## Go Through Pre Course Material

### Week 1

Arrays and Strings I
Traverse Array in Reverse
Traverse from Both Ends
Dutch National Flag
Subarray Sum Problems

**Binary Search** Implementation With Duplicates Record & Move On **Special Tricks** 

**Recursion and Backtracking** Memoization **Auxiliary Buffers**  **Recursion and Backtracking** Backtracking **Problems** 

**Linked List** Implementation Append Function **Deleting Nodes** Slow & Fast Pointer Linked Hash Table

## Weekly System Design - Do anytime during the week

### Week 2

<u>Stack</u>
Intro
Stacks as Restriction
Stack with Max
<b>Expression Evaluation</b>
Expression Evaluation

Queue Intro Sliding Window Queue with Max **Dynamic Programming** DP Myths Intro and Approach

**Arrays and** Strings II Max Diff 2D Arrays

**Arrays and Strings II** Add/Multiply **Special Tricks** 

# Weekly System Design - Do anytime during the week

### Week 3

<u> Hash Table &amp; Hash</u>
<u>Functions</u>
Implementation
Hash Functions
String Search
=

**Graphs I Basics** Depth First Search Breadth First Search <u>Graphs I</u> Topological Sort

**Line Sweep** Intro Skyline Problem <u>Heaps</u> Intro, Implementation

<u>Selection</u> **Algorithm** Intro Implementation <u>Sorting</u> Algorithms Intro Merge & Quick Sort Stability & Large Data **Special Tricks** 

### Weekly System Design - Do anytime during the week

# Week 4

<u>Bit Manipulati</u>	on
All Sections	

<u>Graphs II</u> **Detecting Cycles** Bipartite Graph **Connected Components** 

**Binary Tree** Traversals

Top to Bottom Bottom to Top LCA Reconstruction

**Binary Search Tree Implementation** Record and Move On

Successor LCA **Building Balanced BST**  Intro Implementation

Trie

**Majority Search** Search n/2 majority Search n/k majority

#### Weekly System Design - Do anytime during the week