HTML(Hyper Text Markup Language)

What is HTML?

HTML is the standard markup language for creating Web pages. A markup language is a type of language used to annotate text and embed tags in accurately styled electronic documents, irrespective of computer platform, operating system, application or program. (The term markup language is derived from the marking up of manuscripts, where handwritten markups were annotated in the form of printer instructions.)

Structure of HTML

An HTML Document is mainly divided into two parts:

- **HEAD**: This contains the information about the HTML document. For Example, Title of the page, version of HTML, Meta Data etc.
- **BODY**: This contains everything you want to display on the Web Page.

Sample structure looks like:





HTML file

Every web page is actually a HTML file. Each HTML file is just a plain-text file, but with a .html file extension instead of .txt, and is made up of many HTML tags as well as the content for a web page. A web site will often contain many html files that link to each other. You can edit HTML files with your favourite editor.

What is a Tag?

HTML tags are element names surrounded by angle brackets:

<tagname>content goes here...</tagname>

- **Paired Tags**:HTML tags normally come **in pairs** like and .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 **forward slash** inserted before the tag name.
- **Singular Tags**: These tags do not required to be closed.

What is Attribute?

All HTML elements can have **attributes** .Attributes provide **additional information** about an element .Attributes are always specified in **the start tag** .

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

<tagname name="value"></tagname>



Head and Title Tags:

The HTML <head> element is a container for metadata. HTML metadata is data about the HTML document. Metadata is not displayed.

The <head> element is placed between the <html> tag and the <body> tag

The <title> tag defines the title of the document. The title must be text-only, and it is shown in the browser's title bar or in the page's tab.

The <title> tag is required in HTML documents.

The contents of a page title is very important for search engine optimization (SEO)! The page title is used by search engine algorithms to decide the order when listing pages in search results.

The <title> element:

- defines a title in the browser toolbar
- provides a title for the page when it is added to favorites
- displays a title for the page in search-engine results

Heading Tags

HTML headings are titles or subtitles that you want to display on a webpage. Search engines use the headings to index the structure and content of your web pages. Users often skim a page by its headings. It is important to use headings to show the document structure.





HTML contains six levels of heading tags. <h1> defines the most important heading. <h6> defines the least important heading.

```
<h1>Heading1</h1>
<h2>Heading2</h2>
<h3>Heading3</h3>
<h4>Heading4</h4>
<h5>Heading5</h5>
<h6>Heading 6</h6>
```

Style Attribute:

The style attribute specifies an inline style for an element.

```
<tagname style="color:blue;text-align:center"></tagname>
```

Body Tag:

The <body> tag defines the document's body. The <body> element contains all the contents of an HTML document, such as headings, paragraphs, images, hyperlinks, tables, lists, etc. There can only be one <body> element in an HTML document.

Paragraph Tag:

The tag offers a way to structure your text into different paragraphs. Each paragraph of text should go in between an opening and a closing tag

```
<html>
<head>
<title>COVID-19</title>
</head>
<body>
```



Common symptoms include fever, cough, fatigue, shortness of breath, and loss of smell and taste. While the majority of cases result in mild symptoms, some progress to acute respiratory distress syndrome (ARDS) likely precipitated by a cytokine storm,multi-organ failure, septic shock, and blood clots. The time from exposure to onset of symptoms is typically around five days but may range from two to fourteen days

```
</body>
</html>
```

Image Tag:

The tag is used to embed an image in an HTML 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 has two required attributes:

- src Specifies the path to the image
- alt Specifies an alternate text for the image, if the image for some reason cannot be displayed

Also, always specify the width and height of an image. If width and height are not specified, the page might flicker while the image loads.



By default, image will have a border around it, you can specify border thickness in terms of pixels using border attribute. A thickness of 0 means, no border around the picture.

```
<img src = "/html/images/COVID.png" alt = "COVID" border = "3"/>
```

```
To link an image to another document, simply nest the \leq img > tag inside an \leq a > tag
```

```
<ahref="https://en.wikipedia.org/wiki/Coronavirus_disease_2019"> <imgsrc="COVID.png" alt="COVID" width="100" height="132"> </a>
```

Div Tag:

The div tag is known as Division tag. The div tag is used in HTML to make divisions of content in the web page like text, images, header, footer, navigation bar, etc. Div tag has both open <div> and closing </div> tag and it is mandatory to close the tag. The Div is the most usable tag in web development because it helps us to separate out data in the web page and we can create a particular section for particular data or function in the web pages.

```
<!DOCTYPE html>
<html>

<head>
    <title>div Tag</title>
    link rel = "stylesheet" href = "style2.css">
</head>

<body>
    <div color="red">
        COVID-19
    </div>
    <div color="blue">
        COVID-19
    </div>
    <div color="blue">
        COVID-19
    </div>
</html>
```





Form Tag and it's Elements:

HTML Form Controls

There are different types of form controls that you can use to collect data using HTML form –

Text Input Controls

Checkboxes Controls

Radio Box Controls

Select Box Controls

File Select boxes

Hidden Controls

Clickable Buttons

Submit and Reset Button

Text Input Controls:

There are three types of text input used on forms –

- Single-line text input controls This control is used for items that require only one line of user input, such as search boxes or names. They are created using HTML <input> tag.
- Password input controls This is also a single-line text input but it masks the character as soon as a user enters it. They are also created using HTMl <input> tag.
- Multi-line text input controls This is used when the user is required to give details that may be longer than a single sentence. Multi-line input controls are created using HTML <textarea> tag.

Single-line text input controls

This control is used for items that require only one line of user input, such as search boxes or names. They are created using HTML <input> tag.



Example

Here is a basic example of a single-line text input used to take first name and last name

Attributes

Following is the list of attributes for <input> tag for creating text field.

type: Indicates the type of input control and for text input control it will be set to text.

<u>name</u>:Used to give a name to the control which is sent to the server to be recognized and get the value.

<u>value</u>:This can be used to provide an initial value inside the control.

<u>Size:</u>Allows to specify the width of the text-input control in terms of characters.

Maxlength: Allows to specify the maximum number of characters a user can enter into the text box.

Password input controls

This is also a single-line text input but it masks the character as soon as a user enters it. They are also created using HTML <input>tag but type attribute is set to password.

Example

Here is a basic example of a single-line password input used to take user password





Following is the list of attributes for <input> tag for creating password field.

type: Indicates the type of input control and for text input control it will be set to text.

<u>name</u>:Used to give a name to the control which is sent to the server to be recognized and get the value.

<u>value</u>:This can be used to provide an initial value inside the control.

<u>Size:</u>Allows to specify the width of the text-input control in terms of characters.

Maxlength: Allows to specify the maximum number of characters a user can enter into the text box.

Multiple-Line Text Input Controls

This is used when the user is required to give details that may be longer than a single sentence.

Multi-line input controls are created using HTML <textarea> tag.

Example

Here is a basic example of a multi-line text input used to take item description





<u>name</u>:Used to give a name to the control which is sent to the server to be recognized and get the value.

rows:Indicates the number of rows of text area box.

cols:Indicates the number of columns of text area box

Checkbox Control

Checkboxes are used when more than one option is required to be selected. They are also created using HTML <input> tag but type attribute is set to checkbox..

Example

Here is an example HTML code for a form with two checkboxes

<!DOCTYPE html>





```
<html>
<head>
<title>COVID-19</title>
</head>
<body>
<form>

Symptoms
<input type = "checkbox" name = "Cold" value = "on"> Cold
<input type = "checkbox" name = "DryCough" value = "on"> Dry Cough
<input type = "checkbox" name = "BreathingProblem" value = "on"> Breathing Problem
</form>
</body>
</html>
```

Following is the list of attributes for <checkbox> tag.

<u>Type</u>:Attribute & DescriptionIndicates the type of input control and for checkbox input control it will be set to checkbox.

<u>Name</u>:Used to give a name to the control which is sent to the server to be recognized and get the value.

Value: The value that will be used if the checkbox is selected.

Checked: Set to checked if you want to select it by default.

Radio Button Control

Radio buttons are used when out of many options, just one option is required to be selected. They are also created using HTML <input> tag but type attribute is set to radio.

Example

Here is example HTML code for a form with two radio buttons

```
<!DOCTYPE html>
```

<html>





Following is the list of attributes for radio button.

type:Indicates the type of input control and for checkbox input control it will be set to radio.

name:Used to give a name to the control which is sent to the server to be recognized and get the

value.

value: The value that will be used if the radio box is selected.

checked:Set to checked if you want to select it by default.

Select Box Control

A select box, also called drop down box which provides option to list down various options in the form of drop down list, from where a user can select one or more options.

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Example

Here is example HTML code for a form with one drop down box





Following is the list of important attributes of <select> tag

<u>name</u>:Used to give a name to the control which is sent to the server to be recognized and get the value.

size:This can be used to present a scrolling list box.

multiple: If set to "multiple" then allows a user to select multiple items from the menu.

Following is the list of important attributes of <option> tag -

<u>value</u>:The value that will be used if an option in the select box box is selected.

selected: Specifies that this option should be the initially selected value when the page loads.

label: An alternative way of labeling options

File Upload Box

If you want to allow a user to upload a file to your web site, you will need to use a file upload box, also known as a file select box. This is also created using the <input> element but type attribute is set to file.

Example

Here is example HTML code for a form with one file upload box



Following is the list of important attributes of file upload box –

name:Used to give a name to the control which is sent to the server to be recognized and get the value.

accept:Specifies the types of files that the server accepts.

Button Controls

There are various ways in HTML to create clickable buttons. You can also create a clickable button using <input>tag by setting its type attribute to button.

The type attribute can take the following values

submit:

This creates a button that automatically submits a form.

Reset:This creates a button that automatically resets form controls to their initial values.

button: This creates a button that is used to trigger a client-side script when the user clicks that button.

image: This creates a clickable button but we can use an image as background of the button.





Example

Here is example HTML code for a form with three types of buttons

Hidden Form Controls

Hidden form controls are used to hide data inside the page which later on can be pushed to the server. This control hides inside the code and does not appear on the actual page. For example, following hidden form is being used to keep current page number. When a user will click next page then the value of hidden control will be sent to the web server and there it will decide which page will be displayed next based on the passed current page.

Example

Here is example HTML code to show the usage of hidden control





```
<br/>
<body>
<form>
This is page 10
<input type = "hidden" name = "pagename" value = "10" />
<input type = "submit" name = "submit" value = "Submit" />
<input type = "reset" name = "reset" value = "Reset" />
</form>
</body>
</html>
```

HTML Tables:

The HTML tables allow web authors to arrange data like text, images, links, other tables, etc. into rows and columns of cells.

The HTML tables are created using the tag in which the tag is used to create table rows and tag is used to create data cells. The elements under are regular and left aligned by default





```
Row 1, Column 2

Row 2, Column 1

</body>
</html>
```

Table Heading

Table heading can be defined using tag. This tag will be put to replace tag, which is used to represent actual data cell. Normally you will put your top row as table heading as shown below, otherwise you can use element in any row. Headings, which are defined in tag are centered and bold by default.

Cellpadding and Cellspacing Attributes

There are two attributes called cellpadding and cellspacing which you will use to adjust the white





space in your table cells. The cellspacing attribute defines space between table cells, while cellpadding represents the distance between cell borders and the content within a cell.

Colspan and Rowspan Attributes

You will use colspan attribute if you want to merge two or more columns into a single column. Similar way you will use rowspan if you want to merge two or more rows.

```
<body>
  Column 1
        Column 2
        Column 3
     Row 1 Cell 1
        Row 1 Cell 2
        Row 1 Cell 3
     >
        Row 2 Cell 2
        Row 2 Cell 3
     >
        Row 3 Cell 1
     </body>
```



Tables Backgrounds

You can set table background using one of the following two ways -

- bgcolor attribute You can set background color for whole table or just for one cell.
- background attribute You can set background image for whole table or just for one cell.

You can also set border color also using bordercolor attribute.

Note – The bgcolor, background, and bordercolor attributes deprecated in HTML5. Do not use these attributes.

Table Height and Width

You can set a table width and height using width and height attributes. You can specify table width or height in terms of pixels or in terms of percentage of available screen area.

Table Caption

The caption tag will serve as a title or explanation for the table and it shows up at the top of the table. This tag is deprecated in newer version of HTML/XHTML.

```
<br/><body>

<table border = "1
```

Table Header, Body, and Footer

Tables can be divided into three portions – a header, a body, and a foot. The head and foot are rather similar to headers and footers in a word-processed document that remain the same for every page,





while the body is the main content holder of the table.

The three elements for separating the head, body, and foot of a table are –

- <thead> to create a separate table header.
- to indicate the main body of the table.
- <tfoot> to create a separate table footer.

A table may contain several elements to indicate different pages or groups of data. But it is notable that <thead> and <tfoot> tags should appear before

Nested Tables

You can use one table inside another table. Not only tables you can use almost all the tags inside table data tag .

Example

Following is the example of using another table and other tags inside a table cell.

```
<!DOCTYPE html>
<html>
  <head>
     <title>COVID-19</title>
  </head>
  <body>
     >
        Name
           age
        >
           Ramesh Raman
           50
```



```
Shabbir Hussein
70
```

HTML Lists:

HTML Unordered Lists:

An unordered list is a collection of related items that have no special order or sequence. This list is created by using HTML tag. Each item in the list is marked with a bullet.

Example



```
Cover your mouth while coughing or sneezing
                   Maintain Social Distancing
            </body>
</html>
The type Attribute
You can use type attribute for  tag to specify the type of bullet you like. By default, it is a disc.
Following are the possible options –
ul type = "square">
ul type = "disc">
ul type = "circle">
Example:
Following is an example where we used 
<!DOCTYPE html>
<html>
      <head>
            <title>COVID-19</title>
      </head>
<body>
      ul type = "square">
            Precautions:
                   Sanitize your hands
                   Cover your mouth while coughing or sneezing
                   Maintain Social Distancing
      </body>
</html>
we can use
ul type = "disc">
ul type = "circle">
```



for disc, circle respectively.

HTML Ordered Lists

If you are required to put your items in a numbered list instead of bulleted, then HTML ordered list will be used. This list is created by using tag. The numbering starts at one and is incremented by one for each successive ordered list element tagged with .

```
Example:
```

The type Attribute

You can use type attribute for tag to specify the type of numbering you like. By default, it is a number. Following are the possible options –

```
 :Default-Case Numerals.
 :Upper-Case Numerals.
 :Lower-Case Numerals.
 :Upper-Case Letters.
```





```
    type="a"> :Lower-Case Letters.
```

Example

The start Attribute

You can use start attribute for tag to specify the starting point of numbering you need.

```
Following are the possible options –
```

```
- Numerals starts with 4.
- Numerals starts with IV.
- Numerals starts with iv.
- Letters starts with d.
- Letters starts with D.Example
```

Following is an example where we used <ol type = "i" start = "4" >

<!DOCTYPE html>



```
<html>
<head>
       <title>COVID-19</title>
</head>
<body>

    type = "i" start = "4">

Precautions:
              Sanitize your hands
              Cover your mouth while coughing or sneezing
              Maintain Social Distancing
</body>
</html>
HTML Definition Lists
HTML and XHTML supports a list style which is called definition lists where entries are listed like
in a dictionary or encyclopedia. The definition list is the ideal way to present a glossary, list of
terms, or other name/value list.
Definition List makes use of following three tags.
<dl> – Defines the start of the list
< dt > - A term
<dd> – Term definition
</dl> - Defines the end of the list
Example
Live Demo
<!DOCTYPE html>
<html>
       <head>
```



</head>

<title>COVID-19</title>

```
<body>
            <dl>
                   <dt><b>COVID 19</b></dt>
                          <dd>Caused by virus</dd>
                   <dt><b>COVID 19</b></dt>
                          <dd>Caused by virus</dd>
             </dl>
      </body>
</html>
```

Redirecting from one page to other:

Linking Documents

Anchor Tag:

The <a> tag defines a hyperlink, which is used to link from one page to another. The most important attribute of the <a> element is the **href attribute**, which indicates the link's destination.

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 webpage can contain various links that take you directly to other pages and even specific parts of a given page. These links are known as hyperlinks.

Hyperlinks allow visitors to navigate between Web sites by clicking on words, phrases, and images.

Thus you can create hyperlinks using text or images available on a webpage.

Note – I recommend you to go through a short tutorial on Understanding URL





Example

```
Let's try following example which links http://www.swecha.org at your page
```

The target Attribute

We have used target attribute in our previous example. This attribute is used to specify the location where linked document is opened. Following are the possible options –

```
_blank:Opens the linked document in a new window or tab.
_self:Opens the linked document in the same frame.
_parent:Opens the linked document in the parent frame.
_top:Opens the linked document in the full body of the window.
```

Example

Try following example to understand basic difference in few options given for target attribute.



Use of Base Path

When you link HTML documents related to the same website, it is not required to give a complete URL for every link. You can get rid of it if you use <base> tag in your HTML document header. This tag is used to give a base path for all the links. So your browser will concatenate given relative path to this base path and will make a complete URL.

Example

Following example makes use of
 tag to specify base URL and later we can use relative path to all the links instead of giving complete URL for every link.





```
</body>
```

Linking to a Page Section

You can create a link to a particular section of a given webpage by using name attribute.

This is a two-step process.

*First create a link to the place where you want to reach with-in a webpage and name it using <a...>
tag as follows –

```
<h1>HTML Text Links <a id = "top"></a></h1>
```

*Second step is to create a hyperlink to link the document and place where you want to reach –

Go to the Top

Download Links

You can create text link to make your PDF, or DOC or ZIP files downloadable. This is very simple; you just need to give complete URL of the downloadable file as follows -<!DOCTYPE html> < html>

```
<head>
<title>COVID-19</title>
</head>
<body>
```

 $<\!$ a href = "https://en.wikipedia.org/wiki/Coronavirus_disease_2019/notes.pdf">Download PDF File

</body>

</html>





References:

www.geeksforgeeks.com
www.w3schools.com
www.tutorialspoint.com



