**JavaScript Practices**

**Outline:**

1. Continuing with HTML Form
2. Regular Expression
3. Form Validation
   1. Basic validation - no empty fields
   2. Data format validation– correct data format
4. Challenge

# Continuing with HTML Form

Have you completed the missing form elements and set attributes’ value correctly (min, max, placeholder, required, autocomplete, autofocus, etc)? Make sure your HTML form is using semantics elements.

A screenshot of a registration form

Description automatically generated

# Regular Expression

Regular Expressions are patterns used to match character combinations in strings or simply search pattern. In JavaScript, regular expressions are objects. Regular expression is used to…

* Verify input such as phone number in the format ###-###-####

|  |
| --- |
| Const re = /^(?:\d{3}|\(\d{3}\))([-/.])\d{3}\1\d{4}$/; |

* Text search using search()

|  |
| --- |
| <!DOCTYPE html>  <html>  <body>  <h1>JavaScript Regular Expression</h1>  <p>Search a string for "unimas", and display the position of the match:</p>  <p id="demo"></p>  <script>  let text = "Welcome to www.unimas.my";  let n = text.search(/Unimas/); // no match if return -1  document.getElementById("demo").innerHTML = n;  </script>  </body>  </html> |

* Text search using RegEx

|  |
| --- |
| <!DOCTYPE html>  <html>  <body>  <h1>JavaScript Regular Expression </h1>  <p>Search a string for "unimas", and display the position of the match:</p>  <p id="demo"></p>  <script>  let text = "Welcome to www.unimas.my";  let pattern = /welcome/i;  let n = text.match(pattern); // what is the output?  document.getElementById("demo").innerHTML = n;  </script>  </body>  </html> |

# Form Validation

Form validation should occur at the server and client’s side. Previous form validation occurred at the server side where after the client had entered all necessary data and then pressed the Submit button. If the data that had been entered wrongly or was simply missing, the server would have to send all the data back to the client and request that the form be resubmitted with correct information. This was really a lengthy process and over burdening server.

JavaScript provides a way to validate form's data on the client's computer before sending it to the web server. Form validation generally performs two functions.

* **Basic Validation** - checking to make sure all required form fields is enter or no empty field. This would need just loop through each field in the form and check for data.
* **Data Format Validation** – checking user input data for correct format and value. This would need to put more logic to test correctness of data.

Simple form to validate

|  |
| --- |
| <!DOCTYPE html>  <html>  <head>  <title>Form Validation</title>  <script>  // Form validation code will come here.  </script>  </head>  <body>  <form action="registration.php" name="myForm" onsubmit="return(validate());">  <table cellspacing="2" cellpadding="2" border="1">  <tr>  <td align="right">Name</td>  <td><input type="text" name="Name" /></td>  </tr>  <tr>  <td align="right">EMail</td>  <td><input type="text" name="EMail" /></td>  </tr>  <tr>  <td align="right">Zip Code</td>  <td><input type="text" name="Zip" /></td>  </tr>  <tr>  <td align="right">Country</td>  <td>  <select name="Country">  <option value="-1" selected>[choose yours]</option>  <option value="1">USA</option>  <option value="2">UK</option>  <option value="3">MALAYSIA</option>  </select>  </td></tr>  <tr>  <td align="right"></td>  <td><input type="submit" value="Submit" /></td></tr>  </table>  </form>  </body>  </html> |

**Basic Form Validation – no empty field:**

In the above form, you call validate() function to validate data when onsubmit event is occurring. Following is the implementation of this validate() function:

|  |
| --- |
| <script>  // Form validation code will come here.  function validate(){  if( document.myForm.Name.value == "" ){  alert( "Please provide your name!" );  document.myForm.Name.focus() ;  return false;  }  if( document.myForm.EMail.value == "" ){  alert( "Please provide your Email!" );  document.myForm.EMail.focus() ;  return false;  }  if( document.myForm.Zip.value == "" || isNaN( document.myForm.Zip.value ) || document.myForm.Zip.value.length != 5 ){  alert( "Please provide a zip in the format #####." );  document.myForm.Zip.focus() ;  return false;  }  if( document.myForm.Country.value == "-1" ){  alert( "Please provide your country!" );  return false;  }  return( true );  }  </script> |

**Data Format Validation – correct data format:**

You must validate all user input data in HTML form before submitting it to the web server. Following example shows how to validate an entered email address is in the correct format - email address must contain at least an @ sign and a dot (.), the @ must NOT be the first character of the email address, and the last dot must at least be one character after the @ sign:

|  |
| --- |
| <script>  <!--  function validateEmail(){  var emailID = document.myForm.EMail.value;  atpos = emailID.indexOf("@");  dotpos = emailID.lastIndexOf(".");  if (atpos < 1 || (dotpos - atpos < 2 )) {  alert("Please enter correct email ID")  document.myForm.EMail.focus() ;  return false;  }  return( true );  }  //-->  </script> |

Is this the only way to validate email?

How to validate other fields in your HTML form?

# Challenge

Using previously completed HTML form, write JavaScript code to verify and validate user input or to manipulate the style. Remember to separate HTML, CSS and JavaScript files. Add in any dynamic features to improve user experience.