

INFO2180 - LECTURE 2

HTML



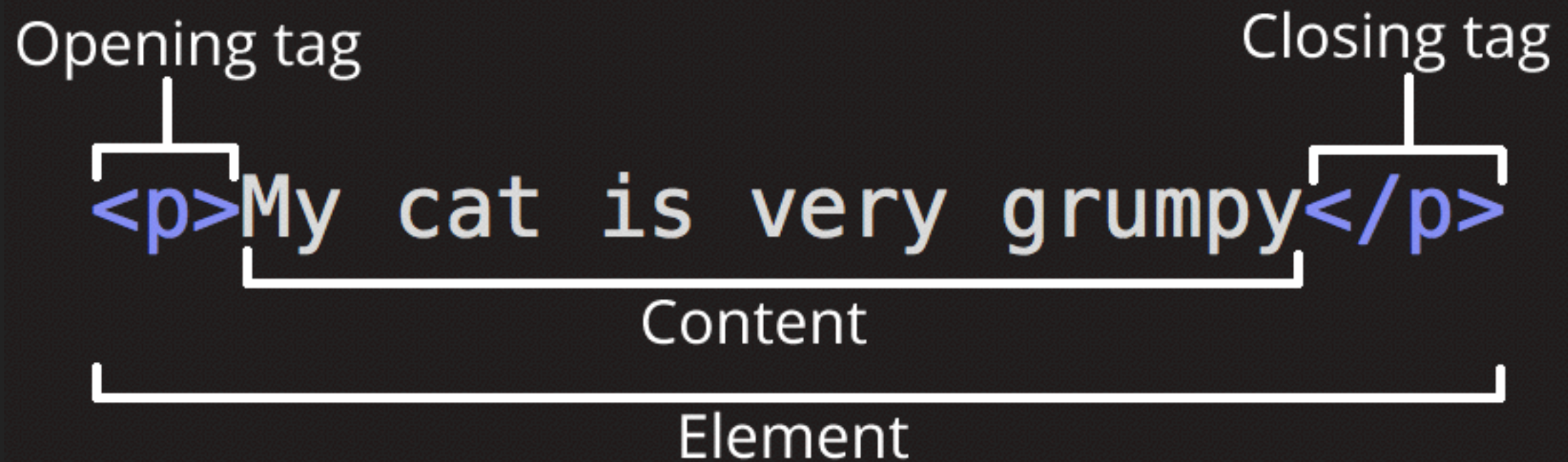
HYPertext MARKUP LANGUAGE (HTML)

HTML is a markup language, used to tell your browser how to structure the webpages you visit.

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HTML consists of a series of elements, which you use to enclose, or wrap, different parts of the content to make it appear a certain way, or act a certain way.


ANATOMY OF AN HTML ELEMENT



HTML ATTRIBUTES

- ▶ Elements can also have attributes
- ▶ And some elements have different attributes

Attribute



```
<p class="editor-note">My cat is very grumpy</p>
```


NESTING ELEMENTS

- ▶ You can place elements inside other elements.

`<p>My cat is very grumpy.</p>`

- ▶ Ensure that they are properly nested (as shown above) and not the following:

`<p>My cat is very</p> grumpy.` ❌

EMPTY ELEMENTS

- ▶ Some elements have no inner content.
- ▶ ``
- ▶ Some other examples are the `<input />`, `<link />`, `<meta />`, `<hr />` and `
`.

ANATOMY OF AN HTML DOCUMENT

- ▶ HTML documents are typically saved with a **.html** file extension
- ▶ All HTML documents have a required structure that includes the following declaration and elements:
<!DOCTYPE html>, **<html>**, **<head>**, and **<body>**.

ANATOMY OF AN HTML DOCUMENT

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>My First HTML Page</title>
  </head>
  <body>
    <p>This is my paragraph</p>
    
  </body>
</html>
```

DOCTYPE

An instruction to the web browser about what version of HTML the page is written in.

```
<!DOCTYPE html>
```

```
<!DOCTYPE html PUBLIC "-//W3C//DTD  
XHTML 1.0 Strict//EN" "http://  
www.w3.org/TR/xhtml1/DTD/xhtml1-  
strict.dtd">
```

HTML ELEMENT

- ▶ The `<html>` element. This element wraps all the content on the page. It is sometimes known as the root element.

```
<html>
```

```
...
```

```
</html>
```

HEAD ELEMENT

The `<head>` element acts as a container for machine-readable information (metadata) about the HTML page. This includes things like the *title*, *keywords* and a *page description* that would appear in search results, styles (CSS), scripts (JavaScript), character set declarations, and more.

```
<head>  
  <meta charset="utf-8">  
  <title>My First HTML Page</title>  
</head>
```

TITLE ELEMENT

The `<title>` element. This sets the title of the page, which is the title that appears in the browser tab the page is loaded in. The page title is also used to describe the page when it is bookmarked and used in Search Engines as the title for search engine results.

```
<title>My First HTML page</title>
```

META TAGS

- ▶ They provide additional information about your page for web browsers, search engines, etc.

```
<meta charset="utf-8">  
<meta name="description"  
      content="Learn to create awesome websites." />  
<meta name="keywords" content="html, css, javascript" />  
<meta name="author" content="John Doe">
```

These `<meta>` tags are placed in the `<head></head>` of the document.

BODY ELEMENT

The `<body>` element. This contains all the content that displays on the page, including text, images, videos, games, playable audio tracks, or whatever else.

```
<body>  
  <p>This is my paragraph</p>  
    
</body>
```

PARAGRAPHS

- ▶ Paragraphs are defined using the `<p>` block-level element. Paragraphs can appear one after the other, adding information to a page as desired.

```
<p>This is my paragraph</p>
```

IMAGES

```

```

HEADINGS

`<h1>My main title</h1>`

`<h2>Level 2 heading</h2>`

`<h3>Level 3 heading</h3>`

`<h4>Level 4 heading</h4>`

`<h5>Level 5 heading</h5>`

`<h6>Level 6 heading</h6>`

LINKS

- ▶ Links are what makes the Web **A WEB**. They link to other web pages or files.

```
<a href="https://www.mona.uwi.edu/">UWI  
Mona</a>
```

```
<a href="documents/  
mydocument.pdf">Download Document</a>
```

LINKS

- ▶ Links can also be used to link to parts of the same page.

```
<body id="top">
```

```
...
```

```
<a href="#top">Back to top</a>
```

```
...
```

```
</body>
```

COMMENTS

```
<!-- This will not show on your page -->
```


LISTS

- ▶ Ordered List uses `` element
- ▶ Unordered List uses `` element
- ▶ Definition Lists uses `<dl>` element

EXAMPLE ORDERED LIST

```
<ol>  
  <li>technologists</li>  
  <li>thinkers</li>  
  <li>builders</li>  
</ol>
```

EXAMPLE UNORDERED LIST

```
<ul>  
  <li>technologists</li>  
  <li>thinkers</li>  
  <li>builders</li>  
</ul>
```

EXAMPLE DEFINITION LIST

```
<dl>  
  <dt>Fun</dt>  
  <dd>amusing or entertaining</dd>  
  <dt>Learn</dt>  
  <dd>gain or acquire knowledge</dd>  
</dl>
```

HTML CHARACTER ENTITIES

- ▶ Reserved characters in HTML must be replaced with character entities. (e.g. `<` `>` are **<** **>**;)
- ▶ Characters that are not present on your keyboard can also be replaced by entities. E.g. `é` `è` `ñ` are **é** **è** **ñ**
- ▶ TM `©` are **™** **©**
- ▶ And there are many others

BLOCK AND INLINE ELEMENTS

- ▶ Elements are usually either block-level or inline elements.
- ▶ Block-Level elements begin on new lines, stacking one on top of the other (e.g. `<div>`, `<p>`, `<h1>`, ``, ``, `<table>`). They typically occupy the entire width of its parent element (container) and can contain inline elements or other block-level elements.
- ▶ Inline elements do not begin on a new line. They can start anywhere in a line and only occupies the width of their content. They should not wrap block-level elements and are typically used with text. (e.g. `<a>`, ``, ``, ``)

TABLES

- ▶ HTML Tables are used to mark up structured tabular data.
- ▶ The `<table></table>` element is used to create a table on a page.
- ▶ The `<tr></tr>` element is then used to define rows in a table.
- ▶ The `<td></td>` element defines a table cell and when more than one is used within a table row, it creates columns.
- ▶ You can also create table headings use the `<th></th>` element.
- ▶ If you need to add a caption to your table, use the `<caption></caption>` element.


```
<table>
  <caption>Items available in store.</caption>
  <tr>
    <th scope="col">Item</th>
    <th scope="col">Availability</th>
    <th scope="col">Qty</th>
    <th scope="col">Price</th>
  </tr>
  <tr>
    <td>Textbook</td>
    <td>In Stock</td>
    <td>1</td>
    <td>$130.02</td>
  </tr>
  <tr>
    <td>Mechanical Pencils</td>
    <td>In Stock</td>
    <td>2</td>
    <td>$52.94</td>
  </tr>
</table>
```

TABLES

- ▶ You can also add `<thead>`, `<tbody>` and `<tfoot>` elements to your table.
- ▶ The `<thead>` element defines a set of rows defining the head of the columns of the table.
- ▶ The `<tbody>` encapsulates a set of table rows, indicating that they comprise the body of the table.
- ▶ The `<tfoot>` element defines a set of rows summarizing the columns of the table.

```
<table>
  <thead>
    <tr>
      <th scope="col">Items</th>
      <th scope="col">Cost</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Textbook</td>
      <td>$130.02</td>
    </tr>
    <tr>
      <td>Mechanical Pencils</td>
      <td>$52.94</td>
    </tr>
  </tbody>
  <tfoot>
    <tr>
      <td>Total</td>
      <td>$182.96</td>
    </tr>
  </tfoot>
</table>
```

SETTING THE LANGUAGE OF YOUR HTML DOCUMENT

- ▶ You can (and really should) set the language of your web page. This can be done by adding the lang attribute to the opening html tag.

```
<html lang="en-US">
```

**USING SEMANTIC
HTML**

SEMANTIC HTML

- ▶ Semantic HTML introduces meaning to the code we write.
- ▶ Always write HTML code that describes the content rather than how that content should look. Presentation (how it should look), is the sole responsibility of CSS.
- ▶ Using semantic tags makes it clear to the browser what the meaning of a page and its content is.

SEMANTIC HTML EXAMPLE

Bad

```
<font size="6">  
  <strong>This is a heading</strong>  
</font>
```

Good

```
<h1>This is a heading</h1>
```


SEMANTIC HTML EXAMPLE

Bad

```
<p>Supermarket list</p>
<p>Sugar<br>
Butter<br>
Eggs<br>
</p>
```

Good

```
<h1>Supermarket List</h1>
<ul>
  <li>Sugar</li>
  <li>Butter</li>
  <li>Eggs</li>
</ul>
```

SOME OTHER SEMANTIC ELEMENTS

- ▶ `<blockquote>` is used for quotes.
- ▶ `<abbr>` is used for abbreviations.
- ▶ Elements such as `<header>`, `<nav>`, `<main>`, `<footer>`, `<aside>`, `<section>` and `<article>` can be used to define parts of a web page.
- ▶ We also have `<video>`, `<audio>` elements.
- ▶ And there are others...

SOME OTHER SEMANTIC ELEMENTS

- ▶ **<header>** - container for introductory content. Typically contains one more heading elements, logo or icon, author information.
- ▶ **<nav>** - defines a set of navigation links
- ▶ **<aside>** - defines some content indirectly related to the surrounding or the main content (like a sidebar)
- ▶ **<main>** - specifies the main content of a document. There should only be one main element.

SOME OTHER SEMANTIC ELEMENTS

- ▶ **<footer>** - footer for a document or section. Typically contains author, copyright or contact information
- ▶ **<section>** - defines a section in a document. Pages can be split into sections for introduction, content, and contact information
- ▶ **<article>** - can be used for forum posts, blog posts or news articles.

WHY IS SEMANTIC CODE IMPORTANT?

- ▶ Visually impaired people rely on special devices to read pages back to them. Semantic code aids with accessibility. It can also help them to navigate the page more quickly.
- ▶ Search engines need to understand what your content is about to rank you properly on search engines. Semantic code can improve your ranking.
- ▶ Semantic code can be more straightforward for another developer to understand.

WHY IS SEMANTIC CODE IMPORTANT?

- ▶ Because semantic code does not contain design elements, it is possible to change the look and feel of your site without recoding all of the HTML.

WEB STANDARDS

ARE RULES AND GUIDELINES ESTABLISHED BY THE WORLD WIDE WEB CONSORTIUM (W3C) TO PROMOTE CONSISTENCY IN THE CODE WHICH MAKES UP A WEB PAGE

<http://www.soswebdesign.com/gallery/webstandards.cfm>

WEB STANDARDS

- ▶ Its important to ensure you follow the Standards
 - ▶ It ensures your pages will work across different browsers.
 - ▶ more likely to display properly in the future.
- ▶ Current Standard is HTML 5
- ▶ Use the W3C Validator to check your HTML markup.
<https://validator.w3.org/>

ANY QUESTIONS?