**Data types and data structures in java script**

***By john wambugu***

Java script is programming language that is one of the core technologies in the World Wide Web, alongside HTML and CSS. Most websites use java script on the client side for webpage behavior, often incorporating third party libraries. Therefore, some of the core elements in java script include data types and data structures.

Data types describe the different types of data that are stored in variables. In java script, there are different data types. A data type is an attribute with a piece of data that tells a computer system how to interpret its value. Some of these data types include:

**Number** (e.g. 1, 3.14)

**String** (e.g. "hello")

**Boolean** (e.g. true, false)

**Symbol** (a new data type)

**Undefined** (a variable that has been declared but has not been assigned a value)

**Object** (a collection of key-value pairs) ie:

***Const person={name=”john”, age=20}***

**Function** (a block of code that can be invoked)ie:

***Function myfunction(p1 ,p2){***

***Return p1\*p2***

***}***

Advantages of data types are that they define the size of a variable in memory and saves memory from unused memory. They also store various types of data type using standard data type.

Data structures are formats in java script that help access the data in more efficient ways and make modifications when required. They allow one to organize, store and manage the data.

There are also several data structures in JavaScript, including:

**Array** (a collection of items stored in order) ie:

***Const cars[“toyota”, “bmw”, “nissan”]***

**Map** (a collection of key-value pairs, similar to an object)

// Create a Map  
const fruits = new Map([  
  ["apples", 500],  
  ["bananas", 300],  
  ["oranges", 200]  
]);

**Set** (a collection of unique items)ie:

// Create a Set  
const letters = new Set(["a","b","c"]);

**Weak Map** (a Map where the keys are objects and the values can be any value, but the keys are held weakly)

**Weak Set** (a Set where the elements are held weakly)

**Queue** (a collection of items that follows the FIFO principle)ie:

**Stack** (a collection of items that follows the LIFO principle)

These structures enable optimized storage without taking too much space for inherent data. They allow re-usability of in the long run, easing the work and time taken to accomplish it.

Top of Form

Bottom of Form