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Data Structures & Algorithms

Topics Covered..... 2



SEOAK BASICS CERTIFICATION

DATA STRUCTURES & ALGORITHMS

Navigate the realm of Data Structures and Algorithms at SEOAK: Engage in live programming, challenging assignments, and expert guidance from industrial instructors. Master the essentials, advance your problem-solving skills, and excel in algorithmic thinking.

Topics Covered



- **Module 1:** Introduction to DSA
- **Module 2:** Introduction to LinkedList
 - Types of Linked List
 - Singly LinkedList
 - LinkedList Implementation
- **Module 3:** Singly LinkedList Traversal
 - Printing in reverse
 - Reversal and finding the middle node of LinkedList
- **Module 4:** Doubly LinkedList Implementation
- **Module 5:** Circular LinkedList Implementation
- **Module 6:** Introduction to Stack
 - Implementation to Stack
 - Implementation Stack using LinkedList
- **Module 7:** Parenthesis Validation and MinStack
- **Module 8:** Introduction to Queue
 - Implementation of Queue
 - Circular Queue
 - Double ended Queue (Deque)

Implement Stack using Queue

Implement Queue using Stack

- **Module 9: Introduction to Trees**

Terminologies

Types of Trees

Binary Search Trees Implementation

Transversal

Height of Tree

Diameter of Tree

Deleting Nodes in a Tree

- **Module 10: Introduction to Graphs**

Terminologies

Types of Graphs

Graphs Implementation

DFS Transversal

BFS Transversal and check if is Cyclic

- **Module 11: Searching Algorithms**

Linear Binary Search

- **Module 12: Sorting Algorithms**

In place Sorting Algorithms

Divide and Conquer based Sorting algorithms

- **Module 13:** Recursion
 - Rat in Maze
 - N- Queen's Problem
 - Recursion and how to optimize it: Josephus problem
 - Nth Staircase Problem
- **Conclusion**

Contact Us

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