

## Beginner Batch

### Module 0 - Programming Constructs

**Duration: 4 Weeks**

For Beginners, it is first important to build command over programming constructs. Within this module, our goal is to help you be confident with coding fundamentals.

Topics that will be covered -

- Introduction to Programming
- Input Output and Data Types
- Operators
- Conditional Statements
- Loops
- Pattern Problems
- Functions
- 1D Array
- Number System & Maths
- String Implementation
- Introduction to Data Structures
- Time & Space Complexity

### Outcomes:

After this module, you will be confident in:

- Coding in 1 programming language.
- Fundamental understanding of Data Structure & Time Complexity.

### USPs of our Delivery:

- All topics taught in live classes with instant doubt support to accelerate learning.
- Assignment (post lecture) & their evaluation
- Hyper-Personalized: Special focus on individuals with a constant touch from Student Success Manager & Mentor.

## Beginner Batch

### Module 1 - Master Problem Solving in DS & Algo

#### Duration: 15 Weeks

Problem-solving in DS & Algo is one of the most important topics to master for a software engineer. That is why, we spend the first 15 weeks of our program ensuring you build a solid command over problem solving skills.

Topics that will be covered -

#### Linear DSA

- 1D & 2D Array
- Strings
- Number System & Maths
- Bit Manipulation
- Binary Search
- 2 pointers
- Recursion
- Hashing
- Sorting
- Linked List
- Stacks & Queues

#### Non-linear DSA

- 1D & 2D Array
- Trees
- Binary Trees & Binary Search Trees
- Heaps
- Greedy Algorithms
- Dynamic Programming
- Graphs

#### Advanced DSA

- Tries
- Segment Tree
- String Pattern Matching
- Advanced DP & Graph Problems

#### Outcomes:

After these 15 weeks, you will :

- Feel confident in your problem solving skills.
- Develop pattern recognition skills required to crack hard level DSA problems.
- Be interview ready with DSA to crack top tech companies.

#### USPs of our Delivery:

- Hyper-personalization: Depending on student specific learning pace. multiple revision classes are organized.
- Assignment (post lecture) & their immediate evaluation help to compare your performance against peers.

## Beginner Batch

- Focus is not just on solving & remembering questions but to help students build intuition behind concepts, enabling them to identify patterns
- Special focus on difficult topics like Dynamic programming and Graphs.
- Weekly contest & regular Mock interviews to understand your conceptual understanding and give feedback.

### Module 2 - Computer Science Fundamentals

#### Duration: 2 Weeks

Our code runs on hardware devices. So, in order to design & implement our high level solutions on machines that understand low level in an optimal & reliable way, we should have understanding around core CS topics.

Topics that will be covered -

- Operating Systems
- Computer Networks
- Database Management systems

#### Outcomes:

After this module, you will be confident in:

- Fundamental understanding of crucial CS topics like Concurrency, threading, SQL vs NoSQL, Normalization, and Networks.

#### USPs of our Delivery:

- Live lectures from industry experts sharing the practical application of CS fundamental topic in software development lifecycle.
- Assignment (post lectures) & their evaluation

## Beginner Batch

### Module 3 - System Design - LLD + HLD

#### Duration: 9 Weeks

As a software developer, we are responsible for:

Writing a clean, maintainable, modular code that is easy to understand & extend.

Designing services capable of scaling to millions of active customers with high reliability & fast access. Within this module, we learn these 2 skillset with hands-on experience & multiple case studies.

Topics that will be covered -

#### Low-Level Design (LLD)

- Object Oriented Programming
- Solid Principles
- Design Patterns
- UML Diagram
- Schema Design
- API Design
- Case Studies- Machine Coding Interviews

#### High-Level Design (HLD)

- Architecture Design
- Distributed Systems
- Domain Name System (DNS)
- Load Balancing
- Consistent Hashing
- CAP Theorem
- Caching
- Content Delivery Network (CDNs)
- Transactions
- SQL vs NoSQL
- Scalability
- ZooKeeper + Kafka (Distributed Messaging Queue)
- Microservices
- Security
- Case Studies

#### Outcomes:

After this module, you will be confident in:

- After these 9 weeks, you will be able to design a system capable of scaling to billions of users and participate in design discussion confidently.

## Beginner Batch

### USPs of our Delivery:

- Real-world applications provide learners with hands-on real world experience.
- Gain hands-on experience on LLD & HLD
- 1:1 discussion with your mentor regarding project improvements.

### Module 5 - Get Placed at Top Tech Companies

#### Duration: Until you get placed

Once you have upskilled yourself to become a great software engineer, it is important that we now focus on getting you interview opportunities from diverse companies.

This process is usually of 3 phases:

1. Building a strong profile
2. Get Interviewed at Top Product Companies
3. Ace the interview

We focus on all the above 3 aspects in this next phase.

#### Placement Support Includes -

##### Building a strong profile

- Resume building guidelines designed for SDE roles + resume reviews.
- Profile building sessions on LinkedIn, Naukri, Instahyre, and other hiring platforms.
- Handling objections

##### Get Diverse Opportunities

- Tie-ups With 200+ corporate partner companies.
- Collaborations with consultancies hiring for top tech companies.
- Referrals from alumni & mentors community.
- Sessions on how to effectively apply yourself to get more opportunities.

##### Crack interviews

- On Demand Mock Interviews with mentors before a specific interview.
- Do's & Don'ts of interviews.
- Handling behavioral questions.
- Sessions on effective salary negotiation.

## Advanced Batch

### Module 1 - Master Problem Solving in DS & Algo

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### USPs of our Delivery:

- Multiple discussion with expert (e.g. senior engineers at top tech companies)
- Hands on learning experience
- Multiple real life studies in live understand the tradeoffs of designing a system.
- Understand the internals of complex systems like distributed Queues, Distributed file system, Microservices, etc.

### Module 4 - Full Stack Specialization with Project

#### Duration: 8 Weeks

As a software engineer, we build products which can scale. In this module, you will gain hands-on experience of building a project from scratch & implement the LLD + HLD perspective in real projects.

Topics that will be covered -

- HTML, CSS, JavaScript
- JS for Web Development (DOM Manipulation, Events)
- React
- Redux
- Git
- Node.js
- Backend Architecture
- MVC Framework
- API Design
- Creating modules, data access layers, controller, views
- Creating microservices
- Spring Boot
- Deployment on AWS, Security

#### Outcomes:

After this module, you will be confident in:

- After these 8 weeks, you will have hands-on experience of designing and coding scalable products.

## Advanced Batch

### USPs of our Delivery:

- Real-world applications provide learners with hands-on real world experience.
- Gain hands-on experience on LLD & HLD
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### Module 5 - Get Placed at Top Tech Companies

#### Duration: Until you get placed

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