100-Day Data Structures and Algorithms (DSA) Journey with C++

This document outlines a 100-day structured plan for mastering Data Structures and Algorithms (DSA) in C++. It covers fundamentals, essential data structures, algorithms, and projects with a balance between theoretical study and coding practice.

Day

Topic/Concept

Study Time (hrs)

Coding Time (hrs)

Notes/Reflections

1

C++ Basics (Syntax, Data Types)

1

1

Learn about syntax, data types, and basic I/O

2

C++ Basics (Control Flow - Loops, If-Else)

1

2

Practice control flow with examples

3

Functions and Recursion Basics

1

2

Create basic functions and explore recursion

4

Arrays (1D, 2D)

1

2

Implement and manipulate arrays

5

Pointers and Memory Management

1

2

Practice pointers, dynamic memory allocation

6

String Manipulation

1

2

Solve basic string problems

7

Time Complexity Analysis

1

2

Analyze the complexity of various operations

8

Practice Problems (Basics)

1

2

Solve problems on arrays, strings, loops

9

Basic Project (Calculator or Quiz App)

2

3

Build a small project using basics learned

10

Revisiting Recursion

1

2

Practice recursion with problems