BST Visualizer Documentation:-

Introduction:

- The Binary Search Tree (BST) Visualizer is an interactive web application that provides real-time visualization of BST operations. This educational tool helps users understand the fundamental concepts of Binary Search Trees through a dynamic and intuitive interface. Users can perform various BST operations such as insertion, deletion, searching, and different types of tree traversals while seeing the immediate visual representation of these actions.

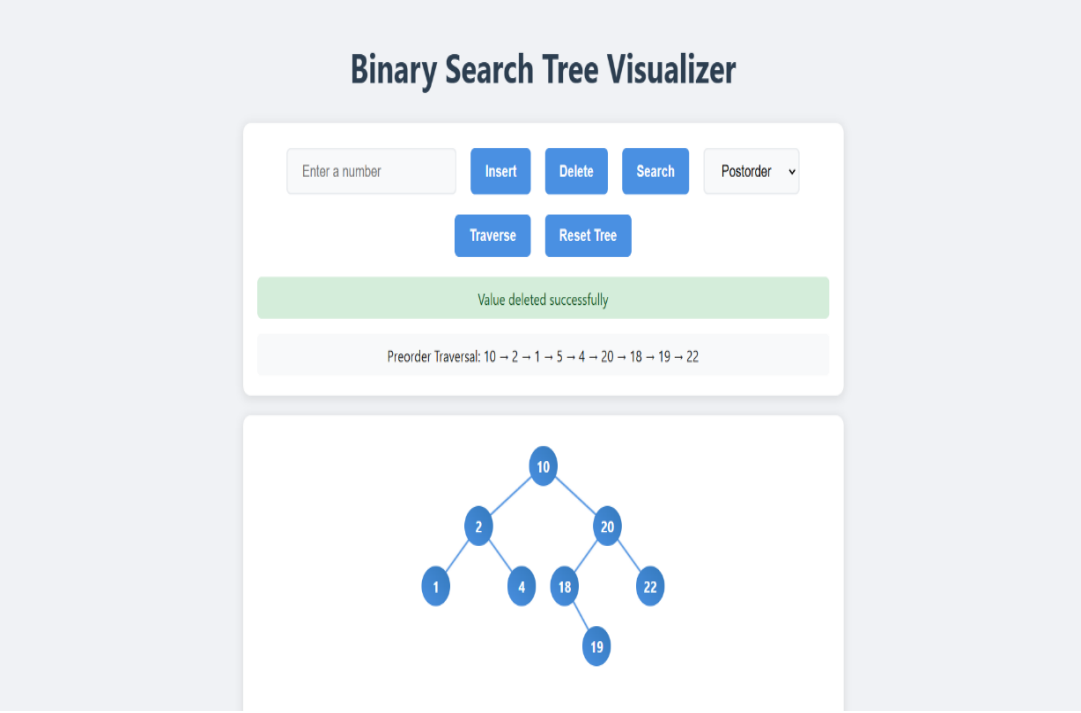
Requirements:

- Python 3.7 or higher
- Web browser with JavaScript enabled

Technologies:

- Python, Html, CSS, JavaScript

Screenshot:

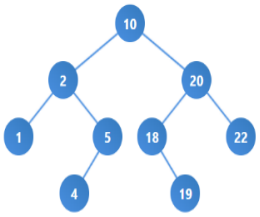


Binary Search Tree Visualizer

Enter a number | Insert | Delete | Search | Postorder

Traverse | Reset Tree

Preorder Traversal: 10 → 2 → 1 → 5 → 4 → 20 → 18 → 19 → 22

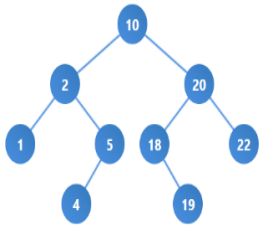


Binary Search Tree Visualizer

Enter a number | Insert | Delete | Search | Inorder

Traverse | Reset Tree

Preorder Traversal: 10 → 2 → 1 → 5 → 4 → 20 → 18 → 19 → 22



Binary Search Tree Visualizer

Enter a number | Insert | Delete | Search | Preorder

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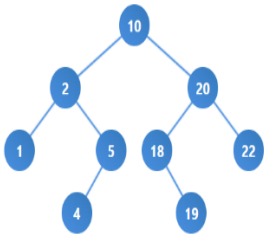
Preorder Traversal: 10 → 2 → 1 → 5 → 4 → 20 → 18 → 19 → 22

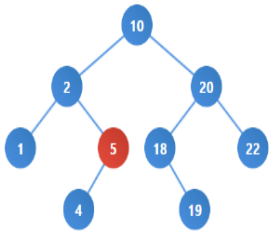


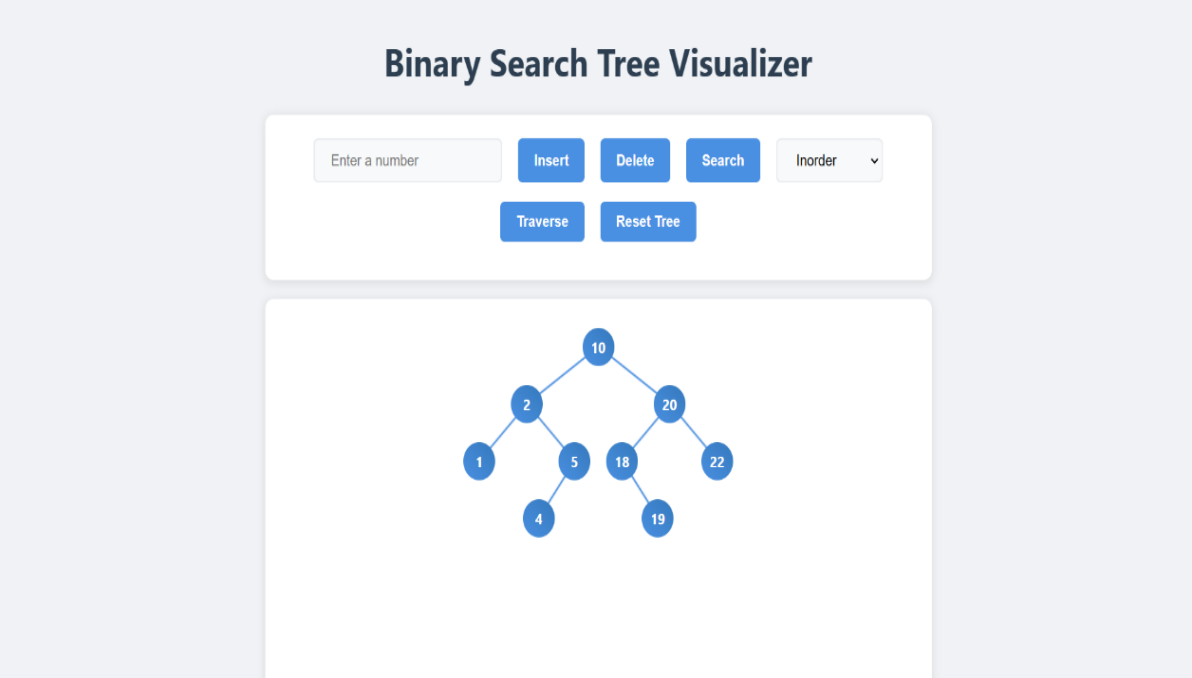
Binary Search Tree Visualizer

5 | Insert | Delete | Search | Inorder

Traverse | Reset Tree

Value 5 found in the tree!





Conclusion:

The BST Visualizer successfully combines theoretical concepts with practical visualization, making it an effective educational tool for understanding Binary Search Trees. The application demonstrates proper implementation of data structures, modern web technologies, and user interface design principles.