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INTRODUCTION

• **What is HTML?**

HTML is a **markup** language for **describing** web documents (web pages).

- HTML stands for **H**yper **T**ext **M**arkup **L**anguage
- A markup language is a set of **markup tags**
- HTML documents are described by **HTML tags**
- Each HTML tag **describes** different document content

• *HTML Tags*

HTML tags are **keywords** (tag names) surrounded by **angle brackets**:

`<tagname>content</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 **slash** before the tag name

• *The <!DOCTYPE> Declaration*

The <!DOCTYPE> declaration helps the browser to display a web page correctly.

There are different document types on the web.

To display a document correctly, the browser must know both type and version.

- # *HTML Page Structure*

```
< html >
< head >
< title >My Home Page< /title >
< /head >
< body >
You write things here...
< /body >
< /html >
```

- # *HTML Basic Tags*

- # HTML Headings

HTML headings are defined with the **\<h1\>** to **\<h6\>** tags:

Example

```
<h1>This is a heading</h1>
<h2>This is a heading</h2>
<h3>This is a heading</h3>
```

- # HTML Paragraphs

HTML paragraphs are defined with the **\<p\>** tag:

Example

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

- # HTML Images

HTML images are defined with the **<img>** tag.

The source file (**src**), alternative text (**alt**), and size (**width** and **height**) are provided as **attributes**:

Example

```
<img src="cybernauttech.jpg" alt="ss.com" width="104" height="142">
```

- # HTML Attributes

HTML elements can have **attributes**

Attributes provide **additional information** about an element

Attributes are always specified in **the start tag**.

Attributes come in name/value pairs like: **name="value"**

- # The lang Attribute

The document language can be declared in the **<html>** tag.

The language is declared in the **lang** attribute

```
<!DOCTYPE html>
<html lang="en-US">
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```

• The title Attribute

HTML paragraphs are defined with the **<p>** tag.

In this example, the **<p>** element has a **title** attribute.

• The href Attribute

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

• Size Attributes

HTML images are defined with the **<img>** tag.

The filename of the source (**src**), and the size of the image (**width** and **height**) are all provided as **attributes**:

The image size is specified in pixels: width="104" means 104 screen pixels wide.

- # The alt Attribute

The **alt** attribute specifies an alternative text to be used, when an image cannot be displayed..

Example

```
<img src="cybernauttech.jpg" alt="W3Schools.com" width="104" height="142">
```

- # HTML Line Breaks

The HTML **
** element defines a **line break**.

Use <br> if you want a line break (a new line) without starting a new paragraph:

Example

```
<p>This is<br>a para<br>graph with line breaks</p>
```

- # HTML <pre> Element

The HTML <pre> element defines preformatted text. It preserves both spaces and line breaks:

Example

```
<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>
```

- # The HTML Style Attribute

The HTML style attribute has the following **syntax**:

 style="*property*:*value*;"

The ***property*** is a CSS property. The ***value*** is a CSS value.

- # HTML Background Color

The **background-color** property defines the background color for an HTML element:

Example

```
<body style="background-color: lightgrey;">
<h1>This is a heading</h1>
<p>This is a paragraph.</p>
</body>
```

- # HTML Text Color

 The **color** property defines the text color for an HTML element:

Example

```
<h1 style="color: blue;">This is a heading</h1>
<p style="color: red;">This is a paragraph.</p>
```

- # HTML Fonts

The **font-family** property defines the font to be used for an HTML element:

Example

```
<h1 style="font-family: verdana;">This is a heading</h1>
<p style="font-family: courier;">This is a paragraph.</p>
```

- # HTML Text Size

The **font-size** property defines the text size for an HTML element:

Example

```
<h1 style="font-size: 300%;">This is a heading</h1>
<p style="font-size: 160%;">This is a paragraph.</p>
```

- # HTML Text Alignment

The **text-align** property defines the horizontal text alignment for an HTML element:

Example

```
<h1 style="text-align: center;">Centered Heading</h1>
<p>This is a paragraph.</p>
```

- # HTML Comment Tags

You can add comments to your HTML source by using the following syntax:

```
<!-- Write your comments here -->
```

- # Styling HTML with CSS

CSS stands for **C**ascading **S**tyle **S**heets

Styling can be added to HTML elements in 3 ways:

- Inline - using a **style attribute** in HTML elements
- Internal - using a **<style> element** in the HTML <head> section
- External - using one or more **external CSS files.**

- # Inline Styling (Inline CSS)

Inline styling is used to apply a unique style to a single HTML element:

```
<h1 style="color:blue;">This is a Blue Heading</h1>
```

- # Internal Styling (Internal CSS)

Internal styling is used to define a style for one HTML page.

Internal styling is defined in the **<head>** section of an HTML page, within a **<style>** element.

```
<!DOCTYPE html>
<html>
<head>
<style>
body {background-color:lightgrey;}
h1   {color:blue;}
p    {color:green;}
</style>
</head>
<body>
<h1>This is a heading</h1>
<p>This is a paragraph.</p>
</body>
</html>
```

- # External Styling (External CSS)

An external style sheet is used to define the style for many pages. With an **external style sheet**, you can change the look of an entire web site by changing one file. To use an external style sheet, add a link to it in the **<head>** section of the HTML page:

```
<!DOCTYPE html>
<html>
<head>
```

```
<link rel="stylesheet" href="styles.css">
</head>
<body>
<h1>This is a heading</h1>
<p>This is a paragraph.</p>
</body>
</html>

body {
    background-color: lightgrey;
}

h1 {
    color: blue;
}

p {
    color:green;
}
```

• CSS Fonts

The CSS **color** property defines the text color to be used for the HTML element.

The CSS **font-family** property defines the font to be used for the HTML element.

The CSS **font-size** property defines the text size to be used for the HTML element.

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
h1 {
    color: blue;
    font-family: verdana;
    font-size: 300%;
}
p  {
    color: red;
```

```
    font-family: courier;
    font-size: 160%;
}
</style>
</head>
<body>
<h1>This is a heading</h1>
<p>This is a paragraph.</p>
</body>
</html>
```

• The id Attribute

To define a special style for one special element, first add an id attribute to the element:

```
<p id="p01">I am different</p>
```

then define a style for the element with the specific id:

Example

```
#p01 {
    color: blue;
}
```

• The class Attribute

To define a style for a special type (class) of elements, add a class attribute to the element:

```
<p class="error">I am different</p>
```

Now you can define a different style for elements with the specific class:

Example

```
p.error {
    color: red;
}
```

- # HTML Links - Image as Link

```
<a href="default.asp"><img src="smiley.gif" alt="HTMLtutorial" style="width:42px;height:42px;border:0"></a>
```

- # Defining HTML Tables

- Tables are defined with the **<table>** tag.
- Tables are divided into **table rows** with the **<tr>** tag.
- Table rows are divided into **table data** with the **<td>** tag.
- A table row can also be divided into **table headings** with the **<th>** tag.

Example

```
<table style="width:100%">
  <tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>50</td>
  </tr>
  <tr>
    <td>Eve</td>
    <td>Jackson</td>
    <td>94</td>
  </tr>
</table>
```

- # An HTML Table with a Border Attribute

A border can be added using the border attribute:

```
<table border="1" style="width:100%">
  <tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>50</td>
```

```
    </tr>
    <tr>
      <td>Eve</td>
      <td>Jackson</td>
      <td>94</td>
    </tr>
</table>
```

```
table, th, td {
    border: 1px solid black;
}
```

- ## An HTML Table with Cell Padding

Cell padding specifies the space between the cell content and its borders.

```
table, th, td {
    border: 1px solid black;
    border-collapse: collapse;
}
th, td {
    padding: 15px;
}
```

- ## HTML Table Headings

Table headings are defined with the **<th>** tag.

```
<table style="width:100%">
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
    <th>Points</th>
  </tr>
  <tr>
    <td>Eve</td>
    <td>Jackson</td>
```

```
    <td>94</td>
  </tr>
</table>
```

To left-align the table headings, use the **CSS text-align** property:

Example

```
th {
    text-align: left;
}
```

- # An HTML Table with Border Spacing

Border spacing specifies the space between the cells.

Example

```
table {
    border-spacing: 5px;
}
```

- # Table Cells that Span Many Columns

To make a cell span more than one column, use the **colspan** attribute:

Example

```
<table style="width:100%">
  <tr>
    <th>Name</th>
    <th colspan="2">Telephone</th>
  </tr>
  <tr>
    <td>Bill Gates</td>
    <td>555 77 854</td>
    <td>555 77 855</td>
  </tr>
</table>
```

- # Table Cells that Span Many Rows

To make a cell span more than one row, use the **row span** attribute:

Example

```html
<table style="width:100%">
  <tr>
    <th>Name:</th>
    <td>Bill Gates</td>
  </tr>
  <tr>
    <th rowspan="2">Telephone:</th>
    <td>555 77 854</td>
  </tr>
  <tr>
    <td>555 77 855</td>
  </tr>
</table>
```

- # An HTML Table With a Caption

To add a caption to a table, use the **<caption>** tag:

Example

```html
<table style="width:100%">
  <caption>Monthly savings</caption>
  <tr>
    <th>Month</th>
    <th>Savings</th>
  </tr>
  <tr>
    <td>January</td>
    <td>$100</td>
  </tr>
  <tr>
    <td>February</td>
    <td>$50</td>
  </tr>
</table>
```

Unordered HTML Lists

An unordered list starts with the **<ul>** tag. Each list item starts with the **<li>** tag.

Example

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

Ordered HTML Lists

An ordered list starts with the **<ol>** tag. Each list item starts with the **<li>** tag.

Example

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

HTML Description Lists

HTML also supports description lists.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

```
<dl>
  <dt>Coffee</dt>
  <dd>- black hot drink</dd>
  <dt>Milk</dt>
  <dd>- white cold drink</dd>
</dl>
```

- # Nested HTML Lists

List can be nested (lists inside lists):

Example

- ```
  <ul>
    <li>Coffee</li>
    <li>Tea
      <ul>
        <li>Black tea</li>
        <li>Green tea</li>
      </ul>
    </li>
    <li>Milk</li>
  </ul>
  ```

HTML Classes

Example

```html
<!DOCTYPE html>
<html>
<head>
<style>
div.cities {
    background-color:black;
    color:white;
    margin:20px;
    padding:20px;
}
</style>
</head>
<body>

<div class="cities">
<h2>London</h2>
<p>London is the capital city of England. It is the most populous city in the
United Kingdom, with a metropolitan area of over 13 million inhabitants.</p>
</div>

<div class="cities">
<h2>Paris</h2>
<p>Paris is the capital and most populous city of France.</p>
</div>
<div class="cities">
<h2>Tokyo</h2>
<p>Tokyo is the capital of Japan, the center of the Greater Tokyo Area,
and the most populous metropolitan area in the world.</p>
</div>

</body>
</html>
```

- # HTML Layout Using <div> Elements

The <div> element is often used as a layout tool, because it can easily be positioned with CSS.

Example

```
<body>
<div id="header">
<h1>City Gallery</h1>
</div>
<div id="nav">
London<br>
Paris<br>
Tokyo
</div>
<div id="section">
<h1>London</h1>
<p>London is the capital city of England. It is the most populous city in the
United Kingdom,
with a metropolitan area of over 13 million inhabitants.</p>
<p>Standing on the River Thames, London has been a major settlement for two
millennia,
its history going back to its founding by the Romans, who named it
Londinium.</p>
</div>
<div id="footer">
Copyright ©.com
</div>
</body>
```

The CSS:

```
<style>
#header {
    background-color:black;
    color:white;
    text-align:center;
    padding:5px;
}
#nav {
```

```
line-height:30px;
    background-color:#eeeeee;


height:300px;
    width:100px;
    float:left;
    padding:5px;
}
#section {
    width:350px;
    float:left;
    padding:10px;
}
#footer {
    background-color:black;
    color:white;
    clear:both;
    text-align:center;
    padding:5px;
}
</style>
```

- ## Iframe - Set Height and Width

Use the **height** and **width** attributes to specify the size.

```html
<iframe src="demo_iframe.htm" width="200" height="200"></iframe>
```

- # HTML Forms

The <form> Element

HTML forms are used to collect user input.

```html
<form>
.
form elements
.
</form>
```

HTML forms contain **form elements**.

Form elements are different types of input elements, checkboxes, radio buttons, submit buttons, and more.

- # The <input> Element

The **<input>** element is the most important **form element**.

Type	Description
Text	Defines normal text input
Radio	Defines radio button input (for selecting one of many choices)
Submit	Defines a submit button (for submitting the form)

- # Text Input

<input type="text"> defines a one-line input field for **text input**:

Example

```
<form>
  First name:<br>
  <input type="text" name="firstname"><br>
  Last name:<br>
  <input type="text" name="lastname">
</form>
```

- # Radio Button Input

<input type="radio"> defines a **radio button**.

Radio buttons let a user select ONE of a limited number of choices:

```
<form>
  <input type="radio" name="gender" value="male" checked> Male<br>
  <input type="radio" name="gender" value="female"> Female<br>
  <input type="radio" name="gender" value="other"> Other
</form>
```

- # The Submit Button

<input type="submit"> defines a button for **submitting** a form to a **form-handler**.

Example

```
<form action="action_page.php">
  First name:<br>
  <input type="text" name="firstname" value="Mickey"><br>
  Last name:<br>
  <input type="text" name="lastname" value="Mouse"><br><br>
  <input type="submit" value="Submit">
</form>
```

- # The Action Attribute

The **action attribute** defines the action to be performed when the form is submitted.

The common way to submit a form to a server, is by using a submit button.

Normally, the form is submitted to a web page on a web server.

```
<form action="action_page.php">
```

- # The Method Attribute

The **method attribute** specifies the HTTP method (**GET** or **POST**) to be used when submitting the forms:

```
<form action="action_page.php" method="get">
```

It is used when we requests data from a specified resource and need to get the data at the same time.

 or:

```
<form action="action_page.php" method="post">
```

It is used when we submits data to be processed to a specified resource and want the data later.

- # Grouping Form Data with <fieldset>

The **<fieldset>** element groups related data in a form.

The **<legend>** element defines a caption for the <fieldset> element.

Example

```html
<form action="action_page.php">
  <fieldset>
    <legend>Personal information:</legend>
    First name:<br>
    <input type="text" name="firstname" value="Mickey"><br>
    Last name:<br>
    <input type="text" name="lastname" value="Mouse"><br><br>
    <input type="submit" value="Submit">
  </fieldset>
</form>
```