PSet 3b

Cohort Q2. Ternary Search Tree

Inorder traversal is the same, but postorder and preorder traversals are different. Inorder traversal is the same because it traverses the nodes in sorted order. However, postorder and preorder traversals depend on the structure of the tree, so they are different.

Q3. Kd Tree

(i) Time complexity = O(log n)

(ii) Good applications:

a. Finding nearest places in maps
b. Database queries

Q4. AVL Tree

(i) Time complexity = O(log n)

(ii) Good applications:

a. Fast search situations

AVL Trees are not often used in real world applications because of the high cost of rotation for insertions.

Q5. B Tree

(i) Time complexity = $O(k \log_k n)$

(ii) We would still need B Trees because it is still used in many other areas.

Good applications:

a. Search engines
b. Dictionaries
c. Folder mapping