Tutorial 4c
Javascript: *Built-in Objects*

Objectives:

The tutorial should help you to understand:

- `Date` object
- `String` object
- `Math` object, Event

Preparing the Tutorial:

1. Create a new *folder*.
2. *Download* "Tutorial 4c – Material" and place it within the created new *folder*.
3. *Extract* the *downloaded* file into the same folder.

1. Date Object:

Open the **T4c-1.html** file with the use of any text editor (e.g., Textpad). Complete the files with the following script. Once completed, *preview* the result in a *web browser* and try to understand how the scripts work. Pay attention to the **highlighted** text.

Reference: http://www.w3schools.com/js/js_obj_date.asp

```html
<html>
  <head><title>Date Object</title></head>
  <body>
    <script language="Javascript">
      var today = new Date();
      var day = today.getDate();
      var month = today.getMonth()+1;
      var year = today.getFullYear();
      var date =  day+ "/" + month + "/" + year;
      var time = today.getHours() + ":" +today.getMinutes() + ":"+today.getSeconds();
      document.writeln("Current Date: <b>", date, "</b><br>");
      document.writeln("Current Time: <b>", time, "</b><br>");
    </script>
  </body>
</html>
```

2. `String` Object:

Open the **T4c-2.html** file with the use of any text editor (e.g., Textpad). Complete the files with the following script. Once completed, *preview* the result in a *web browser* and try to understand how the scripts work. Pay attention to the **highlighted** text.

Reference: http://www.w3schools.com/js/js_obj_string.asp

```html
<html>
  <head><title>String Object</title></head>
<body>
        <script type = "text/javascript">
                var s = "ZEBRA";
                var s2 = "AbCdEfG";

                document.writeln( "<p>Number of characters in '" + s + "' is " + s.length );
                document.writeln( "<p>Character at index 0 in '" + s + "' is " + s.charAt(0) );
                document.writeln( "<br />Character code at index 0 in '" + s
                                   + "' is " + s.charCodeAt(0) + "</p>" );
```

```
            document.writeln( "<p>'" + String.fromCharCode(87, 79, 82, 68) +
                            "' contains character codes 87, 79, 82 and 68</p>" )

            document.writeln( "<p>'" + s2 + "' in lowercase is '" +
                            s2.toLowerCase() + "'" );
            document.writeln( "<br />'" + s2 + "' in uppercase is '"
                            + s2.toUpperCase() + "'</p>" );
        </script>
</body>
</html>
```

3. `Math` Object:

Open the **T4c-3.html** file with the use of any text editor (e.g., Textpad). Complete the files with the following script. Once completed, *preview* the result in a *web browser* and try to understand how the scripts work. Pay attention to the **highlighted** text.

Reference: http://www.w3schools.com/js/js_obj_math.asp

```
<html>
  <head><title>Math Object</title></head>
  <body>
    <script type = "text/javascript">
     var input1, input2, input3;
     var value1, value2, value3;
     var maxValue;
     input1 = window.prompt( "Enter first number", "0" );
     input2 = window.prompt( "Enter second number", "0" );
     input3 = window.prompt( "Enter third number", "0" );

     value1 = parseFloat(input1);
     value2 = parseFloat(input2);
     value3 = parseFloat(input3);

     maxValue = Math.max( value1, Math.max( value2, value3) );

     document.writeln( "First number: " + value1 +
                       "<br />Second number: " + value2 +
                       "<br />Third number: " + value3 +
                       "<br />Maximum is: " + maxValue );
    </script>
  </body>
</html>
```

4. `Event` handler:

Open the **T4c-4.html** file with the use of any text editor (e.g., Textpad). Complete the files with the following script. Once completed, *preview* the result in a *web browser* and try to understand how the scripts work. Pay attention to the **highlighted**r **Red** text.

```
<h2>Employment Application</h2>
<form name="frmEmployees">
  <table border="0" width="288">
    <tr>
      <td width="80">First Name:</td>
      <td width="194"><input type="text" name="txtFirstName" size="10"
                    onChange="form.txtFullName.value = form.txtFirstName.value + ' ' +
                                        form.txtLastName.value"></td>
    </tr>
    <tr>
      <td width="80">Last Name:</td>
      <td width="194"><input type="text" name="txtLastName" size="10"
                    onChange="form.txtFullName.value = form.txtFirstName.value + ' ' +
                                      form.txtLastName.value"></td>
    </tr>
    <tr>
      <td width="80">Full Name:</td>
      <td width="194"><input type="text" name="txtFullName" size="20"></td>
    </tr>
  </table>
</form>
```

5. Date Time Load Page:

Open the **T4c-5.html** file with the use of any text editor (e.g., Textpad). Complete the files with the following script. Once completed, *preview* the result in a *web browser* and try to understand how the scripts work. Pay attention to the **highlighted**r **Red** text.

```html
<html>

<head>
  <title>Time page</title>
</head>

<body>
  Time when page was loaded:
  <script type="text/javascript">
    now = new Date();

    document.write("<p>" + now + "</p>");

    time = "AM";
    hours = now.getHours();
    if (hours > 12) {
        hours -= 12;
        time = "PM"
    }
    else if (hours == 0) {
        hours = 12;
    }
    document.write("<p>" + hours + ":" +
                   now.getMinutes() + ":" +
                   now.getSeconds() + " " +
                   time + "</p>");


  </script>
</body>
</html>
```

6. DOM

Open the **T4c-6.html** file with the use of any text editor (e.g., Textpad). Complete the files with the following script. Once completed, *preview* the result in a *web browser* and try to understand how the scripts work. Pay attention to the **highlighted**r **Red** text.

```html
<html>
<head>
  <title>Documentation page</title>
</head>

<body>
  <table width="100%">
    <tr>
      <td><i>
        <script type="text/javascript">
            document.write(document.URL);
        </script>
      </i></td>
      <td style="text-align: right;"><i>
        <script type="text/javascript">
            document.write(document.lastModified);
        </script>
      </i></td>
    </tr>
  </table>
</body>
</html>
```

For your information

document.write(…)
> method that displays text in the page

document.URL
> property that gives the location of the HTML document
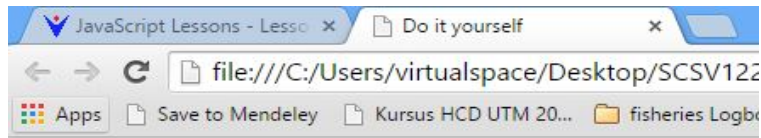
document.lastModified
> property that gives the date & time the HTML document was last changed

DO IT YOURSELF:

With your knowledge, complete the **T4c-7.html** which produce the following output:

Tutorial Submission:

Place all the created files in a compressed/zipped file and submit it on the e-learning site.
A dedicated submission link will be given for the submission.