What is a data structure?

A data structure is a way to store and organize data so that it can be used efficiently

A data structure is a collection of data values, the relationships among them, and the functions or operations that can be applied to that data

Why learn data structures?

Almost every application we build involves data that is modelled in a certain way

To efficiently manage that data, you need data structures

Imagine walking into a library only to find out there is no efficient organization of the books and they are stored randomly

Why learn data structures? contd.

The difference between a function taking a few milliseconds vs a few seconds or even minutes comes down to the selection of the right data structure

Data structures help you solve problems in a more efficient way, both in terms of time and memory

Learning about data structures also help you gain a more profound understanding of things you're already aware of

DOM - Tree data structure
Browser back and forward - Stack data structure
OS job scheduling - Queue data structure

Course overview

Built in data structures

- Arrays
- Objects
- Sets
- Maps

Custom data structures

- Stacks
- Queues
- Circular queues
- Linked lists
- Hash tables
- Trees
- Graphs

Prerequisites

Modern JavaScript

JavaScript Algorithms