

Empower Excel Elevate

10 Weeks Program in
DSA
Integrated with **Top experts from MNCs**

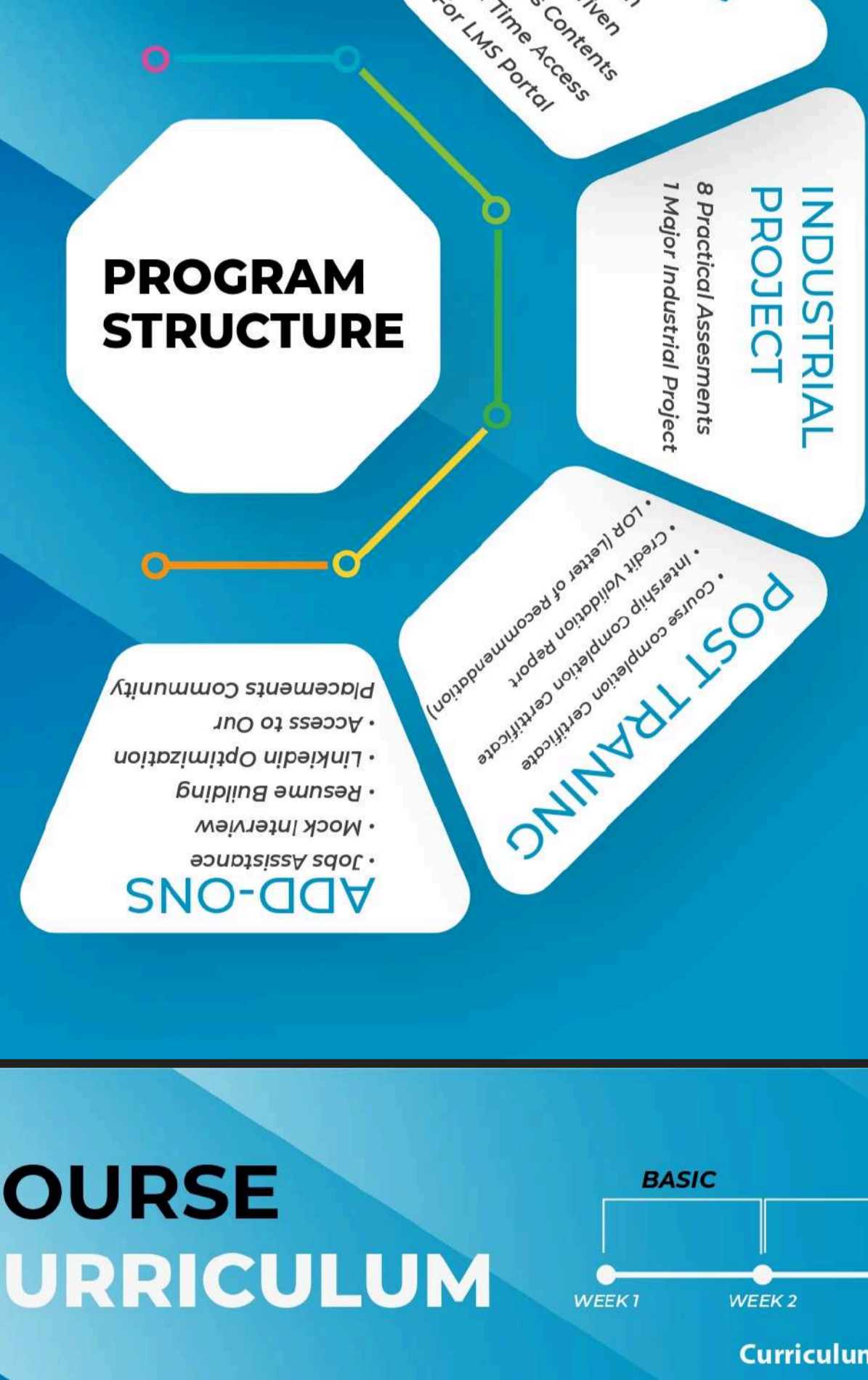
ABOUT COMPANY

An Idea of learning and upskilling every single day for the hope of a better tomorrow.

LearnFlu is nothing but an Idea. An Idea of learning and upskilling every single day for the hope of a better tomorrow. LearnFlu is also a disease, which every being alive wishes to have. A disease of learning something new and interesting for the growth they desire



WE OFFER

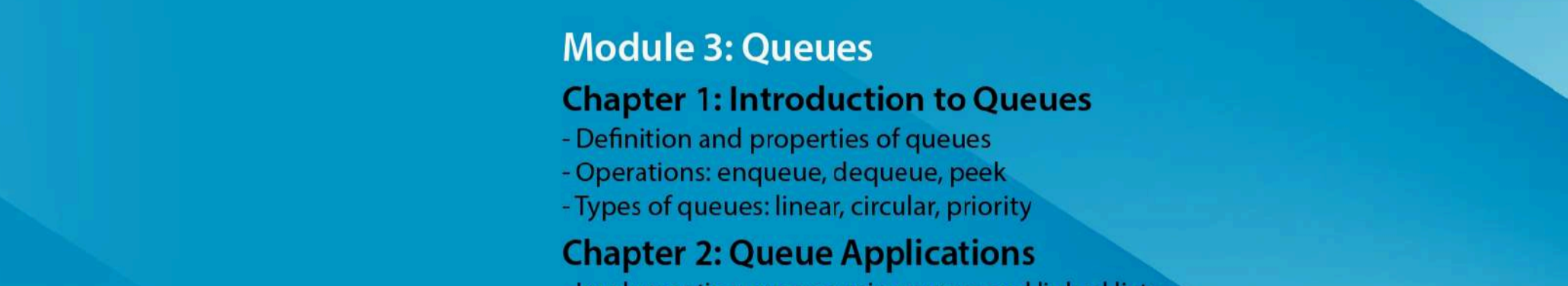


PROGRAM HIGHLIGHTS

WHY THIS PROGRAM IS YOUR BEST CHOICE

- 01 LIVE INTERACTIVE SESSIONS WITH INDUSTRY EXPERTS
- 02 MENTOR-DRIVEN SPRINT-BASED REAL-WORLD TEAM PROJECTS
- 03 LIVE MENTORSHIP
- 04 PERSONALISED MENTORSHIP AND CAREER GUIDANCE
- 05 CAREER ASSISTANCE
- 06 DOUBLE CERTIFICATION & CREDIT REPORT
- 07 PLACEMENT ASSISTANCE

COURSE CURRICULUM



This curriculum provides a comprehensive overview of data structures and algorithms, integrating theoretical knowledge with practical applications, ensuring students are well-prepared for real-world programming challenges.

Module 1: Arrays and Strings
Chapter 1: Introduction to Arrays
 - Definition and properties of arrays
 - Operations: insertion, deletion, traversal
 - Multi-dimensional arrays
Chapter 2: String Manipulation
 - Overview of strings and their properties
 - Common string operations (concatenation, substring, etc.)
 - String searching algorithms (e.g., Knuth-Morris-Pratt)
Chapter 3: Advanced Array Techniques
 - Two-pointer technique
 - Sliding window approach
 - Problems involving arrays and strings (e.g., finding duplicates, longest substring)

Module 2: Matrix
Chapter 1: Matrix Representation and Operations
 - Matrix basics and types
 - Basic operations: addition, multiplication, transposition
 - Sparse matrices and their representation
Chapter 2: Matrix Algorithms
 - Traversing a matrix (row-major vs. column-major)
 - Common problems (e.g., matrix rotation, spiral order traversal)
 - Matrix search algorithms
Chapter 3: Applications of Matrices
 - Applications in computer graphics and game development
 - Solving systems of equations using matrices
 - Using matrices in algorithms (e.g., dynamic programming)

Module 3: Queues
Chapter 1: Introduction to Queues
 - Definition and properties of queues
 - Operations: enqueue, dequeue, peek
 - Types of queues: linear, circular, priority
Chapter 2: Queue Applications
 - Implementing queues using arrays and linked lists
 - Real-world applications (e.g., task scheduling, buffering)
 - Problems involving queues (e.g., implementing a queue using stacks)
Chapter 3: Advanced Queue Concepts
 - Double-ended queues (Deque)
 - Priority queues and their applications
 - Queue algorithms (e.g., Josephus problem)

Module 4: Trees and Graphs
Chapter 1: Tree Basics
 - Definition and properties of trees
 - Tree traversals: (pre-order, in-order, post-order)
 - Binary trees and binary search trees (BST)
Chapter 2: Graph Fundamentals
 - Definition and representation of graphs (adjacency list/matrix)
 - Graph traversal algorithms (BFS, DFS)
 - Applications of trees and graphs in real-world problems
Chapter 3: Advanced Tree and Graph Concepts
 - Balanced trees (AVL, Red-Black trees)
 - Heaps and their applications
 - Shortest path algorithms (Dijkstra's, Bellman-Ford)

Module 5: Searching and Sorting Algorithms
Chapter 1: Searching Algorithms
 - Linear search vs. binary search
 - Search complexities and optimizations
 - Searching in sorted vs. unsorted data
Chapter 2: Sorting Algorithms
 - Introduction to sorting and its importance
 - Comparison-based sorting algorithms (Quick sort, Merge sort, Heap sort)
 - Non-comparison-based sorting algorithms (Counting sort, Radix sort)
Chapter 3: Algorithm Complexity and Optimization
 - Understanding time and space complexity
 - Big O notation and its applications
 - Optimising searching and sorting algorithms

Module 6: Mathematical and Geometric Algorithms
Chapter 1: Basic Mathematical Algorithms
 - GCD, LCM, and prime number algorithms
 - Sieve of Eratosthenes
 - Modular arithmetic and applications
Chapter 2: Geometric Algorithms
 - Basic geometric concepts and terminology
 - Line intersection and polygon area calculation
 - Convex hull algorithms (Graham's scan, Jarvis march)
Chapter 3: Applications of Mathematical Algorithms
 - Cryptography and hashing algorithms
 - Randomised algorithms and their uses
 - Use cases in competitive programming

Module 7: Recursion
Chapter 1: Introduction to Recursion
 - Definition and principles of recursion
 - Base case and recursive case
 - Understanding stack overflow and recursion depth
Chapter 2: Recursion vs. Iteration
 - Comparing recursive and iterative approaches
 - Tail recursion and its optimization
 - Common problems solved by recursion (factorial, Fibonacci)
Chapter 3: Advanced Recursion Techniques
 - Backtracking algorithms (N-Queens, Sudoku solver)
 - Divide and conquer approach
 - Dynamic programming and memoization

Module 8: Capstone Project and Review
Chapter 1: Capstone Project Overview
 - Objectives and guidelines for the project
 - Selecting project topics involving DSA concepts
 - Team roles and project planning
Chapter 2: Implementation and Development
 - Devising the capstone project using learned DSA techniques
 - Using version control for project management (e.g., Git)
 - Collaborating effectively within teams
Chapter 3: Presentations and Course Wrap-Up
 - Presenting capstone projects and demonstrating algorithms
 - Peer review and constructive feedback
 - Summary of key concepts and future learning paths

2 Weeks Major Projects

JOBS YOU CAN APPLY

- ◆ Software Developer / Software Engineer , ₹8 – 25+ LPA
- ◆ Backend Developer , ₹10 – 22 LPA
- ◆ Frontend Developer (with strong DSA skills) , ₹6 – 18 LPA
- ◆ Full Stack Developer , ₹10 – 25 LPA
- ◆ Competitive Programmer / Problem Setter , ₹6 – 15 LPA
- ◆ Data Engineer , ₹10 – 20+ LPA

PROJECTS

- ◆ Custom File Compression Tool (Like ZIP)
- ◆ Autocomplete / Search Suggestion System
- ◆ Social Network Graph Analyzer

TOOL BOX



MEET YOUR MENTOR



Shrijith
Company : TCS
Experience : 7+ years

Shrijith is a seasoned mentor with an impressive 7+ years of experience in TCS and a notable presence in more than 2 multinational corporations. Specializing in the field of cloud computing, Shrijith has contributed his expertise to the successful completion of 20+ projects, with a remarkable individual accomplishment of leading over 2 projects. Beyond technical excellence, he is recognized for his strong leadership qualities. Shrijith's commitment to knowledge transfer is evident through his role in training employees across different companies, further solidifying his reputation as a mentor who not only delivers outstanding results but also nurtures and develops talent within the data engineering domain.

PLACEMENT SERVICES

REACH YOUR DREAM JOB :
 AT LEARNFLU, WE ARE DEEPLY COMMITTED TO YOUR LEARNING JOURNEY AND DEDICATED TO YOUR CAREER SUCCESS. OUR COMPREHENSIVE PLACEMENT SERVICES ARE TAILORED TO EQUIP YOU WITH THE SKILLS, CONFIDENCE, AND CONNECTIONS NECESSARY TO SECURE YOUR DREAM TECH JOB

RESUME PREPARATION :
 CRAFT A STANDOUT RESUME WITH EXPERT GUIDANCE TO EFFECTIVELY HIGHLIGHT YOUR SKILLS AND EXPERIENCE, ENSURING YOU CATCH THE ATTENTION OF RECRUITERS.

SOFT SKILL PREPARATION :
 ELEVATE YOUR COMMUNICATION, TEAMWORK, AND LEADERSHIP ABILITIES WITH ENGAGING LIVE SESSIONS AND CUSTOMIZED FEEDBACK, DESIGNED TO HELP YOU EXCEL IN ANY PROFESSIONAL SETTING.

HIRING PARTNERS & CAREER PORTAL :
 GAIN ACCESS TO LEADING TECH COMPANIES THROUGH OUR EXTENSIVE NETWORK OF HIRING PARTNERS AND OUR EXCLUSIVE CAREER PORTAL, DESIGNED TO CONNECT YOU WITH YOUR IDEAL JOB OPPORTUNITIES.

MENTORSHIP
 GAIN HANDS-ON EXPERIENCE THROUGH INTERNSHIPS AND MENTORED PROJECTS, EARNING AN INDUSTRY CERTIFICATE

ADDITIONAL SERVICES

LinkedIn optimization
 Optimizing your LinkedIn profile can greatly enhance your professional online presence and increase your visibility.

Career Guidance
 Career guidance plays a vital role in helping individuals navigate the complex and often challenging world of work.

Career Opportunities
 Career opportunities are essential as they provide pathways for personal and professional growth, financial stability, and the fulfillment of individual potential and aspirations.

Hands-on experience
 The importance of hands-on experience, especially in the context of professional development and education, is very substantial to land your first job.

Personality Development
 Personality development is crucial as it enhances overall personal growth, fosters confidence, and improves interpersonal skills, leading to success in both personal and professional life.



CREDIT VALIDATION REPORT

COURSE COMPLETION CERTIFICATE



INTERNSHIP COMPLETION CERTIFICATE



STUDENTS REVIEWS

Sravan ★★★★★
 Very good internship program. My mentors are teaching me more technical stuff. I also recommend my friends to do this internship.

★★★★★ Vasavi
 This is the best internship provider for major projects with best experienced mentors.

★★★★★ Sarvani
 This is the best internship and training provider company with 100% job assistance.

★★★★★ Raghu Roy
 This is the best internship provider with major projects with best experienced mentors.

★★★★★ Aradhana
 Learnflu seamlessly merges education and technology, offering a dynamic platform for immersive learning experiences. With innovative tools and engaging content, Learnflu elevates the educational landscape.

Kashish Yadav ★★★★★
 Very good internship program. My mentors are teaching me more technical stuff. I also recommend my friends to do this internship.

★★★★★ Dinakaran
 Thank you so much learnflu for giving this wonderful opportunity and developed my knowledge.

★★★★★ Aju Koshan
 I enrolled for web Data-Analysis Program for April batch and yesterday was my induction session and session was so good and the mentor Syed Ateem have given very insightful information about this Internship and Training Programme and I am very much excited regarding the program.

★★★★★ Priya
 This is a very good learning platform which offers students training and internship program.

OUR ALUMNI WORKS AT

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