



Curriculum Of Data Structure

INTRODUCTION TO DATA STRUCTURE AND ALGORITHMS

- What is data structure
- Benefits of data structure
- Types of data structure
- Introduction to algorithms
- Types of Algorithms
- Time and Space Complexity

LINEAR DATA STRUCTURE

- Array
- String
- Link list
- Introduction to link list
- Array vs. link lists
- Types of link lists
- Implementation of link list
- Singly & Doubly link list
- Circular link list
- Application of link list

STACK

- Introduction to stack
- Stack using array
- Stack using linked list
- Applications of stack
- Reverse Polish Notations

QUEUE

- Introduction to queue
- Queue using array
- Queue using linked list
- Applications of queue
- Introduction to circular queue
- Application of Circular queue
- Introduction to DeQueue (Double Ended Queue)
- Application of Dequeue
- Priority Queue

NON-LINEAR DATA STRUCTURE

- Tree
- Introduction to trees
- Types of trees
- Implementation of tress
- Binary tree
- Binary search tree
- AVL Tree
- Threaded binary tree
- M way tree
- M way search tree
- B tree
- Heap
- Various operations on trees
- Application of tress

SEARCHING & SORTING

- Searching in arrays
- Searching in strings
- Linear Search
- Binary Search
- Sorting
- Various sorting techniques
- Selection sort
- Bubble Sort
- Insertion Sort
- Quick Sort
- Heap Sort
- Merge Sort
- Radix Sort

GRAPH

- Introduction of Graph
- Types of Graphs
- Implementation of graph using Adj. Matrix and Adj. List
- Various Operations on graphs
- Shortest path search in graph
- Floyd Warshall Algorithm



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- Dijkstra Algorithm
- Minimum Spanning Tree
- Kruskal's Algorithm
- Prims Algorithm
- Application of Graphs

HASHING

- Introduction of Hashing
- Hash Table
- Applications of Hashing

DEVELOPMENT OF PROJECT