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|  |  | LinkedIN  using data structures and algorithms  This abstract examines the role of fundamental data structures—linked lists, stacks, queues, and binary trees—in implementing a social media network system using C++. Each data structure serves a distinct purpose in managing user interactions, connections, posts, and notifications within the network. | |
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| team members:  * Aakash Velusamy – 23PTO1 * Akash K – 23PT02 * Kabilan S – 23PT14  rEFERENCES:https://www.geeksforgeeks.org/queue-linked-list-implementation/amp/  * https://www.geeksforgeeks.org/implement-a-stack-using-singly-linked-list/amp/  DAta structures used:  * Arrays * Stacks * Queues * Linked Lists * Trees   Through the effective utilization of these data structures, the social media network system is able to efficiently manage user interactions, connections, posts, and notifications. |  | |
| Abstract:**Linked Lists: Managing User Connections**  * Linked lists are employed to establish and manage user connections, such as followers and those being followed. * Each node in the linked list represents a user, containing information about the user and a pointer to the next user. * Operations like adding and removing followers, as well as traversing the list to display connections, are efficiently performed using linked list algorithms. | |
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| STACKS AND QUEUES: MANAGING FOR NOTIFICATIONS   * Stacks play a vital role in managing notifications within the social media network system. * Notifications are stored in a stack data structure, allowing users to view them in a last-in-first-out (LIFO) order. * Stack operations enable efficient notification storage and retrieval, ensuring that users can access their notifications chronologically. | |
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| **BINARY TREES FOR POST MANAGEMENT:**   * Binary trees play a crucial role in managing user posts within the network. * Each user's posts are stored in a binary tree structure, where each node represents a post and is arranged according to a defined order (e.g., chronological order). * Binary tree operations such as insertion and traversal enable efficient management and retrieval of user posts, facilitating seamless interaction and content consumption for users. | |