

Queue Coding Practice Set

1. Easy Level

Implement Queue using Array

Write functions for enqueue, dequeue, isEmpty, and isFull.

Implement Queue using Linked List

Implement a queue with front and rear pointers.

Circular Queue Implementation

Create a circular queue using arrays.

Implement Queue using Two Stacks – LeetCode 232

Simulate queue operations using two stacks.

Implement Stack using Two Queues – LeetCode 225

Simulate stack operations using two queues.

Design Circular Deque – LeetCode 641

Implement a circular deque with efficient operations.

Number of Students Unable to Eat Lunch – LeetCode 1700

Simulate queue-based lunch distribution problem.

2. Medium Level

Reverse a Queue using Recursion

Reverse the elements of a queue.

Reverse First K Elements of a Queue – GFG

Modify a queue to reverse only the first k elements.

Interleave First and Second Half of Queue

Rearrange a queue as first-half element → second-half element alternately.

Generate Binary Numbers from 1 to N using Queue

Print binary numbers up to N using a queue.

First Unique Character in a String – LeetCode 387

Use queue + hash to track first non-repeating character.

Implement Priority Queue

Implement using heap.

Dota2 Senate – LeetCode 649

Simulate a queue-based game of banning senators.

3. Hard Level

LRU Cache – LeetCode 146

Design a cache using Queue + HashMap.

LFU Cache – LeetCode 460

Design a Least Frequently Used cache with O(1) operations.

Sliding Window Maximum – LeetCode 239

Find max in every window of size k using deque.

Rotten Oranges – LeetCode 994

Multi-source BFS using queue to calculate time.

Shortest Path in Binary Matrix – LeetCode 1091

Use BFS queue to find shortest path.

Knight's Minimum Moves (Chessboard BFS)

Find minimum steps for knight to reach a target position.

Snake and Ladder Problem – GFG

Minimum dice throws to reach the end using BFS queue.

Task Scheduler – LeetCode 621

Schedule tasks with cooldown using priority queue.