**HTML Introduction**

* HTML stands for Hyper Text Markup Language
* HTML is the standard markup language for creating Web pages
* 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 label pieces of content such as "this is a heading", "this is a paragraph", "this is a link", etc.

**A Simple HTML Document**

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

**Web Browsers:**The purpose of a web browser (Chrome, Edge, Firefox, Safari) is to read HTML documents and display them correctly.

**HTML Elements:**An HTML element is defined by a start tag, some content, and an end tag.

|  |  |  |
| --- | --- | --- |
| **Start tag** | **Element content** | **End tag** |
| <h1> | My First Heading | </h1> |
| <p> | My first paragraph. | </p> |
| <br> | *none* | *none* |

**HTML Attributes**HTML attributes provide additional information about HTML elements.

* All HTML elements can have attributes
* Attributes provide additional information about elements
* Attributes are always specified in the start tag
* Attributes usually come in name/value pairs like: name="value"

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

**HTML Paragraphs:**A paragraph always starts on a new line, and is usually a block of text. The HTML <p> element defines a paragraph.

<p>This is a paragraph.</p>  
<p>This is another paragraph.</p>

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

<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>

**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:

<p>This is<br>a paragraph<br>with line breaks.</p>

**The HTML <pre> Element**The HTML <pre> element defines preformatted text.The text inside a <pre> element is displayed in a fixed-width font (usually Courier), and it preserves both spaces and line breaks:

<pre>  
  My Bonnie lies over the ocean.  
  
  My Bonnie lies over the sea.  
  
  My Bonnie lies over the ocean.

  Oh, bring back my Bonnie to me.  
</pre>

**HTML Styles**The HTML style attribute is used to add styles to an element, such as color, font, size, and more. Setting the style of an HTML element, can be done with the style attribute.

The HTML style attribute has the following syntax:

<tagname style="property:value;">

* Use the style attribute for styling HTML elements
* Use background-color for background color
* Use color for text colors
* Use font-family for text fonts
* Use font-size for text sizes
* Use text-align for text alignment

**HTML Text Formatting**HTML contains several elements for defining text with a special meaning. Formatting elements were designed to display special types of text:

* <b> - Bold text
* <strong> - Important text
* <i> - Italic text
* <em> - Emphasized text
* <mark> - Marked text
* <small> - Smaller text
* <del> - Deleted text
* <ins> - Inserted text
* <sub> - Subscript text
* <sup> - Superscript text
* <del> - deleted text

**HTML Comment tag**HTML comments are not displayed in the browser, but they can help document your HTML source code. You can add comments to your HTML source by using the following syntax:

<!-- Write your comments here -->

**HTML Links**Links are found in nearly all web pages. Links allow users to click their way from page to page.  
By default, links will appear as follows in all browsers:

* An unvisited link is underlined and blue
* A visited link is underlined and purple
* An active link is underlined and red

<a href="https://www.w3schools.com/">Visit W3Schools.com!</a>

* Use the <a> element to define a link
* Use the href attribute to define the link address
* Use the target attribute to define where to open the linked document
* Use the <img> element (inside <a>) to use an image as a link
* Use the mailto: scheme inside the href attribute to create a link that opens the user's email program

**HTML Images**Images can improve the design and the appearance of a web page.

<img src="img\_chania.jpg" alt="Flowers in Chania">

<p style="background-image: url('img\_girl.jpg');">

**HTML Favicon**A favicon is a small image displayed next to the page title in the browser tab.

<!DOCTYPE html>  
<html>  
<head>  
  <title>My Page Title</title>  
  <link rel="icon" type="image/x-icon" href="/images/favicon.ico">  
</head>  
<body>  
  
<h1>This is a Heading</h1>  
<p>This is a paragraph.</p>  
  
</body>  
</html>

**HTML Tables**

HTML tables allow web developers to arrange data into rows and columns.

* **Example 1:** A table in HTML consists of table cells inside rows and columns.

<table>  
  <tr>  
    <th>Company</th>  
    <th>Contact</th>  
    <th>Country</th>  
  </tr>  
  <tr>  
    <td>Alfreds Futterkiste</td>  
    <td>Maria Anders</td>  
    <td>Germany</td>  
  </tr>  
  <tr>  
    <td>Centro comercial Moctezuma</td>  
    <td>Francisco Chang</td>  
    <td>Mexico</td>  
  </tr>  
</table>

* **Example 2:** To make a cell span over multiple columns, use the colspan attribute:

<table>  
  <tr>  
    <th colspan="2">Name</th>  
    <th>Age</th>  
  </tr>  
  <tr>  
    <td>Jill</td>  
    <td>Smith</td>  
    <td>43</td>  
  </tr>  
  <tr>  
    <td>Eve</td>  
    <td>Jackson</td>  
    <td>57</td>  
  </tr>  
</table>

* **Example 3:** To make a cell span over multiple rows, use the rowspan attribute:

<table>  
  <tr>  
    <th>Name</th>  
    <td>Jill</td>  
  </tr>  
  <tr>  
    <th rowspan="2">Phone</th>  
    <td>555-1234</td>  
  </tr>  
  <tr>  
    <td>555-8745</td>  
</tr>  
</table>

**HTML Lists:**HTML lists allow web developers to group a set of related items in lists.

* **Example 1**: Unordered HTML List

<ul>  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ul>

* **Example 2**: Unordered HTML List

<ol>  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ol>

**HTML Iframes**

An HTML iframe is used to display a web page within a web page.

<iframe src="demo\_iframe.htm" height="200" width="300" title="Iframe Example"></iframe>

**HTML - The Head Element**The HTML <head> element is a container for the following elements: <title>, <style>, <meta>, <link>, <script>, and <base>.

* **Define the character set used:**

<meta charset="UTF-8">

* **Define keywords for search engines:**

<meta name="keywords" content="HTML, CSS, JavaScript">

* **Define a description of your web page:**

<meta name="description" content="Free Web tutorials">

* **Define the author of a page:**

<meta name="author" content="John Doe">

* **Refresh document every 30 seconds:**

<meta http-equiv="refresh" content="30">

* **Setting the viewport to make your website look good on all devices:**

<meta name="viewport" content="width=device-width, initial-scale=1.0">

* The <head> element is a container for metadata (data about data)
* The <head> element is placed between the <html> tag and the <body> tag
* The <title> element is required and it defines the title of the document
* The <style> element is used to define style information for a single document
* The <link> tag is most often used to link to external style sheets
* The <meta> element is typically used to specify the character set, page description, keywords, author of the document, and viewport settings
* The <script> element is used to define client-side JavaScripts
* The <base> element specifies the base URL and/or target for all relative URLs in a page

**HTML Symbols**Symbols that are not present on your keyboard can also be added by using entities.

* © &#169; &copy; COPYRIGHT SIGN
* ® &#174; &reg; REGISTERED SIGN
* € &#8364; &euro; EURO SIGN
* ™ &#8482; &trade; TRADEMARK
* ← &#8592; &larr; LEFTWARDS ARROW
* ↑ &#8593; &uarr; UPWARDS ARROW
* → &#8594; &rarr; RIGHTWARDS ARROW
* ↓ &#8595; &darr; DOWNWARDS ARROW
* ♠ &#9824; &spades; BLACK SPADE SUIT
* ♣ &#9827; &clubs; BLACK CLUB SUIT
* ♥ &#9829; &hearts; BLACK HEART SUIT
* ♦ &#9830; &diams; BLACK DIAMOND SUIT

**HTML Forms**An HTML form is used to collect user input. The user input is most often sent to a server for processing.

**Example 1:**

<form action="action\_page.php" method="post" >  
  <label for="fname">First name:</label><br>  
  <input type="text" id="fname" name="fname" value="John"><br>  
  <label for="lname">Last name:</label><br>  
  <input type="text" id="lname" name="lname" value="Doe"><br><br>  
  <input type="submit">  
</form>

**Example 2:**<form action="action\_page.php" method="post" >>  
  <input type="radio" id="html" name="fav\_language" value="HTML">  
  <label for="html">HTML</label><br>  
  <input type="radio" id="css" name="fav\_language" value="CSS">  
  <label for="css">CSS</label><br>  
  <input type="radio" id="javascript" name="fav\_language" value="JavaScript">  
  <label for="javascript">JavaScript</label>  
</form>

**Example 3:**<form>  
  <input type="checkbox" id="vehicle1" name="vehicle1" value="Bike">  
  <label for="vehicle1"> I have a bike</label><br>  
  <input type="checkbox" id="vehicle2" name="vehicle2" value="Car">  
  <label for="vehicle2"> I have a car</label><br>  
  <input type="checkbox" id="vehicle3" name="vehicle3" value="Boat">  
  <label for="vehicle3"> I have a boat</label>  
</form>

**HTML Input Types**

* <input type="button">
* <input type="checkbox">
* <input type="color">
* <input type="date">
* <input type="datetime-local">
* <input type="email">
* <input type="file">
* <input type="hidden">
* <input type="image">
* <input type="month">
* <input type="number">
* <input type="password">
* <input type="radio">
* <input type="range">
* <input type="reset">
* <input type="search">
* <input type="submit">
* <input type="tel">
* <input type="text">
* <input type="time">
* <input type="url">
* <input type="week">

**HTML Video**The HTML <video> element is used to show a video on a web page.

<video width="320" height="240" controls>  
  <source src="movie.mp4" type="video/mp4">  
  <source src="movie.ogg" type="video/ogg">  
Your browser does not support the video tag.  
</video>

**The HTML <audio> Element**To play an audio file in HTML, use the <audio> element:

<audio controls>  
  <source src="horse.ogg" type="audio/ogg">  
  <source src="horse.mp3" type="audio/mpeg">  
Your browser does not support the audio element.  
</audio>

**The <object> Element**The <object> element is supported by all browsers. The <object> element defines an embedded object within an HTML document. It was designed to embed plug-ins (like Java applets, PDF readers, and Flash Players) in web pages, but can also be used to include HTML in HTML:

<object width="100%" height="500px" data="snippet.html"></object>