

4478 – INTRODUCTION TO INFORMATION TECHNOLOGY. 8936 – INTRODUCTION TO INFORMATION TECHNOLOGY G.

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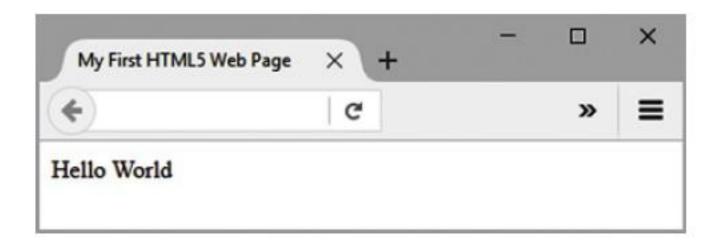
Lab Objectives

This lab gets you started on your very first web page. You'll be introduced to Hypertext Markup Language (HTML), the language used to create web pages. The lab begins with an introduction to the syntax of HTML5; continues with sample web pages; and introduces HTML structural, phrase, and hyperlink elements as more example web pages are created. You will learn more if you work along with the sample pages in the lecture. Coding HTML is a skill, and every skill improves with practice.



Challenge 1: Your First Web Page

Now that you're familiar with basic elements used on every web page, it's your turn to create your first web page, shown in figure below.





Create a Folder

You'll find it helpful to create folders to organize your files as you develop the web pages in this book and create your own websites. Use your operating system to create a new folder named mychapter2 on your hard drive or a portable flash drive.



Create a Folder

To create a new folder with Windows:

- 1. Launch File Explorer (formerly called Windows Explorer):
 - Display the Desktop.
 - Right-click on the Start button and select File Explorer.
- 2. Navigate to the location where you would like to create the new folder, such as Documents, your C: drive, or an external USB drive.
- 3. Select the Home tab. Select New Folder.
- 4. To rename the New Folder, right-click on it, select Rename from the context- sensitive menu, type in the new name, and press the Enter key.

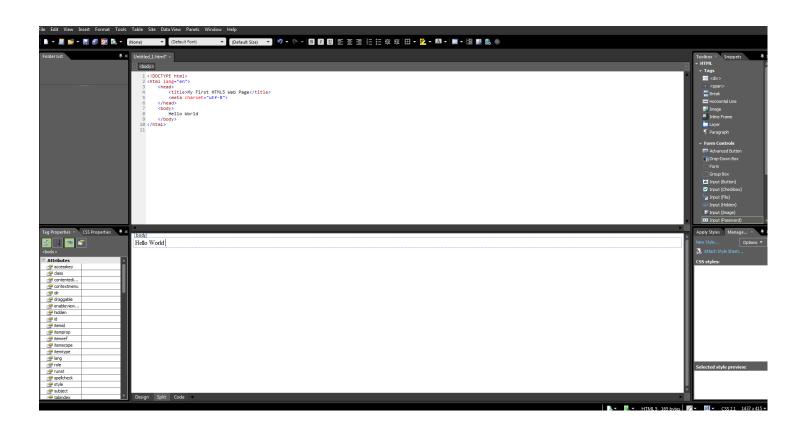


Now you are ready to create your first HTML5 web page. Launch your preferred web editor (PWE). Type in the following code:



The body section is delimited by <body> and </body> tags. The words "Hello World" are typed on a line between the body tags. See Figure below for a screenshot of the code as it would appear in PWE. You have just created the source code for a web page document.



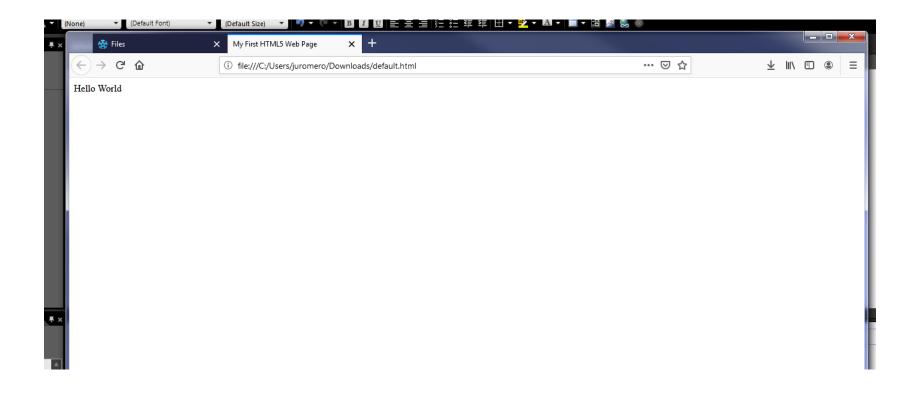




Save Your File

You will save your file with the name **index.html**. A common file name for the home page of a website is index.html or index.htm. Web pages use either a .htm or a .html file extension. The web pages in this unit use the .html file extension. Display your file in MEW4. Select File from the menu bar, and then select Save As. The Save As dialog box will appear. Navigate to your preferred location. Type the file name. Click the Save button after you type the file name.







- Describe the origin, purpose, and features of HTML.
- Describe the software needed to create and test web pages.
- 3. Describe the purpose of the head and body sections of a web page.





Challenge 2: Heading Element

Save Your File

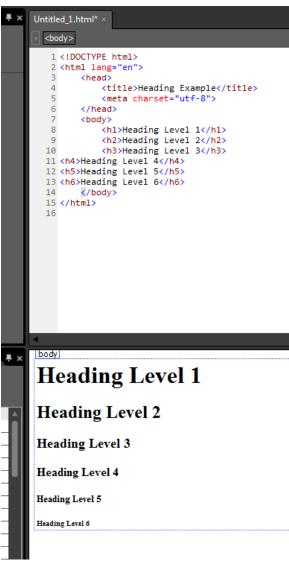
To create the web page shown below, launch PWE. Select File > Open to edit the HTML5 template file called **template.html** located in your Canvas site. Modify the title element and add heading tags to the body section as indicated by the following code:



```
<!DOCTYPF html>
<html lang="en">
         <head>
                  <title>Heading Example</title>
                  <meta charset="utf-8">
         </head>
         <body>
                  <h1>Heading Level 1</h1>
                  <h2>Heading Level 2</h2>
                  <h3>Heading Level 3</h3>
                  <h4>Heading Level 4</h4>
                  <h5>Heading Level 5</h5>
                  <h6>Heading Level 6</h6>
         </body>
</html>
```

Save the document as heading.html on your hard drive or flash drive. Launch a browser such as Microsoft Edge or Firefox to test your page. It should look similar to the page shown in figure below. You can compare your work with the solution found in the student files (heading.html).

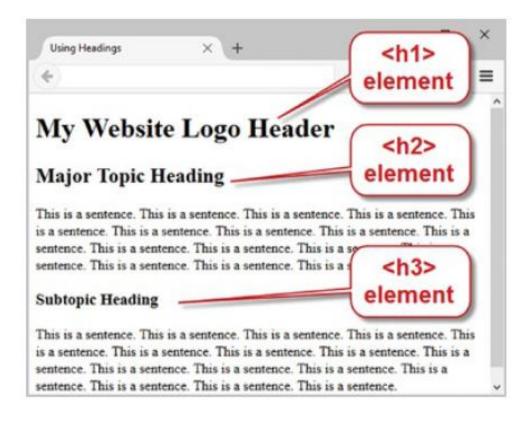






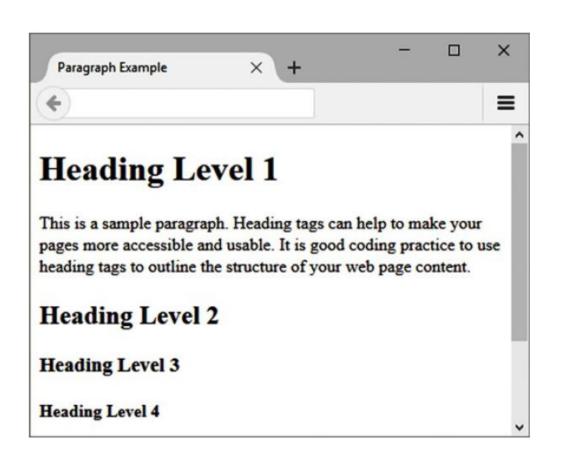
Heading tags can help to make your pages more accessible and usable. It is good coding practice to use heading tags to outline the structure of your web page content. To indicate areas within a page hierarchically, code heading tags numerically as appropriate (h1, h2, h3, and so on), and include page content in block display elements such as paragraphs and lists. In Figure below, the <h1> tag contains the name of the website in the logo header area at the top of the web page, the <h2> tag contains the topic or name of the page in the content area, and other heading elements are coded in the content area as needed to identify major topics and subtopics.







Challenge 3: Paragraph Element

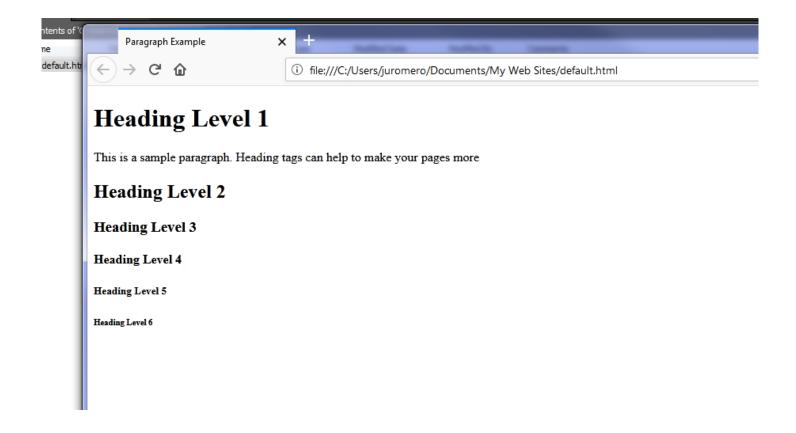


- To create the web page in figure shown, launch PWE.
 Select File > Open to edit the file heading.html in the student files.
- Modify the page title, and add a paragraph of text to your page below the line with the <h1> tags and above the line with the <h2> tags. Use the following code as an example:

```
<!DOCTYPF html>
<html lang="en">
         <head>
                  <title>Paragraph Example</title>
                  <meta charset="utf-8">
         </head>
         <body>
                  <h1>Heading Level 1</h1>
                  This is a sample paragraph. Heading tags can help to make your
                  pages more...
                  <h2>Heading Level 2</h2>
                  <h3>Heading Level 3</h3>
                  <h4>Heading Level 4</h4>
                  <h5>Heading Level 5</h5>
                  <h6>Heading Level 6</h6>
         </body>
</html>
```

- Save the document as paragraph.html on your hard drive or flash drive.
- Launch a browser to test your page. It should look similar to the page shown
- in figure below. You can compare your work with the solution **paragraph.html** found in the student files.
- Notice how the text in the paragraph wraps automatically as you resize your browser window.





Alignment

As you tested your web pages, you may have noticed that the headings and text begin near the left margin. This placement is called left alignment and is the default alignment for web pages. There are times, however, when you want a paragraph or heading to be centred or right aligned. The align attribute can be used for this purpose. The purpose of an **attribute** is to modify the properties of an HTML element. In this case, the **align attribute** modifies the element's horizontal alignment (left, centre, or right) on a web page. To centre an element on a web page, use the attribute align="center". To right-align the text within an element, use the align="right" attribute.

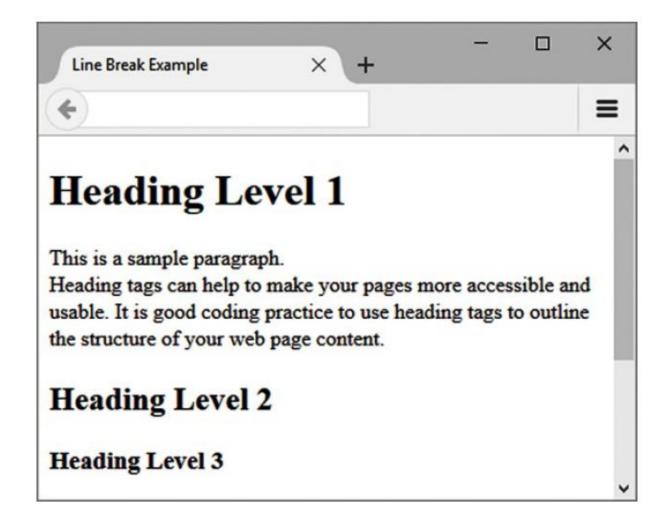


In XHTML syntax, the align attribute can be used with a number of block display elements, including the paragraph () and heading (<h1> through <h6>) tags. The align attribute is obsolete in HTML5, which means that while it may be used in XHTML, the attribute has been removed from the W3C HTML5 specification and is invalid. You soon will learn how to configure alignment using a more modern approach with Cascading Style Sheets (CSS).



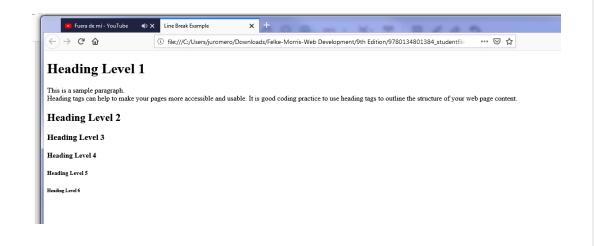
- To create the web page shown in figure below, launch MEW4. Select File > Open to edit the file paragraph.html in the student files.
- Modify the text contained between the title tags to be "Line Break Example".
- Place your cursor after the first sentence in the paragraph (after "This is a sample paragraph."). Press the Enter key. Save your file.
- Test your page in a browser, and notice that even though your source code showed the "This is a sample paragraph." sentence on its own line, the browser did not render it that way. A line break tag is needed to configure the browser to display the second sentence on a new line.
- Edit the file in a text editor, and add a
 tag after the first sentence in the paragraph, as shown in the following code snippet:







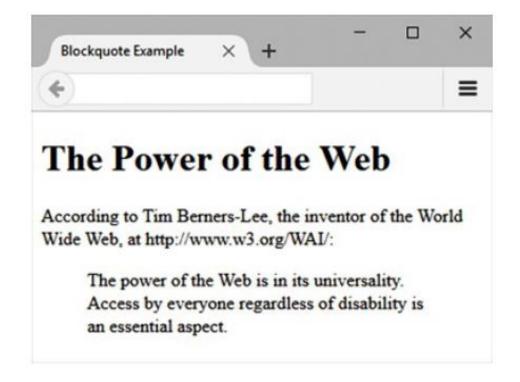
```
<body>
     <h1>Heading Level 1</h1>
     This is a sample paragraph. <br > Heading tags can help to make...
     <h2>Heading Level 2</h2>
     <h3>Heading Level 3</h3>
     <h4>Heading Level 4</h4>
     <h5>Heading Level 5</h5>
     <h6>Heading Level 6</h6>
</body>
```



- Save your file as linebreak.html.
- Launch a browser to test your page. It should look similar to the page shown
- You can compare your work with the solution found in the student files (linebreak.html).

Challenge 5: Blockquote Element

- To create the web page shown in figure, launch PWE.
- Select File > Open to edit the template file template.html in the student files.
- Modify the title element.
- Add a heading tag, a paragraph tag, and a blockquote tag to the body section as indicated by the following code:





Challenge 5: Blockquote Element (cont.)

```
<!DOCTYPF html>
<html lang="en">
    <head>
         <title>Blockquote Example</title>
         <meta charset="utf-8">
    </head>
    <body>
         <h1>The Power of the Web</h1>
         According to Tim Berners-Lee, the inventor of the World Wide Web, at
         http:// ...
         <blook<br/>duote>
                   The power of the Web is in its universality. Access by everyone
                   regardless of...
         </blockquote>
    </body>
</html>
```

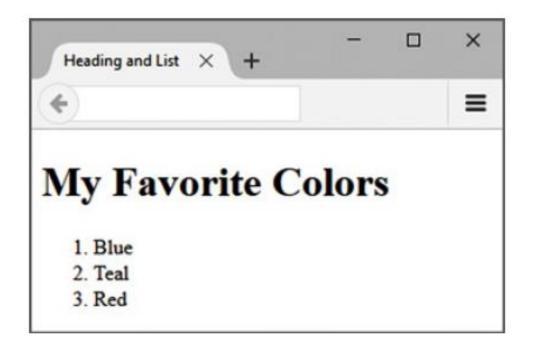
Challenge 5: Blockquote Element (cont.)

- Save the document as blockquote.html on your hard drive or flash drive.
- Launch a browser to test your page. You can compare your work with the solution (blockquote.html) found in the student files.



Challenge 6: Ordered List

- In this Hands-On Practice, you will use a heading and an ordered list on the same page.
- To create the web page shown, launch PWE, Select File > Open to edit the template file template.html in the student files.
- Modify the title element and add h1, ol, and li elements to the body section as indicated by the following code:





Challenge 6: Ordered List (cont.)

```
<!DOCTYPF html>
<html lang="en">
    <head>
        <title>Heading and List</title>
        <meta charset="utf-8">
    </head>
    <body>
        <h1>My Favorite Colors</h1>
        <0|>
            Blue
            Teal
            Red
        </body>
</html>
```

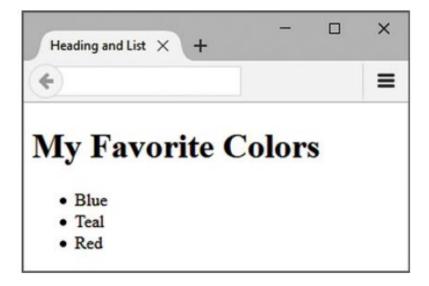
Challenge 6: Ordered List (cont.)

- Save your file as ol.html. Launch a browser and test your page. You can compare
 your work with the solution in the student files (ol.html).
- Take a few minutes to experiment with the **type attribute** (you need to find this out by your own).
- Configure the ordered list to use uppercase letters instead of numerals.
- Save your file as ola.html. Test your page in a browser.
- You can compare your work with the solution in the student files (ola.html).



Challenge 7: Unordered List

In this Hands-On Practice, you will use a heading and an unordered list on the same page. To create the web page shown, launch a text PWE. Select File > Open to edit the template file located in the student files. Modify the title element and add **h1**, **ul**, and **li** tags to the body section as indicated by the following code:





Challenge 7: Unordered List (cont.)

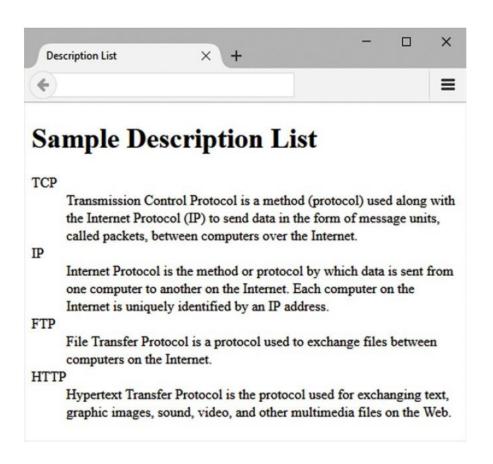
```
<!DOCTYPF html>
<html lang="en">
   <head>
       <title>Heading and List</title>
       <meta charset="utf-8">
   </head>
   <body>
       <h1>My Favourite Colours</h1>
       ul>
           Blue
           Teal
           Red
       </body>
</html>
```

Challenge 7: Unordered List (cont.)

Save your file as ul.html. Launch a browser and test your page. You can compare your work with the solution in the student files (ul.html).



Challenge 8: Description List



- In this Hands-On Practice, you will use a heading and a description list on the same page.
- To create the web page shown, launch PWE.
 Select File > Open to edit the template file template.html in the student files.
- Modify the title element and add h1, dl, dd, and dt tags to the body section as indicated by the following code:



Challenge 8: Description List (cont.)

```
<!DOCTYPE html>
<html lang="en">
    <head>
         <title>Description List</title>
         <meta charset="utf-8">
    </head>
    <body>
         <h1>Sample Description List</h1>
         <dl>
         <dt>TCP</dt>
         <dd>Transmission Control Protocol is a method (protocol) used along... <dt>IP</dt>
         <dd>Internet Protocol is the method or protocol by which data ... <dt>FTP</dt>
         <dd>File Transfer Protocol is a protocol used to exchange files between...
         <dt>HTTP</dt>
         <dd>Hypertext Transfer Protocol is the protocol used for exchanging text, </dl>
    </body>
</html>
```

Challenge 8: Description List (cont.)

- Save your file as description.html.
- Launch a browser and test your page. It should look similar to the previous figure.
- Don't worry if the word wrap is a little different; the important formatting is that each
 <dt> term should be on its own line and the corresponding <dd> description should be indented under it.
- Try resizing your browser window, and notice how the word wrap on the description text changes.
- You can compare your work with the solution in the student files (description.html).



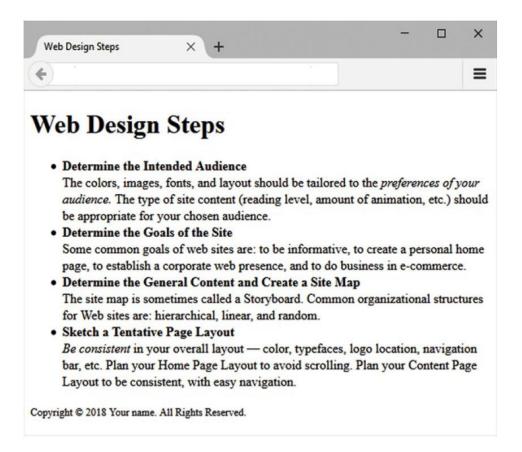
- 1. Describe the features of a heading element and how it configures the text.
- 2. Describe the difference between ordered lists and unordered lists.
- 3. Describe the purpose of the blockquote element.





Challenge 9: Special Characters

- Figure shows the web page you will create in this Hands-On Practice.
- Launch PWE. Select File > Open to edit the template file located at template.html in the student files. Save your file as design.html.
- Modify the title of the web page by changing the text between the <title> and </title> tags to "Web Design Steps."





Challenge 9: Special Characters (cont.)

- The sample page shown contains a heading, an unordered list, and copyright information.
- Configure the heading "Web Design Steps" as a level 1 heading (<h1>) as follows:
 <h1>Web Design Steps</h1>
- Now create the unordered list. The first line of each bulleted item is the title of the web
 design step, which should be strong or stand out from the rest of the text.
- The code for the beginning of the unordered list is as follows:

```
ul>
```

Determine the Intended Audience

The colours, images, fonts, and layout should be tailored to the
preferences of your audience. The type of site content...



Challenge 9: Special Characters (cont.)

Now code the entire unordered list in your design.html file. Remember to code the closing
/ul> tag at the end of the list. Don't worry if your text wraps a little differently; your screen resolution or browser window size may be different from what is displayed in this exercise.

Finally, configure the copyright information with the *small* element. Use the special character © for the copyright symbol. The code for the copyright line is as follows:

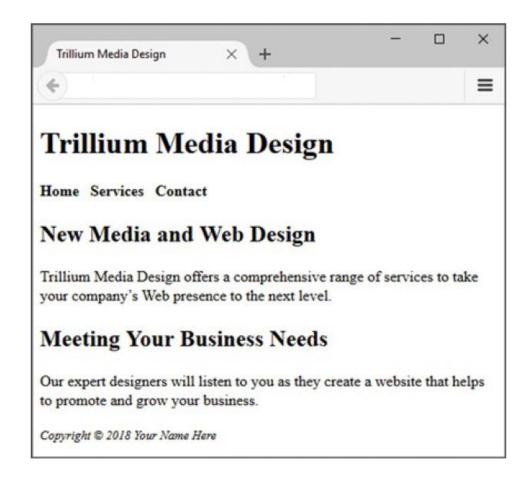
<small>Copyright © 2018 Your name. All Rights Reserved.</small>

How did you do? Compare your work to the sample in the student files (design.html).



Challenge 10: Structural Elements

- In this Hands-On Practice you will use structural elements as you create the Trillium Media Design home page, shown in figure.
- Launch PWE, and open the template.html file from the student files.
- Edit the code as follows:





Challenge 10: Structural Elements (cont.)

- 1. Modify the title of the web page by changing the text between the **<title>** and **</title>** tags to Trillium Media Design.
- 2. Position your cursor in the body section and code the header element with the text, "Trillium Media Design" contained in an h1 element:

3. Code a nav element to contain text that will indicate the main navigation for the website. Configure bold text (use the **b** element) and use the ** **; special character to add extra blank space:



Challenge 10: Structural Elements (cont.)

4. Code a main element that contains the h2 and paragraph elements:

<main>

<h2>New Media and Web Design</h2>

Trillium Media Design offers a comprehensive range of services to <h2>Meeting Your Business Needs</h2>

Our expert designers will listen to you as they create a website that

</main>

5. Configure the footer element to contain a copyright notice displayed in small font size (use the small element) and italic font (use the i element). Be careful to properly nest the elements as shown here:

<footer>

<small><i>Copyright © 2018 Your Name Here</i></small>

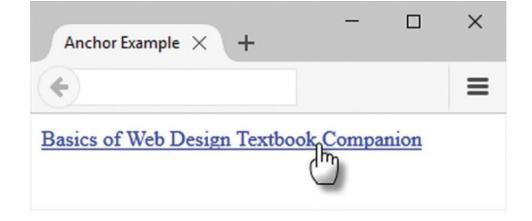
</footer>

Save your page as structure.html. You can compare your work to the sample in the student files (structure.html).



Challenge 11: Anchor Element

- To create the web page shown in figure, launch a PWE.
- Select File > Open to edit the template file template.html in the student files.
- Modify the title element and add anchor tags to the body section as indicated by the following code:



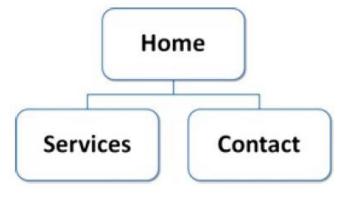


Challenge 11: Anchor Element (cont.)

Save the document as anchor.html on your hard drive or flash drive. Launch a browser to test your page. You can compare your work with the solution found in the student files (anchor.html).

Challenge 12: Site Map

- The best way to learn how to code web pages is by actually doing it!
- Let's practice and create three pages in the website shown in figure: home page (index.html) with two content pages: services page (services.html) and contact page (contact.html).

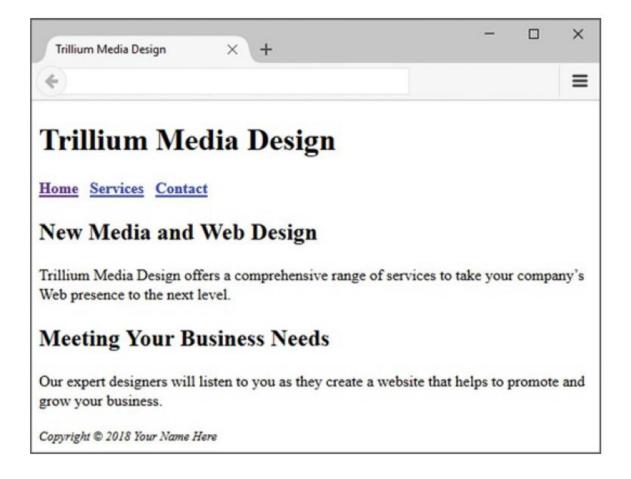


Site map

Contact Us



- 1. Create a Folder. If you had printed papers to organize you would probably store them in a paper folder. Web designers store and organize their computer files by creating a folder on a hard drive (or portable storage such as an SD card or Flash drive) for each website. This helps them to be efficient as they work with many different websites. You will organize your own web design work by creating a new folder for each website and storing your files for that website in the new folder. Use your operating system to create a new folder named mypractice for your new website.
- 2. Create the Home Page. Use the Trillium Media Design web page from the previous Hands-On Practice as a starting point for your new home page (shown in figure below). Copy the sample file structure.html into your mypractice folder. Change the file name of structure.html to index.html. It's common practice to use the file name index.html for the home page of a website.



Launch a text editor, and open the index.html file.

The navigation hyperlinks will be located within the nav element. You will edit the code within the nav element to configure three hyperlinks:

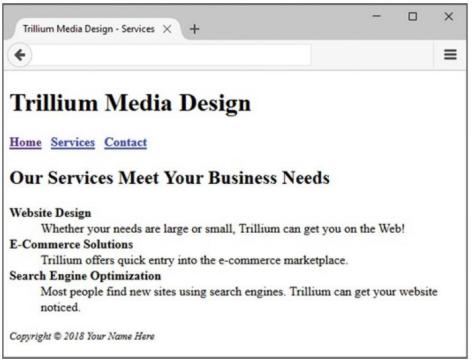
- The text "Home" will hyperlink to index.html
- The text "Services" will hyperlink to services.html
- The text "Contact" will hyperlink to contact.html

Modify the code within the nav element as follows:



Save the index.html file in your mypractice folder. Test your page in a browser. You can compare your work to the sample in the student files (index.html).

3. Create the Services Page. It is common practice to create a new web page based on an existing page. You will use the index.html file as a starting point for the new services page, shown in figure below.





Open your index.html file in a text editor and save the file as services.html. Edit the code as follows:

- Modify the title of the web page by changing the text between the <title> and </ title> tags to "Trillium Media Design Services". In order to create a consistent header, navigation, and footer for the web pages in this website, do not change the code within the header, nav, or footer elements.
- Position your cursor in the body section and delete the code and text between the opening and closing main tags. Code the main page content (heading 2 and description list) for the services page between the main tags as follows:

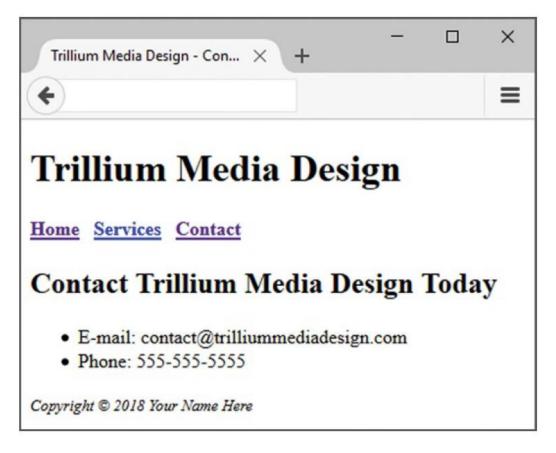


```
<h2>Our Services Meet Your Business Needs</h2>
<dl>
<dt><strong>Website Design</strong></dt>
<dd>Whether your needs are large or small, Trillium can get you <dt><strong>E-Commerce Solutions</strong></dt>
<dd>Trillium offers quick entry into the e-commerce marketplace.</dt>
<dd>Strong>Search Engine Optimization</strong></dt>
<dd>Most people find new sites using search engines.

Trillium can get your website noticed.</dd>
</dl>
```

• Save the services.html file in your mypractice folder. Test your page in a browser. You can compare your work to the sample in the student files (services.html).

4. Create the Contact Page. Use the index.html file as a starting point for the new Contact page, shown in Figure below. Open your index.html file in MEW4 and save the file as contact.html. Edit the code as follows:





- Modify the title of the web page by changing the text between the <title> and </ title> tags to "Trillium Media Design Contact". In order to create a consistent header, navigation, and footer for the web pages in this website, do not change the code within the header, nav, or footer elements.
- Position your cursor in the body section and delete the code and text contained between the opening main tag and the closing main tag. Code the main page content for the contact page between the main tags:

Save the contact.html file in your mypractice folder. Test your page in a browser. Test
your page by clicking each link. When you click the "Home" hyperlink, the index.html
page should display. When you click the "Services" hyperlink, the services.html page
should display. When you click the "Contact" hyperlink, the contact.html page will
display. You can compare your work to the sample in the student files (contact.html).

Challenge 13: E-Mail Hyperlinks

- In this Hands-On Practice you will modify the contact page (contact.html) of the website you created previously, and configure an e-mail link in the page content area.
- Launch a text editor, and open the contact.html file from your mypractice folder. This exercise uses the contact.html file found in the student files folder.
- Configure the e-mail address in the main content area as an e-mail hyperlink as follows:

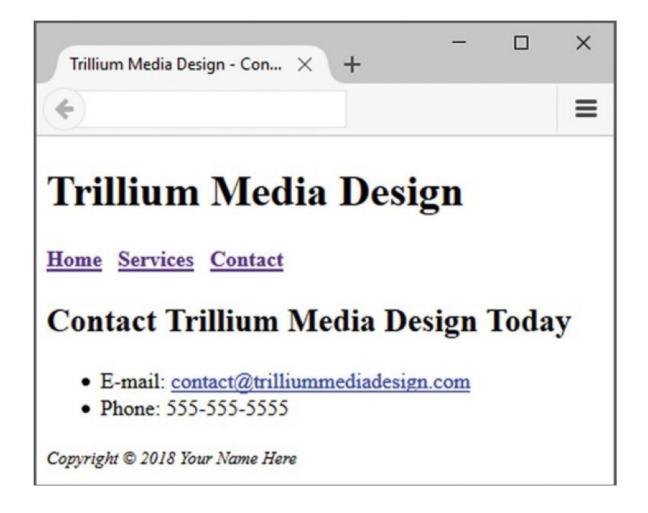
```
E-mail:
```

contact@trilliummediadesign.

• Save and test the page in a browser. The browser display should look similar to the page shown in Figure below. You can compare your work with the sample in the student files (contact.html).



Challenge 13: E-Mail Hyperlinks





• Describe the purpose of special characters.

Describe when to use an absolute link. Is the http protocol used in the href value?

 Describe when to use a relative link. Is the http protocol used in the href value?

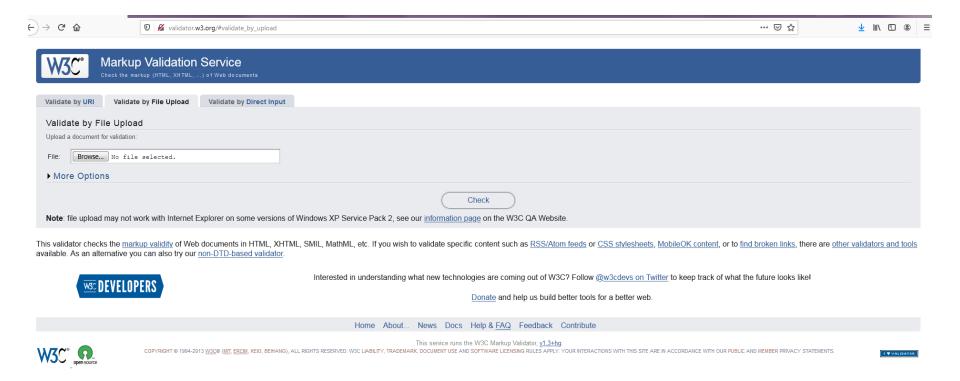


HTML Validation

- In this Hands-On Practice, you will use the **W3C Markup Validation Service** to validate a web page file. This exercise uses the page located in the student files **design.html**.
- Open design.html in PWE.
- Add an error to the design.html page by deleting the first closing tag. This
 modification should generate several error messages.
- Next, attempt to validate the design.html file. Launch a browser and visit the W3C Markup Validation Service file upload page at http://validator.w3.org/#validate_by_upload.
- Click the Browse button, and select the design.html file from your computer.
- Click the Check button to upload the file to the W3C site (see figure below).



HTML Validation





HTML Validation

An error page will display. Notice the "Errors found while checking this document" message. You can view the errors by scrolling down the page, as shown in Figure below.

