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Javascript Variables

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Variables

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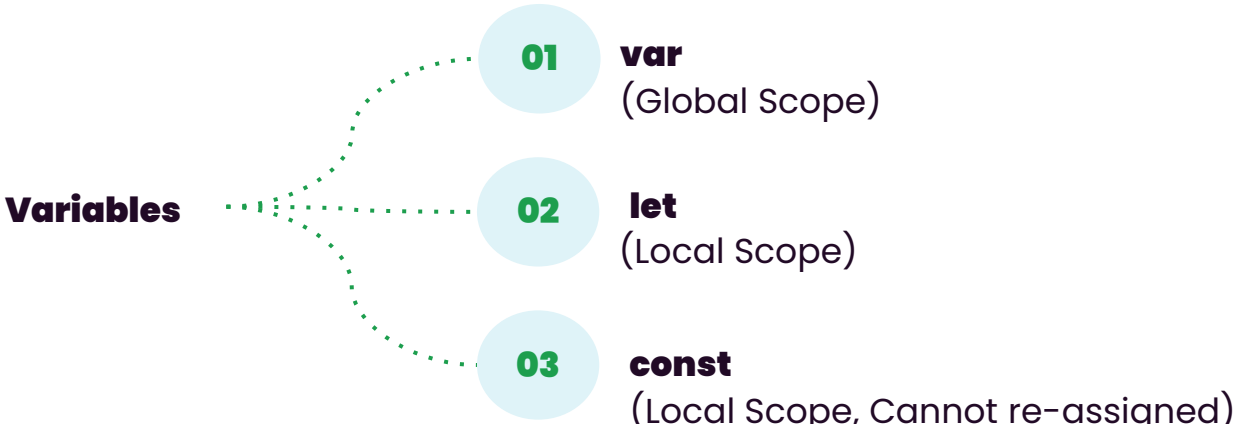
What is Variables?

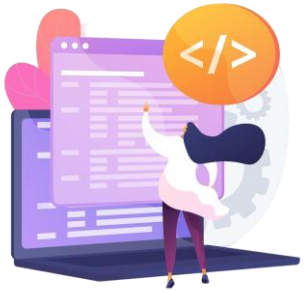
- Variables are used to store data in JavaScript.
- Variables are used to store reusable values.
- There are two types of variables in JavaScript : **local variable** and **global variable**.



Variables (cont.)

Variables Basic Rules

- Name must start with a letter (a to z or A to Z), underscore(_), or dollar($) sign.
- After first letter we can use digits (0 to 9).
- A variable name cannot using whitespace.
- A variable name cannot be a javascript keyword. (*true, false, new, this, etc.*)
- These are case-sensitive. (*var A and var a are different*)



Variables (cont.)

Var keyword

- The `**var**` keyword in JavaScript is used to declare variables. It has been a part of JavaScript since the language's inception, but its behavior differs from the **let** and **const** keywords introduced in **ECMAScript 2015** (**ES6**).
- You declare JavaScript variables with the **var** keyword:

  var school;
- Variables declared without assign a value is **undefined**.
- To assign a value to the variable, use the equal sign:

  school = "ANT Training Center";
- Assign a value to the variable when declare :

  var school = "ANT Training Center";

Variables (cont.)

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Let keyword

- The `**let** keyword in JavaScript, introduced in ECMAScript 2015 (**ES6**), provides a way to declare variables with **block scope**. It addresses some of the limitations of the **var** keyword and offers better control over variable declarations.
- You declare JavaScript variables with the **let** keyword:

  let school;
- Cannot be **re-declared** within the same block scope.
- To assign a value to the variable, use the equal sign:

  school = "ANT Training Center";
- Assign a value to the variable when declare :

  let school = "ANT Training Center";

Variables (cont.)

Const keyword

- The `**const**`keyword in JavaScript, introduced in **ECMAScript 2015** (**ES6**), is used to declare variables whose values are intended to remain constant after initialization.
- You declare JavaScript variables with the **const** keyword:

  const school = 'ANT';

- Cannot be **re-declared** and **re-assigned** within the same block scope.
- Every variables that declare with `**const**` keyword must be **initialize**.

Variables (cont.)

Did you know?

- There are many Data Types in JavaScript. but for now, just think of **numbers** and **strings**.
- When you assign a **string value** to a variable, put **double or single quotes around the value**.
- When you assign a **numeric value** to a variable, **do not put quotes around the value**. (*If you put quotes around a numeric value, it will be treated as string.)*
- You can declare many variables in one statement. Just start the statement with **var** and separate the variables by **comma**:

```
var name="Nith", age=18, gender="Female";
```

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Javascript Data Types

Data Types

- JavaScript is a **dynamic type language**, means you don't need to specify type of the variable because it is dynamically used by JavaScript engine.

Example

```
var schoolName = 'ANT Training Center'; // Holding String
var year= 18; // Holding Number
var person= {name: 'Nith', age: 25}; // Holding Object
```

- These are two types of data types in Javascript such as: **Primitive data types** and **Non-primitive** (**reference**) **data types**.

Data Types (cont.)

Primitive Data Types

- Primitive data types are the most **basic types of data** in JavaScript. They are immutable (*cannot be changed once created*) and are passed by value. When you assign a primitive value to a variable, the variable holds the actual value.

1. String

- A string is a variable stores any characters inside a single or double quotes or backticks.

Example

```
var shortName = 'ANT';
var fullName = "Abstract of New Technology";
var officialName = `ANT Training Center`; //Template literals were introduced in ES6
```

Data Types (cont.)

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2. Number

- JavaScript has only one type of numbers.

Example

```
var dollar = 100;
var euro = 12.15;
```

3. Boolean

- Represents boolean value either: **true** or **false**.

Example

```
var check = true;
var uncheck = false;
```

Data Types (cont.)

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4. Undefined

- Represents a variable that has been declared but has not yet been assigned a value.

Example

```
var x;
console.log(x) //undefined
```

5. Null

- This type has only one value: **null**.

Example

```
var y = null;
console.log(y) //null
```

Data Types (cont.)

Non-primitive Data Types

- The data types that are derived from primitive data types of the JavaScript language are known as non-primitive data types. It is also known as **derived data types** or **reference data types**.

1. Object

- An object in Javascript is an entity having **properties** and **methods**.

Example

```
var obj = new Object(); // Using object constructor
var newObj = {}; // Using  object literal
```

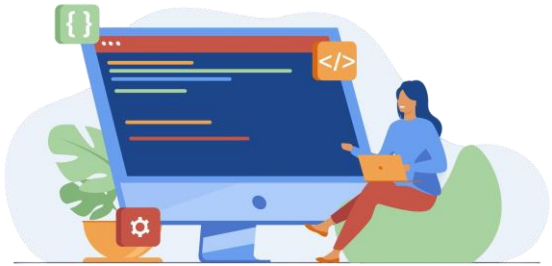
Data Types (cont.)

2. Array

- Array is used to stored collections of values and can hold elements of any type and elements are access by **index**.

Example

```
var myarr = new Array(); // Using array constructor
var newArr = []; // Using  array literal
```



Q & A?

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Thanks!