In Cypress, JavaScript/type script is used to write test scripts, and JavaScript/type script has several data types that are essential for interacting with the DOM, manipulating test data, and validating conditions during tests. These data types can be divided into **primitive types** and **reference types/non primitive types**.

**1. Primitive Data Types in JavaScript (Used in Cypress)**

These types store single values and are immutable. They include:

* **String**
  + Represents a sequence of characters enclosed in single or double quotes.
  + Example:

let name = 'Cypress';

let company= “mycompany”

* **Number**
  + Represents both integers and floating-point numbers.
  + Example:

let age = 25;

let price = 12.99;

* **Boolean**
  + Represents true or false values, commonly used in conditional statements.

let isLoggedIn =TRUE;

let isLoggedOut=False;

We are using this data type to enable or disable the settings in cypress.config.js file.

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* **Undefined**
  + A variable that has been declared but has not been assigned a value.
  + Example:

let value;

console.log(value); // undefined

* **Null**
  + Represents the intentional absence of any value or object.
  + Example:

let user = null;

* **Symbol** (ES6)
  + Represents a unique and immutable value, often used for object property keys.
  + Example:

const uniqueID = Symbol('id');

* **BigInt** (ES11/ES2020)
  + Used to represent very large integers.
  + Example:

const largeNumber = BigInt(1234567890123456789012345678901234567890);

**2. Reference Data Types in JavaScript (Used in Cypress)**

These types store references to memory locations, and they can store multiple values.

* **Object**
  + Represents a collection of key-value pairs. Objects are often used to store and organize related data.
  + Example:

let person = {

name: 'John',

age: 30,

isActive: true

};

let product ={

productName:’Cypress-videos’,

productShortDescription:’Cypress-videos-from-herot0zero’

productDescription:”this is a full version of cypress videos which incluced

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productPrice:100,

productStock:0,

productAvailability:false

}

* **Array**
  + An ordered collection of values that can be of any data type.
  + Example:

let fruits = ['apple', 'banana', 'cherry'];

* **Function**
  + A block of code that performs a task and can return a value.
  + Functions are first-class objects in JavaScript, which means they can be assigned to variables, passed as arguments, etc.
  + Example:

function add(a, b) {//supply the input through argument

return a + b;

}//retrun is a keyword return the value

Let x=add(3,4)

* **Date**
  + Used for handling dates and times.
  + Example:

let currentDate = new Date();

* **RegExp**
  + Represents regular expressions used for pattern matching in strings.
  + Example:

let regex = /hello/i; // 'i' is a case-insensitive flag

//attributes selectors - ^ | etc…

**Data Types in Automation testing Context**

In **Automation** testing, you work mainly with the following JavaScript data types:

* **Strings** for interacting with DOM elements
* **Booleans** for assertions and conditional checks.
* **Arrays** for working with multiple DOM elements.
* **Objects** for storing test data or configurations.
* **Functions** for writing Cypress commands or custom commands.