Variable Assignment & Basic Flow Control Structures in Javascript

Javascript programming for fun & profit
Why bother?

Static vs Active
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>
      <title>untitled</title>
   </head>
   <body>
      <!-- Your HTML content here -->
   </body>
</html>
Now with more Javascript™

Introducing the `<script>` tag
Javascript in action: Parsing

Process-as-you-go
Using the Alert Output
Using the Alert Output
Writing to the Document

Using Javascript to build your page
Javascript is extremely useful

Asynchronous JavaScript and XML
Javascript is extremely useful.
The Unforgiving Nature of Javascript

Semicolons, closed quotes and all that jazz.
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```html
1. <script language = "JavaScript">
2.   document.write("something");
3. </script>
```
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Semicolons, closed quotes and all that jazz.

```
<script language = "JavaScript">
    document.write("something");
</script>
```
What the !#$% is a variable?

Names with many faces.
y = mx + b
Declarations

Or, getting your variables into the party.
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Values
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- Numerics: Int, Float, Double...
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  - 7, 7.0, -1, 6.023e+23
Values

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¬ Alphas: Char, String, Blob...
Values

- Numerics: Int, Float, Double...
  - 7, 7.0, -1, 6.023e+23

- Alphas: Char, String, Blob...
  - “A”, “This is Sparta”, “No, seriously, this is Spartaaaaa!”
Values

- Numerics: Int, Float, Double...
  - 7, 7.0, -1, 6.023e+23

- Alphas: Char, String, Blob...
  - “A”, “This is Sparta”, “No, seriously, this is Spartaaaa!”

- Booleans: True / False
Values

- Numerics: Int, Float, Double...
  - 7, 7.0, -1, 6.023e+23
- Alphas: Char, String, Blob...
  - “A”, “This is Sparta”, “No, seriously, this is Spartaaaaa!”
- Booleans: True / False
- Specialities: Date, Time and more...
The difference between = and ==

“Gets” and “Equates”
Assignment
Assignment

[variable] [assignment] [expression]
```javascript
<script language="JavaScript">
var instructor = "Sam Herz";
var class_school = "Info/CSE";
var class_level = 100;
var class_length = 50 / 60;
var lecture_today = true;
</script>
```
Expressions

Round 1
<script language="JavaScript">
var example = 10 / 5;
document.write(example);
</script>
```html
1. `<script language = "JavaScript">`  
2. `var example = 2 * 3;`  
3. `document.write(example);`  
4. `</script>`
```
<script language="JavaScript">
  var example = 1 - 1;
  document.write(example);
</script>
```javascript
<script language = "JavaScript">
var example = 1 + 1;
document.write(example);
</script>
```
```javascript
<script language = "JavaScript">
    var example = 10 % 8;
    document.write(example);
</script>
```
Conditionals: Flow Control

If, Else If, Else
```javascript
<script language= "JavaScript">
    if (<!-- this is true -->)
    {
        <!-- do this -->
    }
    else if (<!-- that is true -->)
    {
        <!-- do that -->
    }
    else
    {
        <!-- do the other thing -->
    }
</script>
```
```javascript
<script language="JavaScript">
if (<!-- this is true -->)
{
    <!-- do this -->
}
</script>
```
```html
<script language="JavaScript">
  if (<!-- this is true -->)
  {
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  else if (<!-- that is true -->)
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    <!-- do that -->
  }
</script>
```
<script language="JavaScript">
    if (<!-- this is true -->
    {
        <!-- do this -->
    }
    else
    {
        <!-- do the other thing -->
    }
</script>
```html
<script language="JavaScript">
  var example = 5;
  if (example <= 5) {
    example = example * 2;
  }
  document.write(example);
</script>
```
```javascript
<script language="JavaScript">
  var example = 5;
  if (example <= 5) {
    example *= 2;
  }
  document.write(example);
</script>
```
<script language="JavaScript">
    var example = 5;
    if (example <= 5) {
        example = example * 2;
    }
    document.write(example);
</script>
```javascript
<script language= "JavaScript">
  var example = 5;
  if (example <= 5)
  {
    example *= 2;
  }
  document.write(example);
</script>
```
```html
<script language = "JavaScript">
  if (grade_percent < 50) {
    document.write("Uh, oh.");
  }
</script>
```
Expressions Continued

Round 2: We ain’t in Kansas no more.
Expressions Continued

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```javascript
<script language="JavaScript">
  if (2 <= 2)
  {
    document.write("true");
  }
  else
  {
    document.write("false");
  }
</script>
```
Round 2: We ain't in Kansas no more.
Round 2: We ain't in Kansas no more.

```javascript
<script language= "JavaScript">
    if (3 > 2) {
        document.write("true");
    } else {
        document.write("false");
    }
</script>
```
Round 2: We ain't in Kansas no more.

```javascript
<script language = "JavaScript">
    if (3 > 2 || 3 == 2) {
        document.write("true");
    }
    else {
        document.write("false");
    }
</script>
```
Round 2: We ain't in Kansas no more.

```javascript
<script language = "JavaScript">
    if (3 > 2 && 1 == 1)
    {
        document.write("true");
    }
    else
    {
        document.write("false");
    }
</script>
```
Overloading, Concatenation & Order of Operation

Clarity & Efficiency for the Masses
```html
1. <script language="JavaScript">
2. var example = "a" + "b" + "c";
3. document.write(example);
4. </script>
```
Overloading, Concatenation & Order of Operation

Clarity & Efficiency for the Masses

```javascript
<script language= "JavaScript">
var example = 5 + 5;
document.write(example);
</script>
```
<script language= "JavaScript">
    var example = "5" + "5";
    document.write(example);
</script>
Overloading, Concatenation & Order of Operation

Clarity & Efficiency for the Masses

```javascript
<script language= "JavaScript">
    var example = 5 + "5";
    document.write(example);
</script>
```
First Javascript Program, Revisited
```html
<script language="JavaScript">
  var number1, number2, answer;
  number1 = 2.0;
  number2 = 2.0;
  answer = number1 + number2;
  document.write(answer);
</script>
```
Moving Forward
Moving Forward

▶ Read!
Moving Forward

- Read!
- Practice makes perfect
Moving Forward

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- Precisions and indenting will save amazing amounts of time
Moving Forward

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- Iterate: Program - Save - Refresh - Debug
Moving Forward

- Read!
- Practice makes perfect
- Precisions and indenting will save amazing amounts of time
- Iterate: Program - Save - Refresh - Debug
- Don’t wait for help until the very last minute
Questions & Examples?