# CP 160 - Web Programming and Design

## Lab 2: Internet and HTML Basics

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# Hands-on Practice 1: Learn Internet Basics

There are some utilities used for networking, such as ipconfig/ifconfig, ping, tracert/traceroute, netstat, nslookup etc.

Command 1: ipconfig/ifconfig

1. From your computer, go to Command Prompt
2. Type in, ipconfig (if you are using Linux, go to terminal and type ifconfig)
3. ipconfig /help gives you the help hints
4. ipconfig /all displays more information on your IP configurations.
5. **What is your computer's IPv4 address?**

Command 2: ping

1. Type ping or ping /help from the Command Prompt
2. Type in the command,  ping www.google.com
3. **What is the IP address of www.google.com? How many replies from www.google.com are shown?** Record the answers and put them into the doc to be submitted

# Hands-on Practice 2: Heading, Paragraph, Line Break

In this practice, you will learn to configure the headings, paragraphs and line breaks in a web page.
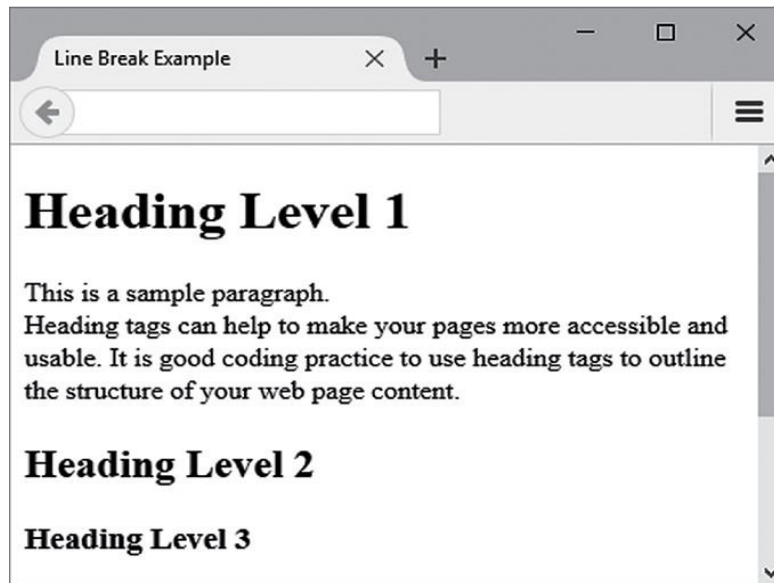


**Figure 1 Notice the line break after the first sentence.**

To create the web page shown in **Figure 1**, launch a text editor and open the **paragraph.html** file (from the Lab2 folder in BB). Modify the text 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 displayed 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 <br> tag after the first sentence in the paragraph as shown in the following code snippet:

```
<!DOCTYPE html>
<html lang="en">
<body>
<h1>Heading Level 1</h1>
<p>This is a sample paragraph. <br> 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.
</p>
<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 your file as **linebreak.html**. Launch a browser to test your page. It should look similar to the page shown in **Figure 1.**

# Hands-on Practice 3: Horizontal Rule Element

Web designers often use visual elements such as lines and borders to separate or define areas on web pages. The **horizontal rule element**, `<hr>`, configures a horizontal line across a web page.
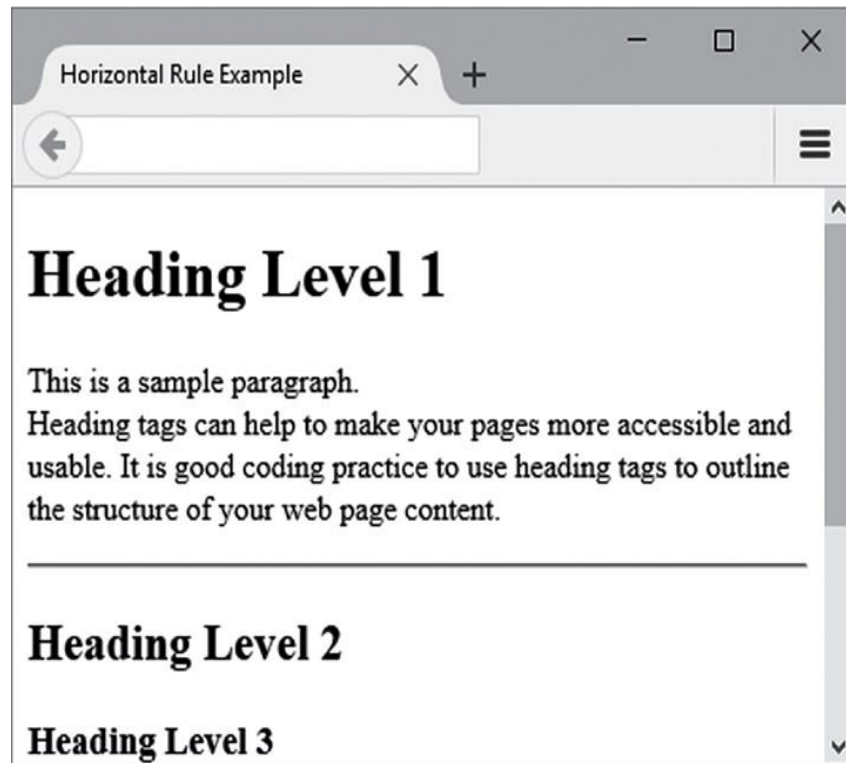


Figure 2 The horizontal line is below the paragraph.

To create the web page shown in **Figure 2**, launch a text editor and open the **linebreak.html** file that you created in Practice 1. Modify the text between the title tags to be: Horizontal Rule Example.

Place your cursor on a new line after the `</p>` tag. Code the `<hr>` tag on the new line as shown in the following code snippet:

```
<body>
<h1>Heading Level 1</h1> <p>This is a sample paragraph. <br>
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.
</p>
<hr>
<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 **hr.html**. Launch a browser to test your page. It should look similar to the page shown in **Figure 2**.

# Hands-on Practice 4: Ordered List and Unordered List

Lists are used on web pages to organize information. When writing for the Web, headings, short paragraphs, and lists can make your page more clear and easy to read. HTML can be used to create three types of lists—description lists, ordered lists, and unordered lists. An **ordered list** displays a numbering or lettering system to sequence the information in the list.

Ordered lists begin with an `<ol>` tag and end with an `</ol>` tag.

Each list item begins with an `<li>` tag and ends with an `</li>` tag.

In this Hands-On Practice, you will use a heading and an ordered list on the same page. To create the web page shown in **Figure 3**, launch a text editor and type in the following code:

```
<!DOCTYPE html>
<html lang="en">
<head> <title>Heading and List</title>
<meta charset="utf-8">
</head>
<body>
<h1>My Favorite Colors</h1>
<ol>
   <li>Blue</li>
   <li>Teal</li>
   <li>Red</li>
</ol>
</body>
</html>
```
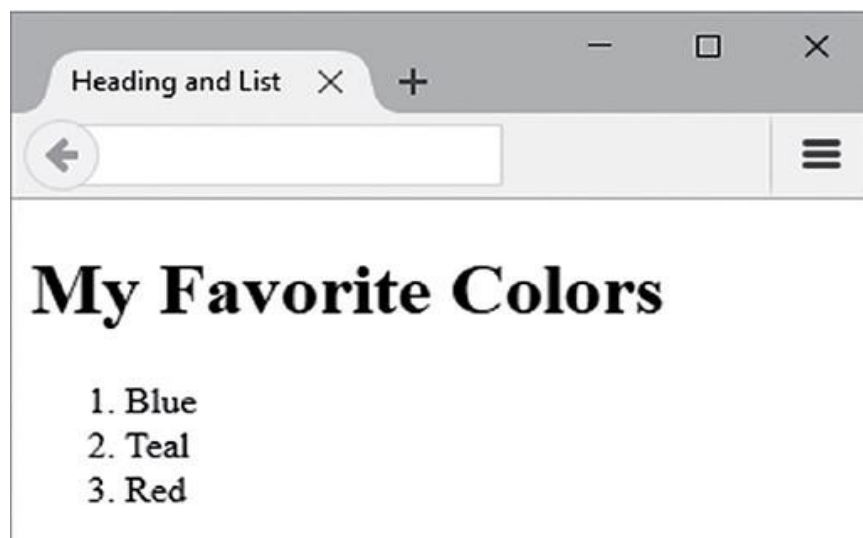
**Figure 3 An ordered list.**

Save your file as **ol.html**. Launch a browser and test your page. It should look similar to the page shown in **Figure 3**.

**Additional** Step:  Change the <ol> and </ol> in ol.html to be **<ul>** and **</ul>,** save the file as **ul.html**. Display ul.html from a web browser, compare it with Figure 3.

# Hands-on Practice 5:  Special Entity Characters - Copyright

In order to use special characters such as quotation marks, the greater than sign (>), the less than sign (<), and the copyright symbol (©) in your web page document, you need to use special characters, sometimes called entity characters. For example, if you want to include a copyright line on your page as follows:

**© Copyright 2020 My Company. All rights reserved.**

you need to use the special character **&copy;** to display the copyright symbol, as shown below:

```
&copy; Copyright 2020 My Company. All rights reserved.
```

**Figure 5** shows the web page you will create in this Hands-On Practice. Launch a text editor and open the **template.html** file (can be downloaded from BB->Lab Materials -> Lab2).



**Figure 5 Sample design.html.**

Change the title of the web page to "Web Design Steps" by modifying the text between the `<title>` and `</title>` tags.

The sample page shown in **Figure 5** contains a heading, an unordered list, and the copyright information. You will add these elements to your file next.

Configure the phrase, "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. In the sample, each step title should be strong or stand out from the rest of the text. The code for the beginning of the unordered list follows:

```
<ul>

   <li><strong>Determine the Intended Audience</strong> <br> The
colors, images, fonts, and layout should be tailored to the <em>
preferences of your audience.</em> The type of site content
(reading level, amount of animation, etc.) should be appropriate
for your chosen audience. </li>
```

Edit your design.html file and code the entire unordered list shown in **Figure 5**. (to save your time, you can complete only the first paragraph). Remember to code the closing `</ul>` tag at the end of the list. Finally, configure the copyright information in a paragraph and apply the small element. Use the special character `&copy;` for the copyright symbol. The code for the copyright line follows:

```
<p><small>Copyright &copy; 2020 Your name. All Rights
reserved.</small></p>
```

Save your file as **design.html**. Launch a browser and test your page.

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## Lab Completion / Submission:

Complete all the lab practices. Take the **screenshots** of your completed webpages; put them into a single word file and submit it to **Blackboard -> CP160 -> Assessments -> Lab 2**; due date: today


## After-lab Assignment:

1. Create a one-paragraph conclusion of what you have learned during the lab today.
2. Describe the features of a heading element and how it configures the text.
3. Describe the difference between ordered lists and unordered lists.

Put the above into a single word file; Submit to **Blackboard -> CP160 -> Assessments -> Lab 2;** due date: 1 week from today.