Advanced Data Structures and Algorithms

E2UC503C

Practice Problems

Note: In case of programming problem, write your code in Java or Python Only.

1. What is a quad tree and Octrees, and what are their applications?
2. What is an AVL trees? What is balancing factor in AVL tree.
3. What is tail recursion?
4. What is B+ tree? Explain its uses.
5. How to insert, delete, and search in a binary search tree (BST) and their time complexities.
6. How a stack can be used to evaluate an mathematical expression?
7. Write a recursive function to check weather a given string is a palindrome.
8. What are the various collision resolution techniques in hashing? Compare them.
9. Compare the advantages and disadvantages of recursive and iterative approaches for solving a problem (take example of factorial of a number).
10. Write a function to find the height of tree.
11. Write a program to implement a sparse matrix.
12. Write a program to parenthesis balancing?