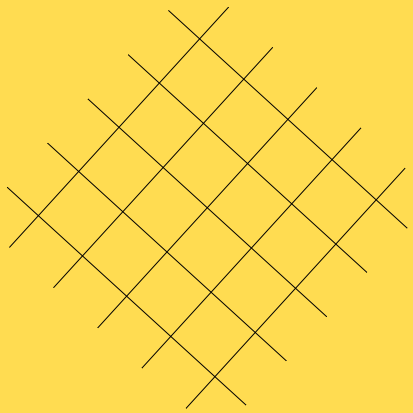

Top 7 Algorithmic Patterns

for

Coding Interviews

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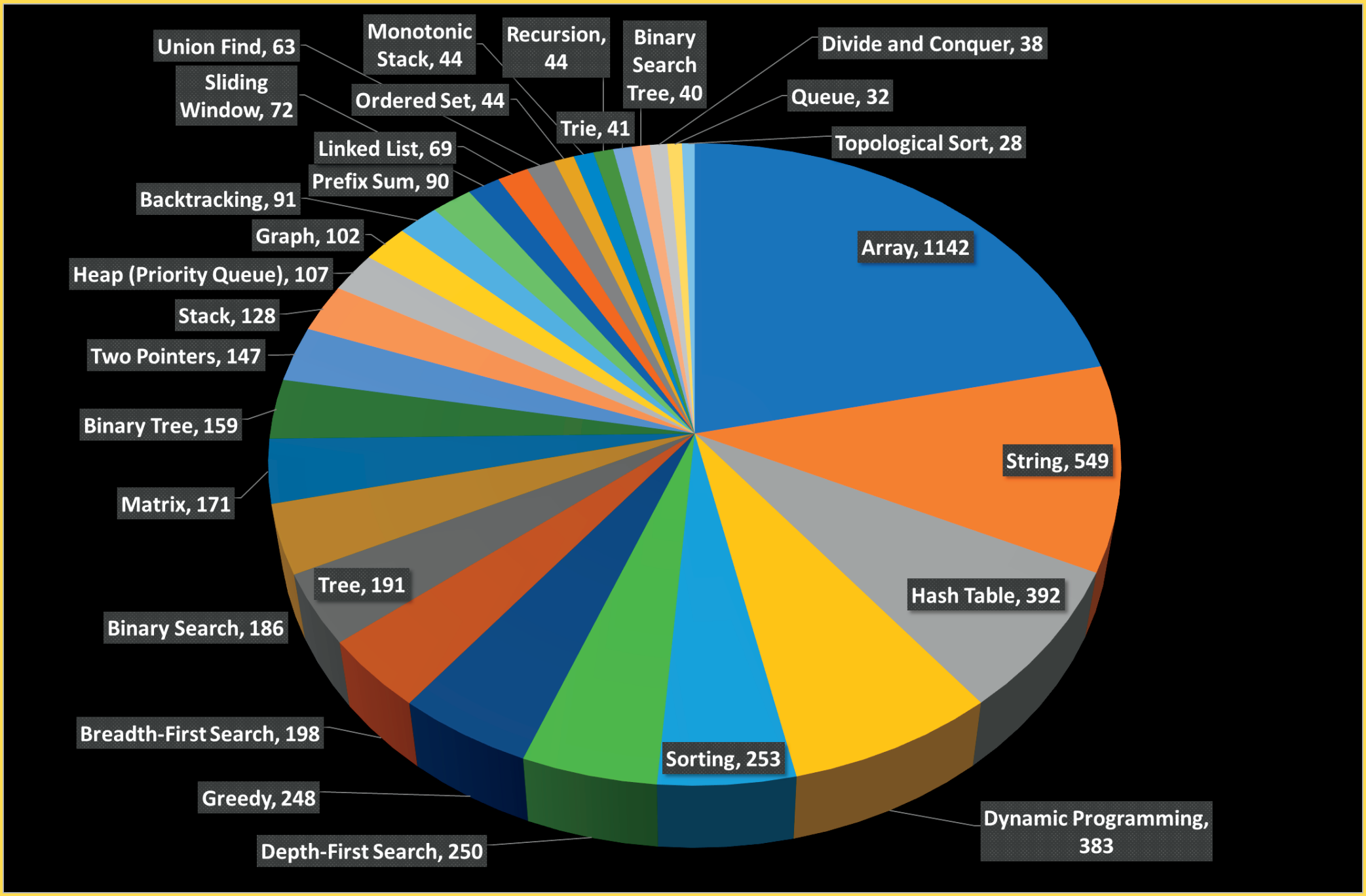
➡ LeetCode (LC), being the largest repository of coding problems, contains more than **2k+** questions.

➡ What types of coding questions one should **focus** on?

➡ Which algorithimic techniques have the **highest ROI**?

LeetCode Topic Distribution

Here is the topic distribution for LC questions:



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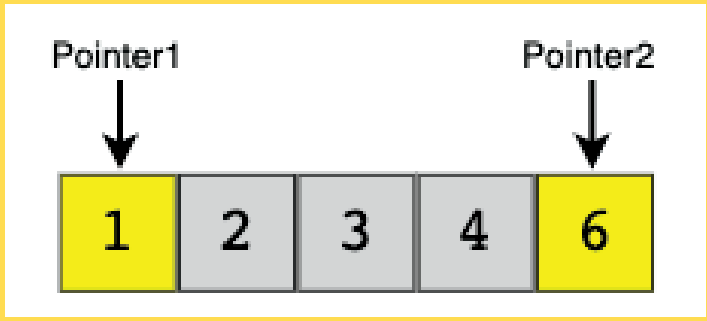
7 Best Coding Patterns with Highest ROI

From this data, here is the list of best coding patterns with the highest ROI.

1. Two Pointers

LC Tags: Array, String, Fast & Slow Pointer

This pattern covers a huge set of questions related to Arrays and Strings, which are the highest tagged data structures. Fast & Slow Pointer can be understood easily as it is a variation of the Two Pointers pattern.



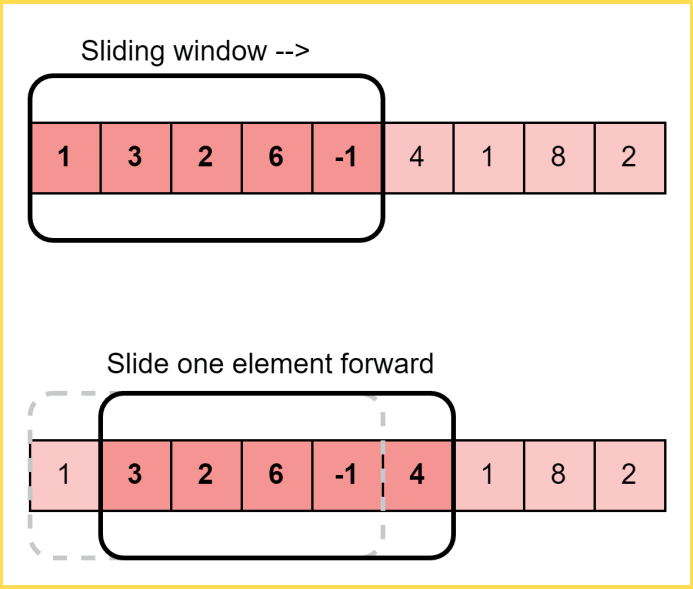
Sample Problems:

- Squaring a Sorted Array
- Dutch National Flag Problem
- Minimum Window Sort

2. Sliding Window

LC Tags: Arrays, Strings, Hash Tables

Sliding Window covers most of the problems related to top data structures like Arrays, Strings, and HashTables.



Sample Problems:

- Longest Substring with 'K' Distinct Characters
- Fruits into Baskets

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3. Tree/Graph Breadth-First Search

LC Tags: Tree, Graph, Queue, Subsets, Matrix Traversal, Topological Sort

Breadth First Search (BFS) is a very handy pattern. BFS's patterns like Subsets, Matrix Traversal, and Topological Sort cover many problems.

4. Tree/Graph Depth First Search

LC Tags: Tree, Graph, Matrix Traversal

Most Trees and Graphs problems can be solved using Depth First Search (DFS). Matrix Traversal, which is also DFS based pattern, covers most of the matrix-related problems.

5. Modified Binary Search

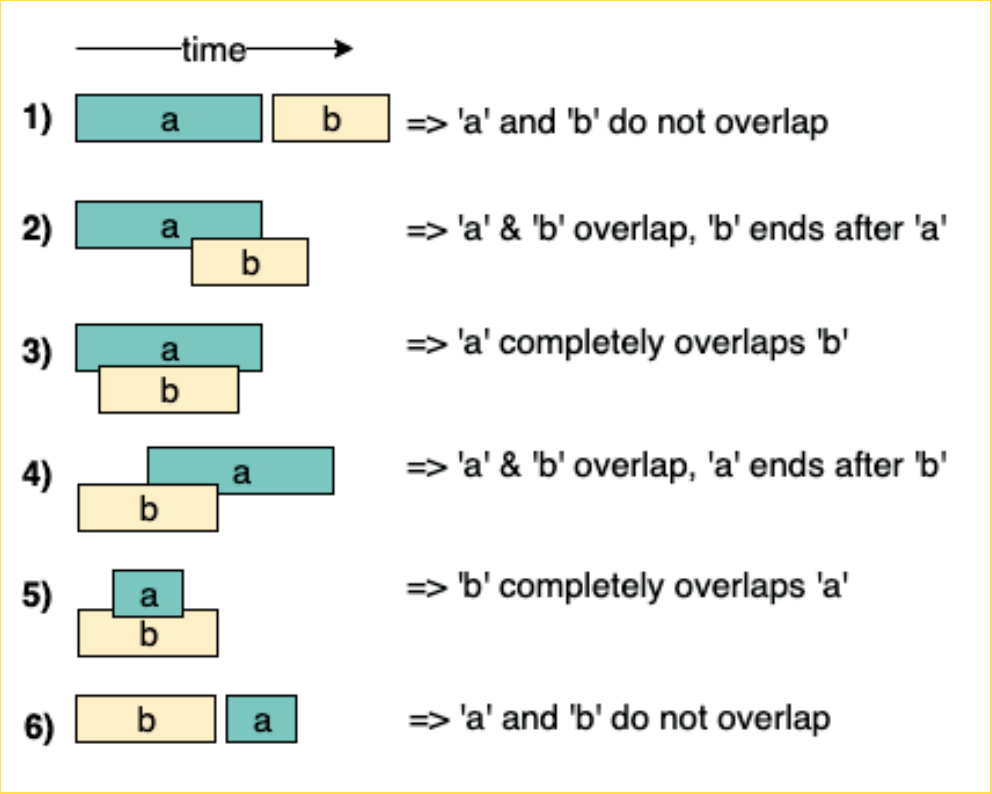
LC Tags: Array, Binary Search

Binary Search and its variants are used to solve a huge number of coding questions.

6. Merge Intervals

LC Tags:: Array, Heap

Although there are not many problems related to Interval Merge, these problems frequently appear in coding interviews



7. Recursion/Backtracking

LC Tags:: Array, Queue, Matrix

Backtracking and recursion are used to solve a wide range of problems. Mastering these techniques is highly recommended.

➡ Coding patterns enhance our “ability to map a new problem to an already known problem.”

➡ These approaches are discussed in "Grokking the Coding Interview" and "Grokking Dynamic Programming from **DesignGurus.org**