

- **Week 1**

- Mathematics
- Basic Recursion
- Arrays: Searching, Sorting, Deleting, Shift, Rotation, Prefix Sum...

- **Week 2:**

- Bit Magic
- Matrix: Search, Delete, Insert, Rotate...
- Searching: Linear Search, Binary Search, Two pointer approach...

- **Week 3:**

- Sorting: QuickSort and its variation, Mergesort, Counting sort, Insertion Sort, Heap Sort, Comparator
- Hashing: Different Types of Hashing Techniques, Collision resolution Techniques, Hashing Questions

- **Week 4:**

- Strings: Basic Operations, Naive Pattern Search, Other searching algorithms.
- Linked Lists: Singly Linked List, Doubly Linked Lists, Circular Linked List, Skip List, Doubly Circular

- **Week 5:**

- Stacks: Stack Operations, Implementation, Different Questions

- Queues: Queue Operations, Implementation, Different Questions, Deque Operations, Implementation, Different Questions.

- **Week 6:**

- Tree: Binary Tree, Tree Traversal
- Binary Search Tree: Search, Insert, Delete and other important questions, AVL (Basic Introduction)

- **Week 7:**

- Heaps: Binary Heap, Questions based on heaps.
- Graphs: Types of Graphs, BFS, DFS, Cycle Detection, Connected Components, Bipartite Graph

- **Week 8:**

- Recursion and Backtracking: Backtracking questions, n queen, rat, knight etc.
- Dynamic Programming: Properties (Top Down, Bottom Up, Optimal Substructures, Overlapping Subproblems).

- **Week 9:**

- Graph Algorithms
  - Shortest Path Algorithms
  - Connected Components
  - Bridges

- **Week 10:**

- Trie
- Segment Tree
- Disjoint Set