

Day - 1

What is HTML?

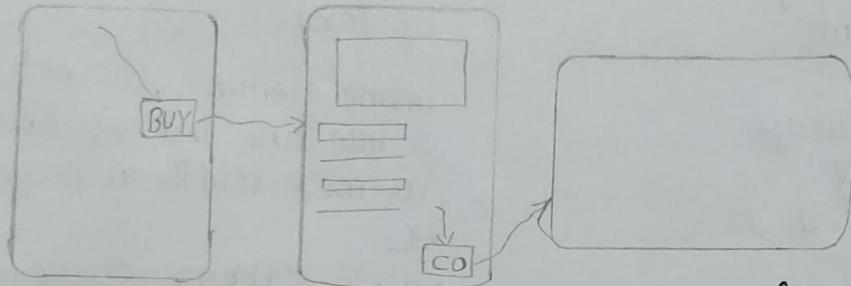
- 1. Hypertext markup language
- 2. Used to structure a web page and its content
- 3. Basic building block of web
- 4. Skeleton of web page
- 5. Description of web page
- 6. Provide meaning

Hypertext multiple pages are interlinked (hyper linked).

Markup annotation / tags used to markup content.

Language set of predefined rules.

- 7. Not Case Sensitive



Interlinking / hyper linking of web pages

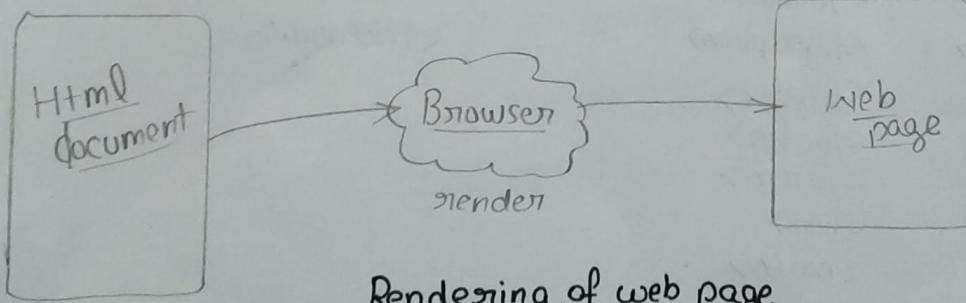
HTML → Structure

CSS → formatting / appearance

JS → functionality

HTML + CSS + JS

full stack application



Rendering of web page

HTML document can be opened in two ways.

- 1) Text editor
- 2) Browser

SYNTAX OF HTML element :-

opening tag closing tag
 <p class = "nice"> Hello World! </p>

Attributes and its value

Enclosed text content

Tags :-

- 1) keywords or annotation
 - 2) tells browser how to render different elements
- In HTML, a tag is used for creating an element.

<p>---</p> paragraph

<h1>---</h1>

:

<h6>---</h6> heading

 image (void element)

↳ the end tag is neither required nor allowed.

<a>.. link

Text element

1) Block elements

divides the contents of webpage into different blocks.

A block element always starts on a new line and takes up the full width available.

ex: <p> <dd>
 <h1> to <h6> <div>
 or <dl>
 <article> <dt>
 <section> <fieldset>
 <address> <figcaption>
 <aside> <figure>
 <details> <footer>
 <dialog> <form>
 <header> <h1>
 <main>
 <nav>
 <p>
 <table>

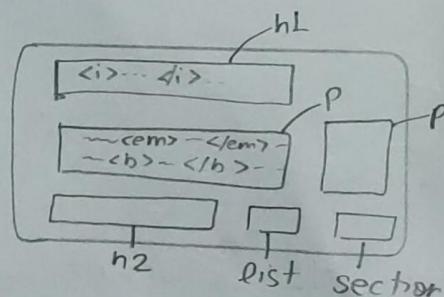
2) Inline elements

differentiate specific parts of text

Inline element does not start on a new line and only takes up as much width as necessary

ex:

<a> <abbr> <acronym>
 <audio>
 <button>
 <i>
 <input> <label> <select>
 <small>
 <textarea>



div → customisable container (block element) → generic container for flow content

span → generic inline container for phrasing content which does not inherently represent anything

"All HTML elements can have attributes."
exception:
, <hr>

Attributes provide additional info about element

What happens when we close an empty tag?

Adding a closing tag to an empty tag such as
</br> or <input type = "text"></input> is invalid HTML. In HTML5, you can optionally indicate that a tag is self closing by trailing slash eg:
 or
.

! + Enter

1. > <!DOCTYPE Html >
 - ↳ tells browser → HTML version 5 is being used and its an HTML document.
2. > <html lang = "en">
 - ↳ Whole webpage content is in english.
3. > <head>
 - ↳ contains meta data of HTML doc
 - ↳ data about data ex: title, character set, viewport, style, script etc..
4. > <body>
 - ↳ actual content

<meta> tag → important for SEO (search engine optimization)

→ not important for end user view

→ always in head tag

→ used to specify character set, page description, keywords, author, viewport configuration.

→ never displayed

- ① <meta charset = "UTF-8"> ↳ standard
↳ tells that UTF-8 encoding is used in my page.
- ② <meta name = "viewport" content = "width=device width, initial-scale=1.0">
 - ↳ viewport → display area of screen. When page is first loaded, zoom of page is specified by initial scale.
- ③ <title> Document </title>
 - ↳ using href attribute we can add a favicon.
title of the webpage displayed on tab.
- ④ <meta http-equiv = "X-UA-Compatible" ...>
 - ↳ for compatibility of code with edge version
 - ↳ added by microsoft for compatibility.

 break tag

Empty / self closing tag

ex: <input />

Also known as void elements.

The end tag is neither required nor allowed.

List

1) Unordered list:

 : : >
 : : >
 : : >
etc...

2) Ordered list:

 1 : a
 2 : b etc...
 3 : c

3) Description list:

A list of terms, with a description of each term

<dl> tag defines description list.

<dt> tag defines term (name).

<dd> tag describes each term.

```
<dl>
  <dt> Coffee </dt>
  <dd> -black hot drink </dd>
  <dt> Milk </dt>
  <dd> -white cold drink </dd>
</dl>
```

Attributes

-properties - included in opening tag

Elements in HTML have attributes ; these are additional values that configure the elements or adjust their behaviours in various ways to meet the criteria the users want.

element

attributes

| | |
|--------|-------------------------|
| | src, width, height, alt |
| <div> | id, class |
| <a> | href |
| <p> | style, title |
| <html> | lang |

Add a "tooltip" to the paragraph below with the text "About W3Schools".

```
<b>title = "About w3schools"</b>
W3Schools is a web dev's site.
```

Day -2

Why Headings from h1 to h6 and not h1 to h7, h8 or h9 . . . ?
h6 was presumably chosen because it was assumed that nobody would need a sub-sub-sub-sub-sub-sub heading. Very few documents come close to that level of subdivision of sections.

The sectioning rules in HTML 5 effectively give an unlimited no. of headings, but tool support for new sectioning algorithm is still weak.

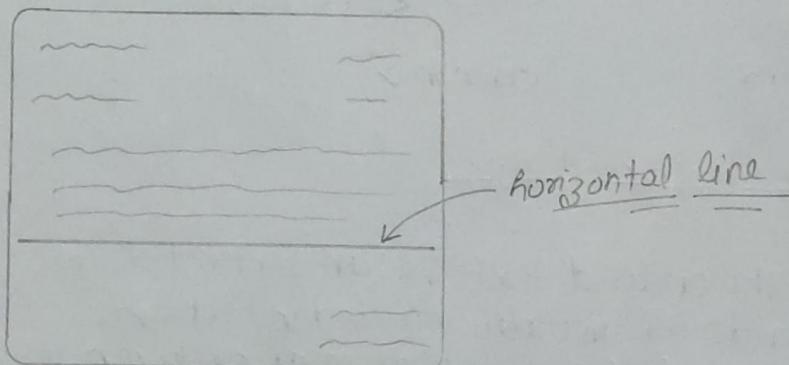
Difference between height = "100" and height = "100px" ?

No difference. height = "100" is by default in px.

How to make Horizontal line by <hr> red?

<hr color = "color-name | hex-number | rgb-number" >

<hr> tag



<pre> tag → poet problem
to print something like

" Yaan tera
superstar
desi
kalakar "

on our web page we have to use
 tag again and again.

Instead, we can use <pre> tag
It will display the tag & content written in document as it is on the web page (including all the breaks & line change).

<pre>
" Yaan tera
superstar
desi
kalakar "
</pre>

How to limit background color on an element as by default it is expanded horizontally?

It is me?

//

It is me?

display = inline-block;

Note:-

to make text

name of tag

bold , ,

italic <i>

small <small>

strike , <strikethrough>

Yellow background <mark>

Quotations and Citation tags

<blockquote>

It indicates that the enclosed text is an extended quotation.

Usually, this is rendered visually by indentation.

A URL for the page 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/bnw/four.html">

 <p>Words can be like X-

 rays, if you use them properly —

 they'll go through anything. You

 read and you are pierced. </p>

 </blockquote>

 <figcaption> - Aldous Huxley ,

 <cite>Brave New World </cite>

 </figcaption>

 </figure>

<q>

It indicates that the enclosed text is a short inline quotation. Most modern browsers implement this by surrounding the text in quotation marks. This element is intended for short quotations that don't require paragraph breaks; for long quotations use the <blockquote> element.

ex:

<p>When Dave asks HAL to open the pod bay door, HAL answers : <q cite="https://www.imdb.com/title/tt0062622/quotes/qt0396921"> I'm sorry, Dave. I'm afraid I can't do that. </q></p>

Cite attribute

The value of this attribute is a URL that designates a source document or message for the information quoted. This attribute is intended to point to information explaining the context or the reference for the quote.

<cite>

It is used to describe a reference to a cited creative work, and must include the title of that work. The reference may be in an abbreviated form according to context-appropriate conventions related to citation metadata.

ex:

<figure>
 <blockquote>
 <p> It was a bright cold
 day in April, and the clocks were
 striking thirteen. </p>
 </blockquote>

 <figcaption> first sentence in
 <ccite><q href="http://www.george-
 orwell.org/1984/0.html"> Nineteen
 Eighty-four </q> </ccite> by George
 Orwell (Part 1, Chapter 1).
 </figcaption>
 </figure>

<address>

It indicates that the enclosed HTML provides contact information for a person or people, or for an organisation.

ex:

```
<p>Contact the author of this  
page : </p>  
<address>  
  <a href="mailto:jim@rock.com">jim@rock.com</a><br>  
  <a href="tel:+1311553268">(311) 555-2368</a>  
</address>
```

<abbr>

It represents an abbreviation or acronym

while including an abbreviation, provides a full expansion of the term in the plain text on first use, along with the `<abbr>` to mark up the abbreviation. This informs the user what the abbreviation or acronym means.

The optional title attribute can provide an expansion for the abbreviation or acronym when a full expansion is ^{not} present. This provides a hint to user agents on how to announce / display the content while informing all users what the abbreviation means. If present, title must contain this full description and nothing else.

ex:

```
<p>You can use <abbr>CSS</abbr> (Cascading Style Sheets) to  
style your <abbr>HTML</abbr> (HyperText Markup Language).  
Using style sheets, you can keep your <abbr>CSS</abbr>  
presentation layer and <abbr>HTML</abbr> content  
layer separate. This is called "separation of concerns."</p>
```

How to add a favicon?

A favicon can be added to your page by:

1. Saving it in the same directory as the site's index page, saved in .ico format (most also support favicons in more common formats like .gif or .png)
2. Adding the following line into your HTML's <head> block to reference it

```
<link rel="icon"  
      href="favicon.ico"  
      type="image/x-icon"/>
```

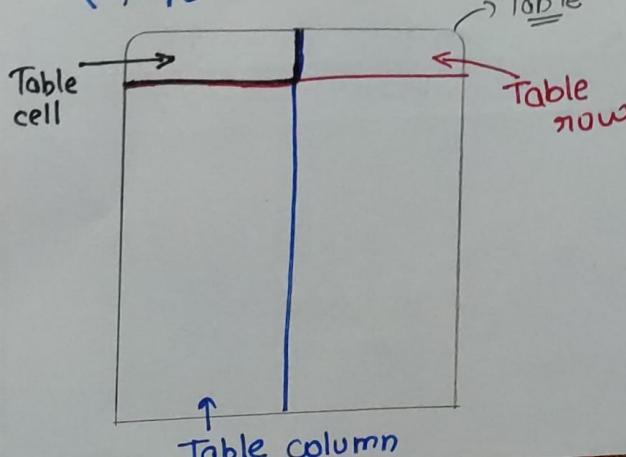
There are lots of other icon types to consider these days as well:

```
<link  
      rel="apple-touch-icon-  
      precomposed"  
      sizes="144x144"  
      href="https://developer.mozilla.org  
      /static/img/favicon144.png"/>
```

Table:

=> <table> </table>
<th> → to create headings
<tr> → to create row
<td> → to create column
<caption> title of data.
<thead> table heading
<tbody> table body
<tfoot> table footer.

(table row)
(table data)



css for making border in a table

```
table, tr, td, th {
```

```
border = 1px solid black;  
border-collapse = collapse;
```

}

| MONTH | SAVING |
|-------|--------|
| JAN | 100 |
| FEB | 200 |
| MARCH | 300 |
| APRIL | 400 |
| TOTAL | 1000 |

Better practice!

| | | |
|--|--|--|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Border
collapse

| | |
|--|--|
| | |
| | |
| | |
| | |
| | |
| | |
| | |

SYNTAX : Border-collapse = collapse ;

part of style tag i.e. CSS

SPAN/STRETCH : HTML tables can have cells that span over multiple rows and / or columns. Day - 3

COLSPAN :

An attribute used to make a cell span over multiple columns

```
<table>
  <tr>
    <th colspan = "2"> Name </th>
    <th> Age </th>
  </tr>
  <tr>
    <td> Jill </td>
    <td> Smith </td>
    <td> 43 </td>
  </tr>
  <tr>
    <td> Eve </td>
    <td> Jackson </td>
    <td> 57 </td>
  </tr>
</table>
```

| Name | Age |
|------|---------|
| Jill | Smith |
| Eve | Jackson |

ROWSPAN:

An attribute used to make a cell span over multiple rows

```

<table>
  <tr>
    <th> Name </th>
    <td> Jill </td>
  </tr>
  <tr>
    <th rowspan="2"> Phone </th>
    <td> 555-1234 </td>
  </tr>
  <tr>
    <td> 555-8745 </td>
  </tr>
</table>

```

| | |
|-------|----------|
| Name | Jill |
| Phone | 555-1234 |
| | 555-8745 |

COLGROUP:

The `<colgroup>` tag specifies a group of one or more columns in a table for formatting.

The `<colgroup>` tag is useful for applying styles to entire columns, instead of repeating the styles for each cell, for each row.

Note: The `<colgroup>` tag must be a child of a `<table>` element, after any `<caption>` elements and before any `<thead>`, `<tbody>`, `<tfoot>`, and `<tr>` elements.

Tip: To define different properties to a column within a `<colgroup>`, use the `<col>` tag be within the `<colgroup>` tag.

span attribute: Number : Specifies the number of columns a column group should span.

```

<table>
  <colgroup>
    <col span="2"
      style="background-color: red">
    <col span="1"
      style="background-color: yellow">
  </colgroup>
  <tr>
    <th> ISBN </th>
    <th> Title </th>
    <th> Price </th>
  </tr>

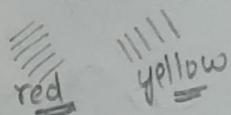
```

```

    <td> 3476896 </td>
    <td> My first HTML </td>
    <td> $ 53 </td>
  </tr>
</table>

```

| ISBN | Title | Price |
|---------|---------------|-------|
| 3476896 | My first HTML | \$ 53 |



ROWGROUP: there is no such thing in HTML 5
for styling rows, `<tr>` tag can be used.

Image as hyperlink

```
<p><a href = "https://www.w3schools.com">  
    <img src = "w3html.gif" alt = "W3Schools.com" width = "100"  
         height = "132">  
</a></p>
```

Hiding column in table

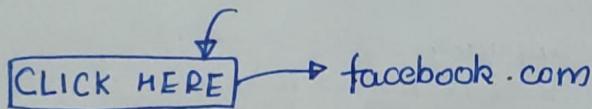
```
<col span = " " style = "visibility: collapse;">
```

Day - 4

Hyperlinks

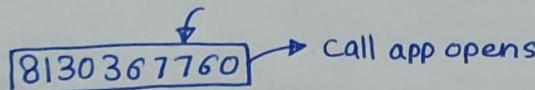
→ made using anchor tag [`<a>` tag]

1] URL

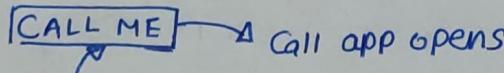


```
<a href = "https://www.facebook.com"> CLICK HERE </a>
```

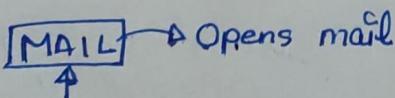
2] Call



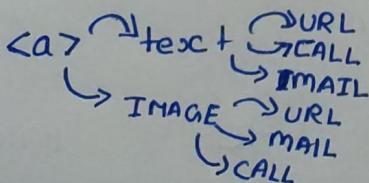
```
<a href = "tel: +91 8130367760"> CALL ME </a>
```



3] Mail



```
<a href = "mailto: support@codehelp.in"> MAIL </a>
```



Bookmark

HTML links can be used to create bookmarks, so that readers can jump to specific parts of a webpage.

Bookmarks can be useful if a webpage is very long.

To create a bookmark - first create the bookmark, then add link to it. When the link is clicked, the page will scroll down or up to the location with the bookmark.

1] First, use the id attribute to create a bookmark.

```
<h2 id = "c4"> Chapter 4 </h2>
```

2] Then add a link to the bookmark ("Jump to Chapter 4"),

```
<a href = "#c4"> Jump to Chapter 4 </a>
```

You can also add a link to a bookmark on another page

```
<a href = "html-demo.html#c4"> Jump to Chapter 4 </a>
```

div tag

- generic tag i.e. no specific meaning (unlike semantic tag)
- container of tags also called division tag.
- block element
- many tags are/can be contained under div and styling can be done accordingly.

Span tag

- Same as div tag but an inline element.

Note:

By default,

Block elements have display: block; (css property)

And Inline elements have display: inline (css property)

Id v/s class

If you want to control many elements by a central entity, then we use the class (i.e. it is not unique for an element)

If you want to control a specific element (one element only for example. if we have multiple <p> tag, and we want to style a specific paragraph only) then we use id (i.e. It is unique)

```
div {  
    display: inline; => span  
}  
span {  
    display: block; => div  
}
```

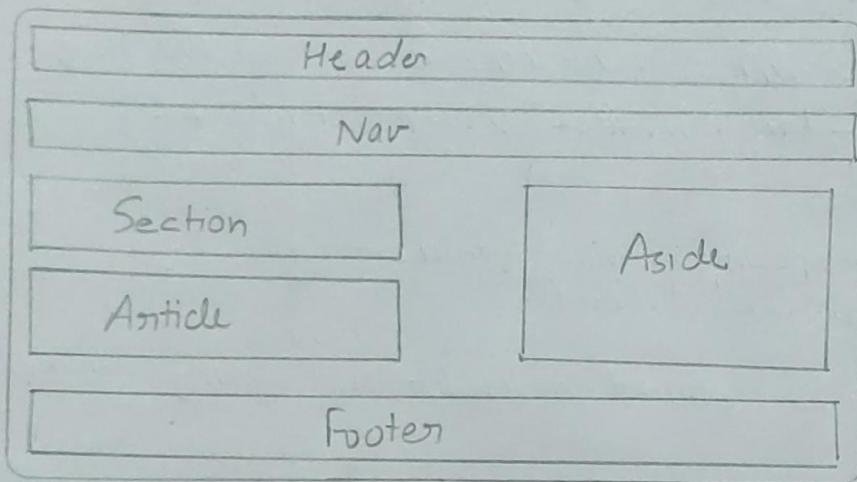
But not good practice.

Since, div or span tag have no meaning i.e. they are generic tag i.e. they do not provide meaning to their content, therefore, they are called non-semantic tag.

Semantic tag

meaningful

- Provides meaning to their content
- Important for SEO (what we call good practice)
- examples
`<article>, <aside>, <figure>, <figcaption>, <header>, <footer>, <main>`
`<nav>`



<section>

- define section in your document
- to divide a webpage.

<article>

- independent text

Note: section tag enclosing article tag is allowed
as section can have multiple articles and vice versa

Note! article tag enclosing section tag is allowed
as article can have multiple sections

i.e. `<article>`
 `<section>` and `<section>`
 `</section>` `<article>`
 `</article>` `</section>`
 `</article>`

both are correct.

<header>

introductory part of webpage is written in header tag/element
example: brand name, logo, headings.

Header v/s h1 v/s head

The head element contains meta data about the document.
The header element contains any items that should contain introductory information and often includes things like h1 elements, logos and things about the company. Very often, it will also contain a navigation bar.

The h1 tag stands for heading and helps to structure your document and tell web browsers/screen readers and others the importance of that element.

Multiple header

You can have several <header> elements in one HTML document. However, <header> cannot be placed within a <footer>, <address> or another <header> element.

<footer>

The <footer> tag defines a footer for a document or section

It typically contains:

authorship information, copyright information, contact information, sitemap, back to top links, related documents

Multiple footer

You can have several <footer> elements in one document.

Tip: Contact information inside a footer element should go inside an <address> tag.

However <footer> cannot be placed within a <header>, <address> or any other another <footer> element

Note: Since <section> is a flow content element. You can have header and footer tags in it.

<nav>

- Used for containing navigation links
- It links either to different sections or different pages.

<aside>

Contains information indirectly related to surrounding
e.g.: notes, keep in mind, Summary, points to remember, adds.

<style>

aside {

width: 40%;
float: right;
background-color: blue;

}

</style>

<style>

aside {

width: 40%;
float: left;
background-color: blue;

}

</style>

how to center aside element? (as there is nothing like float:center)

<style>

aside {

width: 30%;
padding-left: 15px;
margin: 0 auto;
font-style: italic;
background-color: lightgray;

}

</style>

<body> vs <main>

<body>

contains actual content including <footer> <main> <header>

<main>

contains main content written between header and footer.

favicon: It is a small image displayed next to the page ~~next to the~~
title in the browser tab.

You can use any image you like as your favicon. You can also create
your own favicon on sites like <https://www.favicon.cc>

Tip: A favicon is a small image, so it should be a simple image with
high contrast.

A favicon is displayed to the left of the page title in the browser
tab.

To add a favicon to your website, either save your favicon image to the root directory of your web server, or create a folder in the root directory called images, and save your favicon image in this folder. A common name for a favicon image is "favicon.ico".

Next, add a <link> element to your "index.html" file, after the <title> element.

```
<!DOCTYPE html>
<html>
<head>
    <title> My Page Title </title>
    <link rel="icon" type="image/x-icon" href="/images/favicon.ico">
</head>
<body>
    <h1> This is Heading. </h1>
    <p> This is paragraph. </p>
</body>
</html>
```

file format supported for a favicon image :

ico, png, gif, jpeg, svg

<link> tag defines the relationship b/w a document and an external source.

Attributes

href => URL => Specifies the location of linked document.

rel => Required => Specifies the relationship between the current document and linked document.

type => media-type = Specifies the media type of the linked document.

A set of various favicon of different dimensions (size) [source setup] is provided to a website and assigned to different UI acc to DPR.

Dom (Document object model)

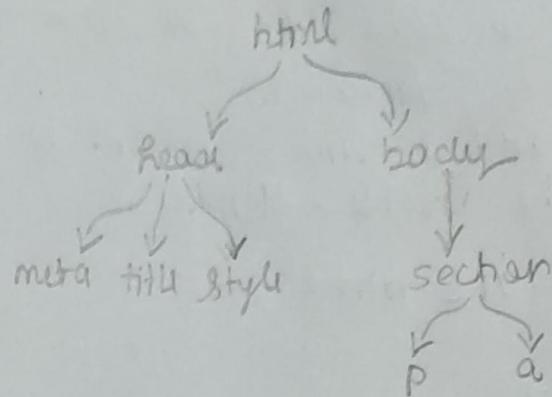
→ a type of hierarchy tree.

```

<html>
  <head>
    <meta>
    <title>
    <style>
  </head>
  <body>
    <section>
      <p>
        <a>
      </p>
    </section>
  </body>
</html>

```

DOM

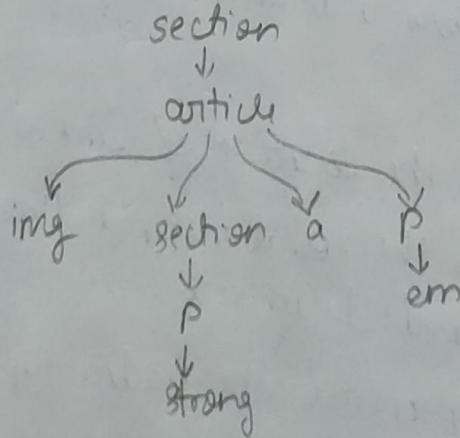


```

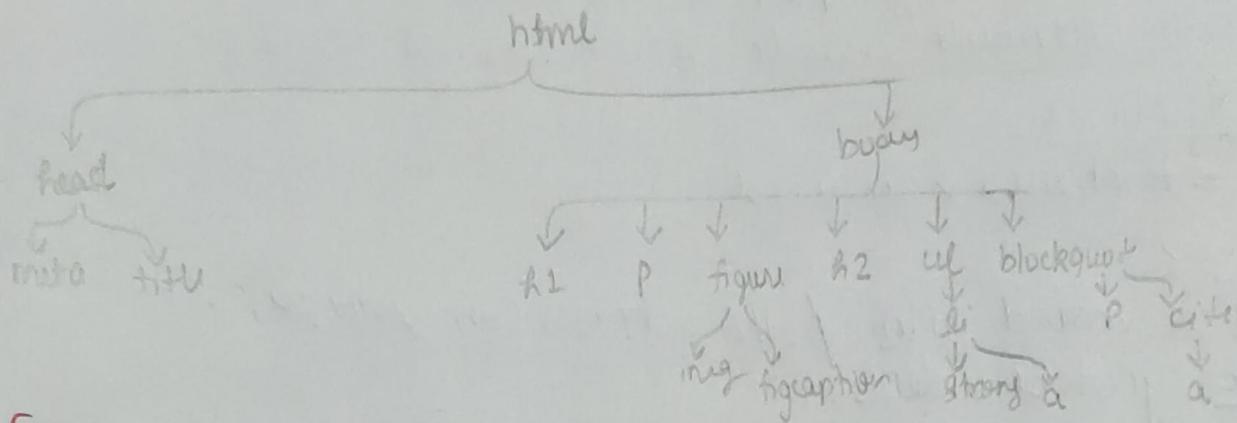
<section>
  <article>
    <section>
      <p>...<strong>-</strong></p>
    </section>
    <img>
    <ol>
      <p>...<em>-</em>-</p>
    </ol>
  </article>
</section>

```

↓ DOM



tribute page ↓
DOM



Forms

An HTML form is used to collect user input. The user input is most often sent to a server for processing.

The `<form>` element is used to create an HTML form for user input. The `<form>` element is a container for different types of input elements, such as: text fields, checkboxes, radio buttons, submit buttons, etc..

<input> element (check all on w3 schools)

- most used form element
- can be displayed in many ways depending on type attribute

<label> element

- defines a label for many form elements.
- useful for screen-readers users, because the screen reader reads ^{out}loud the label when the user focuses on input element.
- also helps users who have difficulty clicking on very small regions - because when the user clicks the text within the `<label>` element, it toggles the radio button/checkbox.
- The `for` attribute of the `<label>` tag should be equal to the `id` attribute of the `<input>` element to bind them together.

name attribute

- each input field must have a name attribute to be submitted
- if the name attribute is omitted, the value of the input field will not be sent at all.

for dropdown

- select tag is used
- inside select tag, option tag is used
- value attribute inside option tag is used.

for textarea

- <textarea> is used.

<iframe>

used to embed video / other webpages on your page.
ex: youtube videos.

<audio> and <video>

to add video or audio to your html document.

<audio>

- embed sound content in a document.
- contains one or more source tag with different audio sources
- browser will choose the first source it supports.
- The text b/w <audio> and </audio> tags will only be displayed in browsers that don't support <audio> element

attributes

- autoplay: Specifies that audio will start playing as soon as it is ready.
- src: Specifies URL of the audio file.
- preload: (auto, metadata, none) specifies if and how the author thinks the audio should be loaded when the page loads.
- muted: Specifies that the audio output should be muted.
- controls: Specifies that audio controls (such as play/pause button etc.) should be displayed.
- loop: Specifies that the audio will start over again, every time it is finished.

<video>

- Similar to <audio> tag but embed videos
- have same attributes with same functioning
- Other attributes
- height and width