Web Technology :-

1. HTML :- structure of our webpage
2. CSS :- styling and Alignment
3. Javascript :- functionalities

HTML :-

-> Introduction
-> History of HTML
-> structure of HTML
-> Tags
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-> Inframe
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1. Introduction

→ Html stands for Hyper Text markup language

→ It is used to provide structure of our webpage.

→ To create a Html file, save it with the extension .htm or .html (preferably .Html because it provides readability of the user)

→ It is not case-sensitive which means the code can be written either in uppercase or lowercase (preferably lower)

2. HISTORY

→ HTML was introduced by Tim Berners Lee in the year 1991

→
- HTML 1.0 → 1993
- HTML 2.0 → 1995
- HTML 3.2 → 1997
- HTML 4.01 → 1999
- HTML 5.0 → 2014

NOTE:- currently we are using Html 5.0 Version

3. Structure / Template / Boilerplate of HTML :-

```
<!Doctype Html>        → tells that we are using Html5 Version
<Html>                 → Root Element
<Head></Head>          → Details of our webpage
<body>
</body>                → Elements to be Displayed or content
</Html>
```

4. TAGS

→ Any predefined word enclosed in angular braces are referred as 'Tags'

Types of Tags :-

→ There are 2 types of Tags in Html

1) Paired Tags
2) unpaired Tags

1) paired Tags :- These are the tags has both opening and closing tag

Ex :- Html, head, body

2) unpaired Tags :- These are the tags that has only opening tag

ex :- doctype Html

5. Heading Tags :-

To display the heading on our webpage we have six different heading Tags ranging from h1 to h6

<h1></h1>
<h2></h2>
<h3></h3>
<h4></h4>
<h5></h5>
<h6></h6>

decreases in font-size

If any invalid tag fontsize is default.

Interview question :- If content is in head tag or if there is only content without any html structure still browser displays the result.

6. Paragraph Tag :-

To display a paragraph on our webpage we use

NOTE :- To generate random content of 50 words we specify as lorem50

To generate random content of 50 lines we specify as lorem * 50

7. Comments

comments are the piece of code i.e not executable by the browser

comments are mainly used to improve readability of code

Syntax :- <!-- comment -->

8. Formatting Tags :-

Formatting Tags are used to add the changes in the appearance of the text content

1. or
   makes the content appear in bold
2. or (emphasis)
   makes the content appear in italic (tilt or slant)
3. <u></u> or <ins></ins> (insert)
   provides underline for specified text content
4. <strike></strike> or <del></del> (delete)
   It passes a line through the content
5. <mark></mark>
   It highlights the specified text content
6. (superscript)
   makes the content (text) appear slightly above the content level
7. (subscript)
   makes text appear slightly below the content level.
8. <big></big> makes the text appear in bigger font size when compared to the default fontsize
9. <small></small> makes the text appear in smaller fontsize when compared to default fontsize

9. Elements

Elements are the combination of opening tag and closing tag along with content in between.

Types :-

Based on width Taken by the element on our webpage elements are classified in 2 types

1) Block level -Elements
2) Inline level Elements

1) Block-level Elements :- These are the elements that take entire width of the webpage.

Example :- Heading Tags, paragraph Tags

2) Inline-level Elements :- These are the elements that take only the content width

Example :- Formatting Tags

10. LISTS

List :- It is a collection of related items.

Types :- There are three ways of creating a list in Html

1) ordered list
2) unordered list
3) Description / Definition list

1. OrderedList :-

-> It is a type of list that maintains proper seq

-> That sequence can be numerical (default), alphabetical (upper or lower case), and the roman number sequence (upper or lower case)

-> To create an ordered list in Html we use and to display the data into it we use the which refers to list item

Attributes used :-

1. type :- this attribute is used to modify the sequence of ordered list

It can take values like 1
A
a
I
i

2. start :- This attribute specifies which characters or the number should start with.

It will take only the numerical values

3. Reversed :- This attribute converts the list sequence in reversed order

Example :-

```
<body>
  <ol type = "a" start = "s" reversed>
    <li> Beulah </li>
    <li> Deborah </li>
    <li> Dorcus </li>
    <li> Pista </li>
    <li> Forest </li>
  </ol>
</body>
```

output :-

s. Beulah
d. Deborah
c. Dorcus
a. Pista
0. Forest
-1
-2
⋮

2- unordered list :- It is the type of list that doesnot maintain any sequence

→ sequences can be disc (default), circle, square

To create an unordered list in Html we use and to specify the data into it we use which refers to list item

Attributes used :-

1) type : this attribute is used to change the sequence of list item in unordered list

It can take the values like disc, circle, square

Example :-
```
<ul type = "square" >
    <li> NIJOUFER </li>
    <li> JIFAFA </li>
    <li> JUA </li>
```

output :-

- NIJOUFER
- JIFAFA
- JUA

3. Description / Definition list :- It is a set of terms and their description.

To create a description/definition list we use the <dl></dl> and to specify the term into it we use the <dt></dt> (data term) and to specify the description about the term we use <dd></dd> (data description)

Example :-

```
<h1> FRONTEND SUBJECTS </h1>

<dl>
<dt> HTML </dt>
<dd> Hyper Text Markup Language </dd>
<dt> CSS </dt>
<dd> Cascading style sheet </dd>
<dt> JS </dt>
<dd> Java Script </dd>
```

11. Nested List :-

Nested list :- It is a way of creating a new list inside another list

Example :-

```
<ol type="1">
  <li> python </li>
  <ul type="disc">
    <li> monty </li>
    <li> krishna </li>
  </ul>
  <li> Java </li>
  <ul type="disc">
    <li> pavan </li>
    <li> asnan </li>
    <li> abbas </li>
  </ul>
  <li> sql </li>
  <ul type="disc">
    <li> Harsha </li>
    <li> Yasin </li>
  </ul>
</ol>
```

output:- Q spiders

1. python
   - monty
   - krishna
2. Java
   - pavan
   - asnan
   - abbas
3. Sql
   - Harsha
   - Yasin

NOTE:- To create a nested list follow given steps

1. Analysing first list item
2. Analyse the spaces
   - having spaces -> create a new list
   - coming out of space -> come out of space

12. Attributes

Attributes :- Attributes are used to provide extra information about a tag

Attributes should always be specified in the opening Tag

Most of the attributes will follow the syntax

attribute-name = "value"

Types of Attributes :-

There are 2 types of attributes in Html

1) Global or core attributes
2) Element Specific attributes

1) Global or core attributes :- These are the attributes that can be specified for most of the Html Elements

Example :- id, class, style, title

NOTE :- Title attribute is used to provide Tooltip

Ex :- HTML

2) Element Specific Attributes :- These are the attributes that should be given for a specific/particular element.

Ex :- type, start, reversed

13. Tables

Tables :- Tables are the combination of rows and columns.

-> To create table in Html we use <table></tabel>

-> <caption></caption> :- is used to provide the title for our webpage

-> Tables in Html should be created with respect to row by row using <tr></tr> (table row)

-> To specify the data inside the table row we use <td></td> (table data) and <th></th> (table header)

will make data appear in bold and center with respect to its cell.

Attributes used :-

1. Border :- It is used to deal with the outer border of a table

-> It takes in a numerical value that decides the thickness of the Border.

2. Rules :- This attribute is used to deal with the inner border of a table

-> It can take the values like all, rows, cols

3) cellPadding :- It is used to add the space inside the cell

4) cellspacing :- It is used to add the space around the cell

NOTE :- cell spacing should be used only when the rules attribute is not defined.

5) Rowspan :- This attribute extends the cell across the rows

6) colspan :- This attribute extends the cell across the columns.

Example :- <table border = "1" rules = "all"
cellpadding = "10" cellspacing = "10" width = 100%>

```
<caption> QSpiders </caption>
<tr>
  <th> subject </th>
  <th colspan = "3"> Trainers </th>
</tr>
<tr>
  <td> Java </td>
  <td rowspan = "2"> <center> Abbas
                    </center> </td>
  <td> pavan </td>
  <td> Asnan </td> </tr>
```

```
<tr>
    <td> Java programming </td>
    <td colspan = "2"> <center> Someone </center> </td>
</tr>
<tr>
    <td> python </td>
    <td colspan = "2"> <center> Monty </center> </td>
    <td> krishna </td>
</tr>
<tr>
    <td> sql </td>
    <td> Yasin </td>
    <td colspace = "2"> <center> Harsha sir </center>
                                                </td>
</tr>
</table>
```

output :-

@Spiders

SUBJECTS	TRAINERS		
Java	Abbas	Pavan	Asnn
Java Programng		someone	
python	monty		krish na
Sql	Yasin	Harsha	

14. forms

Forms :- Forms are used to collect the data from user

—> To create a form in Html we use <form></form>

—> <input> provides rectangular area where user can enter the data

—> <label></label> provides naming or the suggestion, so as to be entered in the corresponding input field.

—> <fieldset></fieldset> provides border for the form

—> <legend></legend> displays a text that passes through the fieldset

NOTE:- To link label and input we use 'Id and for' attributes respectively and specify with the same valu

—> Type attribute specifies the kind of data a input field should collect

ex:- text (default), email, password, submit

Form Input Types :-

-> Type = 'Text' (default)

is an attribute used with the input element to to specify that the input field should accept plain text such as names.

-> Type = 'Email'

is adds a validation by checking if @ symbol is missing in given mail address

-> Type = 'password'

password is hidden while entering into the field

-> Type = 'Number'

It restricts the input to the numbers only

-> Type = 'Tell'

is an attribute used with the input element to create a field specially designed for entering telephon numbers with phone specific characters (like +, #, *)

-> Type = 'Date'

Displays a calender through which user can select

-> Type = 'DateTime-Local'

Displays a calender through which user can select the date as well as time

-> Type = 'Radio'

mainly designed to select one among the given choices which can be achieved along with the combination of name attribute for input fields.

→ Type = 'checkBox'

mainly designed to select one or more from the given choices

→ Type = 'File'

used to create a file upload button, allowing users to select and upload files from their device

→ Type = 'submit'

create a submit button for the form and value attribute is used to change the text inside submit button

→ Type = 'reset'

creates a reset button which clears out all the datas of an input field and sets to initial value

→ Dropdown :-

<select></select> is used to create dropdown and <option></option> is used to fill the choices

→ TextArea :-

<textarea></textarea> creates a multiline input control whose dimensions can be manipulated using rows and columns attribute.

Form Validation attributes :-

1) Placeholder :- It provides extra information so as what to be entered into a input field

2) Required :- makes the input field mandatory i.e it displays a bonding when the field is left empty while submitting the form

3) checked :- It makes the default selection for radio buttons and checkboxes

4) Disabled :- makes an input field disabled

5) Autofocus :- makes an input field focus on pageload

6) Readonly + value :- It prevents the user to modify the data of an input field

7) Max length :- specifies maximum no. of characters allowed in a input field

NOTE :- Type = Number doesnot have effect on maxlength

15. Media Tags

Media Tags :- media can be image, audio, video

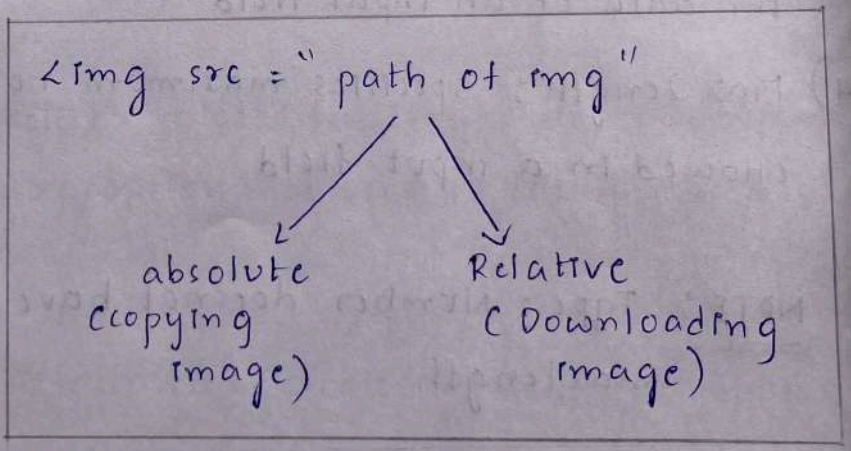
Image :- To display a image on our webpage we use

→ src attribute refers to source which takes in the path of the image which can be absolute (copying image address) or Relative (downloading image)

→ Alt attribute refers to alternate which displays a text only if the image fails to load

→ Height and width attributes are used to modify the dimensions of the image

Syntax :- <img src = " path of img "



alt = text height = " " width = " "

Audio and Video :-

To display audio and video files on our webpage we have <audio></audio> and <video></video>

src attribute is used to specify the relative path of audio and video file

controls attribute provides features like play, pause, volume control etc..

Autoplay attribute enables the audio and video file to be played automatically on page load.

Muted Attribute plays the audio and video file without any sound.

Height and width attributes are used to modify the dimension of a video file.

<audio src = "relative path of audio file" controls autoplay muted></audio>

<video src= "relative path of video file" controls autoplay muted height=" " width=" "></video>

16. Anchor Tags

Anchor Tags :-

-> Anchor Tags are used to navigate from one page to another page

-> The above scenario can be achieved using <a>

-> Href refers to hyper reference which takes in URL where you need to navigate.

-> Href converts hypertext to hyperlink

-> Target attribute decides whether the site should be opened in the same tab (_self) or in a new tab (_blank)

-> Anchor tags makes the link to appear in three different colours

Blue — unvisited

red — active

purple — visited

Example :-

```
<a href = "https://www.crickbuzz/"
        target = "_self" > CRICKBUZZ </a>

<a href = "https://www.flipkart/"
        target = "_blank" > FIPKART </a>
```

17. Iframes

Iframes :-

Iframes are generally knows as Inline frames

They are mainly used to embed other page content into our webpage

To embed a content we use <iframe></iframe>

Attributes used :-

1. src :- It refers to source which takes in the path of embedded content

2. frameborder :- It is used to add or remove the border for the frame
   - It can take the values like 1 (default) border will be added for the frame or '0' (border will be removed)

3. Height and width :- These attributes are used to modify the dimensions of the frame

4. Allowfullscreen :- It enables the embedded video content to play in fullscreen mode

Example :-

```
<iframe src = " path of the embeded content" frameborder = "1" height = "450" width = "700" allowfullscreen > </iframe
```

18. Semantic Tags

These are the tags that tells the purpose of using it

Most of the semantic tags are Block level Elements

Example :- form, table, img, nav, header, aside, section, footer

19. Marquee Tag

Marquee Tag :- It is used to add scrolling behaviour for text and image

-> To achieve the above scenario we use

<marquee> </marquee>

Attributes used :-

1) Direction :- It specifies the direction of scrolling content

-> It can take the values like left (default), right, up, down

2) scrollamount :- It specifies the speed of the scrolling content

-> It takes in a numerical value which decides the scroll amount should be fast or slow

3) Loop :- It specifies how many times the content has to scroll

→ If the loop is set to 3, the content scrolls for 3 times and stops

4) Behavior :- It will defines how the content should behave when it reaches the end of scrolling position

→ It can take the values like scroll (default), slide and alternate.

Example :-

```
<marquee direction = "right" scrollamount = "50"
        behaviour = "alternate" loop = "6">
    <H1> Hope you guys are doing well </H1>
</marquee>
```

20. Entities

Entities are the code words used to generate a symbol or a character on our webpage

→ reserved characters in Html must be replaced with Html entities

syntax :- &entity;

Example :- > >
< <
© ©

® ®
  space
↓
not breaking space

♥ ♡

21. Additional Tags

1) <optgroup> </optgroup> :- It is used to group the related options within a select tag by providing label attribute which helps in organising large dropdown list

```
<label for = "food"> FOOD ITEMS : </label>
  <select>
    <optgroup label = "veg-items">
      <option> Panneer </option>
      <option> mushroom biryani </option>
      <option> Veg rice </option>
    </optgroup>
    <optgroup label = "non veg-items">
      <option> biryani </option>
      <option> mutton kheema </option>
    </optgroup>
  </select>
```

2) <datalist> </datalist> :- It provides an autocomplete dropdown for an input field by suggesting options while allowing the users to enter custom values

—> To link input and datalist we use list and id attributes respectively and specify a commonvalue

```
<label for="places"> PLACES </label>
<input type="text" list="places">
<datalist id="places">
    <option> Arunachalam </option>
    <option> Assam </option>
    <option> Banglore </option>
    <option> Balapur </option>
    <option> chennai </option>
    <option> chaitanyapuri </option>
</datalist>
```

3) <Pre></pre> :- pre stands for preformatted that reserves both line spaces and line breaks

```
<pre><h1> Hell      o
There </h1></pre>
```

4) <Details></details> and <summary></summary>

Details tag defines a section that can be expanded or collapsed where as summary tag is used as a label for details

```
<details>
  <summary> HTML </summary>
    Hyper Text markup language
</details>
```

5) <hr> :- hr stands for horizontal rule which adds a horizontal line on our webpage

It is denoted by <hr>

6)
 :- br stands for break which is used to add line break on our webpage

```
<h1> Hell <br> o </h1>
```

7) :- It makes the content to appear at center with respect to x-axis.

```
<center><h1> &heart; </h1></center>
```