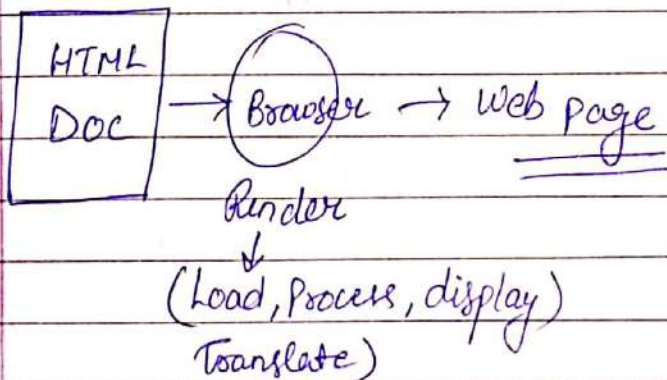# # HTML

Hyper Text Markup Language

One webpage is linked to Another page.

Annotations
Tags
markup Content / show Content

HTML :-→ Basic Building Block
→ Skeleton
→ Description of web page.

CSS → formatting / Appearance.

JS → functionality.

| HTML Doc | → Browser → Web page
Render
↓
(Load, Process, display)
Translate)

* **TAGS:-** Tag is a Something that tells ^to Browser how to render different elements.

→ Tag is an Annotation that tells to Browser how to render different elements.

`<p>`	`<h1>`	`<img>`	`<a>`
Paragraph	heading	Image	Link

(<Open Tag> Content </close tag>) → Element
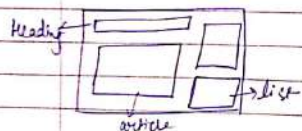   +   _   +

HTML Doc Can be opened in 2 ways —

→ Text Editor.
→ By Browser.

★ HTML Text Element

      ✓ BLOCK Elements
      <p>   INLINE Elements
      <H1> to <H6>   <em> (emphasize)
       /   <strong>
                               <a>
      <article>
      <section>
                               highlight Text
                               color Text

Heading

→ list
article

→ Block elements are elements / tags that divides a web-
   page into blocks.

→ INLINE Element :- They are used to differentiate
                     specific part of Text.

---

img→ [MDN Web DOCS]
    [W3 Schools]

* <DIV> is a Container tag. We can customize it
  accordingly..

* ID is the name of element.
      ──────x────────────x──────

* Reading of Documentation   [MDN Web DOCS]

★ Empty Tag (Self Closing Tag)

      ex:-
 line break.
           <img /> image.
           <input /> for Input.

Tags :- <!DocType>, <h1> to <h6>
        <html>,   <p>
        <body>,
                     <div>

LIST
      ↳ Ordered List. 1   a
                       2   b
      → Unordered List. : :
      → Description List. (H.W.)

Attributes are properties or features of a tag. that Provide additional Information.
ex:- <img soc=" ">

soc, width, Height are attributes.

* ALL HTML Elements Can have attributes.

Exception:-

id → all elements (applicable) '#' use with (id)
class → all elements (applicable) '.' use with (class)
Src → img
href → a tag (<a>)

ex:-
```
<html>
  <style>
    #love{                | •Nike{
      colour : red;       |    colour: aqua;
    }                     | }
  </style>
  <body>
    <div id="love"> Kya haal hai </div>
    <div class="Nike"> Brand </div>
  </body>
</html>
```

/ H/w Question:-

Qu: what happens when we close an empty tag?
Ans: Adding the closing tags to the empty elements will be invalid Syntax.

Qu: what is Description List?
Ans: <dl> tag description list.

The element encloses a list of groups of terms and ↗ (<dt>)
descriptions (<dd>).

Ex:-
```
<p> Cryptids of Cornwall:- </p>

<dl>
    <dt> Beast of Bodmin </dt>
    <dd> A large feline inhabiting Bodmin Moor </dd>

    <dt> Morgawr </dt>
    <dd> A Sea Serpent </dd>

    <dt> owlman </dt>
    <dd> A giant owl-like Creature. </dd>
</dl>
```

output:

Cryptids of Cornwall:-
Beast of Bodmin
A large feline inhabiting Bodmin Moor
Morgawr
Sea Serpent

Snippet Abbreviation

press ! + enter

(1.) <! DOCTYPE HTML>
   Tells your Browser that it's an HTML v5 doc.

(2.) <HTML lang ="en">
   Tells Content of web page is in English.
   for Indian English :- en-IN.

(3.) <html>
      <head> </head> → Metadata of HTML doc
      <body>
      </body>
      </html>

Actual Content

data about data → title
Character Set
View port
Style
Script
Other metadata

HTML DOC

(4.) Meta Tag :-
   → Defines Meta data about HTML doc.
   → Always go inside Head Tag.

   → used to Specify :-
      * Characters Set.
      * Page description
      * keywords
      * Author * Viewport.

→ Meta data never displayed to the User.

(5.) <meta charset = "UTF-8">

   UTF-8 → Character Encoding   (like ASCII extended)
        → 90% web pages used. (Standard)
        → It is Variable length Encoding.

device of width

(6.) <meta name = "viewport" Content = "width=device-width",
                          initial-scale = 1.0">

device of display Screen

Controls Zoom-Level when Page loaded.

—X—   —X—

* Anchor Tag

   <a href = "url">

* target → -self : the current browsing context.
                                          (Default)
         → -blank :- usually open a new tab.

         → -parent :- the parent browsing context of
                      current one. If no parent,
                      behaves as -self.

         → -top :- the topmost browsing context.
                   If No ancestors, behaves as -self.

Examples :-

```
<a href="https://thecodehelp.in" target="_blank"
```

Open into new Tab

Image Tag

```
<img src="paneer.jpg" alt="paneer khalo">
height="100 px", width="100 px".   (By default 'Px')
hight= 50 , width= 50 .
```

`<hr>` — Horizontal Rule

* Poet Problem
      OR
  `<PRE> tag` में जैसे लिखेंगे वैसा ही print होगा

```
<pre>
    yaar tera
    Superstar
    desi
    Kalakar
</pre>
```

* #=1# INLINE CSS

```
<p style="color: brown"> Hello Everyone </p>
<p style="background-color: Aqua;"> Hello Everyone</p>
         "font-family": fantaxy;"
```

* Text Align

```
text-align: start;
text-align: end;
text-align: center;
text-align: justify;
```

Formatting Text Tags

```
<b>   bold   </b>
<i>   italic  <i>
<small>  for small text </small>
<del>  Delete  </del>          Delete  (Strike)
<mark>  Mark </mark>    Highlight text ✓
<sup>  Superscript </sup>
<sub>  Subscript </sub>
```

Quotation & Citation Tags

```
<blockquote>
<q>
<cite>
<address>
<abbr>
```

→ for Long Quotation

(i) **<blockquote> : Block Quotation tag**

This indicates that the enclosed text is an extended quotation _for long quotation_.

A URL for the source of the quotation may be given using the "cite" attribute.

While a text representation of the source can be given using the <cite> element.

ex:-
```
<figure>
    <blockquote cite = "https://www.huxley.net/bmw.html">
    <p> Words can be like x-rays " </p>
    </blockquote>
</figure>
```

(ii) **<q> tag :-** This tag indicates that the enclosed text is a short inline quotation.

It is used for short quotation that don't require paragraph breaks.

```
<q cite = "https://www.imdb.com/quote"> I'm sorry, Dave, I'm afraid I Can't do that </q>
```

(iii) **<cite> :- The Citation element.**

It is used to describe a reference to a cited creative work, and must include title of work.

```
<cite> <a href=" http://www.george-orwell.org-html">
       Nineteen Eighty -four </a> </cite>
```

ex:-
first sentence in _Nineteen Eighty-four_ by George Orwell

(iv) **<address>** indicates that the enclosed HTML provides contact information for a person / people or for an organization.

ex:-
```
<address>
    <a href = "mailto: jimrock.com"> </a> <br>
    <a href = "tel: +123456 "> (123)-456-2368 </a>
</address>
```

(v) **<abbr>** represents an abbreviation or acronym.

ex:-
```
<p> <abbr> CSS </abbr> (Cascading style sheets) <br>
    <abbr> HTML </abbr> Hyper Text Markup Language
</p>
```

* The <Span> Element

It is an inline Container used to markup a part of a text, or a part of a document.

<Span> has no required attributes, but style, class and id are common.

Ex:
<p> I am < Span Style = "Color: green;"> green </Span> </p>.

Output:- I am green.

————————— x ————— x —————

\# HTML TABLES

Tag	Description
<table>	defines a table.
<th>	a header cell
<tr>	a row in a ~~tett~~ table.
<td>	a cell in a table.
<caption>	defines a table caption.
< thead>	Groups a header content in a table
<t body>	Groups a body content in a table.
<t foot>	Groups a footer Content in a table.

→ A Simple HTML Table

```
<Style>
   table, th, td {
                   border: 1px solid black;
                   border-collapse: Collapse;
               }

</Style>
<table>
   <tr>
      <th> Company </th>
      <th> Contact </th>
   </tr>
   <tr>
      <td> Codehelp </td>
      <td> Babbar </td>
   </tr>
</table>
</table>
```

Company	Contact
Codehelp	Babbar

* Table Cells

<td> ---- </td>

Love	Babbar	Codehelp

* Collapsed Table Border

    border-collapse: collapse;
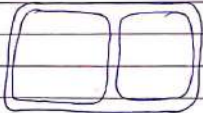   border: 1px solid black;

following values are allowed :- (Border)

    dotted, dashed, solid, double,
    hidden, groove, ridge, inset.
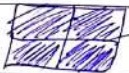
* border-color: red ;

* Round Table Border

    border-radius: 10 px ;

* Table Color :-

    th, td {
        background-color: cyan;
    }

---

* HTML TABLE SIZE

Table can have different sizes for each row, column or entire table.

→ Row Height

To set the height of a specific row, add the 'style' attribute on a table row element.

Examples :-

```
<table style = "width : 100%.">
<tr>
    <th> Fname </th>
    <th> Lname </th>
</tr>
<tr style = "height : 70 px">
    <td> Ankit </td>
    <td> Sharma </td>
</tr>
<tr> Love
    <td> Love </td>
    <td> Babbar </td>
</tr>
</table>
```

Output :-

Fname	Lname
Rishabh	Sharma
Love	Babbar

* Column Width

```
<table style = "width: 100%">
    <tr>
        <th style = "width: 70%"> Fname </th>
        <th> Lname </th>
    </tr>
    <tr>
        <td> Rishabh </td>
        <td> K </td>
    </tr>
    <tr>
        <td> Love </td>
        <td> B </td>
    </tr>
</table>
```

Output :-

Fname	Lname
Rishabh	K
Love	B

\# <caption> tag

Specifies the caption (or title) of a table.

<caption> Time table </caption>

Attribute in CSS :-

Caption Side : bottom ; | left : | right ; |
                  top ; .

\# Cell Padding

It is the space between the cell edge and cell content.

By default , padding = 0.

Ex: th, td {
        padding : 50 px ;
}

Output :-

XYZ

\# Cell Spacing

It is the space b/w each cell.
By default , space = 2px.

Ex: table {
        border-spacing : 50 px ;
}

Output :-

Colspan & Rowspan

Colspan :- To make a cell span over a multiple Column.

Ex:-
```
<tr>
<th Colspan = "2" > Name </th>
<th> Age </th>
</tr>

<tr> <td> Love </td>
    <td> Babbar </td>
    <td> 25 </td>
</tr>
```

Output:-

Name		Age
Love	Babbar	25

Rowspan :-
To make a cell span over multiple rows.

```
<tr>
<th> Name </th>
<td> Ankit </td>
</tr>

<tr> <th Rowspan = "2"> phone </th>
   <td> 100 </td>
</tr>
<tr> <td> 112 </td>
   <tr>
```

Name	Rishabh
phone	100
	112

Forms Tag | Input Tag | Button Tag

```
<input type = " text">          [        ]
<input type = "radio">          ⊙
<input type = "checkbox">       ☑
```

ex:-
```
<label for = "username"> Username: </label>
<input type =" text" name ="username">  → we can use "id"
```

Username : [   ]

```
<button> Submit </button>
<input type = "Submit" value = "Submit">
```

→ Question :-

Welcome To CodeHelp

Username : [   ]
Password : [   ]

[Submit]

```
<h1> welcome To CodeHelp </h1>
<form action = "https: // www. thecodehelp.in">
    <label for = "username"> Username : </label>
    <input type = "text"    id = "username">
    <br>
    <br>
    <label for = "password"> Password: </label>
    <input type = "password"   id = "password">
    <br> <br>
    <input type = "Submit"   value= "Submit">
</form>
```

\# `<colgroup>` tag :- Provides styling in group of Column

To defines a group of Columns within a table.

Attribute :-

span :- This attribute contains a positive integer indicating the number of consecutive columns the `<colgroup>` element spans.
Its default value is 1.

Used in `<col>` element.

align , bg color etc.

ex:-
```
<table>
  <colgroup>

    <col span ="1" style ="background-color: aqua ;>
    <col span ="1" style =" background-color: greenyellow>
    <col span="1" style = " background-color: red;>
  </colgroup>

  <tr>
    :
    :
</table>
```


n red

Aqua green yellow

---

* No Color on Specific Column, Use:-

```
<col span ="1" >
```

★ HOW TO HIDE Columns in a Table ?

```
<col span ="1" style ="visibility: Collapse ;">
```

On which Column you want

1st 2nd 3rd 4th

(Hide)   (Data Hiding)
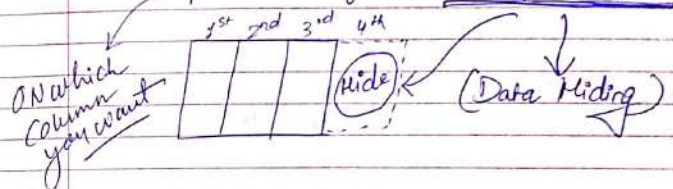
★ Note :- Rowgroup does not exist because we can do styling inside `<tbody>` tag, `<thead>`, `<tfoot>` tags.

`<figure>` and `<figcaption>` tags

`<figure>` represents Self-Contained Content, potentially with an optional Caption.

`<figcaption>` Caption or Title of figures.

examples :-
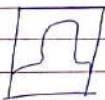
```
<figure>
    <img src="linus.jpeg" 1>

        <figcaption> A photograph of Linus </figcaption>

    </figure>
```


A photograph of Linus.

NOTE :- Example of Blockquote & Cite & q (short quotation)

```
<blockquote>
        <p> lines </p>
    <cite> References /Authors /creators </cite>

    </blockquote>
```

★ Characters & Symbols (Important)

* Copyright Symbol : &copy ;
* Dollar Symbol : $
* Ampersand : &amp ;
* Greater than : &gt ;
* Less than : &lt ;

HTML IV Extra class

5|1|23 Links → Bookmark
             → phone
             → mail

div tag → div vs Span

Semantic tags

* `<a href=" https://www.fb.com" target="-blank"> Click here </a>`

* `<a href=" tel: +9162603396"> Call me </a>`
      → for Calling via facetime app.

* `<a href=" mailto: support@codehelp.in"> mail me </a>`

Important Notes :-

① For Calling via link

`<a href="tel: +918130316974"> Call Me </a>`

② For Mailing via link

`<a href="mailto: ankr@gmail.com"> Mail Me </a>`

③ **BOOKMARK**

→ HTML links can be used to create bookmarks, so that readers can jump to specific parts of a web page.
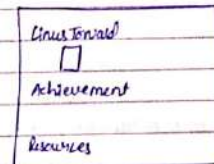
→ Bookmarks can be useful if a web page is very long.

→ Example :-   Concept of Bookmark

Bookmark ⟶ dest ⟶ id

text → href = "#id"

→ for Smooth transition :-
```
<style>
  html {
    scroll-behaviour: smooth;
  }
</style>
```
3

example :-

Linus Torvald
☐
Achievement

Resources

→ we have to jump directly over Achievement & Resources.
→ firstly, we use "id"s for Achievement & Resources
→ Then create links for id of Achievement & Resources at top bar of web page.
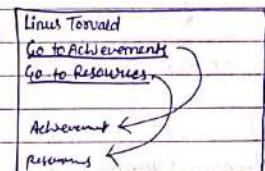
`<h2 id="Achieve"> Achievement </h2>`

`<h1> Linus Torvald </h1>`

`<a href="#Achieve"> Go to Achievements </a>`
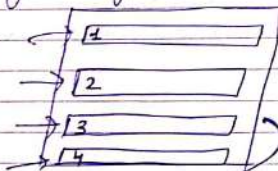`<a href="#Resource"> Go to Resources </a>`

`<h2 id="Achieve"> Achievements </h2>`
`<h2 id="Resource"> Resources </h2>`

Linus Torvald
Go to Achievements
Go to Resources.

Achievement ←
Resources ←

for Smooth transition

```
<style>
  html {
    scroll-behaviour : smooth;
  }
</style>
```

<div> Tag — Division Tag   (Block element)

Divide the pages of web into sections having differentiate.

It is a generic tag (Container tag) use anywhere.

<Div> 1 </Div>
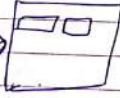< Div> 2 </Div>
<Div> 3 </Div>
<Div> 4 </Div>
↳ It contains other tag also.

1
2
3
4

It can be applied on <p>, <img>, any other tags.

By default:-   display : block ;   (because it is Block element)

* We can do inline   display : inline ;

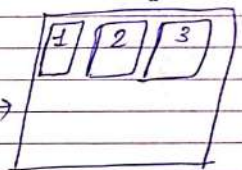# tag

Span tag is same as div tag but it is an Inline element.

By default CSS :-

display : inline ;

example :-

 1
 2   → Single line →
 3

1 2 3

* We can do :-

display : block ;

1
2
3

<div> tag → display : inline ;   = <span> tag.   Yes.

<span> tag → display : block ;   = <div> tag.   Yes.

Semantic Tags :- |Use for good Practice|
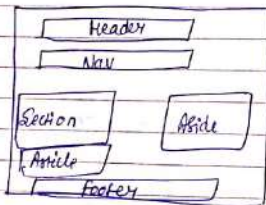|Don't have visually change|

That provide meaning of the content.

examples of Semantics Tags

```
div  \ Non-Semantic
Span /    tag
```
which tells nothing about content.

<table> tag   , <Header>
<form> tag   , <footer>
<section> tag , <main>
<article>   <nav>
<aside>   <p>
<figure>   ,
<fig caption> ,

```
<p> , <article> , <section>
  ↓        ↓            ↓
only one  multiple   multiple
Paragraph Paragraph,  section like
          P₁, P₂, P₃   Head, Bio, Ach
          heading h1   Res.
          (Independent
           Text)
```

Header
Nav
Section   Aside
Article
Footer

(i) Section tag :- define section in your document.

(ii) Article tag :- Independent text. heading, paragraph, footer etc.

Que 1: Can we use <section> tag inside <article> tag. or vice-versa

```
<article>              <section>
  <section> <section>     <article> <article>
<article>              </section>
  YES                    YES
```

(iii) Header tag :- It is used in introductory part of web doc. Headings, logo, title etc.

Important Question

Q→ What is difference b/w <header> and <h1> tags?

Ans   The Header Element :- Contains any items that should contain introductory information and often includes things like h1 elements, logos, and things about author or company, navigation bar.

H1 element stands :- for heading and help to structure your document and tell web browser readers to importance of that element.

Q.→ Can we use ~~of~~ <header> tag inside <footer> tag?

Ans Footer is a Semantic tag that is used to represent the footer of a page, We can use the footer inside header tag.

Intentionally, we are then writing Semantically incorrect code which can cause problems for search engines optimization.

Qus → Can we use Multiple <header> tags?

Ans We can use multiple header for the Same page by giving all the section of that webpage their own header element.
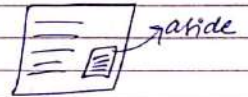
————————— x —————————

(iv.) <footer> tag :- Information about

author, Copyright, Terms of Use, Privacy Policy, Refund policy etc.

(v.) <nav> tag :- used for navigation links.

```
<nav>
    <a _____ >  </a>
    <a _____ >  </a>
    <a _____ >  </a>
</nav>
```

(vi) <aside> tag :- used to show some Special Surrounding Content on a Side.

ex:- Notes, ads, Summary, Do you know? etc.

aside

CSS property:-

float: right;
width: 40%;

(float: left,
we can 50%, 60% 20%)

Qus Can <aside> tag Content be in center?

Ans Yes,   aside {
            margin: auto;
            width: 50;
            text-align: center;
        }

(vii) <main> tag :- This tag specifies the main content of a document.

It should not contain any content that is repeated across documents such as sidebars, navigation links, copyright, site logos etc.

Note :- There must not be more than <main> element in a document.

The <main> element must NOT be a descendant of an <article>, <aside>, <footer>, <header> or <nav> element.

Quy. Difference b/w <body> and <main> tag ?

Ans. <body> tag is use to enclose all the content represented on browser, Thus, it contains main, sidebars, nav, footer etc.

<main> tag is used to represent only main content of the page, so it doesn't contain sidebars, nav, footer etc.

Favicon

A favicon is a small image displayed next to the page title in the browser tab.
After <title> element.

How to Add favicon

```
<head>
    <title> My page </title>

        <link rel = "icon" type = "image/x-icon" href = "favi.jpeg">
</head>
```

<link> tag

defines the relationship between the current document and an external resource.

<link> is most often used to link to external stylesheets or to add a favicon to your website.

It is an empty element, it contains attribute only.
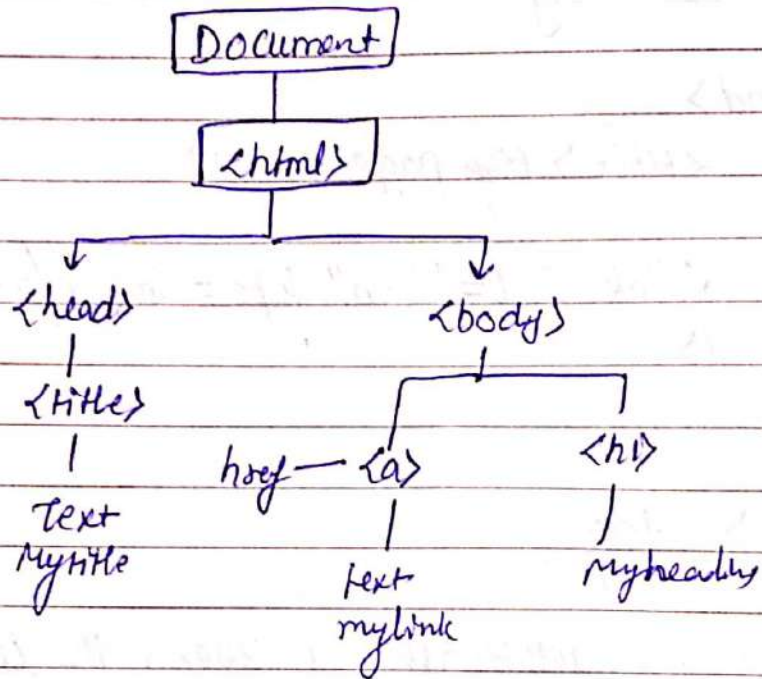
Attributes :-
href → URL
media → media_query
rel → Required. (Relations b/w current & linked document)
type → icon/media_type

DOM in HTML

Document Object Model

defines structure of HTML doc.

```
           [Document]
               |
            [<html>]
          /         \
     <head>          <body>
        |           /      \
     <title>   href—<a>    <h1>
        |           |        |
      Text        text    myheadly
     Mytitle     mylink
```

example :-

```
<Section>
   <article>
     <section>
         <p> -- <strong> </strong> </p>
     </section>
     <img> <Img>
     <a> <la>
     <p> <Am> <em> </p>
   </article>
</section>
```

DOM :-

```
        section
           ↓
        article
       /   ↓  ↓  ↘
   section  img a  P
     ↓             |
     P             em
     ↓
   strong
```