

# C++ DSA 90-Day Roadmap

## Introduction

This 90-Day Roadmap is designed for focused DSA preparation using C++. It's ideal for placement preparation, coding rounds, and competitive programming.

## Phase 1: Week 1-2 - C++ Fundamentals

- C++ syntax basics: cin, cout, loops, if, functions
  - Pointers & References
  - Arrays & Strings
  - OOP (optional)
  - STL basics: vector, map, set, pair
- Practice: Coding Ninjas Studio (25-30 basic problems)

## Phase 2: Week 3-4 - Arrays & Strings

- Prefix Sum, Sliding Window, Kadane-s Algo
  - 2D Arrays, Matrix Traversals
  - Sorting: Bubble, Merge, Quick
- Practice: LeetCode (Easy-Medium), GFG, 40+ problems

## Phase 3: Week 5-6 - Hashing & STL Mastery

- Hash Maps, Frequency Arrays, unordered\_map, set
  - map vs unordered\_map
- Practice: LeetCode, GFG, Coding Ninjas (30+ problems)

## Phase 4: Week 7-9 - Recursion & Backtracking

- Recursion tree, base cases
  - Backtracking: N-Queens, Subset sum, Rat in Maze
  - Bit Manipulation: AND, OR, XOR
- Practice: LeetCode, Coding Ninjas

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## Phase 5: Week 10-12 - Linked Lists, Stacks, Queues

- Singly/Doubly LL, Stack, Queue (STL)
  - Problems: Reversal, Palindrome, LRU Cache
- Practice: LeetCode, Striver LL Sheet

## Phase 6: Week 13-15 - Trees & Graphs

Trees:

- Binary Tree, BST, Traversals (DFS, BFS)
- LCA, Diameter, Height

Graphs:

- BFS, DFS
  - Dijkstra, Bellman-Ford, Kruskal, Prim
- Practice: Striver-s Graph Sheet, LeetCode

## Phase 7: Week 16-18 - Dynamic Programming

- 0/1 Knapsack, LIS, Matrix Chain Multiplication
  - Memoization & Tabulation approaches
- Practice: Aditya Verma Series, LeetCode DP Tag

## Final Tips & Milestones

Resources:

- Love Babbar STL Series (YouTube)
- GFG STL Cheatsheet
- Striver-s DSA Sheet: [takeuforward.org/interviews/strivers-sde-sheet-top-coding-interview-problems/](https://takeuforward.org/interviews/strivers-sde-sheet-top-coding-interview-problems/)

Milestones:

- 1 Month: 150+ problems solved

## C++ DSA 90-Day Roadmap

- 2 Months: Arrays to Linked Lists mastered

- 3 Months: DP + Trees + Graphs completed

Goal: Confidently crack coding rounds in 90 days.

<https://takeuforward.org/interviews/strivers-sde-sheet-top-coding-interview-problems/>

<https://drive.google.com/file/d/1Hz0kjTZzS1Is8HhWe6KH9dZr1I7mHHx/view>