Working with HTML, CSS, & JavaScript

Exercise #1: Adding Structure & Content

Add _text_ to an HTML page

The **_paragraph_** element, **<p>**, is used to add text to a webpage. The **_paragraph_** element syntax is:

- **<p** _attributes go here_ **>** _content goes here_ **</p>**

Refer to http://www.w3schools.com/html/html_paragraphs.asp for help with using the **_paragraph_** element.

Follow these steps to add text to your webpage

1. Open the file **_basic.html_** in your **_web_** folder on Google Drive.
2. Find the <p> with i**d="para1"** and replace its contents with:

   Hover mouse over image...

3. Find the <p> with **id="para2"** and replace its contents with:

   Hover mouse over image...

4. Find the <p> with **id="para3"** and replace its contents with:

   Wood Crate simulation

5. Find the <p> with **id="para4"** and replace its contents with:

   Interactive Cube... drag mouse across cube!

6. Find the <p> with **id="para5"** and replace its contents with:

   Ocean Simulation... drag mouse across ocean!

7. Find the <p> with **id="para6"** and replace its contents with:

   Change header title...

8. Find the <p> with **id="para7"** and replace its contents with:

   Play a video...

9. Save your changes and reload/refresh the webpage
10. Verify that the new _text_ has been added to the webpage

Add _images_ to an HTML page

The **_image_** element, **<img>**, is used to add images to a webpage. The **_image_** element syntax is:

- **<img** _attributes go here_ **/>**

Refer to http://www.w3schools.com/tags/tag_img.asp for help with using the **_image_** element.

Follow these steps to add images to your webpage

1. Find the **<section>** with **id="sect1"** and add two images to its contents.

The first **<img>** should include the following ***attributes***:

- class=" melt1"
- src="img/surf1.jpg"
- alt="image #1"

The second **<img>** should include the following ***attributes***:

- src=" img/surf2.jpg "
- alt="image #2"

2. Find the **<section>** with **id="sect2"** and add two images to its contents.

    The first **<img>** should include the following ***attributes***:

- id="img3"
- src="img/surf3.jpg"
- alt="image #3"

    The second **<img>** should include the following ***attributes***:

- id="img4"
- src="http://cdn.surf.transworld.net/files/2009/12/bb8y0x3947a.jpg"
- alt="image #4"

3. Save your changes and reload/refresh the webpage
4. Verify that the new **_text_** has been added to the webpage

Add _textarea_ & _input_ to an HTML page

The ***textarea*** element, **<textarea>**, allows the user to enter text on the webpage. The ***textarea*** element syntax is:

- **<textarea** *attributes go here* **>** *content goes here* **</textarea>**

Refer to http://www.w3schools.com/tags/tag_textarea.asp for help with using the ***textarea*** element.

The ***input*** element, **<input>**, creates a button on the webpage. The button can be setup to execute a JavaScript function when it is clicked. The ***input*** element syntax is:

- **<input** *attributes go here* **>**

Refer to http://www.w3schools.com/tags/tag_textarea.asp for help with using the ***input*** element.

Follow these steps to add a text area & a button to your webpage

1. Find the **<section>** with **id="sect6"** and add a ***textarea*** & ***input*** element to its contents.

    The <**textarea**> should contain the following attributes:

- id="txtHdr"
- name = "comments"
- rows = "4"
- cols = "37"

    The <**input**> should contain the following attributes:

- id="btnHdr"

- type = "button"
- value = "Save changes"

2. Save your changes and reload/refresh the webpage
3. Verify that a **_text area & button_** have been added to the webpage

Add *video* to an HTML page

The *iframe* element, **<iframe>**, is used to add video to a webpage. The *iframe* element consists of a:

- **<iframe** *attributes go here* **> </iframe>**

Refer to http://www.w3schools.com/tags/tag_img.asp for help with using the *iframe* element.

Follow these steps to add video to your webpage

1. Find the **<section>** with **id="sect7"** and add an *iframe* element to its contents.

   The <iframe> should contain the following *attributes*:

   - id="vid1"
   - src="https://www.youtube.com/embed/VIrBecB746c?rel=0"
   - frameborder="0"

2. Save your changes and reload/refresh the webpage
3. Verify that a **_video_** has been added to the webpage
4. Close the HTML file: **_basic.html_**

Exercise #2: Working with Style & Animation

Cascading Style Sheets (CSS) are used to add styling & basic animation capabilities to webpages. This exercise will help you to incorporate basic styling & animation features into your webpage.

Add basic styling rules to your webpage

The *link* element, **<link>**, is used to add styling rules to a webpage. The *link* element syntax is:

- **<link** *attributes go here* **>**

Refer to http://www.w3schools.com/tags/tag_link.asp for help with using the **link** element.

Follow these steps to *link* your webpage to a CSS file

1. Open the file **_basic.html_** in your **web** folder on Google Drive.
2. Find the <**head**> element and add a link element to its contents.

   The <**link**> should contain the following *attributes*:

   - rel="stylesheet"
   - type="text/css"
   - href="css/basic.css"

3. Save your changes and reload/refresh the webpage
4. Verify that the **_look & layout_** of your webpage appears as follows:
   - background color is light blue
   - a header appears across the top of the page & its color is blue
   - the page content is arrange in three columns

- the left & right columns have two sections
- the middle column has three sections

Change the basic styling rules to your webpage

A CSS file contains many **CSS rules** that define the appearance (i.e. size, color, font, shadow…) of elements in your webpage. A CSS rule has the following syntax:

```
selector {
        property:  value;
        property:  value;
        property:  value;
        …
}
```

for example, a CSS rule for a **<p>** element could be:

```
p {

        color:  purple;
        background-color:  gold;
        text-shadow:  2px 2px gray;
        font-family:  serif;
}
```

Refer to http://www.w3schools.com/cssref/default.asp for help with CSS rules.

Follow these steps to make changes to your basic styling rules

1. Open the file **basic.css** in your **web/css** folder on Google Drive.
2. Find the CSS rule for the <**body**> element.
3. Change the **value** for the **background-color** property.
4. Refer to http://www.w3schools.com/cssref/css_colornames.asp for a list of CSS color names.
5. Save changes to **basic.css** file.
6. Reload/refresh the **basic.html** file.
7. Experiment with making changes to the following CSS rules:
   - #title
   - header
   - .section_title
   - .section_content
   - body
8. Remember to save changes to **basic.css** file and then refresh **basic.html** file to see how your changes affect the **Presentation & Style** of your webpage.

Add animation rules to your webpage

Follow these steps to *link* your webpage to a CSS animation file

1. Find the <**head**> element and add a **link** element to its contents.

   The <**link**> should contain the following **attributes**:

   - rel="stylesheet"
   - type="text/css"

- href="css/animation.css"
2. Save changes and reload/refresh the webpage
5. Verify that your webpage exhibits the following behavior:
    - title text is moving from left to right in header
    - transitioning between two images in section #1
    - images rotate, scale, & translate in section #2
    - video player scales & translates in section #7
3. Close the HTML file: **basic.html**

Follow these steps to make changes to your animation rules
1. Open the file **animation.css** in your **web/css** folder on Google Drive.
2. Experiment with making changes to the following CSS rules:
    - #img3:hover
    - #img4:hover
    - #vid1:hover
3. Remember to save changes to **animation.css** file and then refresh **basic.html** file to see how your changes affect the **Animation** on your webpage.

Exercise #3: Adding Interactive Behavior

Add *JavaScript* to an your page
The **script** element, **<script>**, is used to incorporate JavaScript functions into your webpage. The **script** element syntax is:

- **<script** *attributes go here* **>** *content goes here* **</script>**

Refer to http://www.w3schools.com/tags/tag_script.asp for help with using the **script** element.

Follow these steps to add text to your webpage
1. Open the file **basic.html** in your **web** folder on Google Drive.
2. Find the <**head**> element and add a **script** element to its contents.

    The <**script**> should contain the following **attributes**:

    - type="text/ javascript "
    - src="js/basic.js"
3. Save your changes and reload/refresh the webpage
4. Verify that your webpage exhibits the following behavior:
    - Enter text into the text area in section #6
    - Click the button to update the title.
    - The title text in the header should have changed.
    - Position the mouse pointer over the images in section #1
    - The images should move across the page from left to right.

Exercise #4: Embed External Webpages

The **iframe** element can also be used to embed other webpages into your webpage.

Follow these steps to add three external webpages into your webpage

1. Find the **<section>** with **id="sect3"** and add three *iframe* elements to its content.

    The first **<iframe>** should contain the following *attributes*:

    - src=" adv/crate.html"
    - frameborder="0"

    The second **<iframe>** should contain the following *attributes*:

    - src=" adv/cube.html"
    - frameborder="0"

    The third **<iframe>** should contain the following *attributes*:

    - src=" adv/ocean.html"
    - frameborder="0"

2. Save your changes and reload/refresh the webpage
3. Verify that three ***external webpages*** have been added to the webpage

Exercise #5: Make It Your Own

1. Use your own content to build your webpage. You will need the follow:
    a. 4 images, 1 video, and 3 websites.
2. You can use your own images or use Google Images.
3. You can use a video from YouTube.
4. You can use websites for anywhere on the Web.

All Content Must Be **Rated G**, suitable for pre-school viewing.

Exercise #6: Continue Experimenting with CSS properties

Continue working with CSS properties by following the steps in Exercise #2. Make changes to other properties and see the effect your changes have on the "look & feel" of your webpage.

Refer to the following websites for detailed help with using CSS properties.

- Refer to http://www.w3schools.com/cssref/default.asp for help with CSS rules.
- Refer to http://www.w3schools.com/cssref/css_colornames.asp for a list of CSS color names.