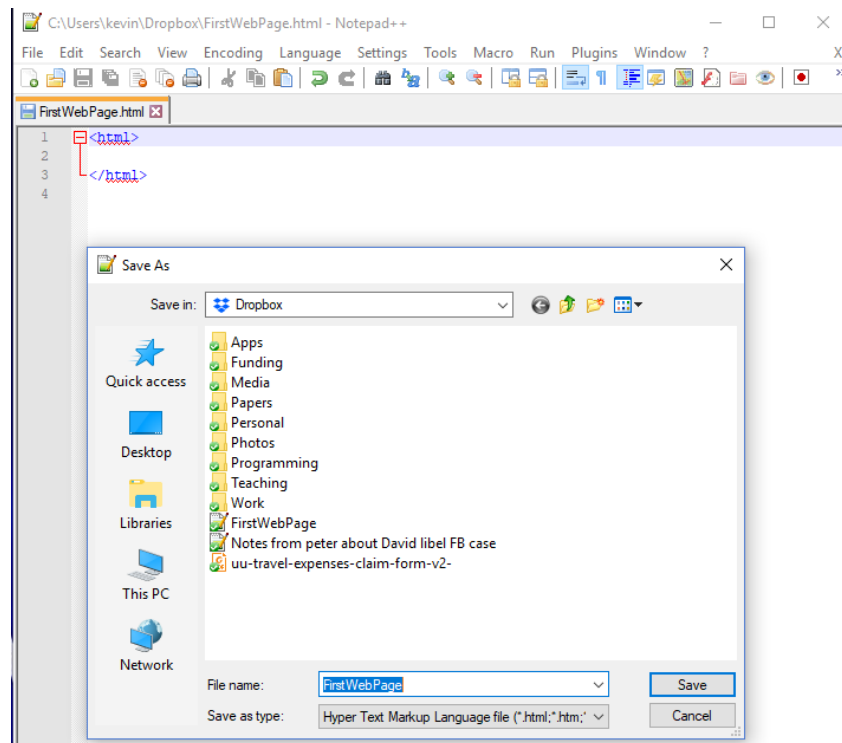


# Part 1 – HTML

In these exercises, please cut and paste all the code from this document. You are not expected to type the text parts in the actual exercises.

## Create a basic HTML Page

1. Open a text editor such as *Notepad++* and create a new document. This should be named "*FirstWebPage.html*". See below.



2. Type the following tags to begin the HTML document. Remember that all HTML documents must begin and end with the <html>...</html> tag pair.

```
<html>
</html>
```

You can see how this looks in the example above.

3. Add the following <head> and <title> tags between the <html>...</html> tag pair. The title will appear in your Web browser's title bar. Remember that the <head>...</head> tag pair must include the <title>...</title> tag pair.

```
<head> <title>Web Page Example</title> </head>
```

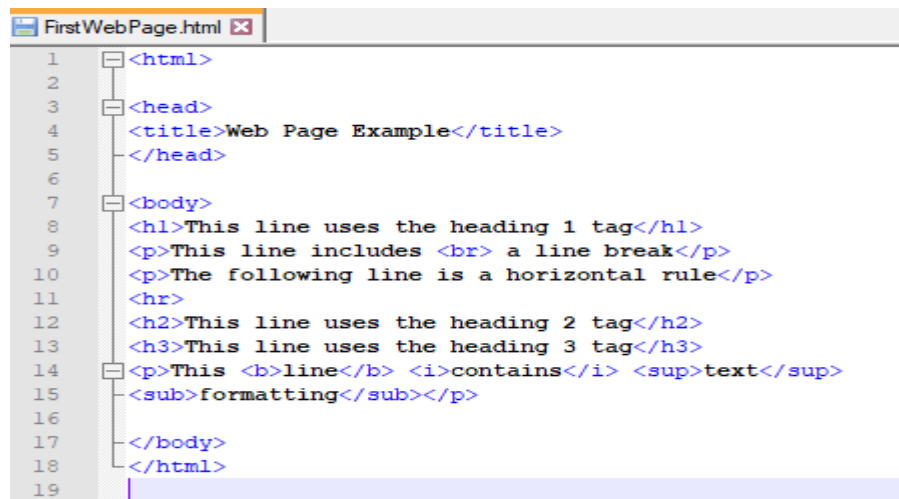
4. Next, add the following document body tags above the closing </html> tag:

```
<body>
</body>
```

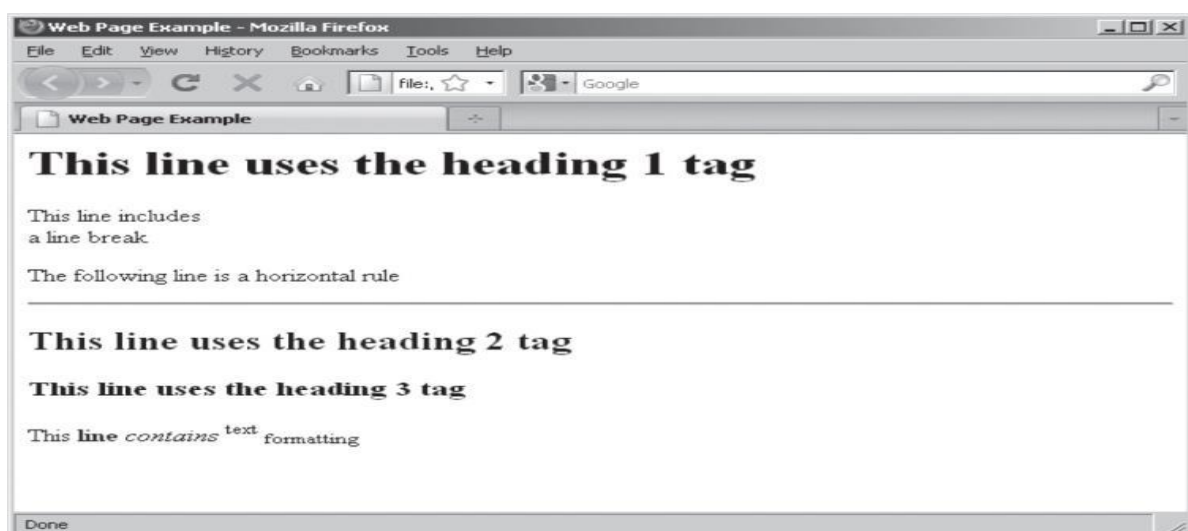
5. Type the following tags and text between the <body>...</body> tag pair to create the body of the HTML document.

```
<h1>This line uses the heading 1 tag</h1>
<p>This line includes <br> a line break</p>
<p>The following line is a horizontal rule</p>
<hr>
<h2>This line uses the heading 2 tag</h2>
<h3>This line uses the heading 3 tag</h3>
<p>This <b>line</b> <i>contains</i> <sup>text</sup>
<sub>formatting</sub></p>
```

At this point, your webpage should look like the following.



6. Save the file as **FirstWebPage.html**. Some text editors automatically add their own extension to a document. Notepad for instance, adds an extension of .txt. **Be sure your document is saved with the extension .html.** Then **Open the file in a browser.** It should look like below.



**Figure 1-2** FirstWebPage.html in Firefox

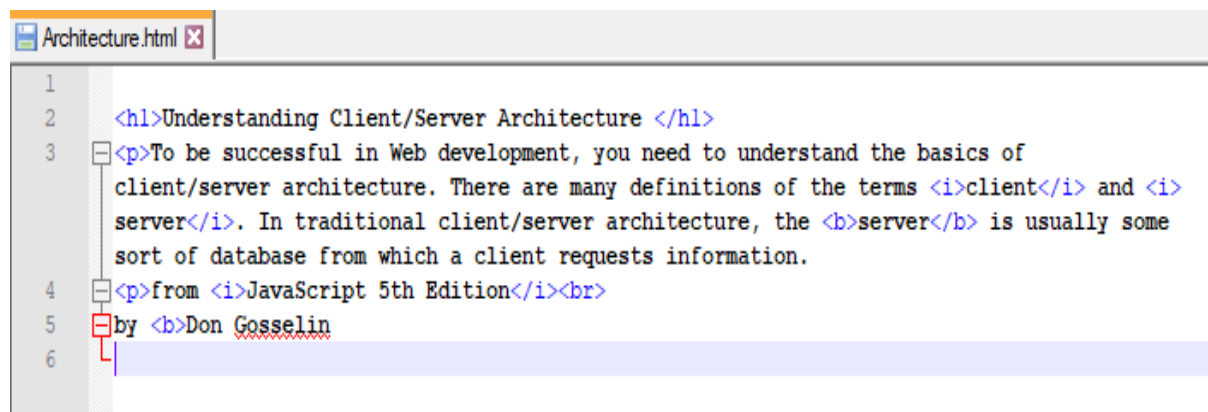
This sample page can also be downloaded from [here](#).

## Exercise 2 - Creating a HTML file without all required Tags.

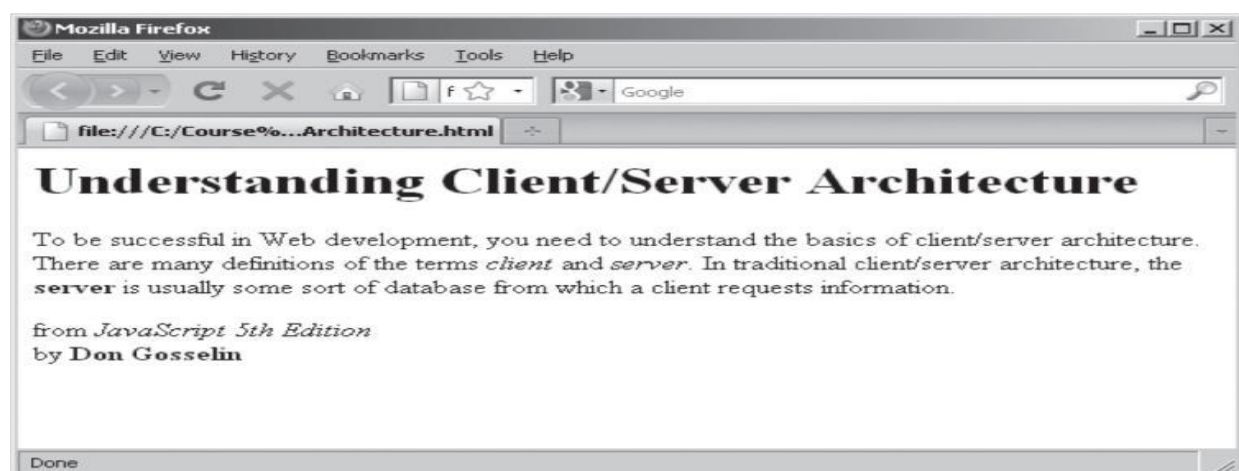
1. In your text editor, create a new document called *Architecture.html*.
2. Without including any `<html>`, `<head>`, or `<body>` tags, type the following statements. Notice that the closing tags are missing for `<p>` tags and last `<b>` tag.

```
<h1>Understanding Client/Server Architecture </h1>
<p>To be successful in Web development, you need to understand the basics of
client/server architecture. There are many definitions of the terms <i>client</i>
and <i>server</i>. In traditional client/server architecture, the <b>server</b>
is usually some sort of database from which a client requests information.
<p>from <i>JavaScript 5th Edition</i><br>
by <b>Don Gosselin
```

It should look like the following:



6. Save the file as **Architecture.html** in your folder.
7. Close the **Architecture.html** file and then open it in a browser. Even though the HTML document does not include all of the required tags, the web browser displays it properly, as the figure below shows.



**Figure 1-3** Architecture.html file in Firefox

This sample page can also be downloaded from [here](#).

### Exercise 3 - To start creating the home page for the Don's Pizza Web Site

1. Create a new document and type the opening html declaration

```
<html xmlns="http://www.w3.org/1999/xhtml">
```

2. Type the end </html> tag as well and put it last in the page code.

```
</html>
```

3. Within the <html> element, add the following <head> and <title> elements to the document. The title appears in the Web Browser's title bar. Remember that the <head> element must include a <title> element. The <title> element cannot exist outside the <head> element

```
<head>
<title>Don's Pizza Home Page</title>
</head>
```

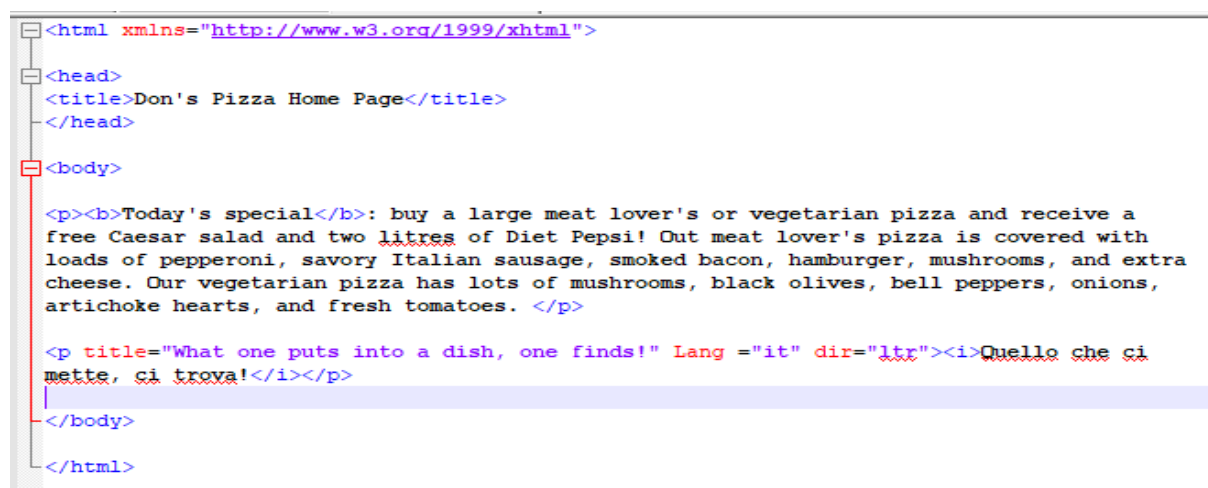
4. Next, add the following <body> element above the closing </html> tag.

```
<body>
</body>
```

5. Type the following elements and text between the <body>...</body> tag pair to create the body of the document.

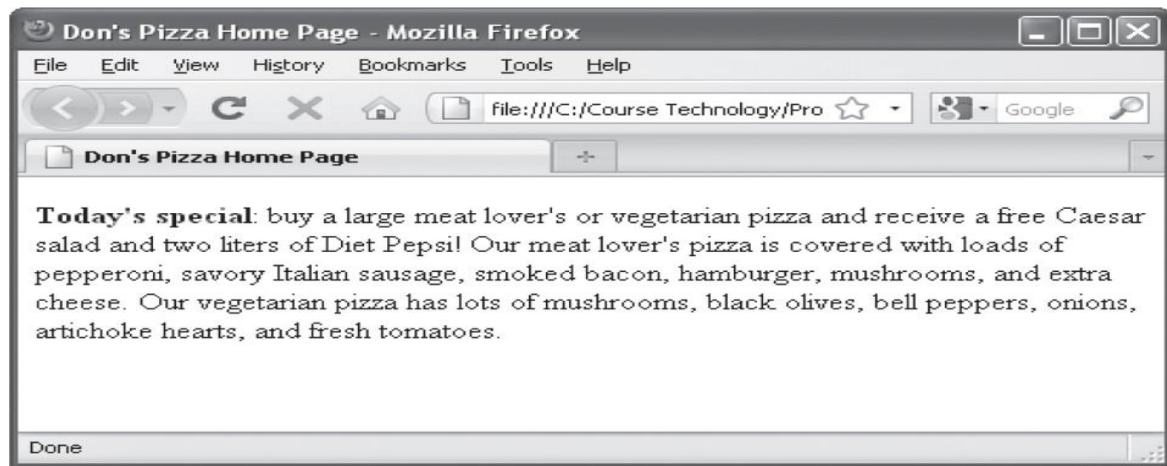
```
<p><b>Today's special</b>: buy a large meat lover's or vegetarian pizza and
receive a free Caesar salad and two litres of Diet Pepsi! Out meat lover's pizza is
covered with loads of pepperoni, savory Italian sausage, smoked bacon,
hamburger, mushrooms, and extra cheese. Our vegetarian pizza has lots of
mushrooms, black olives, bell peppers, onions, artichoke hearts, and fresh
tomatoes. </p>
```

Your code should look as follows:



```
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Don's Pizza Home Page</title>
</head>
<body>
<p><b>Today's special</b>: buy a large meat lover's or vegetarian pizza and receive a
free Caesar salad and two litres of Diet Pepsi! Out meat lover's pizza is covered with
loads of pepperoni, savory Italian sausage, smoked bacon, hamburger, mushrooms, and extra
cheese. Our vegetarian pizza has lots of mushrooms, black olives, bell peppers, onions,
artichoke hearts, and fresh tomatoes. </p>
<p title="What one puts into a dish, one finds!" Lang = "it" dir="ltr"><i>Quello che ci
mette, ci trova!</i></p>
</body>
</html>
```

6. Save the file as DonsPizza.html and then open it in a browser. See figure below.



**Figure 1-15** DonsPizza.html in Firefox

We ignore aspects such as meta tags for now. For instance, if you wanted to add keywords to a site, you could add the following:

```
<meta name="keywords" content="Pizza, Italian Pizza, Restaurant, Fresh Food,  
organic products, Italian Dining" />
```

#### Exercise 4 -To add comments to the DonsPizza.html file

1. Return to your DonsPizza.html file in the text editor.
2. At the top of the file, just below the <html> declaration, add the following comments. Be sure to use your name and today's date.

```
<!--  
Home page for Don's Pizza  
Your name  
date -->
```

See below for how comments appear in the text editor. They will not of course appear on the actual HTML page.

```
<html xmlns="http://www.w3.org/1999/xhtml">  
  
<!--  
Home page for Dons Pizza  
Kevin Curran  
12-3-18 -->  
  
<head>
```

3. Add the following <meta> element immediately above the closing </head> tag:

```
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
```

Your code should now look as follows:

```
<html xmlns="http://www.w3.org/1999/xhtml">  
  
Home page for Dons Pizza  
Kevin Curran  
12-3-18 -->  
  
<title>Don's Pizza Home Page</title>  
  
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />  
  
</head>  
  
<body>  
  
<p><b>Today's special</b>: buy a large meat lover's or vegetarian pizza and receive a  
free Caesar salad and two litres of Diet Pepsi! Out meat lover's pizza is covered with  
loads of pepperoni, savory Italian sausage, smoked bacon, hamburger, mushrooms, and extra  
cheese. Our vegetarian pizza has lots of mushrooms, black olives, bell peppers, onions,  
artichoke hearts, and fresh tomatoes. </p>  
  
</body>  
</html>
```

4. In your Web browser enter the URL [http://validator.w3.org/#validate\\_by\\_upload](http://validator.w3.org/#validate_by_upload) for the W3C Markup Validation Service Upload Page. This validator checks the markup validity of Web documents in HTML, XHTML etc.

Visit: [http://validator.w3.org/#validate\\_by\\_upload](http://validator.w3.org/#validate_by_upload)

The screenshot shows the W3C Markup Validation Service interface. At the top, there's a header with the W3C logo and the text 'Markup Validation Service' and 'Check the markup (HTML, XHTML, ...) of Web documents'. Below this, there are three tabs: 'Validate by URI', 'Validate by File Upload' (which is selected), and 'Validate by Direct Input'. Under the 'Validate by File Upload' tab, there's a section titled 'Validate by File Upload' with the instruction 'Upload a document for validation:'. Below this, there's a 'File:' label followed by a text box containing 'Choose File' and 'No file chosen'. There's a 'More Options' link below the text box. At the bottom right, there's a 'Check' button.

5. Click the **browse** button to display the Choose file dialog box.

6. In the Choose file dialog box, navigate to where you saved the **DonsPizza.html** file. Locate and open the file. The drive folder path and filename should appear in the File Text box on the upload page.

7. Click the **Validate This File** Button. The W3C Markup Validation Service validates the document and returns the results displayed below.

The screenshot shows the W3C Markup Validation Service results page. At the top, there's a header with the W3C logo and the text 'Markup Validation Service' and 'Check the markup (HTML, XHTML, ...) of Web documents'. Below this, there's a 'Jump To:' section with links for 'Congratulations' and 'Icons'. The main content area has a green banner that says 'This document was successfully checked as XHTML 1.0 Strict!'. Below this, there's a table with the following rows:

Result:	Passed	
File:	<input type="button" value="Choose File"/> No file chosen <small>Use the file selection box above if you wish to re-validate the uploaded file DonsPizza.html</small>	
Encoding:	iso-8859-1	<input type="button" value="(detect automatically)"/>
Doctype:	XHTML 1.0 Strict	<input type="button" value="(detect automatically)"/>
Root Element:	html	
Root Namespace:	<a href="http://www.w3.org/1999/xhtml">http://www.w3.org/1999/xhtml</a>	

This page source code can be downloaded from [here](#).

## To add other attributes

1. Just above the closing `</body>` tag, add the following `<p>` element that contains the Italian phrase. The `<p>` element also includes the `lang`, `dir` and `title` attributes.

```
<p title="What one puts into a dish, one finds!"  
Lang = "it" dir="ltr"><i>Quello che ci mette, ci trova!</i></p>
```

```
<body>  
  
<p><b>Today's special</b>: buy a large meat lover's or vegetarian pizza and receive a  
free Caesar salad and two litres of Diet Pepsi! Our meat lover's pizza is covered with  
loads of pepperoni, savory Italian sausage, smoked bacon, hamburger, mushrooms, and extra  
cheese. Our vegetarian pizza has lots of mushrooms, black olives, bell peppers, onions,  
artichoke hearts, and fresh tomatoes. </p>  
  
<p title="What one puts into a dish, one finds!" Lang = "it" dir="ltr"><i>Quello che ci  
mette, ci trova!</i></p>  
  
</body>  
</html>
```

3. If you open it in your web browser, it should appear as follows when you hover the mouse over the text:

**Today's special:** buy a large meat lover's or vegetarian pizza and receive a free Caesar with loads of pepperoni, savory Italian sausage, smoked bacon, hamburger, mushrooms, black olives, bell peppers, onions, artichoke hearts, and fresh tomatoes.

*Quello che ci mette, ci trova!*

What one puts into a dish, one finds!



## To add heading elements to a page

1. Return to the **DonsPizza.html** file in your text editor and save it as *DonsPizza2.html*.
2. Add the following text after your "what ones puts into a dish" section – so that it appears just before the closing `</body>` tag.

```
<h1>Central Valley Farmers' Market</h1>
<h2>About the Market</h2>
```

```
<p>The Central Valley Farmers' Market is held every Tuesday, Thursday, and
Saturday from April through October, then Saturdays only in November until
Thanksgiving. The Market is open from 7 a.m. - 1 p.m. <i>The vendors will be
there rain or shine</i>!</p>
```

```
<h2>Featured Vendor List</h2>
<p>Be sure to visit this week's featured vendors.</p>
<h3>Big Creek Produce</h3>
<p>Offers a diverse selection of produce including
restaurant-quality vegetables and edible flowers.</p>
<h3>Blue Sky Gardens</h3>
<p>Grows a variety of organic vegetables including French slenderette green
beans, spinach, salad greens, squash, pumpkins, and cherry tomatoes, as well as
a vast array of fresh-cut and dried flowers.</p>
<h3>Maple Ridge Farms</h3>
<p>Specializes in organically grown lettuces, arugula, red mustard, and other
greens.</p>
<h3>Manzi Produce</h3>
<p>Hand picks, hand washes, and hand sorts all of their products, which include
nuts, plants, herbs, perennials, flowers, wild-gathered items, meat, fruit, and
vegetables.</p>
<h3>Lee Family Farms</h3>
<p>Produces organically grown traditional Asian vegetables such as bok choy,
lemon grass, and hot chili peppers.</p>
```

```
<footer>Copyright 2011 Central Valley Farmers' Market. All rights reserved.
</footer>
```

The code should look the same as the following screenshot.

```

</body>

<p><b>Today's special</b>: buy a large meat lover's or vegetarian pizza and receive a
free Caesar salad and two litres of Diet Pepsi! Our meat lover's pizza is covered with
loads of pepperoni, savory Italian sausage, smoked bacon, hamburger, mushrooms, and
extra cheese. Our vegetarian pizza has lots of mushrooms, black olives, bell peppers,
onions, artichoke hearts, and fresh tomatoes. </p>

<p title="What one puts into a dish, one finds!" Lang = "it" dir="ltr"><i>Quello che ci
mette, ci trova!</i></p>

<h1>Central Valley Farmers' Market</h1>
<h2>About the Market</h2>

<p>The Central Valley Farmers' Market is held every Tuesday, Thursday, and Saturday
from April through October, then Saturdays only in November until Thanksgiving. The
Market is open from 7 a.m. - 1 p.m. <i>The vendors will be there rain or shine</i>!</p>

<h2>Featured Vendor List</h2>
<p>Be sure to visit this week's featured vendors.</p>
<h3>Big Creek Produce</h3>
<p>Offers a diverse selection of produce including
restaurant-quality vegetables and edible flowers. </p>
<h3>Blue Sky Gardens</h3>
<p>Grows a variety of organic vegetables including French slenderette green beans,
spinach, salad greens, squash, pumpkins, and cherry tomatoes, as well as a vast array
of fresh-cut and dried flowers.</p>
<h3>Maple Ridge Farms</h3>
<p>Specializes in organically grown lettuces, arugula, red mustard, and other greens.
</p>
<h3>Manzi Produce</h3>
<p>Hand picks, hand washes, and hand sorts all of their products, which include nuts,
plants, herbs, perennials, flowers, wild-gathered items, meat, fruit, and vegetables.
</p>
<h3>Lee Family Farms</h3>
<p>Produces organically grown traditional Asian vegetables such as bok choy, lemon
grass, and hot chili peppers.</p>

<footer>Copyright 2011 Central Valley Farmers' Market. All rights reserved.
</footer>

</body>

```

5. Save **DonsPizza2.html** file and then open it in your web browser. Figure below displays the html file as it appears in Chrome.

**Today's special:** buy a large meat lover's or vegetarian pizza and receive a free Caesar salad and two litres of Diet Pepsi! Our meat lover's pizza is covered with loads of pepperoni, savory Italian sausage, smoked bacon, hamburger, mushrooms, and extra cheese. Our vegetarian pizza has lots of mushrooms, black olives, bell peppers, onions, artichoke hearts, and fresh tomatoes.

*Quello che ci mette, ci trova!*

## Central Valley Farmers' Market

### About the Market

The Central Valley Farmers' Market is held every Tuesday, Thursday, and Saturday from April through October, then Saturdays only in November until Thanksgiving. The Market is open from 7 a.m. - 1 p.m. *The vendors will be there rain or shine!*

### Featured Vendor List

Be sure to visit this week's featured vendors.

#### Big Creek Produce

Offers a diverse selection of produce including restaurant-quality vegetables and edible flowers.

#### Blue Sky Gardens

Grows a variety of organic vegetables including French slenderette green beans, spinach, salad greens, squash, pumpkins, and cherry tomatoes, as well as a vast array of fresh-cut and dried flowers.

#### Maple Ridge Farms

Specializes in organically grown lettuces, arugula, red mustard, and other greens.

#### Manzi Produce

Hand picks, hand washes, and hand sorts all of their products, which include nuts, plants, herbs, perennials, flowers, wild-gathered items, meat, fruit, and vegetables.

#### Lee Family Farms

Produces organically grown traditional Asian vegetables such as bok choy, lemon grass, and hot chili peppers.

Copyright 2011 Central Valley Farmers' Market. All rights reserved.

This page source code can be downloaded from [here](#).

## Part 2: JavaScript

**In this exercise, you will create a Web page that displays an alert dialog box when the user clicks a command button.**

1. Create a new HTML and cut and paste the following. Save as *Alertbox.html*

```
<html>

<head>
<meta http-equiv="content-type" content="text/html; charset=utf-8" />
<title>Alert Box</title>
<link href="style.css" rel="stylesheet" type="text/css" />
</head>
<body>

</body>
</html>
```

2. Add the following heading element and form to the document body:

```
<h1>Alert Box</h1>
<form action="" method="get">
</form>
```

3. Add the following command button to the form. Notice that the button includes an onclick event handler that displays an alert dialog box with the text "Welcome to my Web site".

```
<p><input type="button" value="Click Me" onclick="alert ('Welcome to my web site')" /></p>
```

Your code should look like the following:



```
AlertBox.html
1 <html>
2
3 <head>
4 <meta http-equiv="content-type" content="text/html; charset=utf-8" />
5 <title>Alert Box</title>
6 <link href="style.css" rel="stylesheet" type="text/css" />
7 </head>
8
9 <body>
10
11 <h1>Alert Box</h1>
12 <form action="" method="get">
13 </form>
14
15 <p><input type="button" value="Click Me" onclick="alert ('Welcome to my web site')" /></p>
16
17 </body>
18 </html>
```

4. Save the document as **AlertBox.html** and test the page.

5. Return to the file and insert the following JavaScript prior to the closing `</Body>` tag.

```
<script type="text/javascript">
/* <![CDATA[ */
/* ]]> */
var island1Name = "Greenland";
var island2Name = "New Guinea";
var island3Name = "Borneo";
var island4Name = "Madagascar";
var island5Name = "Baffin";
var island1Size = 2175600;
var island2Size = 790000;
var island3Size = 737000;
var island4Size = 587000;
var island5Size = 507000;

document.write ("<p>The largest island in the world is " + island1Name + " with " + island1Size + " miles . </p>");
document.write ("<p>The second largest island in the world is " + island2Name + " with " + island2Size + " miles.</p>");
document.write ("<p>The third largest island in the world is " + island3Name + " with " + island3Size + " miles.</p>");
document.write ("<p>The fourth largest island in the world is " + island4Name + " with " + island4Size + " miles.</p>");
document.write ("<p>The fifth largest is] and in the world is " + island5Name + " with " + island5Size + " miles.</p>");
</script>
```

6. Open `AlertBox.html` and you should see the following displayed.

---

## Alert Box

The largest island in the world is Greenland with 2175600 miles .

The second largest island in the world is New Guinea with 790000 miles.

The third largest island in the world is Borneo with 737000 miles.

The fourth largest island in the world is Madagascar with 587000 miles.

The fifth largest is] and in the world is Baffin with 507000 miles.

**Create a script that automatically moves a user's cursor to the next field after a specified number of characters have been entered into the current field.**

The exercise uses a simple form that allows users to enter their 10—digit telephone number. The form will contain three text boxes for the area code, exchange, and number portions of the telephone number.

1. Create a new HTML document in your text editor and use "Auto Next Field" as the content of the <title> element and the following html tags.

```
<html>

<head>
<title>Auto Next Field</title>
</head>

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

2. In the document body, add the following form that contains three text boxes. The first two text boxes, for the area code and exchange, use the onkeyup event to call an event handler function named nextField (). Two arguments are passed to the nextField() function: a this reference, which passes the name of the current control, and the name of the destination control. Notice that each of the text boxes includes maxlength attributes.

```
<form action="FormProcessor.html" method="get"
enctype="application/x-www-form-urlencoded">
<p><strong>Enter your 10-digit telephone number:</strong>
<input type="text" name="area_code" size="4"
onkeyup="nextField(this, document.forms[0].exchange)"
maxlength="3" />
<input type="text" name="exchange" size="4"
onkeyup="nextField(this, document.forms[0].number)"
maxlength="3" />
<input type="text" name="number" size="5" maxlength="4" /></p>
</form>
```

3. Add a script section to the document head with the nextField() function, which is called from the on keyup events in the <input> elements. Notice how the conditional expression compare the length of the field to the maxLength property. The current value assigned to the field is retrieved with the value property. Then, a property named length is appended to the value property. The length property is a property of the String class, and it returns the number of characters in a string. if the length of the field is equal to the value assigned to the maxLength property, the focus () statement moves the focus to the field identified by the destField parameter.

```
<script type="text/javascript">
/* <![CDATA[ */
/* ]]> */

function nextField(startField, destField) {
    if (startField.value.length==startField.maxLength)
        destField.focus();
}
</script>
```

Your code should look like this.

```
<html>
<head>
  <title>Auto Next Field</title>
  <script type="text/javascript">
    /* <![CDATA[ */
    /* ]]> */
    function nextField(startField, destField) {
      if (startField.value.length==startField.maxLength)
        destField.focus();
    }
  </script>
</head>

<body>
  <form action="FormProcessor.html" method="get"
  <enctype="application/x-www-form-urlencoded">
  <p><strong>Enter your 10-digit telephone number:</strong>
  <input type="text" name="area_code" size="4"
    onkeyup="nextField(this, document.forms[0].exchange)"
    maxlength="3" />
  <input type="text" name="exchange" size="4"
    onkeyup="nextField(this, document.forms[0].number)"
    maxlength="3" />
  <input type="text" name="number" size="5" maxlength="4" /></p>
</form>
</body>
</html>
```

5. Save the document as AutoNextField.html.

6. Open it in your Web browser. You should see the following (without my numbers of course).

---

Enter your 10-digit telephone number:

7. Enter an area code into the first text box. When you finish, focus transfers to the second text box. Enter an exchange into the second text box. When you finish, the focus is transferred to the third text box.

### Setting Form Focus

When you first open a Web page with a form in a browser, none of the form controls have the focus. In this exercise, you will set the focus when the Web page first opens to the third input box.

8. Add a script section to the document head.

9. In the script section, add the following set FormFocus() function, which uses the focus() method of the Input object to set the focus on the first control in the form. The form is named visitor\_name:

```
function setFormFocus() {
    document.forms[0].number.focus();
}
```

10. In the opening <body> tag, add the following onload event handler, which calls the setFormFocus () method when the page first loads e.g. :

```
<body onload = "setFormFocus();">
```

The code should look as follows:

```
<html>
<head>
<title>Auto Next Field</title>
<script type="text/javascript">
/* <![CDATA[ */
/* ]]> */
function nextField(startField, destField) {
    if (startField.value.length==startField.maxLength)
        destField.focus();
}
function setFormFocus() {
    document.forms[0].number.focus();
}
</script>
</head>
<body onload = "setFormFocus();">
<form action="FormProcessor.html" method="get"
enctype="application/x-www-form-urlencoded">
<p><strong>Enter your 10-digit telephone number:</strong>
<input type="text" name="area_code" size="4"
onkeyup="nextField(this, document.forms[0].exchange)"
maxlength="3" />
<input type="text" name="exchange" size="4"
onkeyup="nextField(this, document.forms[0].number)"
maxlength="3" />
<input type="text" name="number" size="5" maxlength="4" /></p>
</form>
</body>
</html>
```

11. Save the document and open in a Web browser. The third control on the form should receive the focus as soon as the form is rendered as show below where the box is flashing Blue when it first loads waiting for input.

Enter your 10-digit telephone number:

You could also add default values to the text boxes. E.g. to add value attributes to each text <input> element to create default values, as follows. Note the three value = "\*\*\*\*\*" are highlighted below.

```
<form action="FormProcessor.html" method="get"
enctype="application/x-www-form-urlencoded">
<p><strong>Enter your 10-digit telephone number:</strong>
<input type="text" name="area_code" size="4" value = "*****"
onkeyup="nextField(this, document.forms[0].exchange)" maxlength="3" />
<input type="text" name="exchange" size="4" value = "*****"
onkeyup="nextField(this, document.forms[0].number)" maxlength="3" />
<input type="text" name="number" size="5" value = "*****" maxlength="4" /></p>
</form>
```

The final html code is [here](#).