

```
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2 <html>
3
4 <head>
5 <title> My first webpage </title>
6 </head>
7
8 <body>
9 Hello World! <br/>
10 This is my first Webpage!
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UNIT 01: BASIC HTML 5

PILOT: JANUARY-MARCH 2015

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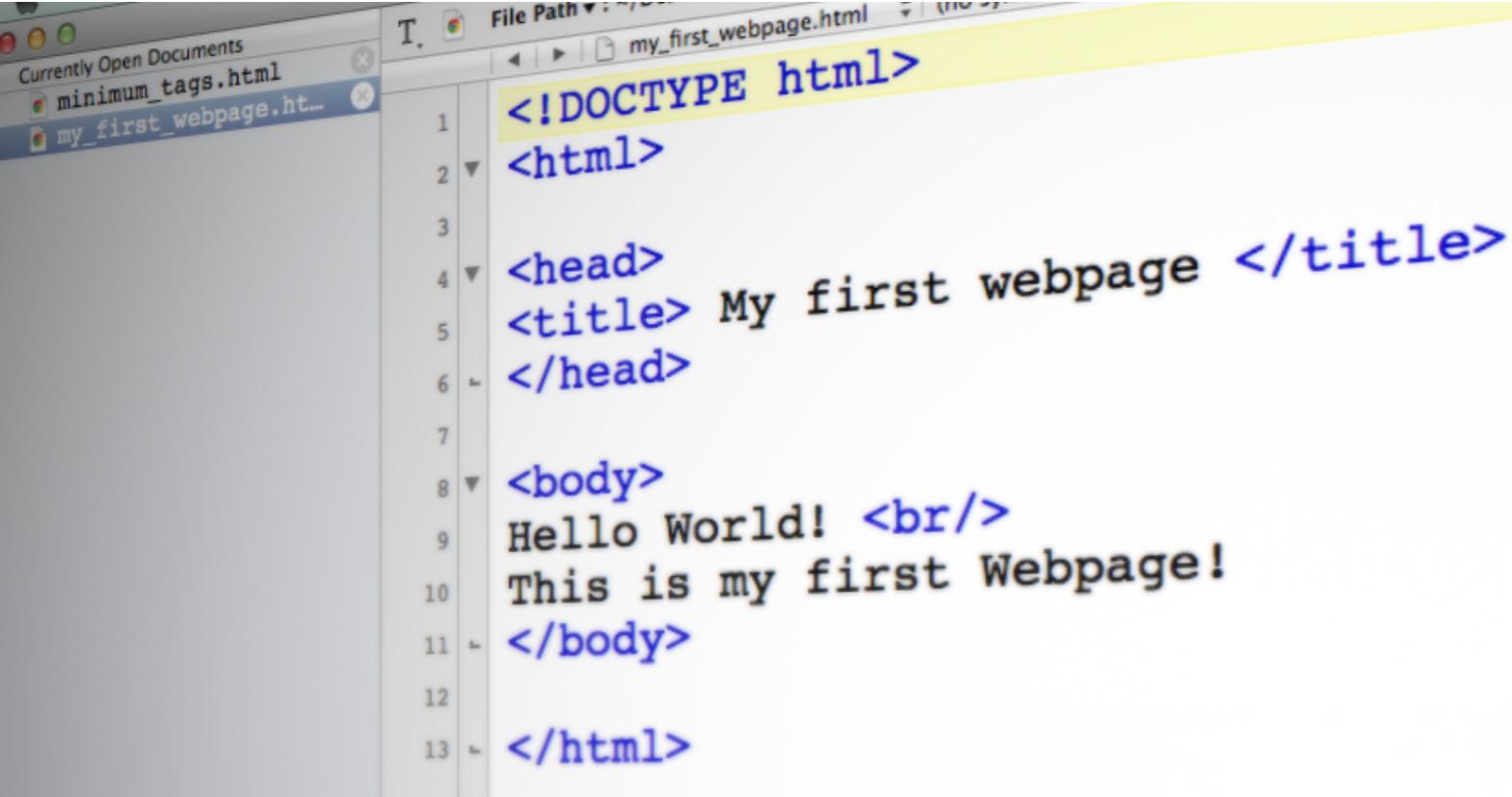
UNIT 1

GETTING STARTED: HTML 5 BASICS

This unit will give you an overview of and introduction to the HTML 5 markup language.

You will install and configure a HTML text editor on your computer and explore essential workflow practices in relation to structuring and organizing your files and folders.

This unit focuses on familiarizing you with the “*building block*” HTML tags which are used to structure every HTML document.



```
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2 <html>
3
4 <head>
5 <title> My first webpage </title>
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```

GETTING STARTED: HTML 5 BASICS

WHAT IS HTML?

- HTML is a language for describing web pages
- HTML stands for Hyper Text Markup Language
- HTML is not a programming language, it is a markup language
- A markup language is a set of markup tags
- The purpose of the tags are to describe page content

HTML TAGS

- HTML markup tags are usually called HTML tags
- HTML tags are keywords (tag names) surrounded by angle brackets: `<html>`
- HTML tags normally come in pairs; for example `<p> ... </p>`
- The first tag in a pair is the start tag, the second tag is the end tag
- The end tag is written like the start tag preceded by a forward slash: `</p>`
- Start and end tags are also called opening tags and closing tags.

HTML ELEMENTS

The terms "*HTML tags*" and "*HTML elements*" are often used to describe the same thing. However, an HTML element consists of everything between the start tag and the end tag, including the tags.

WEB BROWSERS

The purpose of a web browser (Chrome, Internet Explorer, Firefox) is to read HTML documents and display them as web pages. Your web browser interprets the HTML tags and shows you the compiled information as a web-page.

HTML PAGE STRUCTURE

THE `<!DOCTYPE HTML>` DECLARATION

The web is made up of many different types of documents. In order for your web browser to correctly display a web page, it must know what type of document it is dealing with. This is what the `<!DOCTYPE html>` declaration is used for.

In addition to this, there are also many different versions of HTML. Each version uses a different `<!DOCTYPE html>`. By reading the declaration, a web browser will know what version of HTML has been used to construct the page. Armed with this information, your web browser can then display the web page with 100% accuracy.

- `<!DOCTYPE html>` is not an HTML tag. It is a declaration of information to the browser about what version the HTML is written in.
- `<!DOCTYPE html>` is the declaration for HTML5

For a complete list of document type declarations, please click [here](#) to see the DOCTYPE Reference on W3C website.

THE HTML `<HEAD>` ELEMENT

The `<head> ... </head>` element is the first region of the page to be marked up. It will not be visible when previewed in your web browser, rather it contains information regarding the make up of the page. It may include, for example, scripts, information on stylesheets, meta information etc.

You can expect to find the following tags contained within the `<head>` element: `<title>`, `<base>`, `<link>`, `<meta>`, `<script>`, and `<style>`.

THE HTML `<TITLE>` ELEMENT

The `<title>` tag defines the title of the document and is required by all versions of HTML. The title element:

- Defines the page title in your browser toolbar
- Provides a title when you save a webpage to your favorites / bookmarks
- Displays a page title in search engine results.

THE HTML `<LINK>` ELEMENT

The `<link>` tag is used to specify the relationship between an HTML document and an external file or asset.

The most common use of the `<link>` tag is to add style sheets to a web page document. You will explore this in Unit 02: Adding Style.

THE HTML `<STYLE>` ELEMENT

The `<style>` tag is used to specify style information for an HTML document.

Inside the style element you will use CSS properties to specify how HTML elements should be rendered in a web browser. Again, you will explore this in Unit 02: Adding Style.

THE HTML `<META>` ELEMENT

Metadata is information about data.

The `<meta>` tag provides metadata about the HTML document. Metadata is not displayed on the page, rather it is read by the web browser and search engines.

Meta elements are used to specify page description, keywords, author of the document, last modified etc..

- The `<meta>` tag always goes inside the head element.

The metadata contains instructions for the web browser (how to display content or reload page), search engines (keywords), or other web services. You will explore this in Unit 5: Going Live.

HTML HEAD ELEMENTS

| Tag | Description |
|-----------------------------|--|
| <code><head></code> | Defines information about the document |
| <code><title></code> | Defines the title of a document |
| <code><link /></code> | Defines the relationship between a HTML document and an external file or asset |
| <code><meta /></code> | Defines metadata for an HTML document |
| <code><style></code> | Defines style information for a document |

HTML <BODY> TAG

The `<body>` tag defines the HTML document's body. The `<body>` element contains all of the visible content of the HTML page.

All of your web pages contents; such as text, images, tables, hyperlinks etc. will be contained inside the `<body>` element.

HTML <P> TAG

The `<p>` tag defines a paragraph.

Browsers automatically add some white space (or margin) before and after each `<p>` element. This creates the line break you are used to seeing between paragraphs in formatted documents. These margins can be modified with CSS later on (by editing the margin properties).

HTML
 TAG

The `
` tag creates a single line break wherever it is positioned.

The `
` tag is an empty tag which means that it has no end tag.

Remember: Use the `
` tag to insert line breaks, not to create paragraphs.

HTML <H1> TO <H6> TAGS

The `<h1>` to `<h6>` tags are used to define HTML headings.

`<h1>` defines the most important heading on the page, it is the largest heading in size.

`<h6>` defines the least important heading, it is the smallest heading.

Remember: Use heading tags only for headings. Don't use them just to make something bold. Use the correct phrase tags for that purpose.

HTML PHRASE (FORMATTING) TAGS:

The ``, ``, `<dfn>`, `<code>`, `<samp>`, `<kbd>`, `<var>`, and `<cite>` tags are all phrase or formatting tags.

They are not deprecated*, but it is possible to achieve richer effect with CSS.

| Tag | Description |
|-----------------------------|--|
| <code></code> | Emphasizes or makes bold the enclosed text |
| <code></code> | Creates strong or highlighted text; an effect heavier than regular text, but not as obvious as <code></code> |
| <code><dfn></code> | Used to mark-up definition terms |
| <code><code></code> | Used to define a segment of computer code |
| <code><samp></code> | Used to define a sample output from a computer program |
| <code><kbd></code> | Can be used to define keyboard input |
| <code><var></code> | Defines a variable part of a text |
| <code><cite></code> | Defines a citation or quote |

*A tag which has been “**deprecated**” is one that is one that is tolerated or supported but not recommended. In the case of these phrase tags, it would be preferable to use CSS in order to style the element.

HTML QUOTATION AND CITATION ELEMENTS

While the phrase tags can be used to change the appearance of text, HTML also contains specialized elements to deal with quotations and lengthy citations within your document.

HTML Short Quotations

The HTML `<q>` element defines a short quotation.

Browsers usually insert quotation marks around the `<q>` element.

HTML Long Quotations

The HTML `<blockquote>` element defines a quoted section.

Browsers usually indent `<blockquote>` elements.

HTML CHARACTER ENTITIES

Some characters are reserved in HTML.

If you use the less than (`<`) or greater than (`>`) signs in your text, it is possible that the browser might mistake them for tags. Some browsers will not render these characters.

Character entities are used to display reserved characters in HTML.

A character entity looks like this:

To display a less than sign we must write: `<` or `<`;

- *The advantage of using an entity name, instead of a number, is that the name is easier to remember.*
- *The disadvantage is that browsers may not support all entity names, but the support for numbers is good.*

Non Breaking Space

A common character entity used in HTML is the non breaking space ` `.

Browsers will always remove additional spaces from text within your HTML Documents. If you create 10 spaces in your text, the browser will remove 9 of them. To freely add the desired amount of spaces to your text, you can use the ` ` character entity.

Some Other Useful HTML Character Entities

| Result | Description | Entity Name | Entity Number |
|--------------------|----------------------|-------------------------|--------------------------|
| | non-breaking space | <code>&nbsp;</code> | <code>&#160;</code> |
| <code><</code> | less than | <code>&lt;</code> | <code>&#60;</code> |
| <code>></code> | greater than | <code>&gt;</code> | <code>&#62;</code> |
| <code>&</code> | ampersand | <code>&amp;</code> | <code>&#38;</code> |
| € | euro | <code>&euro;</code> | <code>&#8364;</code> |
| © | copyright | <code>&copy;</code> | <code>&#169;</code> |
| ® | registered trademark | <code>&reg;</code> | <code>&#174;</code> |

Remember: Entity names are case sensitive.

HTML TABLES

Tables are defined with the `<table>` tag.

A table is divided into rows (with the `<tr>` tag), and each row is divided into data cells (with the `<td>` tag). `td` stands for "table data," and holds the content of a data cell. A `<td>` tag can contain text, links, images, lists, forms, other tables, etc.

HTML TABLES AND THE BORDER ATTRIBUTE

If you do not specify a border attribute, the table will be displayed without borders. Sometimes this can be useful, but most of the time, we want the borders to show.

To display a table with borders, specify the border attribute:

HTML TABLE HEADERS

Header information in a table are defined with the `<th>` tag.

All major browsers display the text in the `<th>` element as bold and centered.

HTML TABLE TAGS

| Tag | Description |
|------------------------------|--|
| <code><table></code> | Defines an HTML table |
| <code><th></code> | Defines the table header or title cell |
| <code><tr></code> | Defines a table row |
| <code><td></code> | Defines a standard table cell |
| <code><caption></code> | Defines a table caption |

HTML LISTS

The most commonly used HTML lists are ordered (numbered) and unordered (bulleted) lists:

HTML UNORDERED LISTS

- An unordered list element uses the ` ... ` tag.
- Each list item inside the element starts with the `` tag.
- The list items are marked with bullets (by default small solid black circles, but this can be edited with CSS).

HTML ORDERED LISTS

- An ordered list element uses the `...` tag.
- Each list item inside the element starts with the `` tag.
- The list items are marked with numbers by default (can also be edited with CSS to display numerals, letters etc.)

HTML DEFINITION LISTS

A definition list is a list of items, with a description of each item.

The `<dl>...</dl>` tag defines a definition list element.

The `<dl>` tag is used in conjunction with `<dt>` (defines the item in the list) and `<dd>` (describes the item in the list):

Remember: Inside a list item you can place virtually any content: text, line breaks, images, links, other lists, etc.

HTML LIST TAGS

| Tag | Description |
|-------------------------|---|
| <code></code> | Used to mark-up an ordered list |
| <code></code> | Used to mark-up an unordered list |
| <code></code> | Used to mark-up a list item |
| <code><dl></code> | Used to mark-up a definition list |
| <code><dt></code> | Used to mark-up a term in a definition list |
| <code><dd></code> | Used to mark-up a description of an item in a definition list |

HTML TAG

In HTML the `` tag is used to place an image into an HTML page.

The `` tag has two required attributes: `src` and `alt`.

The `` tag is empty, which means that it contains attributes only, and has no closing tag.

| Attribute | Value | Description |
|------------------|-------|---|
| <code>src</code> | URL | Src specifies the URL of the image: the file path necessary to insert the image into the HTML document |
| <code>alt</code> | text | Alt specifies a string of alternate text which will be displayed in the event that an image does not load/appear. |

Images are not embedded into the HTML page. Images are linked to the HTML page. The `` tag creates a “holding space” for the referenced

image file. For this reason, careful management of your folder structures and file assets will be very important later on.

Syntax for defining an image:

```

```

The URL points to the location within your root folder where the image is stored.

Your web browser will display the image to correspond with where the `` tag is placed within your document. If you place the `` tag between two paragraphs, then the browser will display the first paragraph, a line break, the image, a line break, then the second paragraph. It is worth noting that there is no default “image or text wrap” in HTML. Images are displayed as their own distinct element (unless CSS is used to create the text wrap effect).

HTML Images - Set Height and Width of an Image

The height and width attributes are used to specify the height and width of an image.

The attribute values are specified in pixels by default:

```

```

It is a good practice to specify both the height and width attributes for an image. If these attributes are set, the space required for the image is reserved when the page is loaded. If these attributes are not specified the layout of the page will change during loading, as each new image “pops” into the layout and claims its required space.

Remember: *Images are separate, external files which are simply referenced by your webpage. When your page is loaded, the browser locates and inserts the images into your layout. This happens each and every time a webpage is accessed. It is very important therefore, to make sure that the file path of your images in relation to your webpage is accurate, another reason why careful management of your folder structures and file assets is important. If your web browser cannot locate an image, your visitors will see a “broken link” icon instead.*

ONLINE RESOURCES: SUGGESTED FURTHER READING, REFERENCE AND EXPLORATION

W3 SCHOOLS

An excellent resource for all HTML tags and attributes.

Use the look-up function to gain more in-depth knowledge of individual tags and their attributes. Use the individual “test yourself” dialogues to experiment with the suggested HTML mark-up.

http://www.w3schools.com/html/html5_intro.asp

THE ORIGINS OF HTML

A short video exploring the origins of HTML and the history of the Internet.

<https://www.youtube.com/watch?v=NzzGt7EmXVw>

TEST YOUR KNOWLEDGE

Use these 10 short answer questions to test your knowledge of the unit you have just completed.

- You will need access to your HTML text editor in order to complete the mark-up questions.
- Solutions are provided on page 11 & 12.

Alternatively, you can take this quiz on the course Moodle:
Unit 01: Introducing HTML > Self Assessment Quiz.

```
File Path: ~/Desktop/...
minimum_tags.html (no symbol set)
<!DOCTYPE html>
<html>
<head>
<title> Minimum Tags </title>
</head>
<body>
<h1> These are the Minimum required
<p> This is a paragraph </p>
<p> This is a second paragraph </p>
<p> This is a third paragraph </p>
<h2> This is h2 sized text </h2>
<h3> This is h3 sized text </h3>
<h4> This is h4 sized text </h4>
<h5> This is h5 sized text </h5>
<h6> This is h6 sized text </h6>
</body>
</html>
```

Question 01:

HTML 5 is can be most correctly described as:

- A programming language
- A coding language
- A mark-up language

Question 02:

What is an HTML element?

An HTML element is a empty set of HTML tags.

An HTML element consists of everything between the start tag and the end tag, including the tags.

An HTML element is a tag in which text content is placed.

Question 03:

How would you mark-up the Doctype declaration for HTML 5?

- <!DOCTYPE htm>
- <!DOCTYPE html>
- <!Doctype HTML>

Question 04:

What is the purpose of the Doctype declaration?

The <!DOCTYPE html> declaration has no essential purpose. It is an extra line of code read by the web browser that will not affect your HTML page.

The <!DOCTYPE html> declaration controls how your web browser displays your HTML document.

The purpose of the <!DOCTYPE html> declaration is to inform the browser which language and which version of that language the following document has been written in.

Question 05:

Which of the following is the correct mark-up for the HTML tag?

- <html> </html>
- <htm> </htm>
- <html> <html>

Question 06:

Which of the following is the correct set of minimum required tags to mark-up an HTML document?

| | | |
|-----------------|------------------|------------------|
| <DOCTYPE htm> | <!DOCTYPE html> | <!DOCTYPE html> |
| <html> | <html> | <html> |
| <head> | <head> | <head> |
| <title> <title> | <title> </title> | <title> </title> |
| </head> | </head> | </head> |
| <body | <body | </html> |
| </body> | </body> | |
| </html> | </html> | |

Question 07:

What is the <head> tag used for?

The <head> tag or element is where the introductory information for your HTML page should be placed.

The <head> tag or element contains information that describes the HTML document. It is not visible when the page is viewed in the browser - but its' contents are read by the browser.

The <head> tag or element allows you to create headings for your HTML document.

Question 08:

Which of the following tags may be used inside the <head> section of a HTML document?

<style> </style>
<formatting> </formatting>
<link />
<title> </title>
<code />
<meta>
<script> </script>

Question 09:

What are “Phrase tags”?

Phrase tags can change the color and position of HTML elements.

Phrase tags or formatting tags are used to change the appearance of text within HTML elements. While they are not deprecated you can achieve a richer effect by using CSS.

Phrase tags allow you to create decorative text effects.

Question 10:

Match the following “Phrase tags” to the descriptions given:

| Tag | Randomly placed answer - match to tag |
|----------|---|
| | Creates keyboard entry text |
| | Creates a citation |
| <code> | Creates italisized text |
| <kb> | Creates a bold text effect |
| <cite> | Renders text to look like an exerpt from a computer program |

Question 11:

What is an HTML attribute?

HTML attributes can be added to any HTML tag. They allow additional formatting to be added to the HTML element.

HTML attributes are used to position elements on the page.

HTML attributes provide additional information about a HTML element. They may be used to display an object or description (src, alt) or to specify the appearance (border, width, height).

Question 18:

Which of the following is the correct way to mark-up an image tag?

``

``

``

Question 19:

Which of the following attributes are required when writing the image tag?

scr

alt

desc

width

scale

size

height

type

image

Question 20:

The image tag is an example of which type of tag?

single

empty

matching

solo

pair

SOLUTIONS:

Question 01:

HTML 5 is can be most correctly described as:

A mark-up language

Question 02:

What is an HTML element?

An HTML element consists of everything between the start tag and the end tag, including the tags.

Question 03:

How would you mark-up the Doctype declaration for HTML 5?

`<!DOCTYPE html>`

Question 04:

What is the purpose of the Doctype declaration?

The purpose of the `<!DOCTYPE html>` declaration is to inform the browser which language and which version of that language the following document has been written in.

Question 05:

Which of the following is the correct mark-up for the HTML tag?

`<html> </html>`

Question 06:

Which of the following is the correct set of minimum required tags to mark-up an HTML document?

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

Question 07:

What is the <head> tag used for?

The <head> tag or element contains information that describes the HTML document. It is not visible when the page is viewed in the browser - but its' contents are read by the browser.

Question 08:

Which of the following tags may be used inside the <head> section of a HTML document?

```
<style> </style>
<link />
<title> </title>
<meta>
<script> </script>
```

Question 09:

What are "Phrase tags"?

Phrase tags or formatting tags are used to change the appearance of text within HTML elements. While they are not deprecated you can achieve a richer effect by using CSS.

Question 10:

Match the following "Phrase tags" to the descriptions given:

| Tag | Randomly placed answer - match to tag |
|----------|---|
| | Creates keyboard entry text |
| | Creates a citation |
| <code> | Creates italisized text |
| <kb | Creates a bold text effect |
| <cite> | Renders text to look like an exerpt from a computer program |

Question 11:

What is an HTML attribute?

HTML attributes provide additional information about a HTML element. They may be used to display an object or description (src, alt) or to specify the appearance (border, width, height).

Question 12:

Which of the following tags requires the use of the src="" alt="" width="" height="" attributes?

Question 13:

Which of the following tags will mark-up a bullet pointed list?

Question 13:

Which HTML tag is required inside a list to create each list item?

Question 15:

Which 3 of the following tags are required to mark-up a definition list?

<dl> </dl>

<dt> </dt>

<dd> </dd>

Question 16:

What HTML tag is required to markup a table?

<table> </table>

Question 17:

Which of the following will mark-up a table with 1 header row, 3 additional content rows and 2 columns?

```
<table>
<th>
<td> ... </td>
<td> ... </td>
</th>
<tr>
<td> ... </td>
<td> ... </td>
</tr>
<tr>
<td> ... </td>
<td> ... </td>
</tr>
<tr>
<td> ... </td>
<td> ... </td>
</tr>
</table>
```

Question 18:

Which of the following is the correct way to mark-up an image tag?

Question 19:

Which of the following attributes are required when writing the image tag?

src

alt

width

height

Question 20:

The image tag is an example of which type of tag?

empty

ASSESSMENT GUIDELINES: YOU ARE REQUIRED TO...

SET-UP A NEW ROOT FOLDER & HTML DOCUMENT:

1. Create a new root folder “MOOC_assessment_site” in your preferred location.
2. Using TextWrangler, create the mark-up for a new HTML page, to include all of the minimum required HTML tags.
3. Save your file as “index.html”
4. Give your page the title “Welcome to my homepage”.

ADD SOME BASIC CONTENT:

1. Add some text content to your new page: *the content you use can come from any source and explore any topic.*
2. Use the <p> tag to create paragraphs of text within the content you have just added.
3. Use the
 tag to insert additional link breaks if necessary.
4. Use the <h1> - <h6> tags to create headings within the content you have just added.

APPLY SOME PHRASE OR FORMATTING TAGS:

1. Apply a selection of “phrase” or formatting tags to sections within the content you have just added. Use a minimum of 3 different tags.

CREATE A SIMPLE TABLE:

1. create a table which contains the following:
 - a caption
 - headings
 - rows
 - columns

The content of the table can come from any source and explore any topic.

CREATE 3 DIFFERENT TYPES OF LISTS:

1. Create a bullet pointed list.
2. Create a numbered list.
3. Create a definition list.

The content of the lists can come from any source and explore any topic.

INSERT SOME IMAGES:

1. Within your root folder “MOOC_assessment_site” create a new folder named “images”.
2. Use google images (*or attain from any other source or device*) to download a minimum of 5 images. Save these images into your new “images” folder within the site root.

3. If necessary, simplify the names of the image files as you save them: remember you will need to accurately retype these names in the next steps so short, succinct names are best.
4. Use the `` tag to insert these images into your page. Remember to include all attributes: `src`, `alt`, `width` and `height`. The placement of these images within your page layout is up to you.