Lecture 5

HTML Elements and HTML page structure

1-HTML character Entities

An HTML entity is a piece of text that begins with an ampersand (&) and ends with a semicolon (;). Entities are frequently used to display reserved characters which would otherwise be interpreted as HTML code. Entity can also use in place of other characters that are difficult to type with a standard keyboard.

Instead of:	Instead of:	Instead of:
<	>	&
USE:	**USE:**	**USE:**
<	**>**	**&**

Example: <p> 5 & lt; 10 and 10 & gt; 5 — both are true.</p>

The output is: 5 < 10 and 10 > 5 — both are true.

Example2:   © 2025 Your Company

This Table provide some examples of HTML entities:

Result	Description	Entity Name
<	less than	<
>	greater than	>
&	ampersand	&
"	double quotation mark	"
'	single quotation mark	'
¢	cent	¢
©	copyright	©
®	registered trademark	®

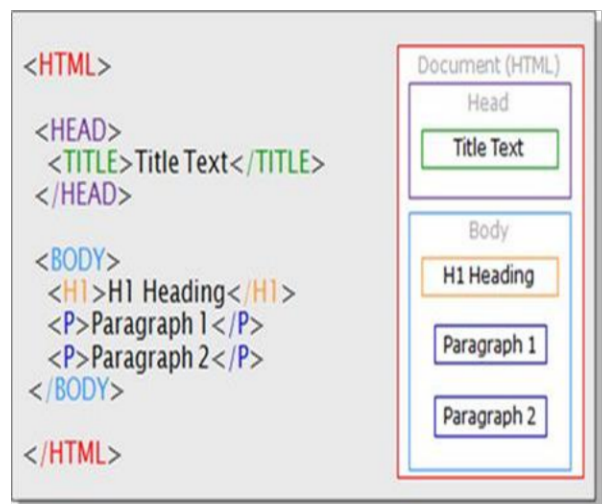👉 Note that quotation marks in HTML files need to be straight ("), not curly (")

👉 The important that you choose elements that makes the most sense for the content.

2-HTML Body Element

The HTML <body> part is the container of all visible element that we can see on the web page, the body code result is the actual HTML content that users interact with in the browser.

In the following some of the most important elements that go inside the <body>:

1. Text Content

2. Tables

3. Hyperlinks

4. Images and Media

5. Forms

6. Lists

7. Containers

```
<HTML>

<HEAD>
  <TITLE>Title Text</TITLE>
</HEAD>

<BODY>
  <H1>H1 Heading</H1>
  <P>Paragraph 1</P>
  <P>Paragraph 2</P>
</BODY>

</HTML>
```

Document (HTML)
  Head
    Title Text
  Body
    H1 Heading
    Paragraph 1
    Paragraph 2

2-1 What is an HTML Text contents?

HTML Text Formatting Tags used to style the text into different design specification. Text Tages include Text Structure Tags These tags define the structure or organization of the content, not how it is styled. (example headings <h1> and paragraphs <p>). Other tags used for texts format, these tags change how text looks or behaves like making it bold, italic, underlined, highlighted, etc.

HTML5 emphasizes semantic structure using tags like <h1>, <p>, <section>, <article> and many other elements, that help browsers and screen readers understand the meaning of content, not just how it looks.

Text Tags are explained in the following;

● **The paragraph tag:** Paragraphs are the most used elements of a text document. Indicate a paragraph with the p element by inserting an opening <p> tag at the beginning of the paragraph and a closing </p> tag after it, as shown in this example: HTML Headings Syntax: <p>TEXT</p> , Example : <p>AI Department </p>

● **The Heading element** <h1>–<h6> HTML headings are titles or subtitles that you want to display on a webpage to show the document structure.

In HTML, there are six headings defined using <h1> to <h6> tags. h1 is the highest level or the main heading, while h6 is the least important.

<h1> headings the highest section level, it should be used for main headings, followed by <h2> headings, then the less important <h3>, and so on. The text size of <h1></h1> is (34px), it decreases in h2,h3, …etc., HTML Headings Syntax: <h1>TEXT</h1>

Example:
Heading:
● *"How to Learn HTML"*
Subheadings:
- ● *"What is HTML?"*
- ● *"Basic HTML Tags"*
- ● *"Styling with CSS"*

⇒ *NOTEs*: **Do not** use heading elements to resize text. Instead, use the CSS font-size property.

⇒ *NOTEs* **Do not** skip heading levels: always start from <h1>, followed by <h2> and so on, and avoid using multiple <h1> elements on one page.

If the <h1> is outside the body, they should be deleted and re-added in its place.

Example

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

Heading 1
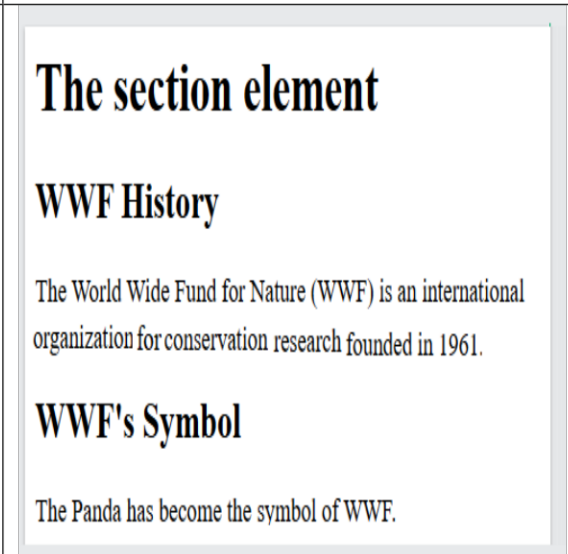## Heading 2
Heading 3
Heading 4
Heading 5
Heading 6

The simplest html code contains only a paragraph in the body section with is any text or string, also we can use heading. An HTML heading is a title or subheading (text size) that we want to display on a webpage.

● The **<section>** element is a structural HTML element used for lay out the page structure and group together related elements. Each <section> includes one or more heading elements and additional elements presenting related content.

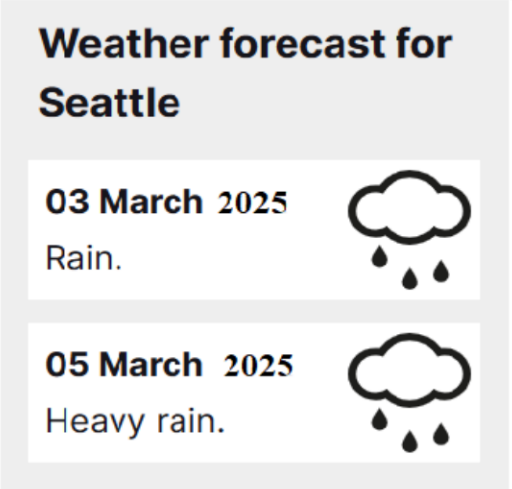| Paragraph, Heading, Section HTML code	The results
<html> <head> <title>Section in HTML</title> </head> <body> h1>The section element <section> WWF History The World Wide Fund for Nature (WWF) is an international organization for conservation founded in 1961. </section> <section> WWF's Symbol The Panda has become the symbol of WWF. </section> </body> </html>	**The section element** **WWF History** The World Wide Fund for Nature (WWF) is an international organization for conservation research founded in 1961. **WWF's Symbol** The Panda has become the symbol of WWF.

● The <article> HTML element represents a self-contained composition in a document, page, application, or site, which is designed to be distributable or reusable. Examples: a magazine or newspaper article, or a blog entry, a product card, a user-submitted comment, an interactive widget, or any other independent item of content. Each <article> should be identified, by including a heading (<h1> - <h6> element) as a child of the <article> element.

> interactive widget
>
> Quick Actions
> Create a simple action   ⋮
>
> **Action Type**
> _TurnOn
>
> Select
>
> TemperatureSensor   ▲▼

☞ *Tip:* **Think of an <article> like a mini webpage inside your webpage**.

The next figure is example of HTML article element code

3- Empty Elements

Empty elements, do not have content because they are used to provide a simple directive. empty elements include the line break (**br**), thematic breaks (**hr**, "horizontal rules"), (img), and elements that provide information about a document but don't affect its displayed content, such as the **meta** element. Empty elements is **not** a structure or text format type, empty element contain **open** tag but **without** a **closing** tag and **does not wrap** any content inside it.

• **Break element**: HTML elements with no content are called empty elements. The <br> tag is a text-level semantic element that introduces a line break. (the <br> tag defines a line break).
 stands for "break".It inserts a line break at that point in the text, similar to pressing "Enter" in a word processor. It is an empty element (it has no closing tag).

Note: *The browser will remove extra spaces and extra*

lines when the page is displayed. Any number of lines count as one line, and any number of spaces count as one space.

- **Horizontal Rules Tag**: 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. The <hr> tag is also an empty tag, which means that it has no end tag. **The syntax is <hr>.**

- **Image Element**: the image element (img) is an empty element. It tells the browser to get an image file from the server and insert it at that spot in the flow of the text. The (**img**) element **require (src, alt)** attribute the (**src**) provides the **name** of the image file that should be inserted, and the (**alt**) attribute provides **text** that should be displayed if the image is not available.

  Example1: <img src="computer.png" alt="logo">

  Example2: <h1><img src=" computer.png" alt="logo">
First Class</h1>

- **HTML Comments:** The comment tag is used to insert comments in the source code to explain the code and make it understandable, or to disable some lines in the code. Comments are ignored by the browser and are not displayed. Comments are written like this: <!-- Comments are not displayed in the browser-->

```
<!DOCTYPE html> <html>
<head>
<title> Web Page </title> </head>
<body>
<h2>The Main Languages of the Web</h2>
<p>HTML is the standard markup language for
creating Web pages. </p>
<hr>
<p>CSS is a language that describes how HTML
elements are displayed on screen. </p>
<hr>
<p>JavaScript is the programming language of
HTML and the Web.</p> </body>
</html>
```

4-HTML TEXT Formatting Elements

Markups are used to format the text content. Formatting the content is required in order to make a webpage look more understandable, readable and attractive. HTML Text Formatting is used to style the text into different design specification. By the use of the HTML Formatting Tags, the designer can style the text. some HTML Tags are <b>, <i>, <u>..etc these tags are are used to designed the text. The HTML Formatting in following list of the most used basic text format.
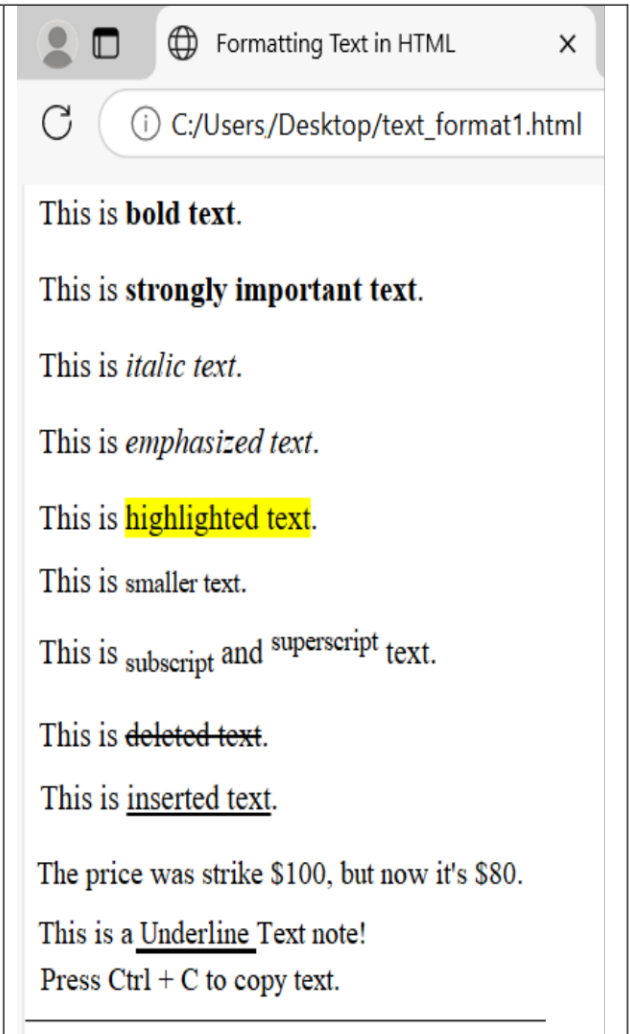
List of the most used HTML text Formatting

TAG	DESCRIPTION
<b>	Bold text
<strong>	Strong text (bold)- used for important text, urgent, or needs Screen emphasis. Example for readers emphasize **Warning**
<i>	Italic text
<em>	Emphasized text (Italic text) is text-level semantic element, used for example in screen readers, to change the tone, example, by reading the text with emphasis.
<mark>	Marked text (**highlighted**) the default color is the yellow
<small>	Small text - smaller font size
<del>	Deleted text -To mark the removed from a document
<ins>	Inserted text -inserted text
<sub>	Subscript text - (text goes below the baseline) used for equations
<sup>	Superscripted text (text goes above the baseline) used for equations
<u>	Underline text
<strike>	draw a strikethrough on a section of text
<kbd>	keyboard input text -used for user to input information

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Formatting Text in HTML</title>
</head>
<body>
  <p>This is <b>bold text</b>.</p>
  <p>This is <strong>strongly important
text</strong>.</p>
  <p>This is <i>italic text</i>.</p>
  <p>This is <em>emphasized text</em>.</p>
  <p>This is <mark>highlighted text</mark>.</p>
  <p>This is <small>smaller text</small>.</p>
  <p>This is <sub>subscript</sub> and
<sup>superscript</sup> text.</p>
<p>This is <del>deleted text</del>.</p>
  <p>This is <ins>inserted text</ins>.
  <p>The price was strike <strike>$100</strike>, but
now it's $80.</p>
<p>This is a <u>Underline Text</u> note!</p>
  <p>Press <kbd>Ctrl</kbd> + <kbd>C</kbd> to
copy text.</p>
<!--  <p>This is <code>computer code</code>.</p>--
>
<!-- Comments are not displayed in the browser—
<hr>
></body>
</html>
```

This is **bold text**.

This is **strongly important text**.

This is *italic text*.

This is *emphasized text*.

This is <mark>highlighted text</mark>.

This is smaller text.

This is $_{subscript}$ and ^{superscript} text.

This is ~~deleted text~~.

This is <u>inserted text</u>.

The price was strike ~~$100~~, but now it's $80.

This is a <u>Underline</u> Text note!

Press Ctrl + C to copy text.

Note:

☐ the <del> tag is often paired with the <ins> tag, which represents **inserted text** (text that was added).

☐ The combination is used to show changes made between two versions of a document.

Example: <p> The original price was ~~$100~~, but <ins>now it is $80</ins>.</p>

👉 *NOTEs:* Search engines may interpret **<del>** as content that is no longer relevant,

while <strike> gives no such semantic information.

5- HTML Block and Inline Elements:

are mainly used for **structuring and layout** the web page. Block elements **start on a new line** by default and takes up as much space as possible by default. Each block level element will start a new line on the page, stacking down the page. In addition to stacking vertically, block level elements will also take up as much horizontal space as possible.

The <p> element is an example of a block level element. Each new paragraph tag will appear on its own line vertically. Paragraphs with longer content will stretch all the way to the edge of the page. Examples of **block** level elements: **<p>, <ol>, <ul>, <dl>, <article>, <section>, <div>** and all headings. Block element can contain **other block or inline elements. The** <u>inline elements</u> display in a line. They do not force the text after them to a new line. You can put several links in a row, and they will display in a line. Examples of inline elements: <a>, <strong>, <em>, <b>, <i>, <q>, <mark>, .

■ **Vertical line <div>:** the <div> The div element is a block element used for grouping HTML elements and to structure the page layouts. It starts on a new line in the document, it can contain **other block elements** or **inline elements**. The following example uses div elements.

■ HTML elements can be grouped together with <div> and . The HTML element is an inline element that can be used as a container for text. Example <p> In my Class 30 student eyes.</p>

  \ Article Title \ This is a paragraph grouped inside a div. </style>	**Article Title** This is a paragraph grouped inside a div.