

HTML

> **Web-page :**

A virtual page where all the content is displayed.

> **Website / web application :**

The collection of webpages where we can navigate from one page to other page.

> **Web :**

→ Web is a network where all the data or information is stored.

→ The user can access those information via that network with the help of internet.

> **World wide web (WWW) :**

It is a global network where all the networks are available. It created by 'Tim Berners Lee' (1990).

> **Internet :**

It is a medium to access the network of networks.

Web - Technology

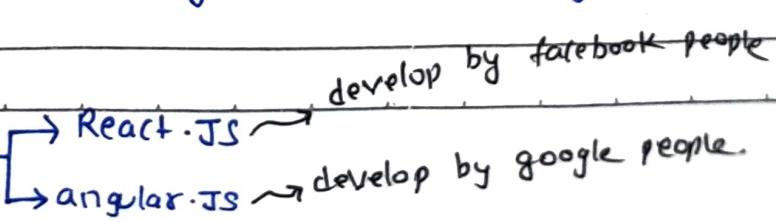
→ The technology which is used to create a webpage is known as web-technology.

→ The basic technologies used for web technologies are :-

• HTML

• CSS

• JS



Q) How web works ?



hyper
text

unique name of a website that helps people to find on internet.

Steps:

- i) First the user search a domain on the browser.
- ii) The browser generate an http request and send back request to dns.
- iii) The domain name server translates the request into ip address and send that to the database.
- iv) The database matches the Ip address and if the ip address it returns the output as hyper text to browser.

Http :

- i) It stands for hyper text transfer protocol.
- ii) It is a set of rules in order to transfer the request and transfer back as a hyper text

HtTps :

- i) It stands for hyper text transfer protocol security.
- ii) It provides extra security.

Types of Web - Pages

↓
Static web page

↓
dynamic web page

➤ Static web-page :

~~content~~ The web page which have the same content device to device and time to time

→ Static webpage does not have behaviours.

→ To create a static web page or to build a static webpage we only need a html and css.

Ex: w3 school , wikipedia .

➤ Dynamic web-page :

Those web-page where the content changes dynamically from time to time and device to device .

→ Dynamic webpages have behaviours

→ To build a dynamic web page ; we need html, css, javascript .

Ex: Myntaa, instagram, dysney , etc.

Types of Web - Application

↓
Single page application

↓
Multi page application

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> Single page application :

- This application does not render every time
- It is faster as compared to multipage application
- Easier to build.
- It takes very less memory
- less secured
- Example like Instagram, facebook, linkedin, etc.

> Multipage applications

- Multipage Application renders every time
- It is slower as compared to single page application
- Complex to build.
- It occupies more memory.
- It is more secured.
- Example like flipkart, Amazon, etc.

Html

- Html stands for hyper text-markup language.
- Html is used to create structure of the web page.
- It consists of predefined tags, elements and attributes.

Structure of Html

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```
<!DOCTYPE html>
<html lang = 'en'>
<head>
    <meta character = "UTF-8">
    <meta name = "viewport" content = "width=device-width
        initial-scale = 1.0">
    <title> Document </title>
</head>
<body>
    hello world
</body>
</html>
```

Doctype tag :

This tag is used to specify the current version of html document. It is known as the doctype declaration.

HTML tag :

- It is the root tag of HTML document.
- All the codes of HTML is written inside the html tag.

head tag :

It is used to store the additional information about the body.

meta tag :

- It is used to store the meta data about the webpage.
- Meta data like char-set or the width of viewport.

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title tag :

To give the title of the webpage and to display that title in the title bar for that we use title tag.

body tag :

It is used to add content on the web page.

heading tag :

→ use to give heading to content on webpage.

→ total 6 head tag :-

`<h1> ----- </h1>` → 32 px

`<h2> ----- </h2>` → 28 px

`<h3> ----- </h3>` → 24 px

`<h4> ----- </h4>` → 18 px

`<h5> ----- </h5>` → 12 px

`<h6> ----- </h6>` → 8 px

- All these heading tags differ by size
- h1 is biggest and h6 is smallest one.

Paragraph tag :

→ use to add description type of content, or we want to write multiple lines of content in a paragraph.

→ It is a paired tag. (`<p> ----- </p>`)

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Preview tag :-

→ If we want to display the exact preview in the html document on to the webpage then we use `pre` tag.

→ It is a paired tag (`<pre>`---`</pre>`)

Break tag :-

→ Br tag is used to break the line and display the next content in the next line.

→ It is unpaired tag (`
`).

horizontal tag :-

→ If we want a horizontal line within a row then we use `<hr>` tag.

→ It is unpaired tag (`<hr>`)

Tags :-

→ The predefined words in HTML enclosed with `<>` braces are known as tag.

→ Tags are used to give instruction to the browser about how the content will be displayed and what content should be displayed on the webpage

→ There are two different types of tags in html :-

i) Paired tag / double tag.

ii) Unpaired tag / single tag...

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(i) Paired tag :

→ Those tags which have an opening tag as well as a separate closing tag are known as paired tag.

→ We can add content between the opening and closing tag.

Example :- h1, h2, p, par, body, etc.

(ii) Unpaired tag :

→ Those tag which have an opening tag but does not have a separate closing tag are known as unpaired tag.

→ It is also known as self closing tag.

→ These tag are used to give instruction about the content, not to add any additional content unlike paired tag.

Example :- hr, br, img, meta, etc.

Semantic tag :

→ Those tag which describes the purpose of it just by its name is known as semantic tag.

→ Following are some of the semantic

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Header tag :

→ If we want to create the top most part of the webpage or the header part of the webpage, for that we use header tag.

→ It is a paired tag (`<header> --- </header>`)

main tag :

→ If we want to create the main area of the webpage for that we use main tag.

→ It is a paired tag (`<main> --- </main>`)

Footer tag :

→ If we want to create bottom most part of the webpage or the footer part of the webpage for that we use footer tag.

→ It is a paired tag (`<footer> --- </footer>`)

section tag :

→ If we want to create different section in the webpage for that we use section tag.

→ Basically it is used to group multiple elements.

→ It is a paired tag (`<section> --- </section>`)

Article tag :

→ If we want to add different section within the section or if we want to add individual content then we can use article tag.

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button tag :

It is used to create button.

non-semantic tag :

Those tag which does not describe its purpose just by its name those tags are known as non-semantic tag.

Example :-

<div> tag :

- If we want to create division in the webpage then we use div tag.
- It is used to group multiple elements.
- div is a block level element.

 tag :

- If we want horizontal division in the webpage then we use span tag.
- It is also used to group multiple elements.
- It is an inline level element.

formatting tag :

- Those tag which are used to format the text content are known as formatting tag.
- Following are some of the formatting tags are :-

- (i) --- tag :
 → B stands for bold
 → If it is used to make any text as bold.
- (ii) <i> --- </i> tag :
 → i is stands for italic.
 → If it is used to make any of text in italic format.
- (iii) <u> --- </u> tag :
 → u stands for underline.
 → If we want underline under any of the text then we use 'u' tag.
- (iv) ⁻⁻⁻ tag :
 → sup stand for superscript.
 → If we want any of the text to be displayed as superscript, the text should be little above of the normal text then we use sup tag.
- (v) ₋₋₋ tag :
 → sub stand for subscript.
 → If we want any of the text to be displayed as subscript, the text should be little below of the normal text, then we use sub tag.
- (vi) --- tag :
 → del stand for delete
 → If we want any text to be displayed

as a deleted text, a cut mark should be there in that text. for that we use del tag.

<vii> <mark> --- </mark> tag :

→ If we want to highlight any of text then we use mark tag.

→ a yellow color background will appear around that text.

<viii> --- tag :

→ It is an alternate for bold tag.

→ It is also used to make the text as bold.

<ix> <ins> </ins> tag :

→ It stands for insert.

→ It represents inserted text.

→ It is an alternate for underline.

<x> --- tag :

→ em stands for emphasized.

→ It is an alternate for italic tag.

<xi> <strike> --- </strike> tag :

→ It is a deprecated tag.

→ It is an alternate for del tag.

XII> <small> --- </small> tag :

→ It is used to make any text smaller than the normal text.

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Elements

- The complete tag along with the content is known as element.
- If we have a paired tag then opening tag, closing tag and the content combined together considered as one element.
- If we have Unpaired tag where we don't add additional content that is considered as an empty element/void element.

There are 3 types of HTML elements are :-

- i) Block-level Element
- ii) Inline-level Element
- iii) Inline-block-level element.

i) Block-level element:-

Those elements which takes 100% width of the viewport are known as block-level elements.

- The next element will be displayed in the newline irrespective of CSS properties applied.

Ex:- div, p, h1,

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ii) Inline-level Elements :

Those elements which takes only the width of content are known as inline-level element.

→ The next will be appeared in the same line.

Ex: a, span, button, input, ~~sh~~ tag, etc

iii) Inline-block level element:

These element are the combination of block level and inline-level element.

→ It takes more than 100% of width of the view port.

→ The next element will appear in the same line only if the space is left. If the space for the next element is not available in the same line then it will appear on next line.

Ex: img tag, video tag, iframe tag, etc.

Attributes

- Attributes are nothing but properties given to its specific elements.
- It is used to store additional information about the element.
- It is written in the opening tag of an element just after the name of tag.

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- Attributes are either in the form of key-value pair or just an individual key.
- There are two types of attributes in HTML :-
 - i) Core attribute
 - ii) Element specific attribute

1) Core attribute : Those attributes which can be used with all the HTML elements.

There are 4 basic core attributes in HTML are :-

- i) id
- ii) style
- iii) class
- iv) title

i) id attribute

→ It is used to give a unique identity to a particular element.

→ Id always should be unique for each and every element.

→ Using Id we can apply CSS properties or javascript functionality in that element.

Ex: `<h1 id='a1'> hello </h1>`

ii) class attribute

→ Class is used to give the same name to multiple elements.

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→ If we want to apply similar CSS or similar javascript functionality then we use class.

Ex: `<p class='abc'> i am para </p>`
`<h1 class='abc'> i am h1 </h1>`

Note: → Class name and id name should not be start from upper case, number, or special character.

→ We can use these in middle of name.
And Space is not allowed.

III > Style Attribute

→ If we want to apply CSS property directly to an element then we use style attribute.

→ All the CSS property we can write inside the style attribute.

Ex: `<div style="background-color: blue;
color: red;"> i am div </div>`

IV > title attribute

→ If we want to give a title to the element then we use title attribute.

→ The title of the element will be displayed as a dialogue box when we hover on the element.

Ex: `<p title="HtTp"> Html </p>`

2.7

Element Specific attribute:

Those attributes which is used with specific element and not with all the HTML elements are known as element specific attribute.

Attribute

Ex: (i) src → It works with audio tag, video tag and img tag.

(ii) href attribute → It works with anchor tag and link tag.

Attribute

(iii) type → It is used with list and input tag.

Attribute

→ img tag:

→ If we want to insert image in our ui then we use image tag.

→ user interface

→ It is an unpaired tag.

→ It is an inline block level element.

→ Following are the attribute used in image tag :-

i.) src :

→ It stands for source

→ It is used to provide the path of the image.

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COMPASS

Date : _____

i)

➤ marquee tag :

→ It is a paired tag

→ It is used to make any content move from one place to other place.

→ It is deprecated from HTML because same thing can be done using CSS.

→ Following are the attributes used in marquee tag :-

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i) scroll amount:

→ It is used to increase or decrease the speed of the marquee.

→ Here have to give numeric value inside of scroll amount.

ii) direction:

→ To change the direction of the marquee we use direction attribute.

→ Values which we can give inside direction are : left, right, up, down.

→ Left is the bydefault direction.

iii) behaviour:

→ To change the behaviour of the marquee, either scrollable or slideable or alternate, for that we can use behaviour attribute.

Ex:- <marquee direction="right"

scrollamount="15"

behaviour="slide"> move

</marquee>

Hyper links

- Hyperlinks are used to redirect to a destination web-page.
- There are two different types of hyperlinks :-
 - hypertext
 - hyperlink image
- hypertext → The text which appears as a link.
- hyperimage → The image which appears as a link.

If we want to create these hyperlinks then we use a tag in html.

> anchor tag (i.e a tag) :-

- a tag stands for anchor tag.
- Using anchor tag we can create an hyperlink.
- It is a paired tag. (`<a>` + ``)
- It is an inline-level element.
- Any content wrapped inside the anchor tag is used to redirect as to destination page.
- Following are the attributes used in anchor tag:-

i.) href :-

- href stands for hyperlink reference
- We provide the path of destination page inside the href attribute.

ii) target :

- It is used to specify where the web page should be opening.
- We can specify if the destination page should be opening in same tab or new tab.
- We can also reach to the top of the web page using target attribute.
- Values which we can give inside target attribute are :-

a.) self :

→ It is by default value of target.

→ It is used to specify the destination web page should open in same tab.

b.) blank :

→ It is used to specify the destination page should open in a blank / new tab.

c.) top :

→ It is used to create a go to top link within the webpage.

→ Using 'top' we can reach top of webpage.

→ To use this, we should not provide any link to href ..

d.) parent :

→ If we want to open the destination webpage in the parent container then we use 'parent'.

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hyperlink

COMPASS

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Example :-
w3 school

Example:-

→ Destination page from the local folder :-

Example: open image

Absolute - Path :

When we provide the path from outside
of device that known as absolute path
Ex. Netflix.com.

Relative - Path :

→ If we provide the path from the local
folder then it is known as relative path.

→ If we want to access the path inside
the current folder for that we use . / (entering
to current folder)

→ If we want to access the path outside
of folder then we use .. / (coming out of
current folder).

* { Note:- Single .(dot) used to initiate
the path

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<input type="checkbox"/>						

Lists

↓
Ordered list

↓
Unordered list

↓
Description list

→ If we want to store data in a list format for that we have different ways.

→ In HTML, there are 3 different types of list :-
i) ordered list
ii) unordered list
iii) description lists.

i) Ordered - List :-

If we want to create the list the data will be stored in an ordered format.

→ In this type of list data's are stored as per the priority.

Following are the tags used to create an ordered list e -

a) OL tag

→ OL stands for ordered list.

→ It is used to create a block of ordered list.

→ It is a paired tag.

→ All the data or item are stored within the OL tag.

b.) Li tag

→ Li stands for list item.

→ It is used to add the data or items within the ol tag.

→ It is a paired tag.

Example :

 Yashaswi

 Risabh

 Rahul

 Virat

→ Attribute used in ol tags are :-

i) type

ii) start

iii) reversed.

type :-

→ To change the value of ordered we can use type attribute.

→ Values which we can give inside type attribute are :- 1, a, A, i, I

start :-

→ If we want the list to start from a specific value then we use start attribute.

→ start attribute accepts numeric value.

→ Any type of the list will get effected by numeric value only given in start attribute.

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<input type="checkbox"/>						

• Reversed :-

- It is used to reversed the order of the list.
- It does not require any value.

Example :

```
<OL type="a" start="3" reversed>
```

ii) Unordered list :-

If we want a list in a unordered manner; then we use unordered list.

- Here the data can be stored in any order.
- Data is not stored based on priority.
- Following are tags used to create Unordered list :-

a) UL tag :

- UL stands for Unordered list.
- It is used to create block of unordered list.
- It is a paired tag.
- All the items are wrapped/stored within the UL tag.
- The list is displayed in a bullet point.

b) LI tag :

- LI stands for list item
- It is used to add the items within a UL tag.

→ The attribute used in UL tag are :-
 ↳ type.

Type :-

- It is used with UL tag
- It is used to change the style of the bullet points
- Value we can give are :- disc, circle, square and none.

iii) Description list :-

When we want to create a list where the description about the item will also be added; then we use description list.

→ Following are the tag used to create description list :-

a) dl tag :

- dl stands for description list.
- It is used to create block of description list
- It is a paired tag.

b) dt tag :

- dt stands for description title.
- It is used to give the title of the item.
- It is a paired tag.

c) dd tag :

- dd stands for description data
- The description about the title is written within the dd tag.
- It is a paired tag.

Table

- Table is a collection of rows & columns.
- we can store data in a tabular format.
- In html, if we want to create table then we have certain tag for it.

i) <table> tag :

- table tag is used to create block of the table.
- It is a paired tag.

ii) <thead> tag :

- It is used to create head block of table.
- thead stands for table head.

iii) <tbody> tag :

- tbody stands for table body.
- It is used to create main body of table.
- All the data are added inside body of table.

iv) <tfoot> tag :

- tfoot stands for table foot.
- It is used to create footer part of table.

v) <tr> tag :-

→ tr stands for table row

→ tr tag is used to create rows of table

vi) <th> tag :-

→ th stands for table heading,

→ it is used to add heading of the column

vii) <td> tag :-

→ td stands for table data

→ it is used to add the data in column

⇒ Attributes used in table tag :-

(i) cellpadding :-

If we want to set the gap b/w the content and the cell border then we use cellpadding.

(ii) cellspacing :-

If we want to set the gap b/w the each cell then we use cellspacing.

(iii) border :-

→ It is used to add borders in the table

→ It is deprecated because we can use CSS to add border.

⇒ merging rows & columns :-

(i) colspan :- It is an attribute used to merge multiple columns

→ we can give value as the number of columns to be merged.

(ii) rowspan :- Rowspan is an attribute which is used to merge multiple rows

→ we can give value as the no. of rows to be merged.

FORMS

- Forms are used to take the user input and use that data as per requirement.
- In HTML, if we want to create forms, then we use following tags :-
 - i) Form
 - ii) fieldset
 - iii) legend
 - iv) label
 - v) input
 - vi) textarea
 - vii) select
 - viii) option

i) Form tag :

- It is used to create the block of form.
- All the features of form will work when we use form tag.

ii) fieldset tag :

- If we want to create ~~first~~ fields in the form block then we use fieldset tag.

iii) legend tag :

- It is used to give the names ~~unto~~ to the fieldset
- To get the decorated heading in the top corner borders of the fieldset; we should use legend tag inside of fieldset tag.

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<input type="checkbox"/>						

iv) label tag:

- It is used to give label to the input box.
- To specify what input should be given in the input box, we use label tag.

• 'for' attribute :

With label tag, we can use 'for' attribute in order to interconnect the label with a 'input box'.

v) input tag:

- It is used to create input boxes.
- The user can write the inputs with in the input box.
- 'type' attribute is mandatory inside the input box.

vi) text area:

- If we want such input box where multiple lines can be written then we use text area.

• cols

• 'cols' attribute:

If we want to restrict the no. of character to be displayed in one columns then we use 'cols' attribute.

• 'rows' attribute:

If we want to restrict the

no. of rows to be displayed then we use 'rows' attribute.

VII) Select tag:

- If we want to create dropdown then we use select tag.
- To make the selection among the multiple options 'select' tag is required.
- To add options we use option tag.

VIII) Option tag:

- Option tag is always used inside the 'select' tag.
- As many option we want to give within the select tag that many 'option' tag we have to use inside 'select' tag.

> Types of input boxes :-

- We can create different types of input boxes using 'type' attribute.
- In order to create such input boxes, we provide different values within the 'type' attribute.

• "Type" Attributes :

- To create different types of Input box we have to use type attribute.

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COMPASS

Date : _____

- Values used in type attribute :-
- Values which we can provide in type attributes are :-

- i) text (default)
- ii) number
- iii) Password
- iv) reset
- v) email
- vi) month
- vi) date
- vii) week
- viii) date-time-local
- ix) radio (single option)
- x) checkbox (multiple option)
- xi) Search
- xii) Submit
- xiii) file
- xiv) image
- xv) range

- Attributes used in input tags :

- i) type
- ii) min length.
- iii) Placeholder
- iv) value
- v) required
- vi) name
- vi) readonly
- vii) disabled
- viii) maxlength

• type attribute : It is used to create different types of input boxes.

• Placeholder attribute : If we want instruction inside of the input box, then we use placeholder .

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COMPASS

Date :

- value attribute :- If we want a default value inside of that input box; then we use value attribute.
- required attribute : If we want to make an input box as mandatory to be filled then we use required attribute.
- name attribute : To give the name to the input box, we use name attribute. We can give same / different name also.
- readonly attribute : If we give an input box the read only attribute then we cannot add or change the value inside that input box.
 - It will be readable only.
 - does not require any value.
- disabled attribute : If we give disabled attribute in a input box then that input box will appear as forbidden.
- maxlength : If we want to restrict the maximum no. of character in a input box then we use maxlength.
- minlength : To restrict the minimum no. of character in a input box, we use minlength attribute.

Multimedia tags

i) Audio tag :

→ If we want to insert audio in our webpage then we use audio tag.

→ Attributes used with audio tag are :-

i) src v) loop

ii) controls

iii) muted

iv) autoplay

i) src :- → src attribute used to provide the path of the audio.

→ We can give relative path for the audio.

~~Ans~~ ** → We cannot give absolute path for audio.

ii) controls :- → It is used to display the control panel of the audio on our webpage.

→ Within that control panel we get play, pause button, time duration, duration range, volume button and play back speed.

iii) muted :- → If we want the audio to be muted by default as soon as the webpage load for that we use muted attribute.

iv) autoplay :- → If we want the audio to start playing automatically as soon as.

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the webpage load, then we use autoplay.

4. > loop :- If we want the audio to keep on playing on the loop, then we use loop attribute.

Example:-

```
<audio src=". /audio-path" controls muted autoplay  
loop></audio>
```

2. > Video tag :

→ If we want to insert video in our web-page then we use video tag.

→ It is an inline block level element.

→ Attributes used with video tags are:-

- i) src vi) poster
- ii) controls vii) height
- iii) autoplay viii) width.
- iv) muted
- v) loop

~~4.5~~ Note:- All first-five attribute are same functionality as that of audio tag.

vi) Poster :- → If we want to add thumbnail in the videos then we use poster attribute

→ We provide the path of the

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Image P inside the poster attribute.

(VII) height :- To set the height of video

(VIII) width :- To set the width of video

Example :-

```
<Video src=". /video-path" controls height="300px"  
width="600px" muted autoplay loop  
poster="thumbnail-Path"> </Video>
```

3) Iframe tag :

→ If we want to add another web-page in the part of our own web-page then we use Iframe tag.

→ We can add google maps, youtube-videos, etc to our own web-pages.