



TECHHUB SOLUTIONS

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Data Structures

Main Topic	Sub Topic
Data Structures Basics	Introduction of Data Structure and Problem Solving Need of Data structure Advantages of using DS
Array	Concept of Array, Array with Functions, Array in function argument
Pointer	Pointer Basics, Pointer with functions, Call by reference, Array of pointers & pointer to array & Programs
Structure	Understanding about Structure, Pointer structure variable Passing reference of structure
Stack & Queue	Introduction, Array & Linked Representation of Stack, Push & Pop operations on Stack Application of stack, Queue and its representations Basic operations on Queue (Enqueue and Dequeue) Difference between stack and queue
Linked List	Introduction & Representation of Linked lists, Types of Linked List Basics operations (insert, deletion, display, search, delete) Doubly Linked List and Its representation. Basic operations on Doubly Linked List (insertion, deletion, Insert Last, Delete Last, Insert After, delete, display forward, display backward) Circular Linked List and its representation Basic operations (insert, delete and display)
Tree	Tree Concepts, representation & Tree structure. Binary Search Tree and its operation. Tree Traversal (In-Order, Pre-Order and Post-Order Traversal). AVL Tree and Spanning tree, Heap
Sorting & Searching	Bubble sort, Selection sort, Quick sort, Merge sort Linear and binary search

Graphs	Graph in Data Structure Graph terminology & Representation of graphs Basic operations (add vertex, Add Edge, Display vertex) Depth first and Breadth first traversal, Minimum spanning Tree

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