HTML

HTML is the combination of HyperText and Markup Language.

Hypertext means machine readable text. (Browser understand only HTML language)

Markup means to structure it in a specific format. (A markup language is used to define the text document within the tags which defines the structure of webpages.)

HTML and CSS creates the static webpage.

JS provides the dynamicity or functionality to the web page.

Emmet Abbreviation

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>

</body>
</html>
```

Shortcut for Emmet Abbreviation
html:5
shift + ! + enter

<!DOCTYPE html>
Must required code in HTML document.
Instruct the web browser about what version of HTML the page is written in.
DOCTYPE refers Document Type Definition.
(in older version the declaration is more complicated)

<html lang="en">
en refers to English language.

<head> </head>
Container of the HTML documents that contains information related to HTML document.
Placed between <html> and <body>

<head>	This section has global attributes.
<meta>	Holds information for machine processing not
<title>	human-readability.
<base>	Contains human visible information such as
<link>	top-level headings and listed-authors.
<script>	
<style>	
<head>	

<meta> tag
Contained in HTML element
Describes the document / data about the data such as who wrote it and its summary.
It has character set, Keywords, description, author, refresh, viewport.

<meta charset="UTF-8">

Defines the character set.

The Unicode Consortium develops the Unicode Standard. Their goal is to replace the existing character sets with its standard Unicode Transformation Format (UTF).

What is HTML?
      Creating a reference or a link to visualize the data on the user interface we use a technology called as HTML which can be abbreviated as Hyper Text Markup Language and that would be the first page to rendered on to the webpages.

Tags:

The HTML document is created using tags

Left angle bracket and Right angle bracket with tag-name.

There are two types of tags

1. Paired tags: Has opening tag and closing tag, <tag-name> </tag-name> .
                    Also called as Container tags

    Ex: <head>, <body>,…

2. Unpaired tags: Has only opening tag, <tag-name> .
                    Also called as non-container tags, Empty tags, void tags.

    Ex: <meta>

Basics Tags in HTML

Heading Tags: This tags creates HEADINGS in the HTML document.

All Heading tags are paired tags

There 6 Heading tag:

  h1, h2,h3, h4, h5, h6

Default size of heading tags:

<h1> 2em

<h2> 1.8em

<h3> 1.7em

<h4> bold

<h5> 0.83em

<h6> 0.67em

Element: A paired tag with content is called as an Element. (or)

A opening tag and closing tag with content is called as an Element

Ex: <h1>Hello</h1>

There are two types of element

1. **Inline level element:** which occupies only the width of the element.
2. **Block level element:** which occupies the entire width of the line that is from starting of the line to the ending of the line.

Some of the basic tags are:

Heading tags

Paragraph tag: <p> </p>

       To create paragraphs.

       Allows only single space between the characters.

       Line breaks are not allowed.

Preformatted tag: <pre> </pre>

       Prints as it is written inside this tag.

       Extra spaces and line breaks are allowed.

Div tag: <div> </div>

       Defines the division and section of the document.

       Block level element.

Span tag:

       Marks up the part of text or part of document.

       Inline level element

Image tag: <img src= " " alt= " ">

       Used to insert the image.

       Src: Source that specifies the path of the image document that should be embedded.

       Alt: Alternate text for the image which is visible on the webpage, if the image in the src cannot be displayed.

Attribute: Attribute gives the special state to the HTML element.

Or Attribute gives additional information to the HTML element.

Path

There are two types of Path.

1. **Absolute Path:** Directly fetching the image from the browser.
2. **Relative Path:** Fetch the image by a file name.

Formatting Tags

<b>, <strong>

<i>, <em>

<u>, <ins>

<mark>

<q>

<sub>

sup>

<del> (similar to strike)

<small>

<center>
<strike>   Deprecated tags as we have other options in CSS.
<big>
<tt>

<u>NOTE</u>: All formatting tags are inline level elements.

Anchor tag: The anchor tag converts the Hypertext to HyperLink exclusively with the href attribute.

<a>HOME ➜ This command displays normal text (Hypertext)

HOME

<u>NOTE</u>:

<p href= "*…link… *">HOME</p> ➜ This command creates Hypertext not HyperLink. As browser understandability is href= "" only with anchor tag.

<u>To make paragraph tag as link</u>:

      <p> content </p>

<u>Default color of <a> tag</u>:

Blue ➜ not visited

Purple ➜ visited

Red ➜ active

<u>Target attribute in <a> tag</u>:

target = "_blank" ➜ Hosted page opens in the new tab.

target = "_self" ➜ Hosted page opens in the same tab.

Q. Difference between HyperText and HyperLink?

HyperText	HyperLink
HyperText is the text that is visible on the UI	HyperLink is the text content that host other webpage on the website
HyperText can be created by the normal basic tags.	HyperLink is created with the anchor tag exclusively with the href attribute.

Core Attributes: As the name says core means the intial or the starting point.

There are Four Core Attributes in HTML.

- **Id:** The value of the id attribute should be *unique*, where id targets only the *individual* element.

- **class:** The *same value* of the class attributes is allowed. The class attribute targets *multiple* element.

- **title:** The title attribute creates the *tool tip*. Tool tip is a kind of *pop-up* which pops out when the cursor is placed on the targeted element

- **style:** The style attribute is used for *styling* the HTML element which is called as *inline CSS* styling attribute.

Marquee tag
The <marquee> tag creates the scrolling text or image or an element in the HTML document.
The default direction of the marquee tag is left to right.
Syntax:
< marquee behavior = "scroll" direction = "up" > Offer Fig caption offer...! < /marquee >

Attributes of marquee tag:
behaviour = alternate, scroll, slide
 specifies the behaviour of an element
direction = left, right, up, down
 specifies the direction of an element
bgcolor = red, orange,...
 gives the background color to the content

loop= in numbers

specifies the number of times the behavioural action is performed

scrollamount= in numbers (10) or with seconds (10s)

specifies the speed of the content
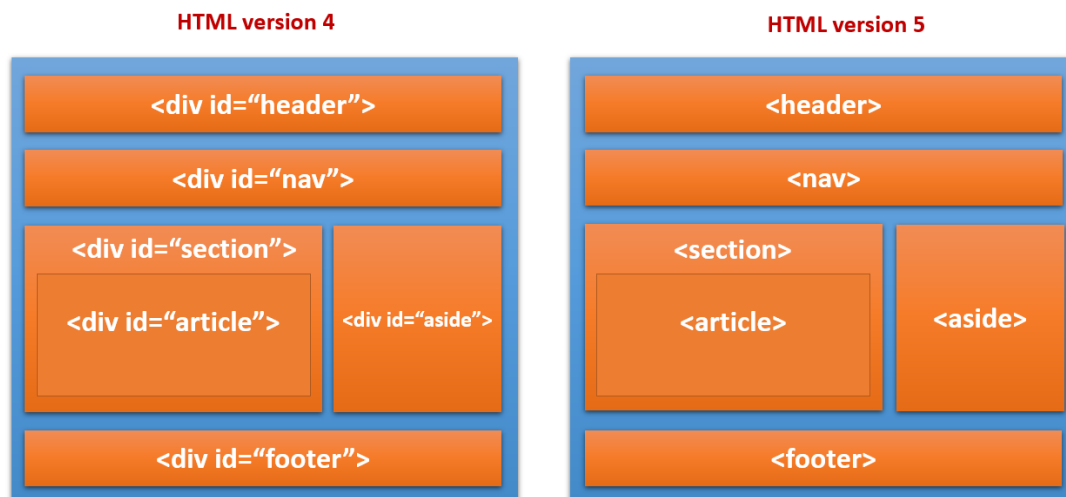
height = in pixels

gives height to the element

width = in pixels

gives width to the element.

Semantic Tags

The tags that describes its own meaning to both browser and developer.

HTML version 4

| <div id="header"> |
| <div id="nav"> |

| <div id="section"> | <div id="aside"> |
| <div id="article"> | |

| <div id="footer"> |

HTML version 5

| <header> |
| <nav> |

| <section> | <aside> |
| <article> | |

| <footer> |

H	⟶	Header
D	⟶	Detail
A	⟶	Article
M	⟶	Main
N	⟶	Nav
S	⟶	Section
T	⟶	Table
A	⟶	Aside
F	⟶	Footer
F	⟶	Figure , Figcaption, Form

Lists: HTML list, lists the set of related items together in the specific manner.

There are three types of Lists

1. Ordered List.
2. Unordered List.
3. Description/Definition List.

Ordered List:

Ordered List starts with the tag

Each item listed with the tag

We can use three attributes in Ordered List.

- type= "A", "a", "I", "i", "1"

  default value of type is Number
- start="4"

  the value of start should be Number
- reversed

Unordered List:

Unordered List starts with the tag

Each item listed with the tag

Attribute of Unordered List is:

- type = "circle", "square", "disc", "none"

  default value of type is disc

Description List

Description List starts with the tag <dl>

Each item listed with the tags

<dt> , <dd>

- <dt>   description term
- <dd>   description data

By default the description data appeara with some tab space.

Table

Table is used to structure the data in the form of rows and columns.

Table starts with the tag <table>

Table datas are inserted using the tags

<tr>, <th>, <tr>

- <tr>   ➔   table row
- <th>   ➔   table heading
- <td>   ➔   table data

We can use three attributes in table tag.

- border = "2"   ➔ gives border to the table.
- cellpadding = "15px"   ➔ gives space between content and border of the cell.
- cellspacing = "10px"   ➔gives space between adjacent borders of the cell.

cellpadding & cellspacing

cellpadding: Gives space between the content and border of the cell.

cellspacing: Gives the space between the adjacent cells.

colspan & rowspan

colspan: Merging two or more columns into a single cell.

rowspan: Merging two or more rows into a single cell.

Forms

HTML Forms is used to get the data form the user.

- In HTML Form is created using <form> tag.
- Label created using <label> tag.
- Textbox and field is created using <input> tag.
- Form is Semantic tags (every tag has meaning)
- <form> tag is the block level element.
- But all tags of form are inline level elements.

Syntax:

<form>

    <label for="username">Name</label>

    <input type="text" name="username" id="username">

</form>

<u>input</u>

        To get the data from the user.

<u>label</u>

        To tell user about the data that they should fill.

<u>for and id</u>

        for ➔ label and   id ➔ input

        value should be same.

        link the label and corresponding attribute.

<u>name</u>

        acts like a container

        holds the entered data (which is visible on the url, ex: username=Raj)

        name attribute should have same value in the input:radio to make any one option to be selected.

        name attribute should have same value in the input:checkbox also.

<u>value</u>

        most required attribute in the radio, checkbox, select tags.

        Without using value in radio, checkbox, select tags, it take the input as on.

<u>Form tags</u>:

        Label

            To tell user about the data that they should fill.

            Paired tag

        Input

            To take data from the user.

            Line breaks are not allowed in input.

            We can use placeholder attribute for faint text.

            Paired tag

            Input tag has 21 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">`

textarea

To take data from the user.

Line breaks are allowed in textarea.

textarea has col= "" and row= "" attribute where number of columns and rows of the data that wanted from the user can be taken

style= "resize= none"   to disable resizing the textarea by the user.

Paired tag

button

To create button

type= "submit"

type= "reset"

Paired tag

Button name should be mentioned

<u>Validation Attributes</u>

- Required
    - Input attribute, to make the field mandatory
- Disabled
    - Input attribute, to make the field disable
    - <input type="text" id="fname" name="fname" value="John" disabled>
- Placeholder
    - Input attribute, for faint text
- Min Length
    - <input type="text" id="pin" name="pin" minlength="4" size="4">
    -
- Max Length
    - <input type="text" id="pin" name="pin" maxlength="4" size="4">

<u>Input Attributes</u>

The min and max Attributes

The input min and max attributes specify the minimum and maximum values for an input field.

The min and max attributes work with the following input types: number, range, date, datetime-local, month, time and week.

Tip: Use the max and min attributes together to create a range of legal values.

Example
Set a max date, a min date, and a range of legal values:

<form>
  <label for="datemax">Enter a date before 1980-01-01:</label>
  <input type="date" id="datemax" name="datemax" max="1979-12-31">

  <label for="datemin">Enter a date after 2000-01-01:</label>
  <input type="date" id="datemin" name="datemin" min="2000-01-02">


```
  <label for="quantity">Quantity (between 1 and 5):</label>
  <input type="number" id="quantity" name="quantity" min="1" max="5">
</form>
```

The multiple Attribute

The input multiple attribute specifies that the user is allowed to enter more than one value in an input field.

The multiple attribute works with the following input types: email, and file.

Example
A file upload field that accepts multiple values:

```
<form>
  <label for="files">Select files:</label>
<input type="file" id="files" name="files" multiple>
</form>
```

Audio Tag

The <audio> tag is used to embed sound content in a document, such as music or other audio streams

```
<audio src="../HTML/calling-21139.mp3" controls></audio>
```

<u>Attributes of audio tag</u>

Attribute	Value	Description
autoplay	autoplay	Specifies that the audio will start playing as soon as it is ready
controls	controls	Specifies that audio controls should be displayed (such as a play/pause button etc)
loop	loop	Specifies that the audio will start over again, every time it is finished
muted	muted	Specifies that the audio output should be muted
preload	auto metadata none	Specifies if and how the author thinks the audio should be loaded when the page loads
src	URL	Specifies the URL of the audio file

Video Tag

The <video> tag is used to embed video content in a document, such as a movie clip or other video streams.

<video src="../HTML/istockphoto-1338832559-640_adpp_is.mp4" controls></video>

Attributes of video tag

Attribute	Value	Description
autoplay	autoplay	Specifies that the video will start playing as soon as it is ready
controls	controls	Specifies that video controls should be displayed (such as a play/pause button etc).
height	pixels	Sets the height of the video player
loop	loop	Specifies that the video will start over again, every time it is finished
muted	muted	Specifies that the audio output of the video should be muted
poster	URL	Specifies an image to be shown while the video is downloading, or until the user hits the play button
preload	auto metadata none	Specifies if and how the author thinks the video should be loaded when the page loads
src	URL	Specifies the URL of the video file
width	pixels	Sets the width of the video player

iframes
iframe is required to run a webpage inside another webpage
height and width can be given to iframe.
Not all website supports iframe because for security purpose.

<iframe src="" frameborder="0" height= "" width= "" ></iframe>

(to execute the youtube video, go to youtube➔open video➔share➔copy the embed format and paste in html)