



# JAVASCRIPT DATA STRUCTURES & ALGORITHMS

# INTRODUCTION TO DATA STRUCTURES

Passed the basics of a programming language, say javascript or python. Good news you can code. Every one is happy. You can write code. But can you really write scalable and efficient programmes!?

In real life terms, can you write a web application that will load within 3 seconds, a site that no user would abandon because it takes long to load? Can your application handle that huge traffic without slowing the load time?

It all boils down to how much of the Data structures do you know and which ones are efficient in the type of application or field you mean to use.

[**ARRAYS**]

{**OBJECTS**}

Talking of data structures we simply are talking about data storage. I mean in JavaScript world am talking about variables, objects, arrays, maps, weak maps....

# OUR SCENARIO SYNTAX?

look at the data below, and tell us which data structures makes alot of sense and possibly a better way to handle it.



## structure 1:Object

*//an object data structure describing a student*

```
var student = {  
  firstName : 'Amos',  
  lastName  : 'Jailosi',  
  Classlevel : 4,  
  tribe     : 'Ngoni',  
  DateOfBirth: 230984,  
  languages : ['English', 'Ngoni', 'Chichewa', 'swahili', 'Tumbuka']  
}
```



## structure 2:Array

*//an array data structure describing a student*

```
var student = ['Amos', 'Jailosi', 4, 'Ngoni', 230984,  
               ['English', 'Ngoni', 'Chichewa', 'swahili', 'Tumbuka']  
               ]
```

**WHICH STRUCTURE MAKES ALOT OF SENSE FOR YOU?**



# INTRODUCTION TO ALGORITHMS

Yes, you have that data and its data structures, those arrays, objects and maps... now what? store them on the database, good, but that's not the whole picture... you need to allow your users or have business make decisions to manipulate it.

Am talking about retrieving, changing, making calculations and make complex presentations with that data. Stuff like How many have clicked on the book mark or ❤️ that instagram icon, or clicked a like button on this article? How many people have viewed it. Am talking about how to solve problems in steps with logic. It all comes down to functions



You don't need to learn rocket science to be good at creating efficient algorithms.... you just need to be good at looking at the data, then possibly figure out the most efficient way to solve your problem.

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