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a Veranda Enterprise



Full Stack Web Development Program



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Day 18 - Data Types and Operators in JavaScript

Titles - I

- String
- Number
- Boolean
- Undefined
- Null
- BigInt
- Symbol
- Arrays
- Objects
- Function
- Operators



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Titles - II

- Arithmetic Operators
- Assignment Operators
- Comparison Operators
- Logical Operators
- Conditional Statements
- If Statement
- If-else Statement
- else if Statement
- Switch Statement
- Looping Statements
- for Loop



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Titles - III

- while Loop
- do..while Loop
- for..in loop
- for..of Loop



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Learning Objectives

By the end of this module, you will be able to:

- Elaborate Primitive and Reference data types
- Make use of Arithmetic, Assignment, Logical and Comparison operators
- Recall the syntax and usage of the Conditional and Looping statements



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Data Types and Operators in JavaScript

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String

- JavaScript's String is a type that is used to represent a sequence of characters.
- It is useful for holding data represented in text form.
- String data must be enclosed either in single(') or double quotation(") marks.

Syntax:

```
keyword variablename = "value/text";  
                        (OR)  
keyword variablename = new String("text")
```

General way for
creating string

Creation of string
using **new** operator

Example:

```
var str = " Edureka ";  
OR  
var str = new  
String("Edureka " );
```

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Number

- The number is a type that is used to represent and manipulate numbers like 37 or -9.25.
- The number can be written with or without decimals.
- In JavaScript, we only have numbers; it does not categorize numbers into further categories like int, short int, long, float, long int, etc.

Syntax:

```
keyword variablename = value;  
                        (OR)  
keyword variablename = new Number(value);
```

General way for creating
variable of type number

Creation of number using
new operator

Example:

```
var number = 90;  
OR  
var str = new  
Number(90);
```

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Boolean

- Boolean is a type that is used to represent true and false values.
- This data type is mainly used in a conditional expression with true or false values.

Syntax:

```
keyword variablename = true/false;  
OR  
keyword variablename = new Boolean(true/false);
```

The general way for
creating a variable of
type boolean

Creation of boolean using
new operator using
Constructor

Example:

```
var boolean=true;  
OR  
var str = new  
Boolean(false);
```

Undefined

- It is a primitive data type in JavaScript.
- The undefined property indicates that a variable has not been assigned a value or not declared at all.
- It indicates there is no value in the variable, or you can assume a variable has nothing inside it.



Variable with value – (Defined)



Variable without value – (Undefined)

Null

- JavaScript null is a primitive data type that contains a special value **null**.
- JavaScript uses the null value to represent the intentional absence of any object value.
- If you find a variable or a function that returns null, it means that the expected object could not be created.

Syntax:

```
variablename = null;
```

General way for creating
variable of type null

Example:

```
var a=null;
```

BigInt

- BigInt is a numeric primitive data type in JavaScript.
- The name of the data type itself tells that it can store large numbers. It stores a large number which is not possible for the Number data type to store.
- We must add **n** at the end of the number while assigning value to a BigInt variable.

Syntax:

```
keyword variablename = value;  
OR  
keyword variablename = new BigInt(value);
```

The general way for creating a variable of type BigInt

Creation of BigInt using **new** operator using Constructor

Example:

```
var a=39898998n;  
OR  
var  
a=BigInt(59898)
```

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Symbol

- A Symbol is an immutable primitive data type.
- It can be used to store the symbol values.
- It can be used as the key to an object

Syntax:

```
keyword variablename = new Symbol(value);
```

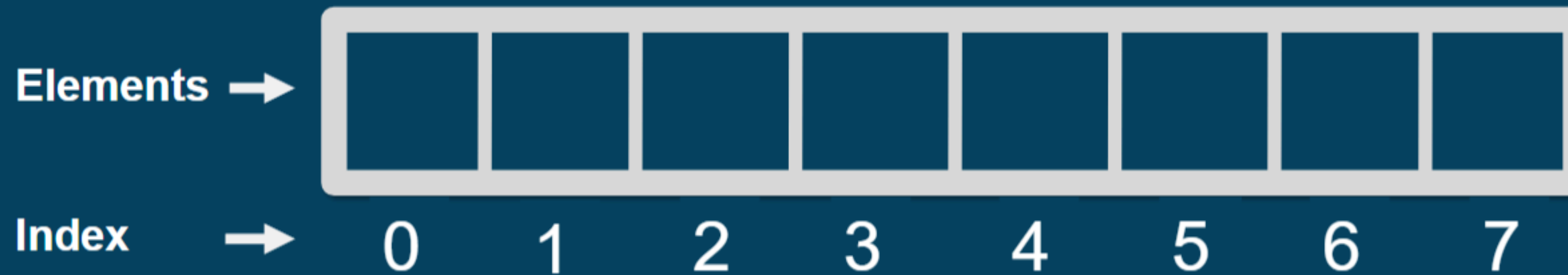
Creation of Symbol using
new operator using
Constructor

Example:

```
var a= Symbol(87)
```

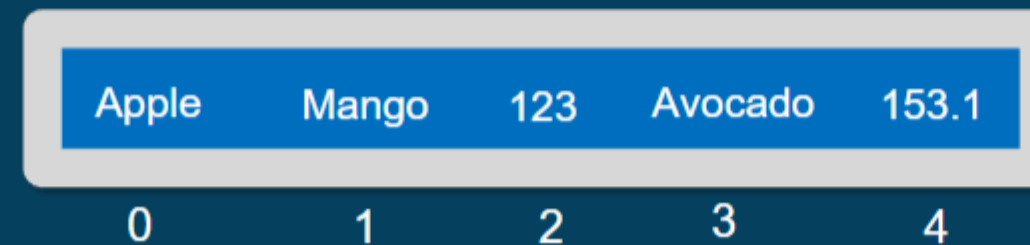

Arrays

- Array is defined as a collection of heterogeneous elements.
- It helps to store multiple values of the different or same data type in a single variable.



Example

```
var arr = [ "Apple", "Mango", 123, "Avocado", 153.1 ]
```



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Objects

- JavaScript object is a non-primitive data type that allows you to store multiple collections of data.
- An object can be created with figure brackets {...} with an optional list of properties.
- A property is a **key: value** pair, where the **key** is a string (also called a property name), and the **value** can be anything.

Syntax:

```
let objectname = {           //  
    an object  
  
    "key1": "value1",  
    "key2": "value2"  
    ...  
    ...  
};
```

Example:

```
let studentObject = { // an object  
  
    rno: 101, // key "rno" stores value 101  
    name: "Alexa" // key "name" stores value  
};
```