

Akaki Adventist School

Information and Communication Technology[ICT]

Unit 3

Part1.

What is HTML?

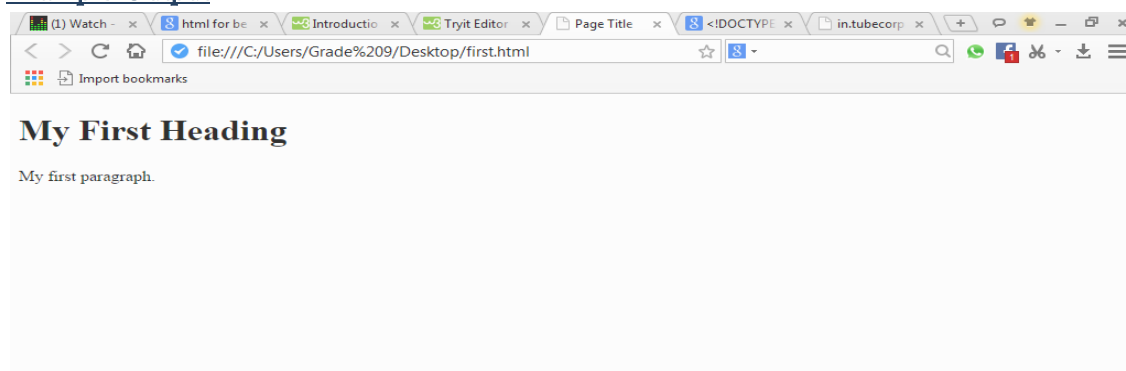
- HTML is the standard markup language for Web pages.
- With HTML you can create your own Website.
- HTML is easy to learn - You will enjoy it!
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements are represented by **tags**
- HTML tags label pieces of content such as "heading", "paragraph", "table", and so on

A Simple HTML Document

Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <h1>My First Heading</h1>
    <p>My first paragraph.</p>
  </body>
</html>
```

Example Output



Example Explained

- ➔ The `<!DOCTYPE html>` declaration defines this document to be HTML5
- ➔ The `<html>` element is the root element of an HTML page
- ➔ The `<head>` element contains meta information about the document
- ➔ The `<title>` element specifies a title for the document
- ➔ The `<body>` element contains the visible page content
- ➔ The `<h1>` element defines a large heading
- ➔ The `<p>` element defines a paragraph

HTML Tags

- ✚ HTML tags are element names surrounded by angle brackets:

`<tagname>`content goes here...`</tagname>`

- ✚ HTML tags normally come in pairs like `<p>` and `</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, but with a forward slash(/) inserted before the tag name

Note: - The start tag is also called the opening tag, and the end tag the closing tag.

Web Browsers

- The purpose of a web browser (example:-Chrome, Edge, Firefox, Safari) is to read HTML documents and display them.
- The browser does not display the HTML tags, but uses them to determine how to display the document:

HTML Elements

- ✓ An HTML element is defined by a start tag, some content, and an end tag.
- ✓ An HTML element usually consists of a start tag and an end tag, with the content inserted in between:`<tagname>`Content goes here...`</tagname>`
- ✓ The HTML element is everything from the start tag to the end tag:
- ✓ HTML elements with no content are called *empty elements*.
- ✓ Empty elements do not have an end tag, such as the `<br>` element (which indicates a line break).

Nested HTML Elements

- ✓ HTML elements can be nested (elements can contain elements).
- ✓ All HTML documents consist of nested HTML elements.
- ✓ This example contains four HTML elements:

Example

```
<!DOCTYPE html>
<html>
  <body>
    <h1>My First Heading</h1>
    <p>My first paragraph.</p>
  </body>
</html>
```

Example Explained

- ▣ The <html> element defines the whole document.
- ▣ It has a start tag <html> and an end tag </html>.
- ▣ Inside the <html> element is the <body> element.
- ▣ The <body> element defines the document body.
- ▣ It has a start tag <body> and an end tag </body>.
- ▣ Inside the <body> element is two other HTML elements: <h1> & <p>.
- ▣ The <h1> element defines a heading.
- ▣ It has a start tag <h1> and an end tag </h1>.
- ▣ The element content is: My First Heading.
- ▣ The <p> element defines a paragraph.
- ▣ It has a start tag <p> and an end tag </p>.
- ▣ The element content is: My first paragraph.

Note:- Do Not Forget the End Tag, Some HTML elements will display correctly, even if you forget the end tag.

HTML Attributes

- An HTML attribute provides additional information about an HTML element.
- All HTML elements can have attributes
- Attributes are always specified in the **start tag**
- Attributes usually come in name/value pairs like: *name="value"*
- **Examples:-**

➤ **The href Attribute**

- ✚ HTML links are defined with the <a> tag.
- ✚ The link address is specified in the href attribute:
- ✚ Example This is a link

➡ The **src** Attribute

- ✚ HTML images are defined with the tag.
- ✚ The filename of the image source is specified in the src attribute:
- ✚ Example

➡ The **width** and **height** Attributes

- ✚ HTML images also have width and height attributes, which specifies the width and height of the image:
- ✚ Example
- ✚ The width and height are specified in pixels by default; so width="500" means 500 pixels wide.

➡ The **alt** Attribute

- ✚ The alt attribute specifies an alternative text to be used, if an image cannot be displayed.
- ✚ The value of the alt attribute can be read by screen readers.
- ✚ This way, someone "listening" to the webpage, e.g. a vision impaired person, can "hear" the element.
- ✚ Example
- ✚ The alt attribute is also useful if the image cannot be displayed (e.g. if it does not exist):

➡ The **style** Attribute

- ✚ The style attribute is used to specify the styling of an element, like color, font, size etc.
- ✚ Example <p style="color:red">This is a red paragraph.</p>

➡ The **lang** Attribute

- ✚ The language of the document can be declared in the <html> tag.
- ✚ The language is declared with the lang attribute.
- ✚ Declaring a language is important for accessibility applications (screen readers) and search engines
- ✚ Example

```
<!DOCTYPE html>
```

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

```
<body>
```

```
...
```

```
</body>
```

```
</html>
```

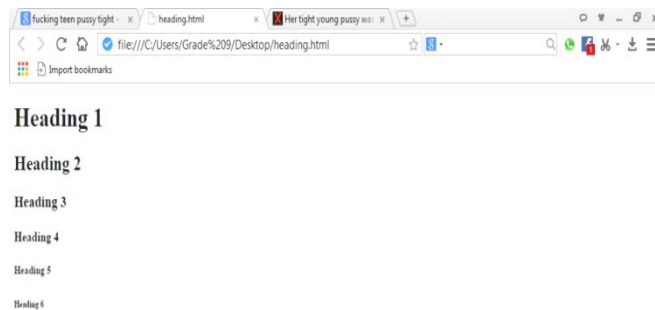
- ✚ The first two letters specify the language (en). If there is a dialect, add two more letters (US).
- ➡ The ***title*** Attribute
 - ✚ Here, a title attribute is added to the <p> element. The value of the title attribute will be displayed as a tooltip when you mouse over the paragraph:
 - ✚ Example

```
<p title="I'm a tooltip">  
This is a paragraph.  
</p>
```

HTML Headings

- ✚ HTML headings are titles or subtitles that you want to display on a webpage.
- ✚ HTML headings are defined with the <h1> to <h6> tags.
- ✚ <h1> defines the most important heading. <h6> defines the least important heading.

```
<!DOCTYPE html>  
<html>  
<body>  
<h1>Heading 1</h1>  
<h2>Heading 2</h2>  
<h3>Heading 3</h3>  
<h4>Heading 4</h4>  
<h5>Heading 5</h5>  
<h6>Heading 6</h6>  
</body>  
</html>
```



Note: Browsers automatically add some white space (a margin) before and after a heading.

HTML Horizontal Rules

The <hr> tag defines a thematic break in an HTML page, and is most often displayed as a *horizontal rule*.

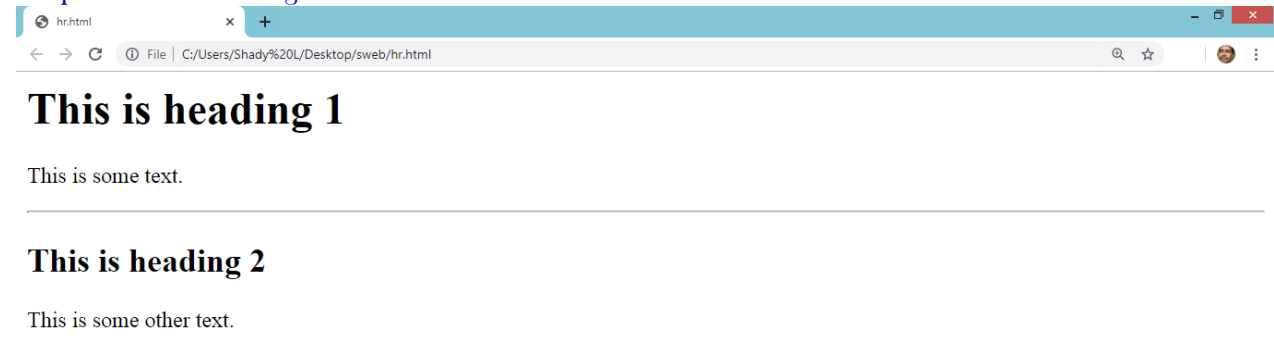
The <hr> element is used to separate content (or define a change) in an HTML page:

Example

```
<!DOCTYPE html>
<html>
<body>

<h1>This is heading 1</h1>
<p>This is some text.</p>
<hr>
<h2>This is heading 2</h2>
<p>This is some other text.</p>
<hr>
</body>
</html>
```

Output of the above tag



HTML Paragraphs

- ✓ The HTML `<p>` element defines a paragraph.
- ✓ A paragraph always starts on a new line, and browsers automatically add some white space (a margin) before and after a paragraph.

✓ Example

```
<!DOCTYPE html>
<html>
<body>
<p>This is a paragraph.</p>
<p>This is a paragraph.</p>
<p>This is a paragraph.</p>
</body>
</html>
```



This is a paragraph.

This is a paragraph.

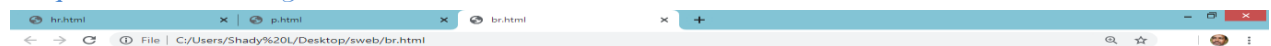
This is a paragraph.

HTML Line Breaks

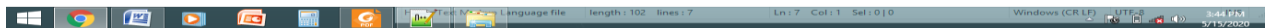
- ✓ The HTML `<br>` element defines a line break.
- ✓ Use `<br>` if you want a line break (a new line) without starting a new paragraph:
- ✓ Example

```
<!DOCTYPE html>
<html>
<body>
<p>This is<br>a paragraph<br>with line breaks</p>
</body>
</html>
```

Output of the above tag



This is
a paragraph
with line breaks



HTML Formatting Elements

- ✚ Formatting elements were designed to display special types of text: some of these are:
- ✚ `<b>` - Bold text
- ✚ `<strong>` - Important text
- ✚ `<i>` - Italic text
- ✚ `<em>` - Emphasized text
- ✚ `<mark>` - Marked text

-  `<small>` - Small text
-  `<del>` - Deleted text
-  `<ins>` - Inserted text
-  `<sub>` - Subscript text
-  `<sup>` - Superscript text

HTML `<b>` and `<strong>` Elements

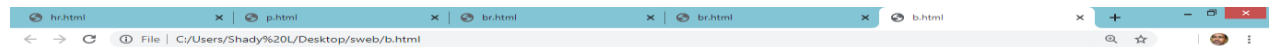
- ✓ The HTML `<b>` element defines bold text, without any extra importance.
- ✓ The HTML `<strong>` element defines strong text, with added semantic "strong" importance.

```

<!DOCTYPE html>
<html>
<body>
<p>This text is normal.</p>
<p><b>This text is bold.</b></p>
<p><strong>This text is strong.</strong></p>
</body>
</html>

```

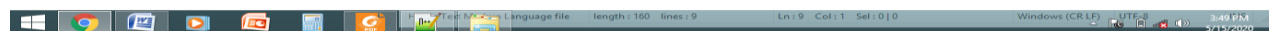
Output of the above tag



This text is normal.

This text is bold.

This text is strong.



HTML `<i>` and `<em>` Elements

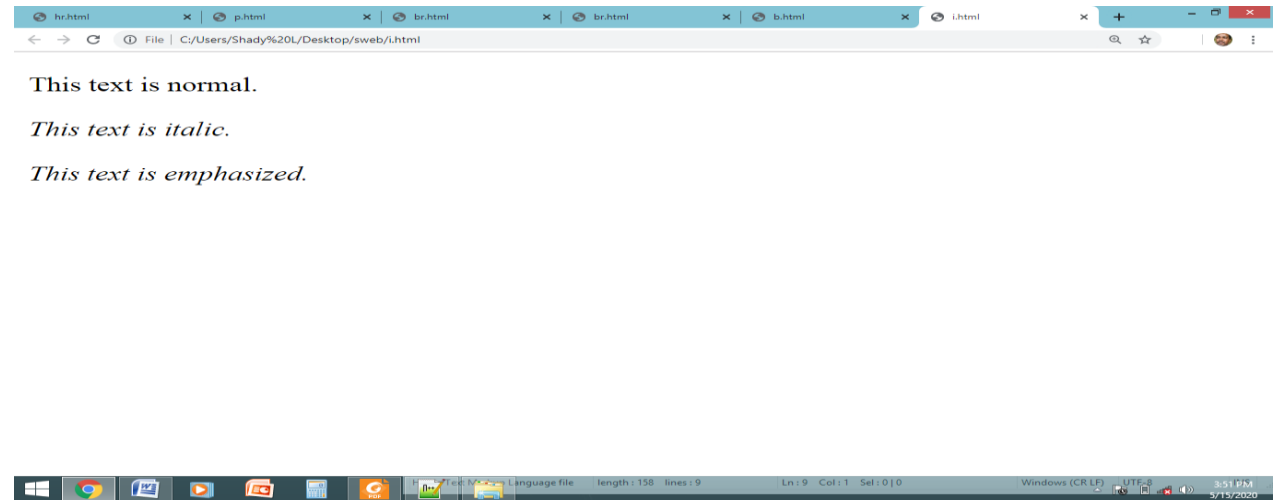
- ✓ The HTML `<i>` element defines italic text, without any extra importance.
- ✓ The HTML `<em>` element defines emphasized text, with added semantic importance.

```

<!DOCTYPE html>
<html>
<body>
<p>This text is normal.</p>
<p><i>This text is italic.</i></p>
<p><em>This text is emphasized.</em></p>
</body>
</html>

```

Output of the above tag

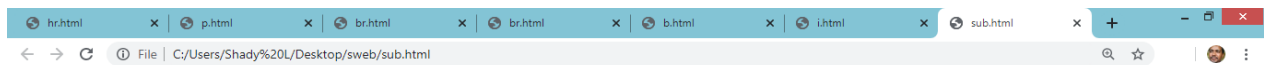


Note: Browsers display `<strong>` as `<b>`, and `<em>` as `<i>`. However, there is a difference in the meaning of these tags: `<b>` and `<i>` defines bold and italic text, but `<strong>` and `<em>` means that the text is "important".

HTML `<sub>` and `<sup>` Element

- ✓ The HTML `<sub>` element defines subscripted text.
- ✓ The HTML `<sup>` element defines superscripted text.
- ✓ Example:

```
<!DOCTYPE html>
<html>
<body>
<p>This is <sub>subscripted</sub> text.</p>
<p>This is <sup>superscripted</sup> text.</p>
</body>
</html>
```



This is subscripted text.

This is superscripted text.

HTML <small>, <mark>, <del> & <ins> Element

- ✓ The HTML <small> element defines smaller text
- ✓ The HTML <mark> element defines marked/highlighted text
- ✓ The HTML <del> element defines deleted/removed text.
- ✓ The HTML <ins> element defines inserted/added text
- ✓ Example

```
<!DOCTYPE html>
<html>
<body>
<h2>HTML <small>Small</small> Formatting</h2>
<h2>HTML <mark>Marked</mark> Formatting</h2>
<p>My favorite color is <del>blue</del> red.</p>
<p>My favorite <ins>color</ins> is red.</p>
</body>
</html>
```

Output of the above html



HTML Lists

HTML lists allow web authors to group a set of related items in lists. There are different types of creating a list in HTML:

1. Unordered HTML List

- ✓ An unordered list starts with the tag. Each list item starts with the tag.

- ✓ The list items will be marked with bullets (small black circles) by default: but we can change the type of Unordered list by using “Type=value” attribute.
- ✓ Example: <UL type= “square”, or type= “circle” etc.>

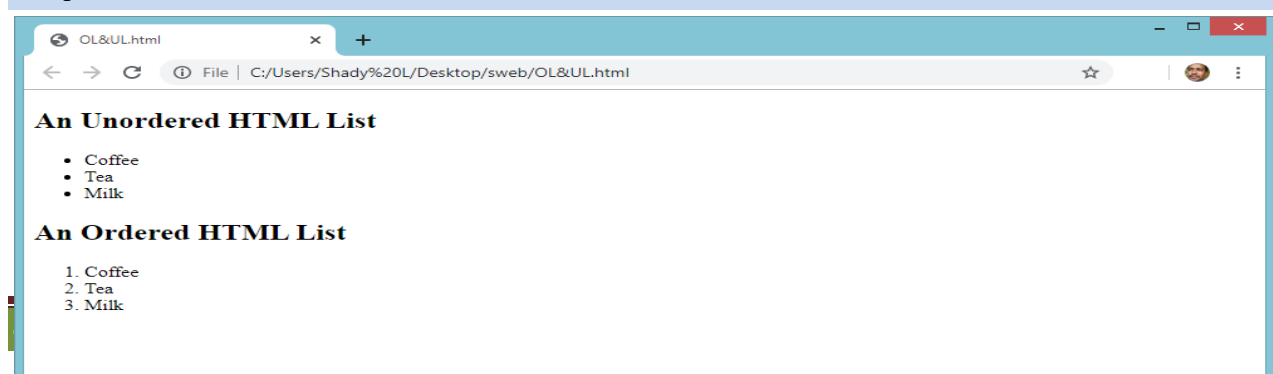
2. Ordered HTML List

- ✓ An ordered list starts with the tag. Each list item starts with the tag.
- ✓ The list items will be marked with numbers by default: but we have a number of choices by using “Type=value” attribute.
- ✓ Example: : <OL type= “a”, or type= “A” or type= “I”, type= “i”, or etc.>
- ✓ Look at the following Example:

Example of UL and OL

```
<!DOCTYPE html>
<html>
<body>
<h2>An Unordered HTML List</h2>
<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
<h2>An Ordered HTML List</h2>
<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
</body>
</html>
```

Output



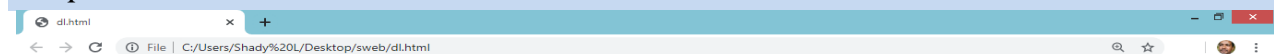
Exercise: Students please, check the output of the above Example by using “Type” Attribute in both `<ul>` and `<ol>`.

3. HTML Description Lists

- ✓ HTML also supports description lists but less frequently used.
- ✓ A description list is a list of terms, with a description of each term.
- ✓ The `<dl>` tag defines the description list, the `<dt>` tag defines the term (name), and the `<dd>` tag describes each term:
- ✓ Example of DL

```
<!DOCTYPE html>
<html>
<body>
<h2>A Description List</h2>
<dl>
  <dt>Coffee</dt>
  <dd>- black hot drink</dd>
  <dt>Milk</dt>
  <dd>- white cold drink</dd>
</dl>
</body>
</html>
```

Output



A Description List

Coffee
- black hot drink
Milk
- white cold drink