Announcements

• Project #2 has been posted
• Term Paper assignment will be posted soon
• First exam is on Monday 10/9 (One week from now).
Return Quizzes

- Listen for your group....
- Let’s go over the answers quickly
Clarification about “innerHTML”

<p id=“myPar”></p>

<script>
    myPar.innerHTML=“GEORGE”;
</script>

• Doesn’t re-write your code
• Changes what user sees
Slightly different output technique

```html
<div id="outputArea"></div>

<script>
    var output = "some stuff";
    output += "some more stuff";
    output += "even more stuff";
    myPar.innerHTML = output.
</script>

Example: Input2.html
Type Conversions

Usually JavaScript automatically converts things:

```javascript
string1 = "40";
string2 = "30";
product = string1 * string2;  // works
```

It doesn’t always work out...
Example: NumberConversion1.html
Type Conversions

To convert from string to number:

```
"40"  // This is a String (text)
Number("40")  // This is the number 40
```

Always Use Number function when prompting for a numerical value. (We should fix the “Input” example!)

```
var size = Number(prompt("Enter size: "));
```

Example: NumberConversion2.html
More Math...

There are lots of built-in math functions.

Examples:

• `result = Math.abs(-7);`  // result will be 7
• `result = Math.max(3, 23);`  // result will be 23
• `result = Math.min(3, 23);`  // result will be 3
• `result = Math.sqrt(16);`  // result will be 4
• `result = Math.PI;`  // 3.1415926....
• `result = Math.random();`  // result will be a
  // random value
  // between 0 and 1
Comparisons and Boolean Variables

Comparison Operators

These work as you would expect:

\[ x < y \]
\[ x > y \]
\[ x \leq y \]
\[ x \geq y \]

These are “boolean expressions” (either true or false)
Equality Operators

Checking for equality is confusing

There are TWO equality operators:

\[ x == y \] true if \( x \) and \( y \) evaluate to the same value

\[ x === y \] true if \( x \) and \( y \) are the same TYPE and also evaluate to the same value

We strongly favor using \(===\) (You’ll see why later...)

Example:

\[
\begin{align*}
x &= 5; \\
y &= "5"; \\
x &= y & // this is true \\
x &= y & // this is false
\end{align*}
\]
Equality Operators

Two more operators:

\[ x \neq y \quad \text{opposite of} \quad x == y \]
\[ x \neq= y \quad \text{opposite of} \quad x === y \]

Example: Comparisons.html
If-Statement

Behavior depends on a “condition”...

Simple Example:

```javascript
x = Number(prompt(“Enter first value: “));
y = Number(prompt(“Enter second value: “));
if ( x < y ) {
    alert(“THE FIRST VALUE WAS SMALLER”);
}
alert(“That was fun.”);
```

Example: IfStatements.html