**JavaScript Events**

**Review: Scope**

* What is scope?
* What is meant by the terms: “local variable”, and “global variable”?
* Why are global variables dangerous?  
  What is the difference between declaring a variable with the var keyword and without?
* Identify the scope of each of the variables below:  
    
  var extraVariable = 0;  
  function total(n1, n2, n3)  {  
       var t = n1 + n2 + n3;   
   extraVariable = t;  
   n1 = 0;  
       return t;  
  }  
    
  var n1 = 2, n2 = 3, n3 = 6;  
  sum = total(n1, n2, n3);  
  document.writeln(sum);  
  document.writeln(n1);  
  document.write(extraVariable);

**JavaScript Events**

* JavaScript can respond to various things that happen in the browser. These things are called *events*.
* Common events:
  + onchange An HTML element has been changed
  + onclick The user clicks an HTML element
  + onmouseover The user moves the mouse over an HTML element
  + onmouseout The user moves the mouse away from an HTML element
  + onkeydown The user pushes a keyboard key
  + onload The browser has finished loading the page  
    ( From <https://www.w3schools.com/js/js_events.asp> )
* Event handlers are JavaScript functions that are called when events occur.
  + The event handler must be specified for a particular HTML element.
  + The event handler must be specified for a particular page event.
  + This can be done by adding an HTML attribute to an element like this:  
      
    <p onmouseover='alert("Hi")'> This paragraph has an onmouseover event</p>
* We can write our own event handlers. They are just ordinary functions:  
    
  <p onmouseout="doSomething()"> This paragraph has an onmouseout event</p>  
    
   <script>  
          function doSomething() {  
              document.write("something");  
          }  
  </script>
* Event handlers that write something to the document (web page) need to have a target element. One way to specify a target element is to use fields in an HTML form like this:  
    
      <p onmouseout="doSomething()"> This paragraph has an onmouseout event</p>  
    
   <script>  
          function doSomething() {  
              document.demoform.message.value = "something";  
          }  
   </script>  
    
      <form name="demoform">  
          <input name="message" />  
      </form>
* Some events are intended to be associated with the whole page, like: onload, and onkeydown. Here’s an example:  
    
  <body onload='alert("Welcome!")'>