



Advanced



4 hr



16 videos



49 Exercises



30,426 participants

4050 XP



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## Description

Most computer programs are based on a few data structures and algorithms. Learn about what's behind the hood of most of your computer interactions in this four-hour course! You'll familiarize yourself with some of the most common data structures: linked lists, stacks, queues, graphs and trees. You'll also implement popular algorithms, such as Depth First Search, Breadth First Search, Bubble sort, Merge sort, and Quicksort.

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### 1 Work with Linked Lists and Stacks and Understand Big O notation

You'll begin by learning what algorithms and data structures are. You will discover two data structures: linked lists and stacks. You will then learn how to calculate the complexity of an algorithm by using Big O Notation.

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### 2 Queues, Hash Tables, Trees, Graphs, and Recursion

This second chapter will teach you the basics of queues, hash tables, trees, and graphs data structures. You will also discover what recursion is.

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### 3 Searching algorithms

This chapter will focus on searching algorithms, like linear search, binary search, depth first search, and breadth first search. You will also study binary search trees and how to search within them.



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Miriam is a freelance Software Engineer with 15+ years of experience. She is focused on analyzing, designing, and developing software applications. She also collaborates with the UOC

