

MODULE 01

HTML Basics

OBJECTIVES

- Understand the structure of an HTML page.
- Learn to apply physical/logical character effects.
- Learn to manage document spacing.
- New semantic elements in HTML 5.

WHAT IS HTML?

- HTML is a markup language and these documents describe web pages.
- Any HTML document contains HTML tags and plain text.
- HTML documents are also called web pages.

HTML VERSIONS & HTML5

- HTML had a total of 5 versions, 1.0, 2.0, 3.2, 4.0, 5
- HTML – 5
 - Good support on modern mobile devices (iOS, Android)
 - Simpler, more intuitive syntax
 - Video and Audio can be included without requiring a plug-in
 - Incremental improvements to previous HTML challenges
 - Much needed next step in HTML evolution
 - Creative enhancements: Rounded corners, gradients, text layout
 - Promising support of Mobile JS Frameworks (Sencha, jQTouch)

HTML ELEMENTS

- Most Web documents are created using HTML.
- Documents are saved with extension.html or.htm.
- Tags are strings in the language surrounded by a less-than (<) and a greater-than > sign.
 - Opening tag: <html> Ending tag: </html>
- Can have Attributes
 - Attributes are Name-Value pairs added to HTML start tags.

RULES APPLICABLE FOR HTML5 TAGS

- Rules for HTML5 Tags are:
 - The document must included with an HTML5 DOCTYPE.
 - Tags and attributes are case-insensitive.
 - Attributes do not need to be quoted.
 - End tags are not required for every element.
 - Some attributes may be empty such as checked and disabled.
 - For example, <input type=checkbox checked>
 - Only void elements such as br, img and link may be "self-closed" with />.

HTML DOCUMENT SECTION

- HTML Head Section
 - `<head>...</head>`
 - Page Title, Base URL, Meta Information
- HTML Body Section
 - `<body>...</body>`
 - Text, Images, Table, Color, etc.

COMMENTS IN HTML

- Increase code readability.
- Ignored by the browser.
- Example of HTML comment:
 - <!-- This is a sample HTML Comment -->

HTML HEAD SECTION

BASE HREF

- Base element specifies a base URL for all the links in a page.
 - <head>
 - <base href="http://www.example.com/images/" />
 - </head>

META INFORMATION

- Metadata will not be displayed on the page, but will be machine parsable.
- Define keywords for search engines:
 - <meta name="keywords" content="HTML, DHTML, CSS, XML, XHTML, JavaScript, VBScript" />
- Provide a description of your web page:
 - <meta name="description" content="This is HTML Training" />
- Define the last revision of your page:
 - <meta name="revised" content="Yash Patel, 6/10/99" />
- Refresh page every 5 seconds:
 - <meta http-equiv="refresh" content="5" />

HTML BODY SECTION

- <body> Element:
 - Represents information content.
 - Each document can have at most one <body> element.
 - Body element is placed between </head> and </html> elements.
 - Attributes supported in <body> element are:
 - Event Handler attributes like ononline, onoffline, onunload, onpagehide, onpageshow, etc.
 - Global attributes like id, style, class, hidden, etc.

BODY CONTENTS

- Body Text
 - HTML truncates spaces in your text.
 - Use
 to insert new lines.
 - Use <p> tag to create paragraphs.
- Other Elements of Body Section:
 - <table> tags are used to create tables.
 - tags are used to insert images.

PHYSICAL CHARACTER EFFECT

- Some tag used are:

-
- <s>
- <sub>
- <sup>

LOGICAL CHARACTER EFFECT

- Some tag used are:

-
-
- <kbd>
- <var>

CHARACTER ENTITIES

- < or < (<)
- > or #62; (>)

HEADING ELEMENTS

- HTML uses 6 kind of heading elements from <h1> up to <h6>.

DOCUMENT SPACE

- For Horizontal Spacing :
 - <hr>
- For Vertical Spacing
 - <p>
 -

PREFORMATTED TEXT

- <PRE>...</PRE> will not change the formatting of text and will display same formatting as in source code.

WORKING WITH STYLES

- 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;">`
 - The property is a CSS property. The value is a CSS value.
- Eg :-
 - background-color, color, font-family, font-size, text-align, text-transform, text-indent, text-decoration & many more.

DIVISIONS IN HTML DOCUMENT

- The <div> tag defines a division or a section in an HTML document.
- This is used to group block-element to format them with CSS.

** IN HTML DOCUMENT**

- The tag is used for grouping and applying styles to inline elements.
- Inline & Block Elements.

CSS - SIMPLE SELECTORS

- Element Selectors
 - The element selector selects HTML elements based on the element name.

```
h1 {  
    text-align: center;  
    color: blue;  
}
```

CSS - SIMPLE SELECTORS

- Id Selectors
 - The id selector selects HTML elements based on the id name.

```
#table1 {  
    text-align: center;  
    color: red;  
}
```

CSS - SIMPLE SELECTORS

- Class Selectors

- The class selector selects HTML elements based on the class name.

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

CSS - SIMPLE SELECTORS

- Class Selectors

- The class selector selects HTML elements based on the class name.

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

OR

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

Note :- A class or id name cannot start with a number.

CSS - SIMPLE SELECTORS

- Universal Selectors
 - The universal selector (*) selects all HTML elements on the page.

```
* {  
    color: red;  
}
```

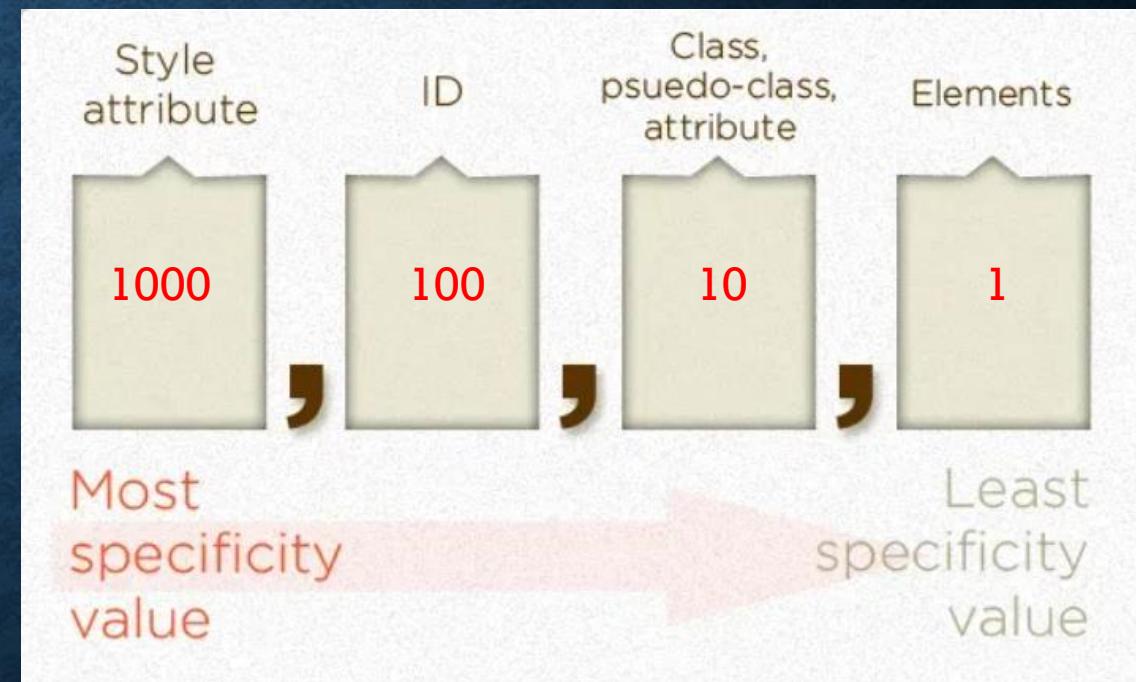
CSS - SIMPLE SELECTORS

- Grouping Selectors
 - The grouping selector selects all the HTML elements with the same style definitions.

```
.red p h1 {  
    color: red;  
}
```

CSS SPECIFICITY VALUE

- If there are two or more CSS rules that point to the same element, the selector with the highest specificity value will "win", and its style declaration will be applied to that HTML element.
- There are four categories which define the specificity level of a selector:
 - Inline styles - Example: `<p style="color: green;">`
 - IDs - Example: `#top`
 - Classes, pseudo-classes, attribute selectors - Example: `.red, :hover, [href]`
 - Elements and pseudo-elements - Example: `h1, :before`



UNORDERED HTML LIST

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

ORDERED HTML LIST

- An ordered list starts with the `` tag. Each list item starts with the `` tag.
- Ordered List has 2 attributes :-
 - **type** attribute
 - A-Uppercase letters: `<OL TYPE=A>`
 - a-Lowercase letters: `<OL TYPE=a>`
 - I-Uppercase Roman letters: `<OL TYPE=I>`
 - i-Lowercase Roman letters: `<OL TYPE=i>`
 - l-Standard numbers: `<OL TYPE=l>`
 - **Start** attribute
 - To start an ordered list at a number other than 1 (`<ol start =“2”>`)

CSS FOR LIST

- The **list-style-type** property specifies the type of list item marker. (circle, square, upper-roman, lower alpha)
- The **list-style-position** property specifies the position of the list-item markers (bullet points). (inside, outside)
- The **list-style-image** property specifies an image as the list item marker:
- With using simple tags like background, padding, color, etc.

LIST - SHORTHAND PROPERTY

- The `list-style` property is a shorthand property. It is used to set all the list properties in one declaration:
 - `list-style: square inside url("Pizza.gif");`
- When using the shorthand property, the order of the property values are:
 - `list-style-type` (if a `list-style-image` is specified, the value of this property will be displayed if the image for some reason cannot be displayed)
 - `list-style-position` (specifies whether the list-item markers should appear inside or outside the content flow)
 - `list-style-image` (specifies an image as the list item marker)

LINKS

- HTML links are hyperlinks.
- You can click on a link and jump to another document or another section.
 - `Text for Link`
 - `Visit My First Page`
- You can have both Absolute URLs & Relative URLs.

LINKS – TARGET ATTRIBUTE

- The target attribute specifies where to open the linked document.
- The target attribute can have 4 values:
 - _self (Default) - Opens the document in the same window/tab as it was clicked
 - _blank - Opens the document in a new window or tab
 - _parent - Opens the document in the parent frame
 - _top - Opens the document in the full body of the window
- Visit Web!

LINKS – CSS PSEUDO-CLASSES

- `:link` – selects unvisited links.
- `:visited` – selects visited links.
- `:hover` – the state that happens when the user places their mouse pointer on top of a link.
- `:active` – the state that happens when the user clicks on a link.
- `:focus` – the state that occurs when the user focuses on the link. This state can be seen when you tab to a link, or after you click on a link.

INTERNAL LINKS

- <h1 id="anchor-name">The name where you want to jump</h1>
- Jump to the part of the page with the “anchor-name” id

IMAGES

- The HTML `` tag is used to embed an image in a web page.
- Images are not technically inserted into a web page; images are linked to web pages.
- The `` tag creates a holding space for the referenced image.
- The `` tag is empty, it contains attributes only, and does not have a closing tag.
- The `` tag has two required attributes:
 - `src` - Specifies the path to the image
 - `alt` - Specifies an alternate text for the image
 - ``

IMAGES - STYLING

- Width & Height
 - ``
 - ``
- You can use absolute, relative or internet links for images.
- Image as link

```
<a href="orderedList.html">  
      
</a>
```

BACKGROUND IMAGE

- Background Image
 - <p style="background-image: url('html5.png');">
- Background Image Attribute
 - To avoid the background image from repeating itself, set the background-repeat property to no-repeat.
 - If you want the background image to cover the entire element, you can set the background-size property to cover.
 - For fix size you can do manually (eg :- background-size: 50px 50px;).
 - Also, to make sure the entire element is always covered, set the background-attachment property to fixed:

BACKGROUND IMAGE

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HTML5 – AUDIO ELEMENT

- Syntax

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

- The **controls** attribute adds audio controls, like play, pause, and volume.
- The **<source>** element allows you to specify alternative audio files which the browser may choose from.
- The text between the **<audio>** and **</audio>** tags will only be displayed in browsers that do not support the **<audio>** element.

File Format	Media Type
MP3	audio/mpeg
OGG	audio/ogg
WAV	audio/wav

HTML5 – AUDIO ELEMENT

- To start an audio file automatically, use the `autoplay` attribute.
 - `<audio controls autoplay>`
- Add `muted` after `autoplay` to let your audio file start playing automatically (but muted):
 - `<audio controls autoplay muted>`

HTML5 – VIDEO ELEMENT

- Syntax

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

- The **controls** attribute adds video controls, like play, pause, and volume.
- If height and width are not set, the page might flicker while the video loads.
- Source & Text between tag works same as audio element.

File Format	Media Type
MP4	video/mp4
WebM	video/webm
Ogg	video/ogg

HTML5 – VIDEO ELEMENT

- To start an video file automatically, use the autoplay attribute.
 - <video controls autoplay>
- Add muted after autoplay to let your video file start playing automatically (but muted):
 - <video controls autoplay muted>

TABLES

- HTML tables are used for displaying data that make sense in spreadsheet software. They consist of rows and columns and are often used on websites for the effective displaying of tabular data.
- A Simple Table Syntax

```
<table>  
  <tr>  
    <th>Headings</th>  
  </tr>  
  <tr>  
    <td>Data</td>  
  </tr>  
</table>
```

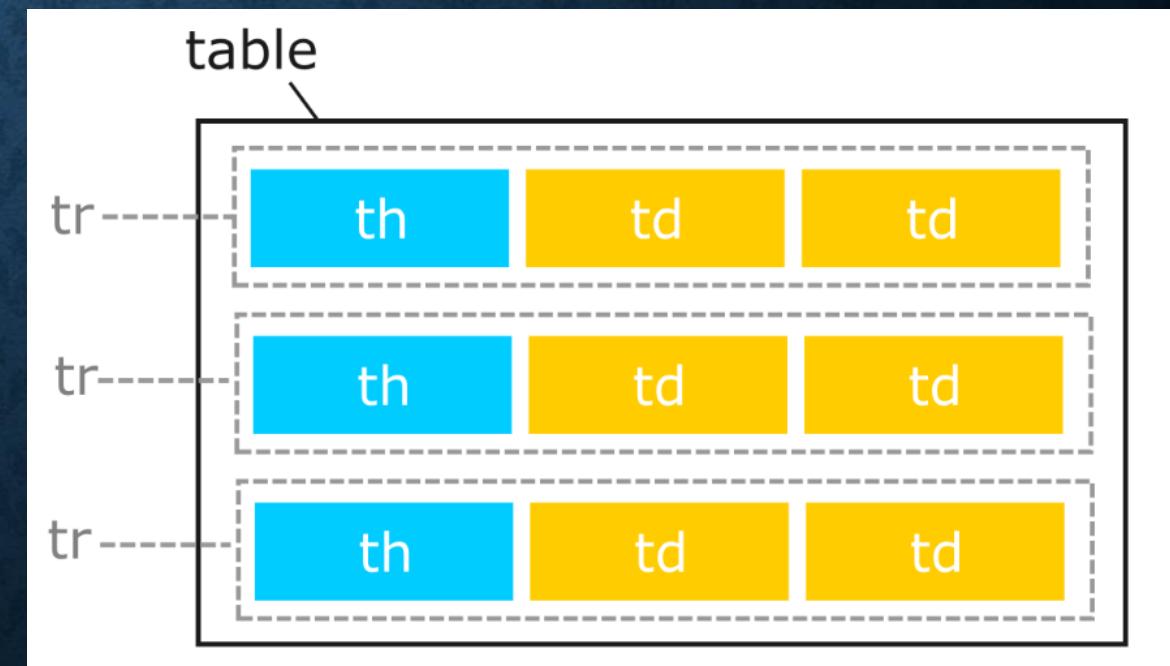


TABLE - BORDER

- To add border to your table we use border style property of CSS.
 - `border: 1px solid black;`
 - Here a single attribute border has 3 values
 - 1px – First value defines the size of border
 - Solid – This defines the style of border
 - Black – This defines the color of border
 - There are variety of border style which can also be applied through border-style property. Some of them are :- dotted, double, inset etc.
 - For Collapsing the border applied to multiple table element you can use border-collapse.
 - For Rounded border you can use border-radius property of CSS.

TABLE - SIZE

- style attribute with the width or height properties is used to specify the size of a table, row or column.

TABLE – SPACING & PADDING

- Cell padding is the space between the cell edges and the cell content.
 - Uses padding, padding-left, etc. attributes
- Cell spacing is the space between each cell.
 - Use border-spacing attribute.

TABLE – ROWSPAN & COLSPAN

- HTML tables can have cells that spans over multiple rows and/or columns.

Subject		John Doe	Miriam Luther
Biology	Practical	A	A
	Theory	A+	A
Chemistry	Practical	B	C
	Theory	A	C+
Physics	Practical	A	A
	Theory	A-	A-

TABLE – COLGROUP

- The `<colgroup>` element is used to style specific columns of a table.

- Syntax :-

```
<colgroup>
<col span="3" style="color: #FFEF00">
</colgroup>
```

- You can have multiple `<colgroup>` also.
 - You can also Hide the column using visibility attribute.

HTML FORMS

- For data collection a form is required.
- Form is created using the `<form>` element.
- `<input>` element is the most used element inside form element.
- There are various kind of input element which we will learn further.
- For labelling the form input we use `<label>` tag.

FORMS – RADIO BUTTON

- Radio buttons let a user select ONE of a limited number of choices.
 - Syntax :-
 - <input type="radio">
- Radio Buttons belonging to same group must have same name attribute.
- Checked attribute is used to have a pre-checked radio button.

FORMS – CHECKBOX

- Checkbox let a user select ZERO or MORE of a limited number of choices.
 - Syntax :-
 - <input type="checkbox">
- Checkbox belonging to same group must have same name attribute.
- Checked attribute is used to have a pre-checked checkboxes.

FORMS – SUBMIT BUTTON

- The `<input type="submit">` defines a button for submitting the form data to a form-handler.
- The form-handler is specified in the form's action attribute.