13 - Addon Concepts

Memory Manipulation Functions in C

These functions allow direct manipulation of memory blocks in C. They are used for efficiency, lo...

Real-world problems

Advanced C Programming Questions and Solutions 1. Find the Position of Rightmost Set Bit (No Loo...

Variadic Functions

Introduction In C programming, variadic functions are functions that can accept a variable numbe...

Macros

Macros are a fundamental feature in the C language, enabling programmers to simplify code, increa...

Sliding Window Pattern

Sliding Window is an algorithmic technique to process a subset (window) of data in a list (array/...

Islands (Matrix Traversal) Pattern

The Islands Pattern (also called Matrix Traversal or Flood Fill) involves efficiently exploring o...

Two Pointers Pattern

The Two Pointers technique involves using two indices (or pointers) to scan through an array or s...

Fast & Slow Pointers Pattern (Hare & Tortoise Algorithm)

This pattern uses two pointers that move at different speeds (one fast, one slow) to traverse an ...

Cyclic Sort Pattern

Cyclic Sort is a clever technique for solving problems where: You have an array of size n wi...

In-place Reversal of a Linked List Pattern

This pattern involves reversing part or all of a singly linked list, changing the direction of th...

Subsets Pattern

The Subsets (or "Power Set") pattern is used when you need to generate all possible combinations ...

Modified Binary Find Pattern

Binary Find is a classic algorithm used to search for a value in a sorted array in O(log n) time ...

Bitwise XOR Pattern

The Bitwise XOR (^) pattern leverages properties of the XOR operator to solve problems involving:...

Top 'K' Elements Pattern

This pattern is used to efficiently find the largest, smallest, or most frequent K elements in a ...

K-way Merge Pattern

The K-way Merge pattern is used to merge K sorted lists (or arrays) into a single sorted list.Ins...

Fibonacci Numbers Pattern

This pattern covers problems where the answer for position n depends on the answers to previous p...

Palindromic Subsequence Pattern

This pattern helps solve problems involving palindromic (reads same forwards and backwards) subse...

Longest Common Substring/Subsequence Pattern

This pattern helps solve problems involving finding the optimal (longest, most similar) part of t...