takes an array of integers and builds the BST. Print the ages in an in-order traversal to show the tree's structure.

**Task 2: The Dragon's Legacy** The dragons of Algoria occasionally leave behind mystical eggs in the forest, which are discovered by adventurers. When a new dragon egg is found, its age is added to the Sylvan BST.

*Subpart B:* Implement a function to insert a new dragon age into the Sylvan BST. Ensure the BST's properties remain intact.

**Task 3: The Eclipse Ceremony** During a rare eclipse, it is customary to honor the memory of the dragons who have passed away by removing their ages from the Tree of Wisdom.

*Subpart C:* Implement a function to remove a specified dragon's age from the Sylvan BST. Handle all cases of node removal.

**Task 4: The Quest for the Ancient Egg** Rumors speak of the oldest dragon egg hidden within the Sylvan Expanse. Finding this egg could lead to untold power.

*Subpart D:* Implement a function that finds and returns the age of the oldest dragon egg in the Sylvan BST.

**Task 5: The Path to Enlightenment** The elders speak of a ritual to seek guidance on critical decisions by finding the Lowest Common Ancestor (LCA) of two given dragon ages within the Tree of Wisdom.

*Subpart E:* Implement a function to find the LCA of two dragon ages in the Sylvan BST. Print the path to each age from the root and the LCA.

**Task 6: The Grand Visualization** To truly understand the mysteries of the Sylvan Expanse, one must visualize the Tree of Wisdom in its entirety, observing how the dragon ages are interwoven.

*Subpart F:* Utilize a graphical framework to draw the Sylvan BST, showcasing the interconnected ages of the dragons. Each node should represent a dragon's age, and lines should indicate parent-child relationships.

**Guidelines:**

- Your solutions must adhere to the principles of BST operations.
- Consider edge cases, such as inserting duplicates or removing non-existent nodes.
- Use efficient algorithms to ensure your magic does not exhaust you.
- The visualization in Task 6 should be clear and intuitive, accurately reflecting the BST's structure.

**Reflection:** Upon completing these tasks, reflect on the journey and the lessons learned from manipulating the Tree of Wisdom. How can these lessons apply to solving other mystical challenges in Algoria?