

Certification in

DATA STRUCTURE & ALGORITHMS

(1 MONTH)

Interactive Learning

Data Structure &
Algorithms course
offered by
LivetechINDIA.

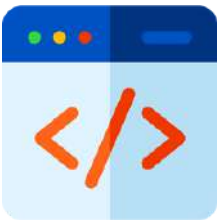


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DATA STRUCTURE & ALGORITHMS

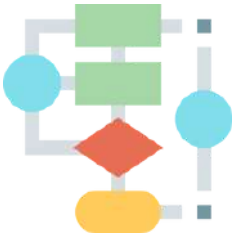
Concept



**Dynamic
Program**



Linked Lists



**Greedy
Algorithms**



**Trees &
Graphs**



**Stacks &
Queues**



**Arrays &
Strings**

DATA STRUCTURE & ALGORITHMS

Syllabus

Sorting Algorithms

- Bubble Sort
- Merge Sort
- Selection Sort
- Quick Sort

Searching Algorithms

- Linear Search
- Binary Search

Recursion

- Recursive functions
- Memoization and dynamic programming

Divide and Conquer

- Problem-solving using divide and conquer

Greedy Algorithms

- Greedy choice property
- Huffman coding
- Dijkstra's algorithm

Dynamic Programming

- Memoization and tabulation
- Knapsack problem
- Longest Common Subsequence (LCS)

DATA STRUCTURE & ALGORITHMS

Syllabus

Graph Algorithms

- Depth-First Search (DFS)
- Breadth-First Search (BFS)
- Shortest path algorithms (Dijkstra, Bellman-Ford)
- Minimum Spanning Tree (Prim, Kruskal)

Hashing

- Hash functions
- Hash tables

String Algorithms

- String searching (e.g., KMP algorithm)
- Edit distance (Levenshtein distance)