21 day - Getting started with DSA Roadmap

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Introduction to Data Structures
🔷- Day 1: Understand the significance of Data Structures and Algorithms (DSA).
🔶- Day 2: Dive into arrays, their properties, and operations.
🔷- Day 3: Explore linked lists, their types, and implementations.
🔶- Day 4: Grasp the concepts of stacks and queues, along with their applications.
🔷- Day 5: Get familiar with trees, including tree traversal techniques and binary trees.
🔶- Day 6: Deepen your knowledge about binary search trees (BST) and their operations.
🔷- Day 7: Learn the fundamentals of heaps, such as min-heaps and max-heaps.

🚀 **Week 2: Advanced Data Structures and Sorting Algorithms**
🔶- Day 8: Study advanced trees like AVL trees and Red-Black trees.
🔷- Day 9: Delve into hash tables and various collision resolution techniques.
🔶- Day 10: Explore the world of graphs, graph representations, and basic graph algorithms.
🔷- Day 11: Learn sorting algorithms (Bubble Sort, Insertion Sort, Selection Sort).
🔶- Day 12: Master advanced sorting algorithms (Merge Sort, Quick Sort).
🔷- Day 13: Discover searching algorithms (Linear Search, Binary Search).
🔶- Day 14: Apply your knowledge by implementing these data structures and algorithms.

🚀 **Week 3: Algorithm Design and Problem Solving**
🔷- Day 15: Grasp dynamic programming and its core concepts.
🔶- Day 16: Understand the magic of greedy algorithms and where to apply them.
🔷- Day 17: Hone your problem-solving skills with practice on platforms like LeetCode and HackerRank.
🔶- Day 18: Tackle more challenging problems, and analyze time and space complexities.
🔷- Day 19: Continue solving complex problems, refining your skills.
🔶- Day 20: Review what you've learned and address any weak areas.
🔷- Day 21: Recap your journey, take mock tests, and prepare for coding interviews.

📝 **Disclaimer: This roadmap is a guide, and consistent practice, dedication, and persistence are essential for mastering Data Structures and Algorithms. Solving problems regularly, reviewing concepts, and seeking help when needed will significantly improve your understanding and problem-solving abilities.**