IT350 Web and Internet Programming

SlideSet #8: Intro to JavaScript

(from Chapters 6,7,8 of the text 4th or 5th edition)

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?

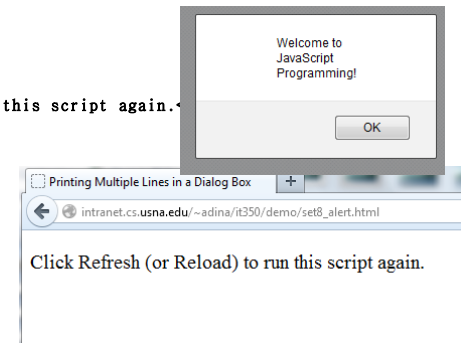
- Server-side computation?

welcome3.html
1 of 1

```
<!DOCTYPE html>

         <!-- Fig. 6.4: welcome3.html -->
         <!-- Printing on multiple lines with a single statement.
-->
         <html>
            <head>
                     <meta charset = "utf-8" />
               <title>Printing Multiple Lines</title>
               <script type = "text/javascript">
                  <!--
                  document.writeln( "<h1>Welcome to<br
/>JavaScript" +
                     "<br />Programming!</h1>" );
                  // -->
               </script>
            </head><body></body>
</html>
```

```
<!DOCTYPE html>

  <!-- Fig. 6.5: welcome4.html -->
  <!-- Alert dialog displaying multiple lines. -->
  <html>
    <head>
      <meta charset = "utf-8"/>
      <title>Printing Multiple Lines in a Dialog Box</title>
      <script type = "text/javascript">
        <!-
          window.alert( "Welcome to\nJavaScript\nProgramming!" );
        // -->
      </script>
    </head>
    <body>
      <p>Click Refresh (or Reload) to run this script again.<
    </body>
  </html>
```

welcome4.html
1 of 1



Java vs. JavaScript

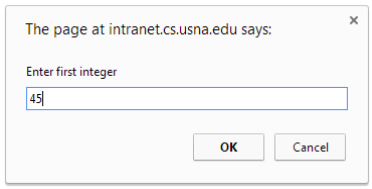
Object-oriented?

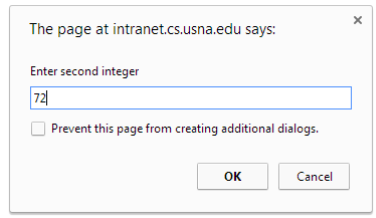
Add methods/properties to objects at run-time?

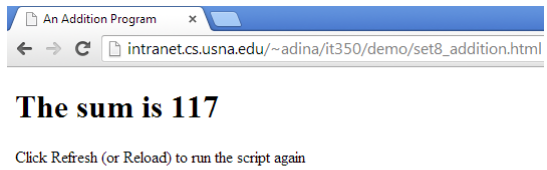
Variable typing?

C-like expressions, control?

Addition / Strings Example – Part 1







Addition / Strings Example – Part 2

addition.html

```
<!DOCTYPE html>
<html>
   <head>
      <meta charset = "utf-8" />
      <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>
```

Operators and Precedence

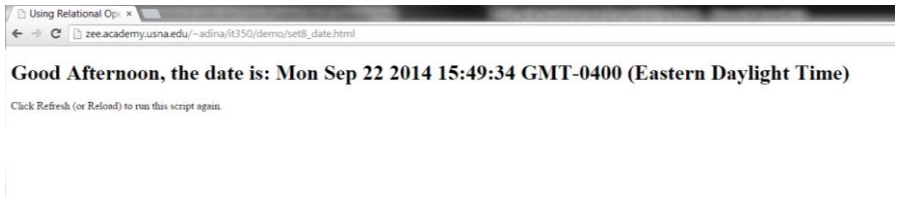
Operators	Associativity	Type
* / %	left to right	multiplicative
+ -	left to right	additive
< <= > >=	left to right	relational
== !=	left to right	equality
=	right to left	assignment

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

Exercise #1 -- What's the output?

```
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);
```

Objects and Control Flow – Part 1



Objects and Control Flow – Part 2

```
<!DOCTYPE html>
<html>
   <head> <meta charset = "utf-8" />
      <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>
```

Exercise #2 -- What's the output?

```
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>");
```


Exercise #3

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

Exercise #4

- **Look at this:**

```
/* Return an integer no larger than 'max' */
 var max = 25;
 var value;
 do {
      value = window.prompt(
        "Please enter an integer no larger than "+max);
 } while (value > max);
```

- **When does this work and why?**

- **When does it fail and how to fix?**

Exercise #5

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