



(Optional) SYDE 322 Assignment #0

Front-End Technologies: HTML5



Learning Objectives:

- After completing this assignment, students will be able to (1) recognize and understand HTML5 structure, (2) use HTML5 notation to create simple web pages, and (3) program HTML5 forms.



Please work individually, and not in groups, for this assignment.
Please submit your completed assignment on LEARN.

Front-End Technologies: Introduction to HTML5

Hyper Text Markup Language (HTML) Version 5, abbreviated as HTML5, is used to develop front-end services for web-based applications as well as many mobile applications. In this assignment, we will go through a detailed exercise that is intended to familiarize you with HTML5 notation and HTML5 capabilities.

HTML is based on opening and closing markup tags, pairs of keywords enclosed in angled brackets, such as `<h1>` and `</h1>` respectively. The opening/start and closing/end tags along with everything that is included between the tags, such as `<h1>Hello World!</h1>` constitutes an HTML element. HTML documents are typically viewed through web browsers, such as Mozilla Firefox or Apple Safari, which read each HTML element and display it accordingly on the screen.

HTML documents start with a language declaration, such as `<!DOCTYPE html>` in HTML5, that lets the web browser know the type of the display language being used. The `<html>...</html>` element indicates that everything contained within is an HTML document. The `<body>...</body>` element encompasses the content of the document that is shown in the browser. The `<h1>...</h1>` element is used to display a top-level heading (other heading tags are `<h2>`, `<h3>`, `<h4>`, `<h5>`, and `<h6>`), and `<p>...</p>` is used to encode a paragraph.

Use Notepad or a similar text editor, and type in the following text. Save this document as "firstpage.html" (ensure that the document ends with the ".html" or ".htm" file extension), and then open it in your favourite web browser.

```
<!DOCTYPE html>
<html>
  <head>
    <title>My first HTML5 page for SYDE 322</title>
  </head>
  <body>
    <h1>Hello World!</h1>
    <p>This is my first HTML5 page for SYDE 322.</p>
    <p>And this is another paragraph.</p>
  </body>
</html>
```

The `<head>...</head>` element is optional, and is used to describe page title, keywords, and a few others header-related elements. The `<title>...</title>` element is used to set the page title. Note that without tags, the text has no line breaks. For instance, if in your document you remove all `<h1></h1>` and `<p></p>` tags, the document would then contain one continuous line of text. Try it out!

You can format the text further, and make it bold with `...` tags, italicized with `<i>...</i>`, and change font colour with the `style` attribute, such as `<p style="color:blue">...</p>` that turns the paragraph text colour to blue. You can also change text alignment, such as `<h1 style="text-align:center">...</h1>` that centers the text of a top-level heading. Text styling is best done through Cascading Style Sheets (CSS), where the overall style of paragraphs is defined once, and then applied consistently across the entire document. More on CSS later in the course.

Some older browsers are flexible and can render pages that include only opening tags, such as `<p>`. However, as good practice and to ensure that your HTML document is well-formed, you should always provide closing tags. There are exceptions for single tags such as `
`, which is used to insert a line break without extra line space, or `<hr>`, which is used to insert a horizontal line; however, even those can be adequately closed as `
` and `<hr/>` to ensure that your document is well-formed and can later be validated.

Each tag can enclose other tags within, such as `<tag1><tag2><tag3>...</tag3></tag2></tag1>`. This occurrence is referred to as nesting, where parent tags, such as `<tag1>`, enclose child tags, such as `<tag2>` and `<tag3>`. In each such case, the hierarchy should be followed in opening and closing, and before a parent is closed, all of the parent's children should be closed first. For instance, `<tag1><tag2><tag3>...</tag2></tag1></tag3>` is incorrect, but `<tag1><tag2><tag3>...</tag3></tag2></tag1>` is correct.

As you are creating pages, to insert comments and adequately document your HTML code, you can use the `<!-- ... -->` element. Text enclosed in `<!--` and `-->` should not be rendered by a web browser.

To insert lists in your text, use `...` for unordered/bulleted lists, or `...` for ordered/numbered lists. To enclose an item in a list use `...`. Tags can include attributes, such as `<tag attribute="value">text</tag>`, and attributes can be used to refine the meaning of each tag. For example, for ordered lists, the numbering type, such as using integers or letters, can be specified as `<ol type="1">...` or `<ol type="a">...` respectively. **Pay special attention to quotation marks, where in a word processor, such as Word, opening " and " closing quotation marks are used, but in HTML only unqualified " quotations need to be used, or a web browser cannot understand your HTML code.**

To include images, use `` for images stored locally or `` for images stored globally. The `alt` attribute is mandatory, for describing images in scenarios when images are not displayed and for accessibility compliance. The `` tag can include optional parameters, such as `width` and `height`.

To include tables, use `<table>...</table>`. To encode table rows, use `<tr>...</tr>`. To encode table cells/data, use `<td>...</td>`. Insert the following table in your initial page, and see it in your browser. The border attribute is used to indicate the width of the table border.

```
<table border="1"><!-- the first names of The Beatles -->
  <tr>
    <td>John</td>
    <td>Paul</td>
    <td>George</td>
    <td>Ringo</td>
  </tr>
</table>
```

To include hypertext links/references, use `...` for relative links, or `...` for absolute links. For example, `This is my first link` will make the enclosed text clickable, and will take the user to the target URL, which in this case is `http://www.mysite.com`.

Finally, to include forms and enable input from users, use `<form action="http://www.mysite.com/scripts/myscript.php">...</form>`. The action parameter specifies the URL to which the form data is sent. Within each form, various input fields can be inserted, such as `<input type="text" name="my-variable"/>`, which provides a text field for users to enter data, and it associates that data with the variable called my-variable. Insert the following form in your initial page, and see the results in your browser.

```
<form action="http://www.mysite.com/scripts/myscript.php">
  <p>What is your first name?<input type="text" name="first-name"/></p>
  <p>What is your last name?<input type="text" name="last-name"/></p>
  <p><input type="submit" value="Submit"/></p>
</form>
```

HTML5 provides extensions to form capabilities over what was already provided with previous versions of HTML. Some of these extensions were in existence in browser-specific HTML code, but with HTML5, they are meant to be standardized. The extensions include attributes such as **autofocus**, which automatically puts the cursor focus into a specific input field; **autocomplete**, which allows the browser to fill the values based on previously cached values; **pattern**, for specifying input patterns; and **min** and **max**, for specifying minimum and maximum value allowed, respectively, for input fields.

To learn more about HTML5 forms, and HTML5 in general, please visit the following URLs:

http://www.w3schools.com/html/html_forms.asp
http://www.w3schools.com/tags/ref_byfunc.asp

To learn HTML5 in detail, go through additional examples on page organization, text styling, and forms.

For editing HTML5 in general, you may find a specialized editor, such as Notepad++, quite useful. Do not use non-specialized programs, such as Word, to save text as HTML since the generated HTML code will not be compliant with many browsers, and it will be difficult for you to edit the code.

<http://notepad-plus-plus.org/>

Finally, for an example of HTML5 validation tool, visit <http://html5.validator.nu/>

HTML5 Exercise:

You have been approached by a client to make a website for a pet rescue organization. As a start, create a page like the one provided below. Assume that this is exactly what the client wants. Ensure that you test the webpage in at least 3 different browsers (e.g., Safari, IE, Firefox).

Create an HTML5-compliant page, and do not use tags that are not included in HTML5. For example, do not use frames. Refer to w3schools.com as needed for additional examples of HTML5.

Deliverables:

One HTML5-compliant document and all the referenced files (include all files as one zipped archive) submitted to the dropbox on LEARN.

This assignment is optional. If you choose to complete it, the assigned grade will be included as bonus marks under the course assignments.





Please submit your completed assignment before 4:30pm on Thu Jan 17th.



Furry Friends Rescue Animal Society

We are a group of individuals deeply committed to providing happy, healthy lives to our furry friends. We do that by finding forever homes and foster care for the animals brought to our shelter.

Who wants to come home with you

	KITCAT: Kitcat is a playful, little black-and-white cat. She is 3 years old, and came to us because her owners were moving into a retirement home. Kitcat loves to play!
	OWEEN: Oween is aptly named after Halloween. He is 11 months old, and was dropped off at the shelter one day. We do not know where he came from, but he is a loving cat!
	SCRUFFLES: Scruffles is a 7-year old mutt. His owners just had a little baby who is allergic to dog fur. They were heartbroken to leave him with us, but hope that he will get a loving home.
	FOXY: Foxy is quite the princess. However, she is very loving, and playful. She is 2-years old, and house-trained.

If you are interested in adopting one of our rescues above, please fill the form below, and we will contact you shortly:

Name:	<input type="text" value="First name, Last name"/>
Phone #:	<input type="text" value="Format: 1-999-999-9999"/>
Email:	<input type="text" value="Format: userid@server.com"/>

Video of the week

Watch 'Mochi' in action!! <show 'Mochi and the Ice Cube' from <http://www.animalplanet.com/video-tops/pet-entertainment/funny-pet-videos/top-10-hilarious-dogs.htm>>

