**LESSON 1**

**BASICS OF JAVA SCRIPT**

**What is Java Script?**

A technology that we use to create websites

A website like Youtube.com or Amazon.com

Giving instruction to a computer (code)

The computer follows our instructions (running the code)

**3 Technologies we use to create websites:**

1.HTML5 🡪 It creates the content of our website. It create the buttons text & images etc…

2.CSS3 🡪 Changes the appearance of our website and by adding it our complete website look and feel will be changed.

3.JAVA SCRIPT 🡪 And finally by adding the JS to our website we can make it interactive

**Web Browser for this lesson :** https://supersimple.dev/js-basics/

🡪alert(‘hello’); --- This is an instruction to create pop-up

🡪document.body.innerHTML = “hello”; --- It modifies the webpage

**TERMINOLOGY (NAMING)**

Code : it’s the way to communicate with computer

Programming languages: similar to human languages (but for coding languages)

Example : JS , Python , Java etc…

Syntax :

🡪Rules that we have to follow when using a programming language.

🡪Similar to English (grammar).

🡪In programming, we have to follow the rules of syntax exactly otherwise our computer wont understand our code.

NOTE:

1.Java script is giving instructions to a computer.

2.Wrote JavaScript code.

3.Run our code using Console.

4.Definition of Syntax.

**EXERCISE**

**Note 1:** Do these exercises in the console (right-click > inspect > console).

**Note 2:** If you to copy-paste code in the console, you might get a warning, saying pasting is disabled. To fix this, type **allow pasting** in the console and press enter.

1a. Use alert(…); to display ‘Good morning!’ in a popup.

1b. Display your name in a popup.

1c. Using math, calculate 10 + 5 in the console.

1d. Calculate 20 – 5 in the console.

1e. Calculate 2 + 2 – 5 in the console.

1f. Use document.cody.inner.HTML=…; to display ‘Good morning!’ on the webpage.

1g. Display your name on the web page.

**Challenge Exercises**

1h. You order a T-Shirt for $10, socks for $8, and dinner plates for $20. Use JavaScript to calculate the total cost of your order.

1i. Your bank account has $100, you spend $20 on lunch , $50 on dinner, and earn $200 from your job. Calculate how much money you have.

1j. Use document.body.inner.HTML = …; to make the webpage blank.

**LESSON – 2**

**NUMBERS AND MATH**

**Final project Website:** <https://supersimple.dev/projects/amazon/>

**Order of operatioins**

1. (…)
2. \*/ are done first
3. + - are done later (These are also called as operator precedence)

(\*/ )&(+-)have save priority It will calculate from left to right

We can use brackets (…) to control which should done first . And the brackets must be closed perfectly.

In programming:

2,3,4 = Integers

2.2,2.5 = floating point numbers (floats)

Computers have a problem working with floats.

To avoid these inaccuracies in floats in case of currency problems:

Best practice when calculating money = calculate in cents instead of dollors.

Then convert back to dollors.

**How to round a number in JS?**

Math.round(any float number)

M should be capital as JS is case sensitive .

The **Math.round()** static method returns the value of a number rounded to the nearest integer.

console.log(Math.round(0.9));

// Expected output: 1

console.log(Math.round(5.95), Math.round(5.5), Math.round(5.05));

// Expected output: 6 6 5

console.log(Math.round(-5.05), Math.round(-5.5), Math.round(-5.95));

// Expected output: -5 -5 -6

Note:

1. Numbers and Math.
2. Order of Operations, and Brackets (…).
3. Calculated the numbers in final project.
4. Calculations using floats can be inaccurate.
5. Math.round()
6. How to search for code on our Own.

**LESSON 3**

**STRINGS**

“hello” 🡪 String

String = text

Syntax rules for string

To write stings we write a text in the middle of “ “ .

We can also add strings together by using assignment operator “+”.

This combing of strings are called as concatenation.

typeof(…) 🡪 by this code we can see which type of data it is.

We can also add a string and a number as number is automatically converts into string , this type is called type conversion or automatic type conversion.

Strings also follow order of operations or precedence.

3 ways to create a string :

1. ‘content of our string’
2. “content of our string”
3. ~content of our string~ = these type of string creation is called as template strings. It is also a multi-liner strings,

One of the special feature of using ~ for string creation is Interpolation.

Interpolation : Insert value directly into a string. It is one of the much cleaner way .

~Items (${1+1}):$${(2095+799)/100}~

**Escape characters:**

\’ used to skip the ending of our strings.

A **character escape** represents a character that may not be able to be conveniently represented in its literal form.

Character escapes are useful when you want to match a character that is not easily represented in its literal form. For example, you cannot use a line break literally in a regex literal, so you must use a character escape:

Note:

1. Strings = text.
2. Use strings and numbers together.
3. Three ways to create strings. ‘…’ “…” ~…~ (template strings).
4. Escape characters : \’ \n .
5. Interpolation , multi-line Strings.

**LESSON 4**

**HTML CSS REVIEW, CONSOLE.LOG**

HTML 🡪 Creates content of our website.

CSS 🡪 Change appearance of our website.

JS 🡪 Add functionality to our website.

**HTML5**

🡪 Hyper Text Markup language .

🡪 It is also giving instructions to a computer.

HTML5 syntax rules :

Button is one of the html elements

To create button : <button>hello</button>

To create a element we use <> and it should end with closing tag </>.

On the webpage multiple spaces are combined into single space and in addition newlines are also count as spaces.

**Web Page = a single page (on a website )**

**(home page, cart page, etc…) 🡪 Website**

**CSS3**

🡪Cascading style sheets.

🡪Changes the appearance of our code.

We write CSS code inside the <style> element at end we use </style>.

<style>

    button {

        background-color: skyblue;

        color : rgb(11, 1, 1);

        border: none;

    }

</style>

Selector : selects which element to change

Inside the selector within curly brackets {} we have some css styles and it determines how to change the appearance .

The css style is written in form of CSS PROPERTY : CSS VALUE key pair.

We use ; to determine the end of our style .

HTML Attributes:

These attributes changes the behaviour of the elements.

<button title="Good job">hello</button>

We always put the attributes on the opening tag and we add a space b/w the element name and attribute to separate them.

On the left side we have the attribute name this tells the computer what we are changing about this name , on the right side we have the attribute value and it determines to what we are changing this attribute to.

We can style these attributes using **class attribute .**

Class attribute = adds a label to the element. We can add these class attribute to multiple elements.

<style>

    .red-button {

        background-color: skyblue;

        color : rgb(220, 12, 12);

        border: none;

    }

</style>

<button title="Good job" class="red-button">hello</button>

<p class="red-button">Hello</p>

<html> 🡪 This element represents our entire web page.

<head> 🡪 This contains information about the page , in general everything that is not visible on our page will go to head tag.

<body> 🡪 It suppose to contain everything visible on the webpage.

<title> 🡪 It sets the texts in the tab.

By using this structure we get the ability to automatically refresh our web page when we change our code.

The spaces between our code is called as indents , these indents make us to read and understand our code easily.

The vscode uses 4 spaces per indent , but where ever in html, css, js we use 2 spaces per indent.

Line wrapping used to wrap line using vs code settings.

We can use JS inside the html file using <script> tag or element.

We generally keep this JS at the bottom of the code before body closing tag.

<script>we write java script code here </script>

The code in the script element runs first when the page is loaded.

The code in the onclick attribute runs after when we run the code and clicked the button.

**Comments:**  These are the pieces of code which the computer ignores.

Comments in JavaScript are non-executable statements used to add explanations, descriptions, or temporarily disable parts of the code. They are ignored by the JavaScript engine during execution.

There are two primary types of comments in JavaScript:

* **Single-line comments:**
  + These begin with two forward slashes (//).
  + Everything from the // to the end of the line is treated as a comment.
  + Example:

let age = 30; // This variable stores the user's age.

* **Multi-line comments (or Block comments):**
  + These begin with /\* and end with \*/.
  + Everything between /\* and \*/, including multiple lines, is treated as a comment.
  + Example:

*/\**

*This is a multi-line comment.*

*It can span across several lines*

*to provide detailed explanations.*

*\*/*  
 let name = "John Doe";

<!DOCTYPE html>

<html>

<head>

  <title>HTML CSS REVIEW</title>

  <style>

    .red-button {

      background-color: skyblue;

      color: rgb(220, 12, 12);

      border: none;

    }

  </style>

</head>

<body>

  <button title="Good job" class="red-button" onclick="

    alert('hello');">

    hello

  </button>

  <p class="red-button">

    Hello

  </p>

  <script>

    //This is a comment

    alert('hello');

  </script>

</body>

</html>

**CONSOLE.LOG(“…”) ; 🡪** we use this code to print anything in the console.

Console.log(“Hello”);

Console.log(2+2);

Note:

* + 1. Reviewed basics of HTML & CSS
    2. Setup of VS Code
    3. Load JS inside HTML file using <script> & onclick= “”
    4. Comments in JS // & /\* \*/
    5. Console.log(‘…’);

**LESSON 5**

**VARIABLES**

What is Variable?

It is like a container where we can save a value like a number or a string and then we use it later.