



ELEVO LABS

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Course Overview

Course Details

Course Name: Data Structures & Algorithms

Instructor: Priya Sharma

Created On: 16 June, 2025

Updated On: 16 June, 2025

Price: 8000 INR

Duration: 10 weeks

Modules: 6

Language: English, Hindi

Level: Intermediate

Certifications: Yes

Course Description

This course is a deep dive into the fundamental building blocks of efficient software. You will learn how to analyze algorithm performance using Big O notation and master a wide range of data structures, from simple arrays and linked lists to complex trees and graphs. For each data structure, you will learn its strengths, weaknesses, and how to implement it. The course also covers essential searching and sorting algorithms that are critical for problem-solving and technical interviews.

What You'll Learn:

- Algorithm analysis with Big O notation.
- Linear Data Structures: Arrays, Linked Lists, Stacks, Queues.
- Non-Linear Data Structures: Trees, Graphs, Hash Tables.
- Essential Sorting Algorithms (Merge Sort, Quick Sort).
- Essential Searching Algorithms (Binary Search).
- Graph traversal with BFS and DFS.

Who Is This Course For?

This is a critical course for any software developer or computer science student. A solid grasp of at least one programming language is required.

Course Curriculum Details

Module 1: Module 1: Introduction

2 Lessons

1. Why Data Structures Matter **15min**

2. Algorithm Analysis and Big O Notation **35min**

Module 2: Module 2: Linear Data Structures

2 Lessons

1. Arrays and Linked Lists **40min**

2. Stacks and Queues **35min**

Module 3: Module 3: Non-Linear Data Structures - Trees

2 Lessons

1. Binary Trees and Binary Search Trees (BST) **45min**

2. Heaps **30min**

Module 4: Module 4: Hash Tables

1 Lessons

1. Hashing and Collision Resolution **35min**

Module 5: Module 5: Non-Linear Data Structures - Graphs

2 Lessons

1. Graph Representations **25min**

2. Graph Traversal: BFS & DFS **40min**

Module 6: Module 6: Sorting & Searching Algorithms

3 Lessons

1. Bubble, Selection, Insertion Sort **30min**

2. Merge Sort and Quick Sort **40min**

3. Binary Search **25min**

This curriculum is subject to minor adjustments to ensure the most up-to-date and effective learning experience.