Introduction to JavaScript

Topics
- What is JavaScript?
- Why JavaScript?
- Including JavaScript in HTML
- Hello World Example Script
- JavaScript Comments

What is JavaScript?
- Created by Netscape
  - Originally called LiveWire then LiveScript
- A client-side scripting language
  - Client-side refers to the fact that it is executed in the client (software) that the viewer is using. In the case of JavaScript, the client is the browser.
  - A server-side language is one that runs on the Web server. Examples: PHP, Python, Perl
- Interpreted on-the-fly by the client
  - Each line is processed as it loads in the browser

JavaScript is not Java
- Completely different types of languages that just happen to be similarly named
  - JavaScript - programs are interpreted in the browser
  - Java - programs are compiled and can be run as stand alone applications

Why JavaScript?
- It’s easier to learn than most programming languages
- It allows you to make interactive Web pages
- It can be fun!

Including JavaScript in HTML
- Two ways to add JavaScript to Web pages
  - Use the `<script>...</script>` tag
  - Include the script in an external file -- more about this later in the semester
- Initially, we will only use the `<script>...</script>` tag
Hello, World!

- Typically, in any programming language, the first example you learn displays “Hello, World!”
- We are going to take a look at a Hello World example and then examine all of its parts.

Hello World in JavaScript

```html
<!DOCTYPE html>
<html>
<head>
<title>Hello World Example</title>
</head>
<body>
<script type="text/javascript">
<!--
    document.write("<h1>Hello, world!</h1>" masa
    //--></script>
</body>
</html>
```

Hello World Screenshot

The `<script>...</script>` tag

- The code for the script is contained in the `<script>...</script>` tag

```html
<script type="text/javascript">

    some JavaScript code

</script>
```

Hiding JavaScript from Older Browsers

- Some older browsers do not support JavaScript
- We need to tell those browsers to ignore what is in the `<script>` tag

```html
<script type="text/javascript">
    <!--
    some JavaScript code
    //-->
</script>
```

Displaying text

- The `document.write()` method writes a string of text to the browser

```html
<script type="text/javascript">
<!--
    document.write("<h1>Hello, world!</h1>" masa
    //--></script>
```
document.write()

```javascript
document.write("<h1>Hello, world!</h1>");
```

Comments in JavaScript

- Two types of comments
  - Single line
    - Uses two forward slashes (i.e., `//`)
  - Multiple line
    - Uses `/*` and `*/`

Single Line Comment Example

```javascript
<script type="text/javascript">
<!--
  // This is my JavaScript comment
  document.write("<h1>Hello!</h1>");
  //-->
</script>
```

Multiple Line Comment Example

```javascript
<script type="text/javascript">
<!--
  /* This is a multiple line comment.
   * The star at the beginning of this line is optional.
   * So is the star at the beginning of this line.
   */
  document.write("<h1>Hello!</h1>");
  //-->
</script>
```

Find the Bug!

```javascript
<script type="text/javascript">
<!--
  /* This is my JavaScript comment
   * that spans more than 1 line.
   * 
   * document.write("<h1>Hello!</h1>");
   *
   
  */
</script>
```