Name _____Period _____

Introduction to HTML

Your Tasks

- ☐ Define key vocabulary
- ☐ Write code to create an HTML page
- ☐ Explore heading elements
- ☐ Explore text formatting elements
- ☐ Debug HTML tag errors
- ☐ Receive credit for this lab guide

☐ Define key vocabulary

HTML

Hypertext Markup Language

HTML Element

a component of an HTML document that tells a web browser how to structure and interpret a part of the HTML document

HTML Tag

a set of characters constituting a formatted command for a Web page

<head> </head> section

the first section in the code contains information about a web page's properties and links to external related files

<body> </body> section

is a main contain section of web page all contain that will be seen when the user loads the webpage

□ Write code to create an HTML page

HTML page structure

The image to the write shows the basic parts of an HTML page. It is broken down in to two sections: A head and a body. Notice that both of these sections are within another “html” section.

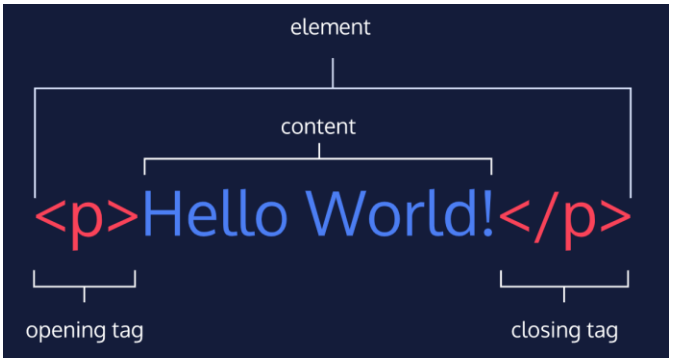
```
1   <!DOCTYPE html>
2   <html>
3       <head>
4
5       </head>
6       <body>
7
8
9       </body>
10  </html>
```

Information in the head section of the page are not displayed to the user. This section typically contains metadata and links to external resources needed to make the page run properly.

What appears in the body section however, is displayed on the users browser. This content is organized in elements.

Elements

An example of a paragraph element is shown below,



The diagram above displays an HTML paragraph element. As we can see, the paragraph element is made up of:

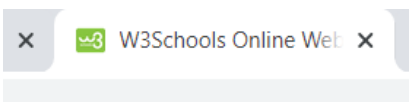
- An *opening tag* ( )
- The content (“Hello World!” text)
- A *closing tag* ( )

Page title

As aforementioned, the head section contains metadata for the page. Metadata is information about the page that isn’t displayed directly on the web page. Unlike the information inside of the <body> tag, the metadata in the head is information about the page itself.

If you navigate to a website for example, you will notice the tab in which the page is displayed contains specific text related to the page.

For example, if you navigate to http://w3schools.com, the following text is displayed in the tab,



The specific text displayed in the tab for a page is specified in the <title> tag. The <title> tag is always inside of the <head></head> section.

```
<head>

    <title>My Awesome Website!</title>

</head>
```

In the space provided, write the basic structure of an HTML page. In the head section, indicate a title for your page. In the body section, include a paragraph element to display your name.
<!DOCTYPE html> <html> <head> <title>Hello</title> </head> <body> ike </body> </html>

□ Explore heading elements

So far, we have seen how to organize content into paragraphs. Another way HTML allows you to organize your code is by using heading elements. A heading is a short piece of text that goes at the top of a section of content, like a title. There a different sizes of headings in HTML. These are designated with the following tags: <h1></h1>, <h2></h2>, <h3></h3>, <h4></h4>, <h5></h5>, <h6></h6>

When the code below is ran, the output to the right is displayed.

Code	Output

`<h1>h1 headers are Really Big</h1>`
`<h2>Smaller than h1</h2>`
`<h3>Smaller than h2</h3>`
`<h4>Smaller than h3</h4>`
`<h5>Smaller than h4</h5>`
`<h6>Smaller than h5</h6>`
	h1 headers are Really Big
	Smaller than h1
	Smaller than h2
	Smaller than h3
	Smaller than h4
	Smaller than h5

Write code that could be used to create the following output,	
Output	**Code**
Header ??? **Header ???** **Header ???** **Header ???**	Header ??? Header ??? Header ??? Header ???

Predict the output of the following code. Do your best to write the font sizes relative to one another.	
Code	**Output**

```
<!DOCTYPE html>
<html>
  <head>
    <title>My Hobbies</title>
  </head>
  <body>

    <h1> My Hobbies </h1>
    <h2> Soccer </h2>
    <h4> 5 years </h4>
    <p>Soccer is awesome</p>

    <h2>Cooking</h2>
    <h4>2 years </h4>
    <p>I love cooking</p>

  </body>
</html>
```

My Hobbies
Soccer
5 years
Soccer is awesome
Cooking
2 years
I love cooking

□ Explore text formatting elements

Sometimes there is a need to change text by making it appear bold, italicized, subscripted, or superscripted, etc. HTML has many tags which enable us to customize our text. The following illustrates many such tags.

Code

```
<!DOCTYPE html>
<html>
<head>
    <title>Text Formatting</title>
</head>
<body>
<h1>Examples of Formatted Text</h1>
<p>Hello GeeksforGeeks</p>
<p><b>Hello GeeksforGeeks</b></p>
<p><strong>Hello GeeksforGeeks</strong></p>
<p><i>Hello GeeksforGeeks</i></p>
<p><em>Hello GeeksforGeeks</em></p>
<p><mark>Hello GeeksforGeeks</mark></p>
<p>Hello <sup>GeeksforGeeks</sup></p>
<p>Hello <sub>GeeksforGeeks</sub></p>
<p><small>Hello GeeksforGeeks</small></p>
<p><del>Hello GeeksforGeeks</del></p>
<p><ins>Hello GeeksforGeeks</ins></p>
<p>Here is a quote from WWF's website:</p>

<blockquote cite="http://www.worldwildlife.org/who/index.html">
For 50 years, WWF has been protecting the future of nature.
The world's leading conservation organization,
WWF works in 100 countries and is supported by
1.2 million members in the United States and
close to 5 million globally.
</blockquote>

<p>WWF's goal is to: <q>Build a future where people live in harmony with nature.</q></p>

<p>The <abbr title="World Health Organization">WHO</abbr> was founded in 1948.</p>

<address>
Written by John Doe.<br>
Visit us at:<br>
Example.com<br>
Box 564, Disneyland<br>
USA
</address>
</body>
</html>
```

Output

Examples of Formatted Text

Hello GeeksforGeeks

Hello GeeksforGeeks

Hello GeeksforGeeks

Hello GeeksforGeeks

Hello GeeksforGeeks

Hello GeeksforGeeks

Hello ^{GeeksforGeeks}

Hello $_{GeeksforGeeks}$

Hello GeeksforGeeks

~~Hello GeeksforGeeks~~

Hello GeeksforGeeks

Here is a quote from WWF's website:

> For 50 years, WWF has been protecting the future of nature. The world's leading conservation organization, WWF works in 100 countries and is supported by 1.2 million members in the United States and close to 5 million globally.

WWF's goal is to: "Build a future where people live in harmony with nature."

The WHO was founded in 1948.

Written by John Doe.
Visit us at:
Example.com
Box 564, Disneyland
USA

It is impossible to memorize all the possible tags for formatting text. Moreover, new tags are always being incorporated into the HTML library.

Below is a link to an excellent resource that defines the HTML tags,

https://www.w3schools.com/tags/default.asp

Some of the more common tags are below,

Tag	Result	Tag	Result
<b>	Bold text	<small>	Small text
	Important/Bold text	<delete>	Deleted/Strikethrough text
<i>	Italic text	<ins>	Inserted/Underlined
	Emphasized/Italic text	<sup>	Subscript text
<mark>	Marked/Highlighted text	<sup>	Superscipt text
 	Line break (NOTE: This tag does not need a close tag)		

The above tags are illustrated below,

Code	Output

`<h1>Text Tags</h1>`
 	
`<p>paragraph</p>`
`<p><strong>bold</strong></p>`
 	
`<p><em>italicized</em></p>`
`<p><mark>highlight</mark></p>`
`<p>number<sup>superscript</sup></p>`
 	
`<p>letter<sub>subscript</sub></p>`
`<p><del>strikethrough</del></p>`
 	
`<p><ins>underline</ins></p>`
	Text Tags
	
	paragraph
	
	bold
	
	italicized
	
	highlight
	
	number^{superscript}
	
	letter$_{subscript}$
	
	~~strikethrough~~
	
	Hello GeeksforGeeks

Write code that could be used to create the following output. Use the link https://www.w3schools.com/tags/default.asp as resource as necessary.	
Output	**Code**

Things I have learned
 	
Binary numbers
 	
How the internet works
 	
Internet Protocols
 	
HTML
 	
~~6.022 x 10 ^{23}~~
	`<p1><strong>Things I have learned</strong></p1>`
	`<p>Binary numbers</p>`
	`<p><strong>How the Internet Works</strong></p>`
	`<p><em>Internet Protocols</em></p>`
	`<p><mark>HTML</mark></p>`
	`<p><del>6.022 x 10 <sup>23</sup></del></p>`

Refer to the tags below to predict the output of the following code.

Code

```
<!DOCTYPE html>
<html>
  <head>
     <title>Chemistry Reactions</title>
  </head>
  <body>

    <h1><ins>Chemistry Reactions</ins></h1>

    <br>H<sub>2</sub> + H<sub>2</sub> --> H<sub>2</sub>O
    <br>KClO<sub>3</sub> --> KCl + O<sub>2</sub>
    <p></p>
    <h1><ins>Constants</ins></h1>
    <br>1 mole = 6.022 x 10<sup>23</sup>
    <br>e charge = -1.602 x 10<sup>-19</sup> coulomb

  </body>
</html>
```

Output

Chemistry Reactions

Hsub2 + Hsub2-->Hsub2O
KClOsub3-->KCL + Osub2

1 mole - 6.022 x 10 ^23
e charge - -1.602 x 10 ^-19 coulomb

☐ Debug HTML tag errors

Debugging code is an important skill in computer science. Common errors that occur when you are coding in HTML is forgetting to close a tag. Or simply typing something you did not intend to. Consider the example below,

Code

```
<h1>h1 headers are Really Big</h1>
<h2>Smaller than h1</h2>
<h3>Smaller than h2
<h4>Smaller than h3<</h4>
<h5>Smaller than h4<h5>>
<h6>Smaller than h5</h6>
```

Output

h1 headers are Really Big

Smaller than h1

Smaller than h2

Smaller than h3<

Smaller than h4

>

Smaller than h5

Notice that the h5 header did not display and we extra less than and greater than signs in the text.

Find the errors and circle them. Then, write the code correctly.

Find the errors

```
<h1>h1 headers are Really Big</h1>
<h2>Header 2<</h2>
<h3>Header 3</3>
<p>A paragraph</p>
<p>Another paragraph
<h4>Header 4<</h4>
<h5>Header 5<h5>>
<h1>Header 1</h6>
```

Write the corrected code

<h1>h1 headers are Really Big</h1>
<h2>Header 2<</h2>
<h3>Header 3</3>
A paragraph
Another paragraph
<h4>Header 4<</h4>
<h5>Header 5<h5>
<h1>Header 1</h6>

Find the errors and circle them. Then, write the code correctly.

Find the errors

```
<!DOCTYPE html>
<html>
  <head>

  <body>

<h1><ins>Chemistry Reactions</h1>

    <p>H<sub>2</sub> + O<sub>2</sup> --> H<sub>2</sub>O
    <p>KClO<sub>3</sub> --> KCl + O<sub>2<sub>

<h1><ins>Constants</ins</h1>
<p>1 mole = 6.022 x 10<sup>23<p>
<p>e charge = −1.602 × 10<sup>−19<sup> coulomb</p>

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

Write the corrected code

```
<!DOCTYPE html>
<html>
  <head>
  </head>
  <body>
    <h1><ins>Chemistry Reactions</h1>
    <p>H<sub>2</sub> + O<sub>2</sup> --> H<sub>2</sub>O
    <p>KClO<sub>3</sub> --> KCl + O<sub>2<sub>
    <h1><ins>Constants</ins</h1>
    <p>1 mole = 6.022 x 10<sup>23<p>
    <p>e charge = −1.602 × 10<sup>−19<sup> coulomb</p>
  </body>
</html>
```

□ Receive Credit for this lab guide

Submit this portion of the lab to Pluska to receive credit for the lab guide.