JavaScript – Event Driven Programming

5.1 Modify the `radio_click.html` example to have five buttons, labeled *red*, *blue*, *green*, *yellow*, and *orange*. The event handlers for these buttons must produce messages stating the chosen favorite color. The event handler must be implemented as a function whose name must be assigned to the `onclick` attribute of the radio button elements. The chosen color must be sent to the event handler as a parameter.

```
<!DOCTYPE html>
<!-- radio_click.hmtl
     A document for radio_click.js
     Creates four radio buttons that call the planeChoice
     event handler to display descriptions
     -->
<html lang = "en">
  <head>
    <title> radio_click.html </title>
    <meta charset = "utf-8" />
    <script type = "text/javascript"  src = "radio_click.js" >
    </script>
  </head>
  <body>
    <h4> Cessna single-engine airplane descriptions </h4>
    <form id = "myForm"  action = "">
        <p>
        <label> <input type = "radio"  name = "planeButton"
                       value = "152"
                      onclick = "planeChoice(152)" />
     Model 152 </label>
     <br />
     <label> <input type = "radio"  name = "planeButton"
                    value = "172"
                    onclick = "planeChoice(172)" />
     Model 172 (Skyhawk) </label>
         <br />
         <label> <input type = "radio"  name = "planeButton"
                        value = "182"
                        onclick = "planeChoice(182)" />
         Model 182 (Skylane) </label>
         <br />
         <label> <input type = "radio"  name = "planeButton"
                        value = "210"
                        onclick = "planeChoice(210)" />
         Model 210 (Centurian) </label>
       </p>
     </form>
   </body>
 </html>
```

```
// radio_click.js
//   An example of the use of the click event with radio buttons,
//   registering the event handler by assignment to the button
//   attributes

// The event handler for a radio button collection
function planeChoice (plane) {

// Produce an alert message about the chosen airplane
  switch (plane) {
    case 152:
      alert("A small two-place airplane for flight training");
      break;
    case 172:
      alert("The smaller of two four-place airplanes");
      break;
    case 182:
      alert("The larger of two four-place airplanes");
       break;
     case 210:
       alert("A six-place high-performance airplane");
       break;
     default:
       alert("Error in JavaScript function planeChoice");
       break;
   }
 }
```

5.2 Rewrite the document for Exercise 5.1 to assign the event handler to the event property of the button element. This requires the chosen color to be obtained from the `value` property of the button element rather than through the parameter.

5.3 Develop and test an HTML document that has checkboxes for apple (59 cents each), orange (49 cents each), and banana (39 cents each), along with a *Submit* button. Each of the checkboxes should have its own `onclick` event handler. These handlers must add the cost of their fruit to a total cost. An event handler for the *Submit* button must produce an `alert` window with the message *Your total cost is $xxx*, where *xxx* is the total cost of the chosen fruit, including 5 percent sales tax. This handler must return `false` (to avoid actual submission of the form data).

5.4 Develop and test an HTML document that is similar to that of Exercise 5.3. In this case, use text boxes rather than checkboxes. These text boxes take a number, which is the purchased number of the particular fruit. The rest of the document should behave exactly like that of Exercise 5.3.

5.5 Add reality checks to the text boxes of the document in Exercise 5.4. The checks on the text box inputs should ensure that the input values are numbers in the range from 0 to 99.

5.6 Range checks for element inputs can be represented as new properties of the object that represents the element. Modify the document in Exercise 5.5 to add a `max` property value of 99 and a `min` property value of 0. Your event handler must use the properties for the range checks on values input through the text boxes.

5.7 Develop and test an HTML document that collects the following information from the user: last name, first name, middle initial, age (restricted to be greater than 17), and weight (restricted to the range from 80 to 300). You must have event handlers for the form elements that collect this information. These handlers must check the input data for correctness. Messages in `alert` windows must be produced when errors are detected.

Reference:

Sebesta, R. E. (2014). Programming the World Wide Web (8th Edition).