DATA STRUCTURES

&

ALGORITHMS

WHY???

- A LOT OF BEGINNERS AND EXPERIENCED PROGRAMMERS AVOID LEARNING DATA STRUCTURES AND ALGORITHMS BECAUSE IT'S COMPLICATED AND THEY THINK THAT THERE IS NO USE OF ALL THE ABOVE STUFF IN REAL LIFE.

- DATASTRUCTURES AND ALGORITHMS ARE THE IDENTITY OF A GOOD SOFTWARE DEVELOPER. THE INTERVIEWS FOR TECHNICAL ROLES IN SOME OF THE TECH GIANTS LIKE GOOGLE, FACEBOOK, AMAZON, FLIPKART IS MORE FOCUSED ON MEASURING THE KNOWLEDGE OF DATA STRUCTURES AND ALGORITHMS OF THE CANDIDATES. THE MAIN REASON BEHIND THIS IS DATA STRUCTURES AND ALGORITHMS IMPROVES THE PROBLEM-SOLVING ABILITY OF A CANDIDATE TO A GREAT EXTENT.

IMPORTANT TOPICS

DATA STRUCTURES

- ARRAYS
- HEAPS
- STACKS
- QUEUES
- LINKED LISTS
- COLLECTIONS
- TREES
- HASHTABLES
- ALGORITHMS
- COMPLEXITY ANALYSIS
- SEARCH
- RECURSION
- SORT

ALGORITHMS

- GREEDY ALGORITHMS
- DIVIDE AND CONQUER
- DYNAMIC PROGRAMMING
- HASHING
- COMPLEXITY ANALYSIS
- NP-COMPLETENESS
- APPROXIMATION
- ALGORITHMS
- LINEAR PROGRAMMING
- GRAPH ALGORITHMS
- MAXIMUM FLOW

BEST RESOURCES

- GEEKSFORGEEKS
- LEETCODE
- TOPCODER
- VISUALGO

- MIT FREE OPEN COURSE ON ALGORITHMS
- STONY BROOK UNIVERSITY OPEN COURSE
- NPTEL
- PRINCETON UNIVERSITY

- INTRODUCTION TO ALGORITHMS (THOMAS H)
- CRACKING THE CODING INTERVIEWS
- DS AND ALGORITHMS (ALFRED V)