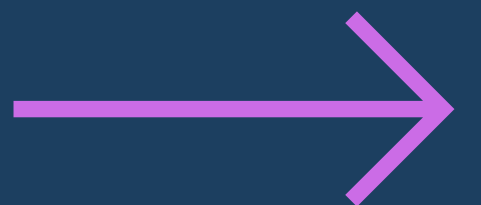# Breaking

Javascript

Introduction, variables & data types

→

What is Javascript?

- programming language
- updates and changes HTML & CSS
- calculates, manipulates & validates data

HTML

CONTENT LAYER

.html files

HTML gives page structure
and semantics

CSS

PRESENTATION LAYER
.css files

Enhances HTML by how
content is presented
(backgrounds, colors, fonts etc

javascript

BEHAVIOUR LAYER

.js files

Adds interactivity, how the
page behaves.

→

Javascript Basics

Including JavaScript in an HTML Page

<script type="text/javascript">
// JS code goes here
</script>

Call an External JavaScript File

<script src="myscript.js"></script><code></code>

Including Comments

// single line comments

/* comment here */
multi-line comments

Variables

containers for storing data
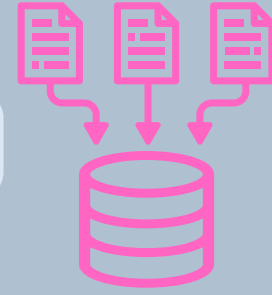
declared in 3 ways

let - The most common variable. Can be reassigned but only accessed within a function.

const - Cannot be reassigned and not accessible before they appear within the code. let Similar to const, however, let variable can be reassigned but not re-declared.

var - should only be used for older browsers

how to declare:

let quantity;

variable keyword   variable name

how to assign a value:

quantity = 3;

variable name   variable   value

assignment operator

Data types

- **Numbers - 1, 2, 3....**
- **Strings - "text"**
- **Boolean - true/false**
- **Object - {...}**
- **Arrays object - [...]**

> *"these are just a few of the data types, there are many more"*

```
12    // no value (undefined)
13    let toyName;
14    let gameName;
15    // to assign a value and declare it
16    let toyName = 'Buzz';
17    let gameName = 'Minecraft';
18    // Number
19    let height = 24;
20    let width = 16;
21    // String
22    let color = "orange";
23    let surname = "Peel";
24    // Boolean
25    let c = true;
26    let d = false;
27    // Object
28    let person = {firstName:'John', lastName:'Doe'};
29    // Array object
30    let motorbike = ['yamaha', 'honda', 'suzuki'];
31    // Date object
32    let date = new date('2025-03-05');
```

NOTE - when adding a string and number , JS will treat the number as string.

```javascript
// using a variable to store a number
let price;
let quantity;
let total;

price = 2.99;
quantity = 12;
total = price * quantity;
// executing to the webpage
document.write(`$${total}`); // $35.88
```

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport"
    content="width=device-width,
    initial-scale=1.0">
    <title>Variables</title>
</head>
<body>
    <h1>Variables</h1>
    <p id="number">Variable by number</p>
    <script src="variablesScript.js"></script>
</body>
</html>
```
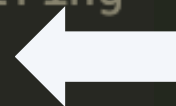
Variables

Variable by number

$35.88

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport"
    content="width=device-width,
    initial-scale=1.0">
    <link rel="stylesheet" href="variablesStyle.css">
    <title>Variables</title>
</head>
<body>
    <h1>Variables</h1>
    <p id="string">Variable by string</p>
    <script src="variablesScript.js"></script>
</body>
</html>
```

```javascript
// using variable to store a string
let fname;
let message;
fname = 'Bob';
message = 'Good morning';
// execute to the webpage
document.write(`${message}, ${fname}!`);
// Good morning, Bob!
```

Variables

Variable by string

Good morning, Bob!

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport"
    content="width=device-width,
    initial-scale=1.0">
    <link rel="stylesheet" href="variablesStyle.css">
    <title>Variables</title>
</head>
<body>
    <h1>Variables</h1>
    <p id="boolean">Variable by boolean</p>
    <script src="variablesScript.js"></script>
</body>
</html>
```

```javascript
// // using a variable to store a boolean
let inStock;
let shipping;
inStock = true;
shipping = false;

document.write(`We have 35 shirts in stock (${inStock})
    and we can ship to Malta in 2 days (${shipping})`);
```

Variables

Variable by boolean

We have 35 shirts in stock (true) and we can ship to Malta in 2 days (false)