

## Introduction

- \* Definition of Data Structures
- \* Importance of Data Structures
- \* Structured Representation
- \* Common operations on Data Structure
- \* Data Structure Representation

## Stacks

- \* Stack Definition
- \* LIFO (Last-In-First-Out)
- \* Applications
- \* Operations
- \* Stack implemented as an array
- \* Stack implemented with pointers

## Queues

- \* Queue Definition
- \* FIFO (First-In-First-Out)
- \* Application of Queues
- \* Differences between Stacks & Queues
- \* Operation of Queue
- \* Circular Queue
- \* Priority Queue
- \* Double Ended Queue
- \* Queue implemented with Pointers

## Linked List

- \* What is a Linked List
- \* Advantages of Linked List over an Array
- \* Application of Linked List
- \* Types of Linked Lists
- \* Singly Linked Lists
- \* Operations on Singly Linked List
- \* Doubly Linked Lists
- \* Operations on Doubly Linked Lists
- \* Circular Linked Lists
- \* Circular Double Linked Lists

## Trees

- \* Root
- \* Leaf
- \* Parent
- \* Child
- \* Binary Trees
- \* Implementation of Binary Trees
- \* Insertion
- \* Deletion
- \* Binary Search Trees
- \* Traversing a Binary Tree
  - \* Pre order
  - \* In order
  - \* Post order

## Sorting Techniques

- \* Importance of Sorting
- \* Selection Sort
- \* Bubble Sort
- \* Insertion Sort
- \* Merge Sort
- \* Quick Sort

## Searching Techniques

- \* Type of searching
- \* Linear Search
- \* Binary Search
- \* Best suitable Search method



JAVA / PYTHON / .NET  
**FULL STACK**



**DATA SCIENCE**



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