JavaScript Outline

GREETING/OVERVIEW
- Tonight we are going to cover some basic Java Script.
- Cover a little background and origin of Java Script.
- Build a simple calculator that will add 2 numbers together.
- Extra -- Add some dynamics to a web page that we created in a previous class.

HISTORY/ORIGIN -
- Java Script - The first appearance of Java Script was approximately 1995 with the Netscape Navigator. If you have ever used Java you will find that the syntax of Java Script is very similar.
- In 1996 Netscape submitted JavaScript for standardization to ECMA International (European Computer Manufacturer's Association). ECMA can be thought of as the standard and JavaScript as the implementation.
- As a side note there are several languages that compile into JavaScript Typescript and CoffeeScript are a couple of examples.

JAVASCRIPT
- **What is is -** A scripting language that is interpreted by the browser. It is generally interpreted 1 line at a time.
- **What it does -** Enhances the behavior and appearance of a web page. It can manipulate the elements on a web page. (Example change background color on ebay site).
- **Scripting Language -** Generally a scripting language is not compiled but interpreted. Some common examples are: JavaScript, PHP, Python, Perl.
- **Developer Console** - If you have Chrome or Firefox you can see some java script by opening the developer console and choosing the console or debugger tab. For FireFox choose the style editor. (Chrome CTRL-SHIFT-I, Firefox CTRL-SHIFT-K).

JavaScript Syntax - There will be a new HTML element introduced *<script>* along with it's closing tag *</script>*. Since JavaScript is a language a simple example is given here of the syntax. Here in this example a function called add adds 2 numbers together and returns the sum.

```
<script>
function add (a, b) {
  return a + b;
}
</script>
```

JavaScript LAB -

JavaScript Outline

1. **For this lab we will be using the Tryit Editor at W3Schools [Tryit Editor](#)**

2. **Add 2 numbers together [Simple Calculator I](#)**
3. **More advanced with clear button [Simple Calculator II](#)**

4. **Code**

```
<!DOCTYPE html>
<html lang="en">

<head>

<title>Simple Calculator</title>

<style>
body {
  background-color: black;
  text-align: center;
  color: white;
  font-family: Arial, Helvetica, sans-serif;
}
</style>

</head>

<body>

<!-- First Input -->
<label for="first">A</label>
<input id="first" type="text">

<!-- Second Input -->
<label for="second"> + B</label>
<input id="second">

<!-- Result -->
<span> = </span><span id="result"></span>
<br/>

<!-- Compute Button -->
<button type="button" onclick="add()">Compute</button>

<script>
```

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```
// Function to Add 2 Numbers Together
function add() {
    // Obtain the value of the first and second input
        let A = document.getElementById("first").value;
        let B = document.getElementById("second").value;

        // Add the numbers
        let result = Number(A) + Number(B);

        // Return the result
        document.getElementById("result").textContent = result;
}
</script>

</body>
</html>
```

More Advanced Version

```
<!DOCTYPE html>
<html lang="en">

<head>

<title>Simple Calculator</title>

<style>
body {
  background-color: black;
  text-align: center;
  color: white;
  font-family: Arial, Helvetica, sans-serif;
}
</style>

</head>

<body>

<!-- First Input -->
<label for="first">A</label>
<input id="first" type="text">
```

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```
<!-- Second Input -->
<label for="second"> + B</label>
<input id="second">

<!-- Result -->
<span> = </span><span id="result"></span>
<br/>

<!-- Compute Button -->
<button type="button" onclick="add()">Compute</button>
<button type="reset" onclick="reset()">Clear</button>

<script>
// Function to Add 2 Numbers Together
function add() {
   // Obtain the value of the first and second input
       let A = document.getElementById("first").value;
       let B = document.getElementById("second").value;

       // Add the numbers
       let result = Number(A) + Number(B);
       if(isNaN(result)) {
        result = `An error occurred adding '${A} + ${B}'`;
       }

       // Return the result
       document.getElementById("result").textContent = result;
}
// Function to reset input values and result
function reset() {
   document.getElementById("first").value = "";
       document.getElementById("second").value = "";
   document.getElementById("result").textContent = "";
}
</script>

</body>
</html>
```

5. **Extra Credit: transform your existing webpage by doing the following:**

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