## Data Structures:

1. **Basic Data Structures**

* Lists and Arrays
* Dictionaries (Hash Tables)
* Sets
* Tuples
* Stacks and Queues
* Linked Lists (Singly and Doubly)

1. **Advanced Data Structures**

* Trees (Binary Trees, Binary Search Trees, AVL Trees)
* Heaps (Min and Max Heaps)
* Graph representations
* Tries
* Advanced Tree structures like Red-Black Trees

## Algorithms:

1. **Searching Algorithms**

* Linear Search
* Binary Search
* Depth-First Search (DFS)
* Breadth-First Search (BFS)

1. **Sorting Algorithms**

* Bubble Sort
* Selection Sort
* Insertion Sort
* Merge Sort
* Quick Sort
* Heap Sort

1. **Algorithm Design Paradigms**

* Recursion
* Dynamic Programming
* Greedy Algorithms
* Divide and Conquer
* Backtracking

1. **Advanced Algorithm Concepts**

* Time and Space Complexity Analysis (Big O Notation)
* Graph Algorithms (Dijkstra's, Kruskal's, Pdijkstra's)
* String Manipulation Algorithms
* Bit Manipulation