JAVASCRIPT TOPIC 2

InfoTech 37
Jomar B. Colao
College Instructor

Where?

❏ In HTML, JavaScripts must be inserted between <script> and </script> tags.

❏ JavaScripts can be put in the <body> and in the <head> section of an HTML page.

❏ JavaScript is the default scripting language in all modern browsers and in HTML5.

The <script> Tag

❑ To insert a JavaScript into an HTML page, use the <script> tag.

❑ The <script> and </script> tells where the JavaScript starts and ends.
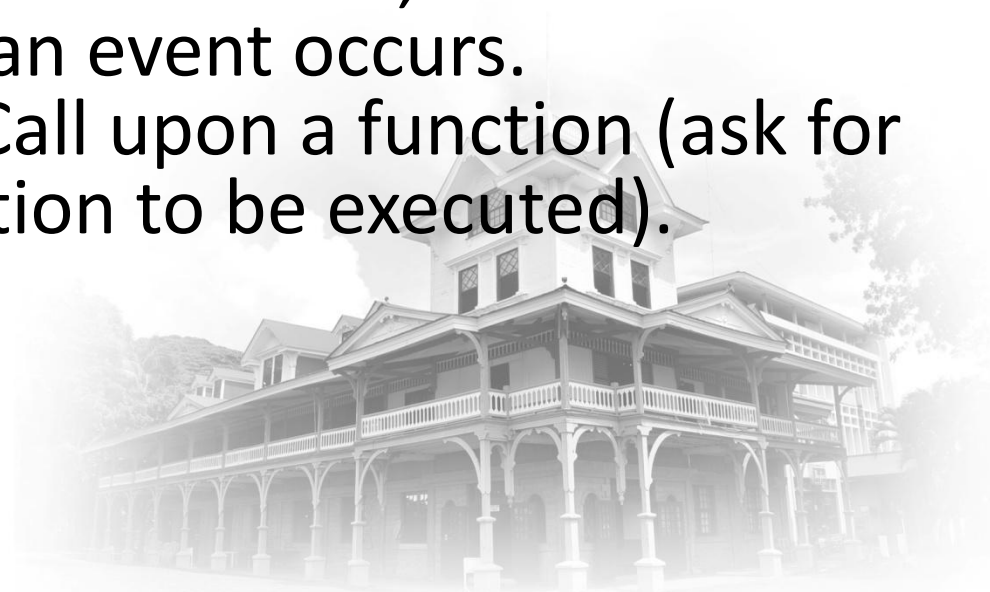
Example:

```
<script>
    function myFunction() {
    document.getElementById("demo").innerHTML = "My First JavaScript Function";
    }
</script>
```

JavaScript Functions and Events

❑ JavaScript code is written to be executed when an event occurs, like when the user clicks a button.

❑ JavaScript code inside a function, can be invoked later, when an event occurs.

❑ Invoke a function = Call upon a function (ask for the code in the function to be executed).

JavaScript in <head> or <body>

❑ You can place any number of scripts in an HTML document.

❑ Scripts can be placed in the <body> or in the <head> section of HTML, and/or in both.

❑ Often you will see scripts at the bottom of the <body> section of a web page. This can reduce display time.

❑ Sometimes you will see all JavaScript functions in the <head> section.

❑ Separating HTML and JavaScript, by putting all the code in one place, is always a good habit.

JavaScript in <head>

❑ JavaScript function is placed in the <head> section of an HTML page.

❑ The function is invoked (called) when a button is clicked:

Demo 1

```
<!DOCTYPE html>
<html>
    <head>
    <script>
    function myFunction() {
    document.getElementById("demo").innerHTML = "Paragraph changed.";
    }
    </script>
    </head>

    <body>

    <h1>My Web Page</h1>

    <p id="demo">A Paragraph</p>

    <button type="button" onclick="myFunction()">Try it</button>

    </body>
</html>
```

JavaScript in <body>

❑ JavaScript function is placed in the <body> section of an HTML page.

❑ The function is invoked (called) when a button is clicked:

Demo 2

```
<!DOCTYPE html>
<html>

    <body> <h1>My Web Page</h1>

    <p id="demo">A Paragraph</p>

    <button type="button" onclick="myFunction()">Try it</button>

    <script>
    function myFunction() {
    document.getElementById("demo").innerHTML = "Paragraph changed.";
    }
    </script>

    </body>
</html>
```
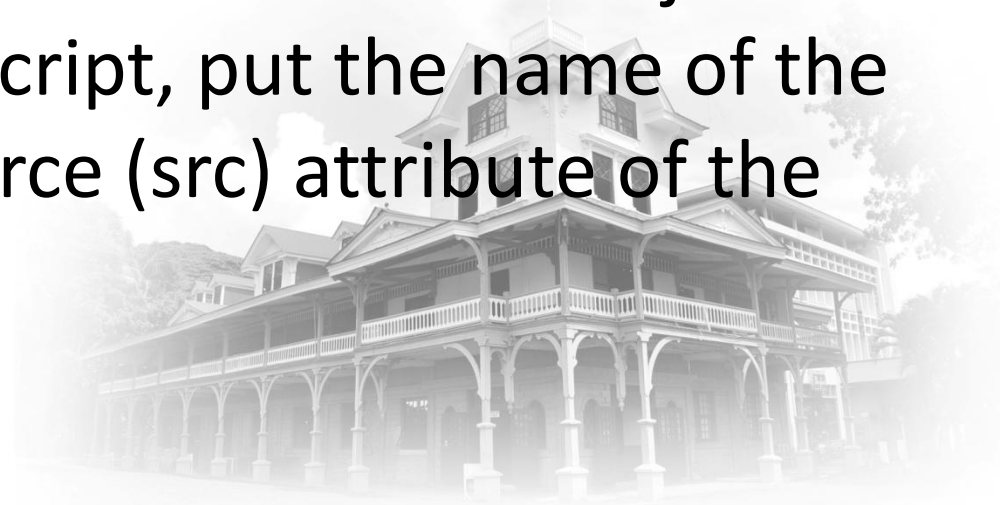
It is a good idea to place scripts at the bottom of the <body> element. This improves page load, because HTML loading is not blocked by scripts loading.

External JavaScripts

❏ Scripts can also be placed in external files.

❏ External scripts are practical when the same code is used in many different web pages.

❏ JavaScript files have the file extension .js.

❏ To use an external script, put the name of the script file in the source (src) attribute of the <script> tag:

Demo 3

```
<!DOCTYPE html>
<html>
    <body>
    <script src="myScript.js"></script>
    </body>
</html>
```

Note:
You can place an external script reference in <head> or <body> as you like.

The script will behave as if it was located exactly where you put the reference in the HTML document.
Note   External scripts cannot contain <script> tags.

Output

❑ JavaScript does not have any print or output functions.

❑ In HTML, JavaScript can only be used to manipulate HTML elements.

Manipulating HTML Elements

❑ To access an HTML element from JavaScript, you can use the document.getElementById(id) method.

❑ Use the "id" attribute to identify the HTML element, and innerHTML to refer to the element content:

Demo 4

```
<!DOCTYPE html>
<html>
    <body>

    <h1>My First Web Page</h1>

    <p id="demo">My First Paragraph</p>

    <script>
    document.getElementById("demo").innerHTML = "Paragraph changed.";
    </script>

    </body>
</html>
```

Demo 4 Explained

❑ The JavaScript statement above (inside the <script> tag) is executed by the web browser:

❑ document.getElementById("demo") is JavaScript code for finding an HTML element using the id attribute.

❑ innerHTML = "Paragraph changed." is JavaScript code for changing an element's HTML content (innerHTML).

Note:Writing output into a <p> element with id="demo".

Writing to The HTML Document

For testing purposes, you can use JavaScript to write directly to the HTML document:

Demo 5

```
<!DOCTYPE html>
<html>
    <body>

    <h1>My First Web Page</h1>

    <p>My first paragraph.</p>

    <script>
    document.write(Date());
    </script>

    </body>
</html>
```
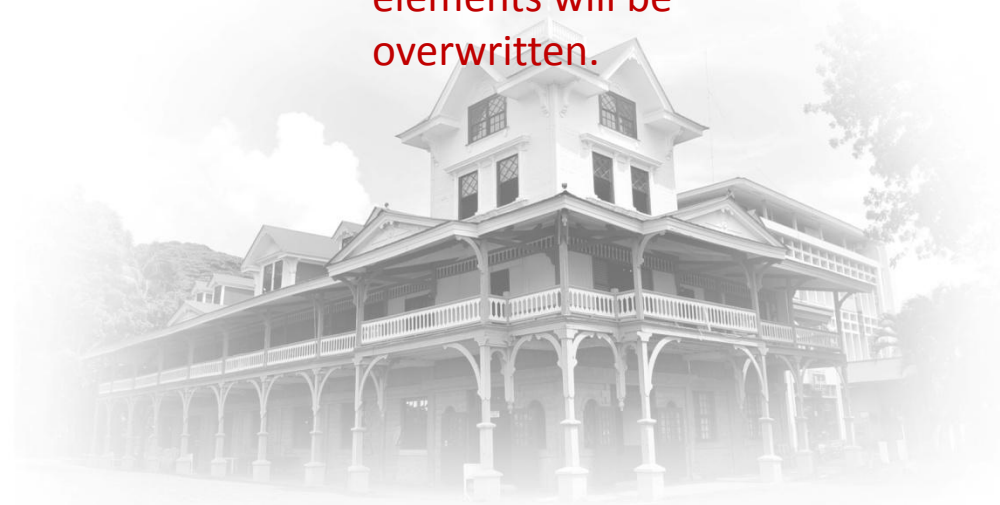
Use document.write for testing only.
If you execute it, on a loaded HTML document, all HTML elements will be overwritten.

Demo 6

```
<!DOCTYPE html>
<html>
    <body>
    <h1>My First Web Page</h1>
    <p>My first paragraph.</p>
    <button onclick="myFunction()">Try it</button>
    <script>
    function myFunction() {
        document.write(Date());
    }
    </script>

    </body>
</html>
```

Writing to The Console

❏ If your browser supports debugging, you can use the console.log() method to display JavaScript values in the browser.

❏ Activate debugging in your browser with F12, and select "Console" in the debugger menu.

Demo 7

```
<!DOCTYPE html>
<html>
    <body>

        <h1>My First Web Page</h1>

        <script>
        a = 5;
        b = 6;
        c = a + b;
        console.log(c);
        </script>

    </body>
</html>
```

Did You Know?

❑ Note Debugging is the process of testing, finding, and reducing bugs (errors) in computer programs.

❑ The first known computer bug was a real bug (an insect), stuck in the electronics.