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 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)

In HTML5, the `<!DOCTYPE>` declaration is simple:

```
<!DOCTYPE html>
```

In older documents (HTML 4 or XHTML), the declaration is more complicated because the declaration must refer to a DTD (Document Type Definition).

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
```

<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>

<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).

NOTE:

Unicode is a character set. UTF-8 is encoding.
Unicode is a list of characters with unique decimal numbers (code points). A = 65, B = 66, C = 67, ...

<meta name="viewport" content="width=device-width, initial-scale=1.0">
Viewport: user's visible area

width=device-width: screen width which will vary depending on the devices.

initial-scale=1.0: show the initial zoom level when the page is first loaded.

What is HTML?

HyperText Markup Language is the standard markup language for documents designed to be displayed in a web browser. It defines the content and structure of web content. It is often assisted by technologies such as Cascading Style Sheets and scripting languages such as JavaScript.

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

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:** An absolute path specifies the complete location of a file on the internet, similar to a full address. It includes the protocol (like http:// or https://), domain name, and the entire directory structure leading to the file.

2. **Relative Path:** A relative path specifies the location of a file relative to the current HTML page. Instead of providing the entire address, it tells the browser how many folders up or down and in which direction to go from the current page to find the file.

Formatting Tags

<b>, <strong>
<i>, <em>
<u>, <ins>
<mark>
<q>
<sub>
<sup>
<del> (similar to strike)

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

NOTE: 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

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

To make paragraph tag as link:
       <p> content </p>

Default color of <a> tag:
Blue ➜ not visited
Purple ➜ visited

Red ➔ active

Using <a> tag we can make:
Text ➔ internal Files
Image ➔ Website
Button ➔ Location

Target attribute in <a> tag:
target = "_blank" ➔ Hosted page opens in the new tab.
target = "_self" ➔ Hosted page opens in the same tab.
target = "_top" ➔ returns to the top of the page.
Target = "_parent" ➔ Hosted page opens in the parent webpage

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 initial 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.

iframes

iframe is required to run a webpage inside another webpage
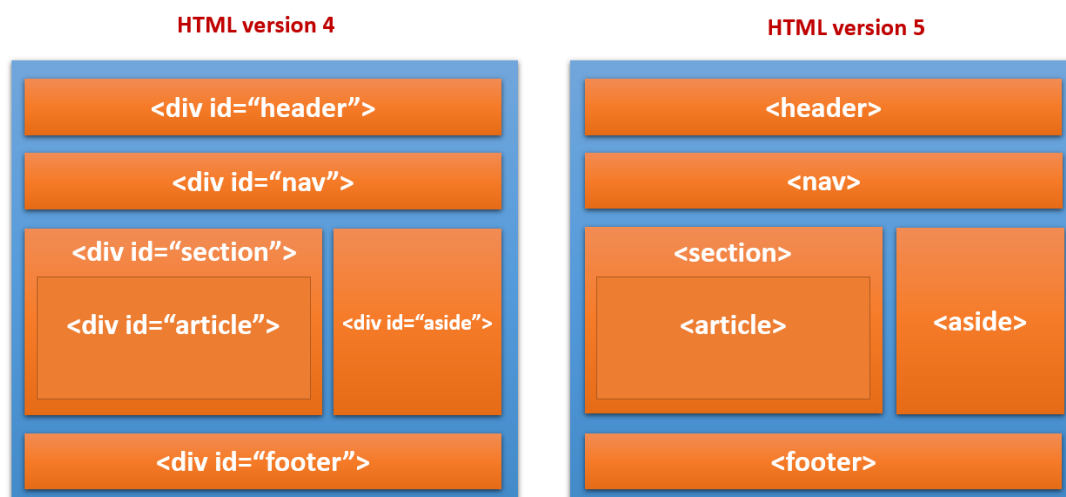
height and width can be given to iframe.

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)

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="article">	**<div id="aside">**

<div id="footer">

HTML version 5

<header>
<nav>

<section>	
<article>	**<aside>**

<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>

input
        To get the data from the user.

label
>   To tell user about the data that they should fill.

for and id
>   for ➔ label and   id ➔ input
>   value should be same.
>   link the label and corresponding attribute.

name
>   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.

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

Form tags:

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 14 types.

Input Type	Description
<input type="text">	Single-line text input
<input type="password">	Masked text input for passwords

Input Type	Description
<input type="checkbox">	Toggle for selecting multiple options
<input type="radio">	Single selection from multiple options
<input type="submit">	Button to submit form data
<input type="button">	General-purpose button
<input type="file">	Input for uploading files
<input type="number">	Input for numerical values
<input type="date">	Input for selecting dates
<input type="email">	Input for email addresses
<input type="color">	Input for selecting colors
<input type="range">	Slider for selecting a numeric value within a range
<input type="hidden">	Hidden input for form data
<input type="image">	Input using an image for form submission

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

fieldset

Gives border to the form
Paired tag

legend

Gives name to the border of the form which is created with the
fieldset tag.

Paired tag
Name / tag for the form should be mentioned as the content.

Example:

```
<form>
<fieldset>
        <legend>form</legend>
        <label for="username">Name</label>
        <input type="text" name="username" id="username">
        <button type="submit">Submit</button>
</fieldset>
</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>

Attributes of audio tag

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

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