JavaScript Intro – Outline

- What is it good for?
- What does it look like?
- Is it Java?
- Example Usage
What’s JavaScript good for?

• Client-side computation?

• Server-side computation?

```html
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">

<!-- Fig. 7.3: welcome3.html  -->
<!-- Printing Multiple Lines  -->

<html xmlns = "http://www.w3.org/1999/xhtml">
<head><title>Printing Multiple Lines</title>

<script type = "text/javascript">
<!--
document.writeln("<h1>Welcome to<br/>JavaScript<br/>
<\/h1>Programming!</h1>");
// -->
</script>

</head><body>
</body>
</html>
```
Java vs. JavaScript

Object-oriented?

Add methods/properties to objects at run-time?

Variable typing?

C-like expressions, control?
Addition / Strings Example – Part 1

```
<?xml version = "1.0"?>
<!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">
<head>
<title>An Addition Program</title>
<script type = "text/javascript">
 var firstNumber, secondNumber, number1, number2, sum;
 // read in first number from user as a string
 firstNumber = window.prompt( "Enter first integer", "0" );
 // read in second number from user as a string
 secondNumber = window.prompt( "Enter second integer", "0" );
 // convert numbers from strings to integers
 number1 = parseInt( firstNumber );
 number2 = parseInt( secondNumber );
 // add the numbers
 sum = number1 + number2;
 // display the results
 document.writeln( "<h1>The sum is " + sum + "</h1>" );
</script>
</head>
<body>
<p>Click Refresh (or Reload) to run the script again</p>
</body>
</html>
```

Addition / Strings Example – Part 2

```html
<?xml version = "1.0"?>
<!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">
<head>
<title>An Addition Program</title>
</head>
<body>
<p>Click Refresh (or Reload) to run the script again</p>
</body>
</html>
```
Objects and Control Flow – Part 1

Good Afternoon, the date is: Tue Sep 20 14:19:39 EDT 2005

Click Refresh (or Reload) to run this script again.

Objects and Control Flow – Part 2

<html xmlns="http://www.w3.org/1999/xhtml">
<head><title>Using Relational Operators</title>
<script type="text/javascript">
 var now = new Date(); // current date and time
 hour = now.getHours(); // current hour (0-23)

 // determine whether it is morning
 if ( hour < 12 )
 document.write("<h1>Good Morning, ");

 // determine whether the time is PM
 if ( hour >= 12 )
 {
 // convert to a 12 hour clock
 hour = hour - 12;
 // determine whether it is before 6 PM
 if ( hour < 6 )
 document.write("<h1>Good Afternoon, ");

 // determine whether it is after 6 PM
 if ( hour >= 6 )
 document.write("<h1>Good Evening, ");
 }
 document.writeln("the date is: " + now + "</h1>");
 // -->
 </script>
</head>
<body>
<p>Click Refresh (or Reload) to run this script again.</p>
</body>
</html>
Operators and Precedence

<table>
<thead>
<tr>
<th>Operators</th>
<th>Associativity</th>
<th>Type</th>
</tr>
</thead>
</table>
| / \ 
| + - %     | left to right | multiplicative|
| < <= > >= | left to right | additive     |
| == !=     | left to right | relational   |
| =         | right to left | assignment   |

Fig. 7.17 Precedence and associativity of the operators discussed so far.

Exercise #1 -- What’s the output?

```javascript
var a, b, c;
a = 1;
b = 2;
c = 3;
d = a + b * c;
window.alert("<h1>Begin</h1>");
if (d < 20)
    window.alert("d is okay: "+d);
else
    window.alert("d is too high!:"+ d);
d = d - 3;
document.writeln("<h1>Done. Final d = "+d+"</h1>");
```

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Exercise #2 -- What’s the output?

```javascript
var x, y, z;

x = 7;
y = 9;
z = "abc";

window.alert(x+y+z);

window.alert(z+y+x);

if (x)
    window.alert("x true");

x = "seven";

window.alert(x+y+z);
```

Exercise #3

- Write a JavaScript snippet to read in a number from the user and output its absolute value.
Exercise #4

- Write a JavaScript snippet to read in three numbers x, y, z and output them in sorted order.