



## COMPETITIVE CODING COURSE CONTENT

PROBLEM SET EVERY DAY ON TOPICS COVERED. SOME TIME WILL BE ADJUSTED FOR DOUBT CLEARING BUT ALL BELOW TOPICS WILL BE COVERED.

### DATA STRUCTURE

1. ARRAY, STRINGS
  - ARRAY, STRING, MATRIX, ARRAY ROTATIONS, RECURSION
2. LINKED LIST, STACK, QUEUE
  - SINGLE LL, CIRCULAR LL, DOUBLE LL
  - LIFO, FIFO, STACK, QUEUE
  - PRIORITY QUEUE, DE QUEUE, CIRCULAR QUEUE
3. BINARY TREE, BST
  - BINARY TREE, TRAVERSALS, BST
  - BALANCED BINARY TREE LIKE AVL
4. GRAPH
  - BFS, DFS, SHORTEST PATH
  - CYCLE IN A GRAPH, TOPOLOGICAL SORTING, BACK TRACKING
5. HEAP
  - MIN HEAP, MAX HEAP, HEAP SORT

### ALGORITHMS

1. ANALYSIS OF ALGORITHMS
  - BEST CASE, WORST CASE, AVG COMPLEXITIES
  - TIME COMPLEXITY, SPACE COMPLEXITY
2. SEARCHING ALGORITHMS
  - LINEAR SEARCH, BINARY SEARCH, INTERVAL SEARCH, SOME QUES
3. SORTING ALGORITHMS
  - SELECTION, BUBBLE, INSERTION, MERGE, QUICK, HEAP SORT
4. DYNAMIC PROGRAMMING
  - OPTIMAL SUBSTRUCTURE PROPERTY, OVERLAPPING SUB PROBLEMS
5. GREEDY ALGORITHMS
6. DIVIDE AND CONQUER
7. BACK TRACKING