Introduction to HTML

- History of HTML
- HTML Structure
- Attributes
- HTML Tags
- Media (Image, Audio, and Video)

History of HTML

What is HTML?

- **HTML** (HyperText Markup Language) is the most basic building block of the Web. It defines the meaning and structure of web content.
- A markup language we use to structure content that we consume on the Web
- The standard to create web pages, the backbone of all web pages
- **HyperText:** Refers to the "links" that connect web pages, allowing you to navigate the internet.
- **Markup Language:** Refers to the use of "tags" (like <h1> or <p>) to define the layout and elements of your content.

History of HTML (cont'd)

1991- Tim Berners-Lee invents HTML 1.0

1993- HTML 1.0 is released. Not many developers are creating websites at this time.

1995- HTML 2.0 is published. This contains the features of HTML 1.0 plus new features. This remained the standard markup language for designing and creating websites until 1997.

1997- HTML 3.0 was invented. Here, Dave Raggett introduced a fresh draft on HTML, which improved new features of HTML and gave more powerful characteristics for webmasters in designing websites. Unfortunately, the powerful features slowed down the browser in applying further improvements.

1999- The widely-used HTML 4.0 comes out. It is very successful.

2014- HTML 5.0 is released and used worldwide. It is said to be the extended version of HTML 4.01 which was published in 2012.

HTML Structure

```
<!DOCTYPE html>
<html>
<head>
...
</head>
<body>
...
</body>
</html>
```

HTML Structure (cont'd)

1. Things start with the Document Type Declaration (aka doctype), a way to tell the browser this is an HTML page, and which version of HTML we are using ***<!doctype html>***
2. Then we have the html element, which has an opening and closing tag: ***<html>..</html>***
3. Then inside the html element, we are incorporating ***<head>..</head> and <body>..</body>***
   a. <head> container for other tags that cannot be seen in the <body> tag such as <title>, <script>, <link>, <style>, <meta>, to name a few
   b. <body> contains all the contents of an HTML document, such as headings, paragraphs, images, hyperlinks, tables, lists

HTML Tags

HTML Tags vs HTML Elements

Tags

- Does not have any closing tag
- Only written with starting tag

Element

- Elements have a starting tag, text content, and closing tag

HTML Attributes

HTML Attributes The starting tag of an element can have special snippets of information we can attach, called **attributes**. *Attributes have the **key="value"** syntax:*

Examples

- <p **class="class"**>A paragraph of text</p>
- <p **class="class" id="id"**>A paragraph of text again
- <h1 **style="color: red"**>This is AWESOME!</h1>
- <form **method="post" action="main.php"**></form>
- <input **type="text" name="txtName" placeholder="Please enter your name"**/>

HTML Tags (cont'd)

Block vs Inline elements

Block

- Block elements, when positioned in the page, do not allow other elements next to them. To the left, or to the right
  - Example (p, div, heading elements, lists and list items..)
- We can alter the width/height, margin, padding and border of block elements
- Common examples of HTML block elements include <div>, <p>, <h1>-<h6>, <ul>, and

Inline

- Elements have a starting tag, text content, and closing tag
- It can be contained in block elements
- , <a>, <strong>, <img>

HTML Tags (cont'd)

Block-level

This is a paragraph.

This is another paragraph.

Paragraphs are block-level elements, so they stack vertically.

Inline

Links are | inline elements, | so they fit side-by-side.

HTML Tags (cont'd)

Tags that interacts with text

- **<p>..</p>** A block element. This tag defines a paragraph of text
- **..** An inline element that can be used to create a section in a paragraph
- **
** An inline element, representing a line break
- **Heading tags <h1 .. h6>.. </h1 .. h6>** All headings are block elements. They cannot contain other elements, just text.

HTML Tags (cont'd)

- **\<strong\> .. \</strong\>** This makes the text in this element in **bold**
- **\<em\> .. \</em\>** This makes the text in this element as *italic*.
- **\<blockquote\> .. \</blockquote\>** is useful to insert citations in the text
- **\<hr/\>** This tag adds a horizontal line in the page
- **\<code\> .. \</code\>** This tag is especially useful to show code, because browsers give it a monospaced font
- **\<a href="https://www.google.com"\> .. \</a\>** Links are defined using the *a* tag. The link destination is set via *href* attribute

HTML Tags (cont'd)

Lists

- unordered lists
- ordered lists
- definition lists

HTML Tags (cont'd)

- **unordered lists**
  - Created using the *ul* tag. Each item in the list is created with the *li* tag
- **ordered lists**
  - Created using the *ol* tag. Each item in the list is created with the *li* tag as well
- **definition lists**
  - Created using *dl* and each item consists of a *dt* and *dd* tags

HTML Tags (cont'd)

Other text tags:

- **<mark>**
- **<ins>**
- **<del>**
- **<sup>**
- **<sub>**
- **<small>**
- **<i>**
- **<b>**

HTML Tags (cont'd)

Container Tags
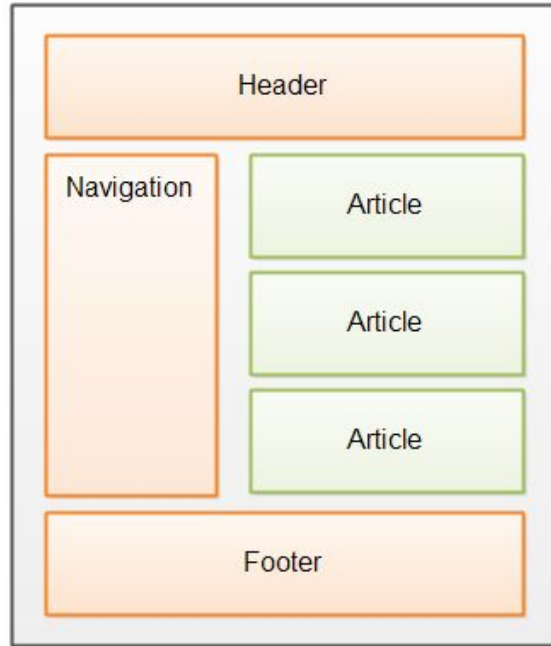
- **<article> .. </article>** tag specifies independent, self-contained content.
- **<section> .. </section>** defines a *section* in a document
- **<div> .. </div>** is the generic container element

HTML Tags (cont'd)

Tags related to page

- **<nav> .. </nav>** This tag is used to create the markup that defines the page navigation

- **<header> .. </header>** tag represents a part of the page that is the introduction

- **<main> .. </main>** tag represents the main part of a pag

- **<footer> .. </footer>** tag is used to determine the footer of an article, or the footer of the page

HTML Tags (cont'd)

HTML Tags (cont'd)

Forms

- Forms are the way you can interact with a page, or an app, built with Web technologies.

- You have a set of controls, and when you submit the form, either with a click to a "submit" button or programmatically, the browser will send the data to the server.

- By default this data sending causes the page to reload after the data is sent, but using JavaScript you can alter this behavior

- Created using **<form> .. </form>**

HTML Tags (cont'd)

<input> tag

- The input field is one of the most widely used form elements. It's also a very versatile element, and it can completely change behavior based on the type attribute
- The default behavior is to be a single-line text input control **<input />**

HTML Tags (cont'd)

<input> tag (cont'd)

- **<input type="text"/>** <!-- accepts alphanumeric values – >

- **<input type="email" />** <!-- Email format – >

- **<input type="password" />** <!-- Will make all the keys entered as * – >

- **<input type="number" />** <!-- Accept only numbers – >

- **<input type="hidden" />** <!-- Used to store values hidden from user – >

- **<input type="submit" />** <!-- This submits the form – >

HTML Tags (cont'd)

<input> tag (cont'd)

- **<input type="file" />** <!-- Accepts file input – >

- **<input type="button"/>**

- **<input type="reset" />** <!-- Resets the whole form – >

- **<input type="radio" name="color" value="red"/>** <!-- Accepts checked element/value →

- **<input type="checkbox" name="color" value="red"/>** <!-- Allows entry of either multiple, single, or no values chosen

  at all – >

- **<input type="url" />** <!-- Accepts website input – >

- **<textarea></textarea>** <!-- Allows user to enter multi-line text/values – >

HTML Tags (cont'd)

<input> tag (cont'd)

- **<select>** used to create a drop-down menu.
- Each option is created using the option tag. You add a name to the select, and a value to each **option**

<select name="color">

      <option value="red">Red</option>

      <option value="blue">Blue</option>

</select>

HTML Tags (cont'd)

Tables a structured set of data made up of rows and columns (tabular data).
<tr> is a row, **<th>** is a column header, **<td>** is a table content
```
<table>
        <thead>
        <tr>
                <th>Column</th>
        </tr>
        </thead>
        <tbody>
        <tr>
                <td>Row 1</td>
        </tr>
        </tbody>
</table>
```

Media (Image, Audio, and Video)

- **Image** can be displayed using the ***img*** tag
**
- **Audio** allows you to embed audio content in your HTML pages
<audio controls><source src="dancing_queen.mp3" type="audio/mpeg"/></audio>
- **Video** this tag allows you to embed video content in your HTML pages
<video controls><source src="FastX_2023.mp4" type="video/mp4"/></video>