

# **Program Highlights**

Logicmojo offers Data structure. Algorithms & System Design Course For Cracking coding and System Design Interview for Top product-based companies. Each topic explains from very basic to an advanced level by using multiple examples. More focus is on Tricks, Techniques, and implementation than theory.

We have assignments with every lecture on every topic. After understanding lectures give it a shot to assignments which is based on similar concepts of lectures. Even if you can't able to crack assignments by yourself, we have all assignments detail discussion with code explanation. In this course, we teach all techniques of solving algorithms with the help of (Lectures + Assignments) combo.



#### Life time Access of Course

- 250+Online Lectures
- Subscribers will get all Updates



### **Assignments & Assignments Discussion**

- Assignments with every problems
- Assignments Discussions, Techniques & Hints



### **Analyse code for** clear understanding

- Analyse every code with diagrams, blocks and pointers
- •Step by step execution of code in Memory



#### **Support from Experts**

- •Every Lectures Doubt clearance Ÿ Code Editor for practice in Java/C++/Python
- •Lectures from very basic to Advances •Compare Progress



#### **Weekly Coding Competition**

- Live Coding Interview Experience Every week for subscribers
- •Referral Supports for performers



#### **Mock Interview Session**

- •Free Mock Interview sessions for Performers in coding test
- •Tips & tricks to tackle interview process



#### Job Referral Program

- •All Performers in coding test are illegible for Referral Program
- •We also help in writing professional resume



Quora

Top Rated





Top Rated online Training for Cracking Coding and System **Design Interviews** 

Click to read reviews

# **Placement And Success Stories**

#### Aravindo Swain Working at Microsoft

I would say the best part is the explanation by the instructor, concise and clear.

Great quality online content and video lectures. it covers all algorithms and system design problems asked during interviews



#### Diwakar'Choudhary

#### Y qt mpi 'at'WalmartLabs

Excellent course for interview preparation, very straight to the point

In-depth coverage of every point. Nice way of explaining solutions to very complex problems in an easy way



#### Shagun Akarsh Working at Amazon

Must recommend for the aspirants who are preparing for Amazon, Google, Microsoft, and Top Product Based Company interview

Thoroughly touches every topic of coding and designing aspects also lectures and assignments are enough for preparation. Better quality than any other courses on the Internet



#### Priya Singh Working at Cisco

The course curriculum is of the best quality along with good coding problems. Just follow the preparation sequence mentioned by Instructor and 2.5 month is enough to become a master in coding

It's like a quick interview preparation guide. Rather than solving un-important thousands of coding problems, just finish logicmojo and appear for any organization interview..



#### Rajnish Kumar

#### **Working at Flipkart**

Great course! Helped me open some new doors in understanding how algorithms work and implementing solutions for the different exercises

The set of coding questions are quite good, most of them being from relevant industries interviews. Highly Recommended Course



#### Maruti Naidu Working at NetApp

This is the best program one can take to begin and master competitive programming. The best part is assignments given for practice and assignments are also discussed.

My journey is there from an average programmer to a champ in coding. Along with my hard work, I want to give credit to Logicmojo also for wonderful lectures.





# Syllabus | 6 Levels

#### **Data Structure & Algorithms**

# Level 1:



#### Topics:

- a) Arrays Complexity, Searching, Sorting, Algorithm of Arra
- b) Linked-List, Doubly Linked-List, String Problems
- c) Binary Tree, Binary Binary Search Tree, N-ary Tree

# Level 2:



#### Topics:

- a) Stack/Queue
- b) Hashing/Heap Sorting
- c) Backtracking/Recursion
- d) Greedy Algorithms

# Level 3:



### **Topics:**

- a) Graph Theory
- b) Dynamic Programming

## Design Interview Preparation

## Level 4:



## **Topics:**

- a) System Design Problems Discussion
- b) Object Oriented Problems Discussion
- c) Design Pattern Object Oriented Principal

## Distributed System, Microservices Architecture & Docker Deployment

# Level 5:

- a) Micro-service Architecture & Docker Cloud Deployment
- b) Distributed System & Scalable System

### **Multithreading & Behavior Interview Questions**

- Level 6:
- a) Multithreading & Synchronization
- b) Behaviour Interview Question & Answers for Experienced



# Program Details

# Course Prerequisite

Should have basic knowledge of Java or Python Programming

## Who Should Subscribe For this Course

- Working professionals preparing for interviews of Big-5(Google, Amazon, Microsoft, Facebook, Apple) and Top Product Based organization
- BTech / MCA /MS Students looking for data structures, Algorithms & System Design coaching
- Job seekers who are preparing for interview in Product MNC/e-commerce companies
- Anyone who has a deep desire to learn data structures, algorithms, and system design to improve programming/coding skills and designing skills

#### **About Instructors**

Profile : in

# Fees and Duration

Accessibility: Lifetime Access Course

Program Fee : (6950/-

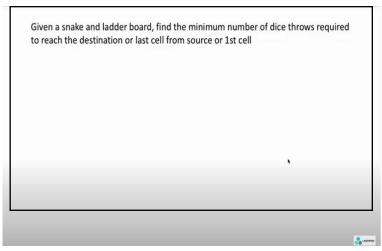




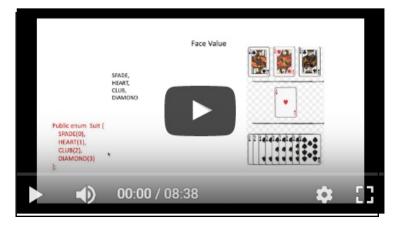
# **Sample Lecture Preview**



Design Airline reservation System using Object Oriented language



Implement Snake Ladder Algorithm using BFS Approch



**Design Generic Deck of Cards** 



# **Course Details**

### **ARRAYS**

Complexity, Sorting, Searching, Matrix related Problems Strings Algorithms Arrays O(1) operations, Searching duplicates

## Linked-list

Iterative & recursive approaches
Doubly LinkedList, flattering linked list
Sorting and searching operations on LL

# Binary Tree (BT)

Binary Search Tree, N-ary Tree
Print BT from Different View
Conversion of BT, Post-Order, InOrder, PreOrder Operations
Mirror Operations, Leaf Nodes Distances, Lowest Common Ansesters
Recursive and Iterative Operations
Note: Un-important topic in Tree is B\* Tree, Red Black Tree, AVL tree, Segment Tree

## Stack/Queue

Stack/Queue operations in O(1) time, combining stack and Queue
Applying stack/queue in Binary tree-based
Matrix problem solved using stack
Note: Direct questions is not asked in this Topic. Always application based on stack/queue.

# Hashing/Heap Operations

Hashing O(1) Operation, Priority Queue, MaxHeap/Min Heap, Heapify Operation, Find Medians, Merge Operation in O(Logn) using Heap

# Backtracking/Recursion & Greedy Algorithms

Applying recursion or backtracking techniques on different games find permutations, recursive efficient approaches

Problem based on Greedy Algorithms

Note: Recursion is most imp topic in DSA



# Course Details

## Graph Theory

Depth first search, Breadth first search
Topological Sorting, Package Dependency ,Phone Dictionary Algorithms
Trie Implementation and Applications based on it
Longest Prefix , Matrix Related Assignments
Note: Prefix Tree is not much important for Interview perspective

# Dynamic Programming(DP)

How to identify DP problems

Single Strings Problems: Longest Palindrome Subsequences/String, Word Break, LIS(Longest Increasing Subsequence), Subset problems

Two Strings Problems: Longest Common Subsequences/Strings, Edit Distance

Interleave Strings, Wild card match,

Fibonacci Series: Nth Stair, Keystroke Algorithm

Note: Once tricks is understood then DP is comparatively very easy to solve

## **System Design Interview Preparation**

Scalable components Understanding, Sharding, NoSQL,
Distributed Cache, Load balancer, Message Queue Techniques
Detail High Level Design(HLD) and Low Level Design(LLD) for many billions users Live System

## Scalable System Design, Distributed System & Microservice Arch

Micro-service Architecture in detail, Message Queue Active MQ, Kafka, Service Discovery, Distributed Tracing & Monitoring Fault Tolerance, Concurrency Issues, Distributed Transaction

# Multithreading & Synchronization

Creation and Invocation of thread, synchronization of threads deadlock detection and prevention, producer consumer multi reader writer, print numbers using multiple threads

# **Cloud Docker Deployment & Behaviour Interview**

Jenkins Integration, Understanding Cloud Infrastructure Behaviour Interview Questions & Answers for Experienced

# **Mock Interview & Job Assistance**

# **HOW IT WORKS**

## Step 01

# Finish Topics of the course

This course is divided into multiple topics. Subscribers can finish topics one after another. The preparation sequence of the course and time to accomplished every topic is already shared in the course brochure

# Step 02

## Participate in Weekly Coding Test

We organized Online weekly coding test for all subscribers of Logicmojo. Every week we have coding competition on one specific topic of DSA. Every week subscribers learn and practice topics in coding competition. All top performers will be eligible for Mock Interview and Resume Guidelines by experts as well as they are intelligible for Job referral program for FREE.

# Step 03

## Mock Interview & Resume Guidelines

For all top performers in the online weekly coding test, we conduct FREE Mock Interviews from experts. It will give them the experience of Live interviews. Also, we help them with resume preparation tips and guide them on writing a professional resume to get a call from Top Big-5.

# Step 04

## Job Referral Program

All performance also illegible for our Job referral program through partnered consultancies and software companies for coding interviews.

