

16/02/2024

Hpna college

Full Stack Web development

- * Alternate days
- * Try to No Backlog
- * Face problems. help Google
- * Time fix.
- * Consistency

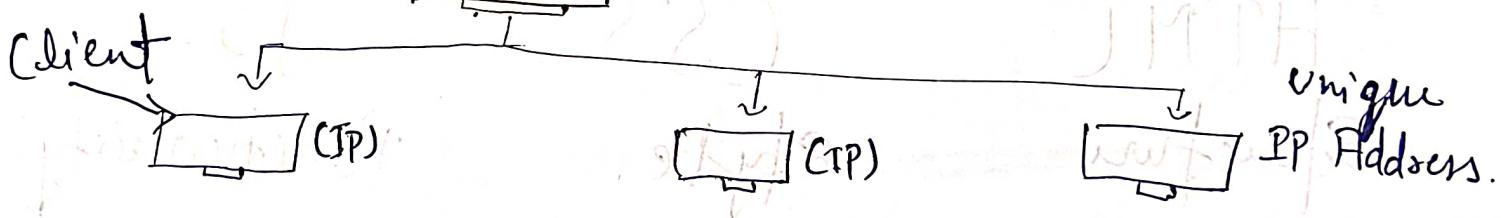
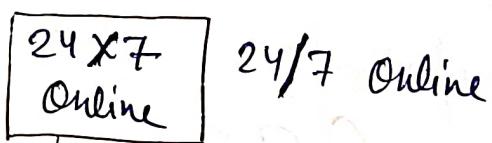
Delta

⇒ Problem Solving Site:- Stack overflow.

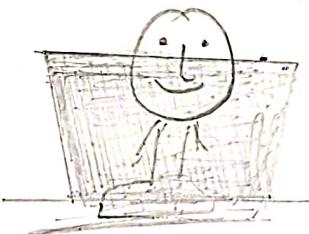
⇒ Internet:-

Interconnected network of computers around the world.

Server:-



How works Internet?



Client
Search IP of google (google.com.)

142.250.191.78

ISP
Internet Service Provider.
(Airtel, jio).



Site name

NsLookup.io

Find IP



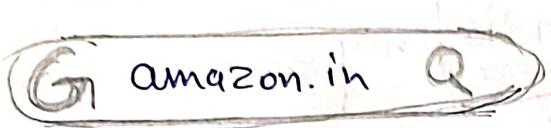
DNS.

Domain Name System.

What is web development:-

for the internet.

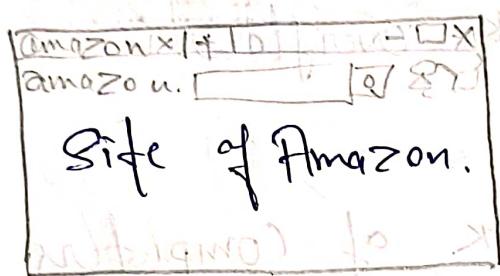
Building websites



Request



Amazon Server.



Site of Amazon.

in browser.
(Chrome, Edge)

HTML CSS JS

Read file

Response

HTML

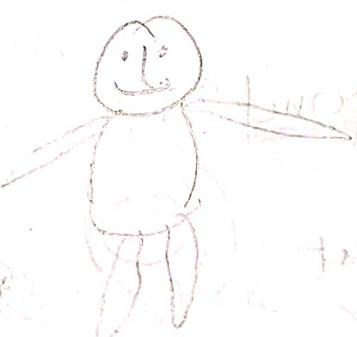
Structure

CSS

Style.

JS

Functionality



What will we learn:

Frontend: HTML, CSS, Javascript, Bootstrap, Tailwind

Backend: Express, Node.js

Data base: SQL, MongoDB

React.

Prerequisites

1. Laptop / Computer
2. WiFi Connection.
3. Chrome (Browser)
4. Visual Studio Code (Editor)

HTML

What is HTML:- Hyper text Markup Language

Structure & Formatting

Normal text

The 3 states of matter
are:- Solid, Liquid
and gas.

Formatted

Affter HTML

The 3 states of matter
are:-

- * Solid. (Fe) Iron
- * Liquid. (H_2O) Water
- * Gas. (O_2) Oxygen

HTML Elements

Standard elements that

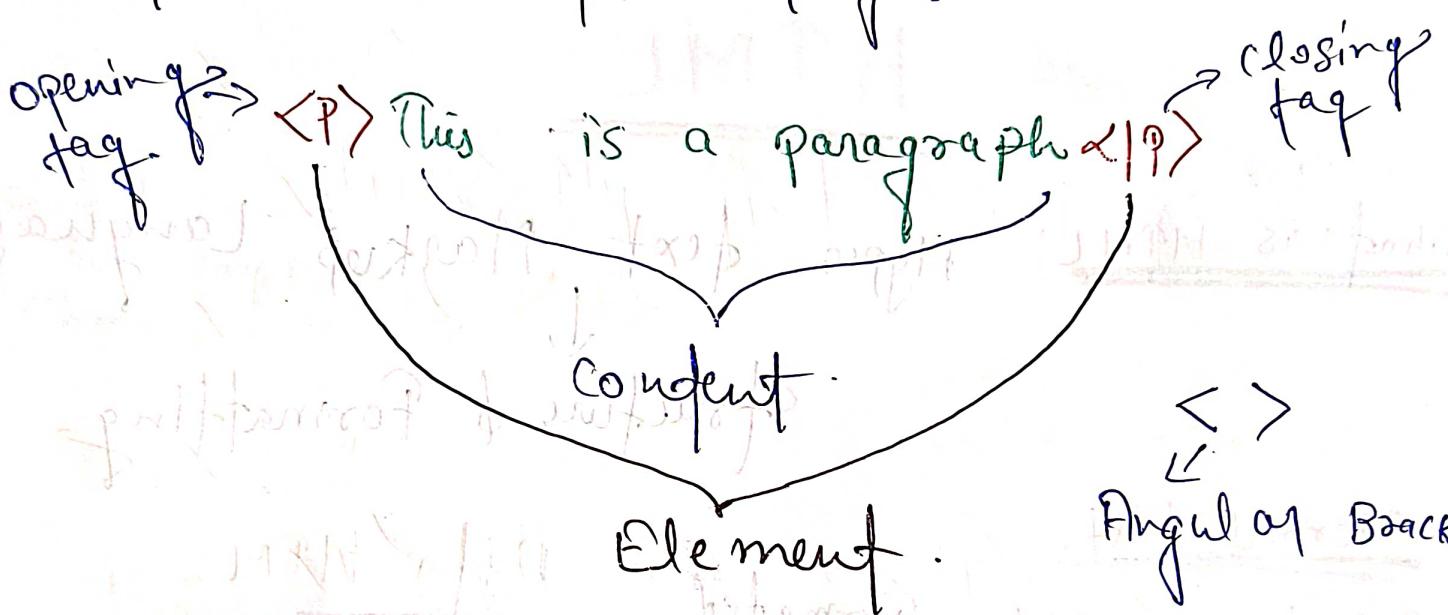
browsers recognizes

- ① Paragraph: $<P>$ content $</P>$
- ② Heading: $<H1>$ heading $</H1>$
- ③ Image: $$

⇒ The components used to design the structure of websites are called HTML tags.

HTML Tags:

A container for some content or other tags.



Hello world in HTML:-

- ① Create a new file and save with extension .html.

Code:- <p> Hello world </p>

Paragraph element:-

The <p> HTML element represents a paragraph.

Bold: - Bold

Bold

Italic: - <i> Italic </i>

Italic

Underline: - <u> Underline </u>

Underline

Nesting: -

<p> Hello World </p>

Output:- **Hello World.**

Heading elements:

The <h1> to <h6> HTML elements represent six levels of section headings.

<h1> is the highest section level and <h6> is the lowest.

<h1> ... </h1> This is heading 1.

<h2> ... </h2> This is heading 2

<h3> ... </h3> This is heading 3

<h4> ... </h4> This is heading 4

<h5> ... </h5> This is heading 5

<h6> ... </h6> This is heading 6

HTML Boilerplate

This is standard form

or skeleton of writing HTML code.

```
<!DOCTYPE html>
<html> </root>
  <head> </metadata>
    <title> My first web page </title>
  </head>
  <body>
    <p> hello world. </p>
  </body>
</html>
```

Indentation

Proper spacing

```
<html>
  <head>
    <title> </title>
  </head>
</html>
```

List in HTML:- A Description list

* Unordered List

Pointwise
``

list item → `` Bread ``
`` Jam ``

``

Output:-

- Bread
- Jam.

Attributes:

`<ul type="disk">`

type = "circle"
 type = "square"
 type = "none"
~~→ start = "5"~~

`<ol reversed>`

8.
 4.
 3.
 2.
 1.

* Ordered List

Sequence
``
`` One ``
`` two. ``
``

1. One.
2. two.

Attributes:-

`<ol type="A">`

type = "a"
 type = "1."
 type = "i" Roman
 type = "I" Roman

⇒ Description list

`<dt>` Define Terms.
`<dd>` Described Data.

HTML Attributes:-

Attributes are used

to add more information to the tag.

`<html lang="en">`

`<body>` and `</body>`

`<div>` and `</div>`

Anchor Element:-

used to add links to your page.

`target = "blank"` → open link in new page

`Google`

hyper text Reference

→ Internet.

- ① Absolute links:— google.com, netflix.com etc
- ② Relative links:— style.css, script.js
files.

Image Element:-

used to add image to your page. Single tag (no close tag).

`title = "image of wall"`

``

Source

Relative URL alternative

`src, title, alt, height, width, height = "100px"`

Br tag:- used to add next line (line break) to your page

Comments in HTML:

This is a part of code that should not be parsed.

<!-- This is an comment line -->

shortcuts Key:- Select and then **Ctrl + /**

Resource: MDN :- website from where we take help to read.

⇒ HTML is not Case Sensitive.

for ex:-

<html> <HTML>
<p> <P>
<head> <HEAD>

Hr tag:- Horizontal Rule Element.
<hr>

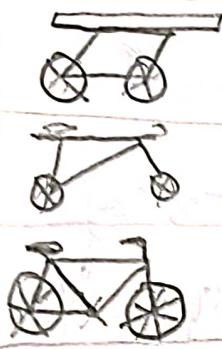
Sub & Sup Tag:- _{...} ^{...}

Subscript:- H₂O :- H₂O

Superscript:- a²=b²+c²: - a²

HTML Level :- 2. Inline v/s Block

Block Elements:-



Takes up the full-width available (whole block).
Start from New line.

For ex:- Heading element

Paragraph element

~~and so on for rest of the~~

Inline Elements:-

For ex:-

Takes ~~up~~ only necessary width. Don't start from new line.



- ① Anchor Tag
- ② Image element

div {
display: flex;
}

div {
~~float: left;~~
}

Div Element:-

content Division element.

Div is a container used to hold other HTML elements or group elements together.

`<div> ... </div>`

Pt is a block element.

Span Element:-

Span is also a generic container used to hold other HTML elements or group elements together. Pt is an inline element.

` ... `

Semantic Markup!:-

Pt is the markup that relates to the meaning of content.

① Meaningful / layout → Structured.

② SEO friendly.

↓
Search engine optimization

③ Readable + Screen readers. ∴ user experience good.

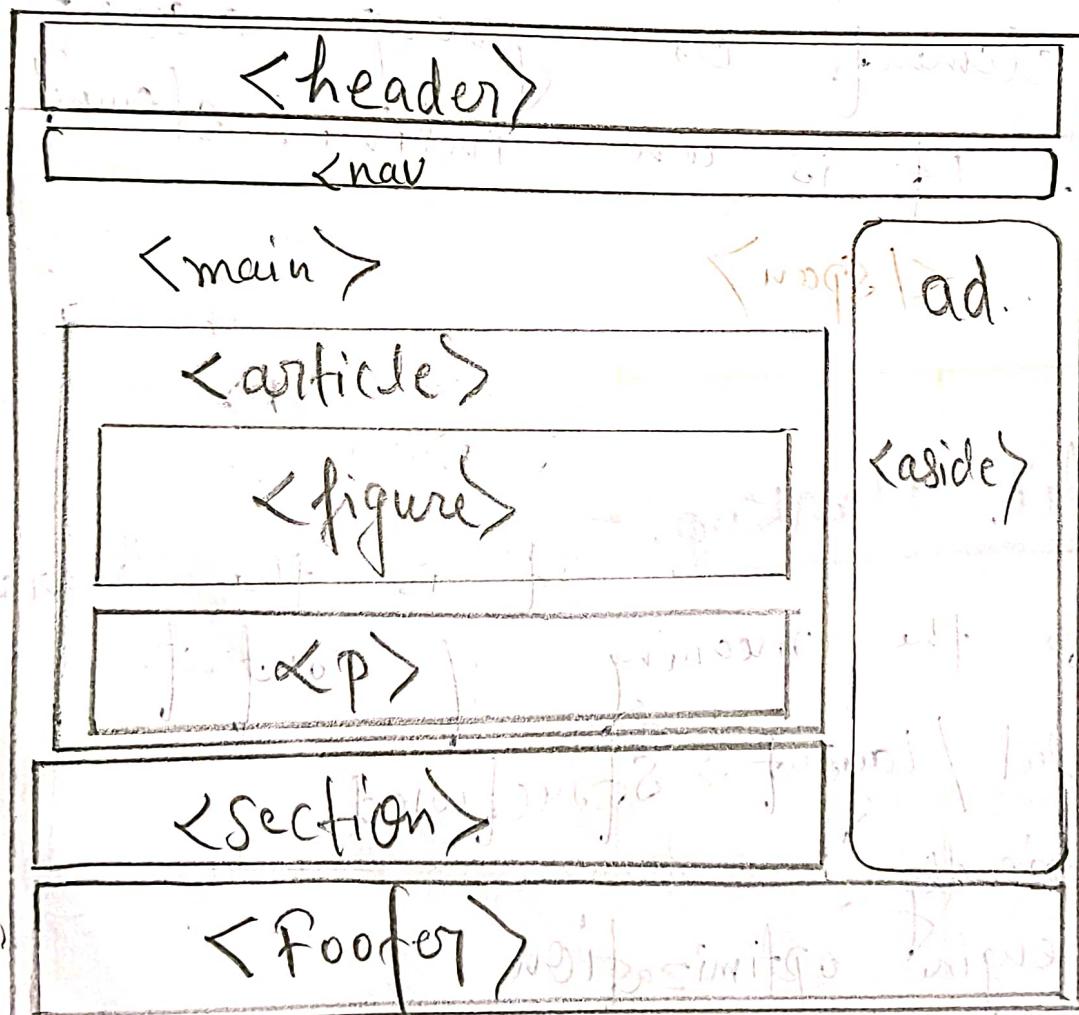
Semantic Markup tag:-

- <header> </header> upper part of site
- <main> </main> main content. Relative.
- <footer> </footer> lower part of site. Libs.
- <nav> </nav> navigation.

<article> </article>

<section> </section> Related content

<aside> </aside> Indirect relative ad.



HTML Entities

- * An HTML entity is a place of text ("string") that begins with an ampersand (&) and ends with a Semicolon (;).
- * Used to display reserved characters (which would otherwise be interpreted as HTML code), and invisible characters (like non-breaking spaces).
- * Can also use in place of characters that are difficult to type with a standard keyboard.
- * browsers interprets them & renders correct character.

Character	Entity
&	&
<	<
>	>
"	"
blank space ()	

for more LEMON
visit
 
#9748;
#9729;

Emmet! — visit: emmet.io

Syntax:

1. Child: >

nav>ul>li

<nav>

4. ~~Class~~

• box

<div class="box">

2. Sibling: +

div+P+bg

<div></div>

<P></P>

<blockquote></blockquote>

5. ID

#oval

<div ID="#oval">

3. Multiplication: *

ul>li*

Level :- 3

⇒ Tables in HTML

Tables are used

to represent real life table data.

If it is a combination of Rows & Columns.

Roll no.	Name.	Marks.
1.	Hello world.	86
2.	How are you.	84
3.	It's Swapnil Rayal.	91
4.	From Patna.	94

R, Table Header.

R2

R3

R4

R5

Table data

Emmet for below table.

<table> [table] <caption> [caption] + (<tr><th>*2) + (<tr><td>*2)

<caption> Table caption. </caption>
<thead>
<tr>

<th> header 1 </th>

<th> header 2 </th>

</tr> </thead>

<tbody> <tr>

<td> data 1 </td>

<td> data 2 </td>

</tr> </tbody>

</table>

⇒ <table border="1" style="border: 1px solid black;">>

⇒ <thead> to wrap table header.

<tbody> to wrap table body.

<tfoot> to wrap table footer

⇒ Colspan & Rowspan Attributes

use to create cells which spans over multiple rows or columns

rowspan = " "

colspan = " "

Food Menu.	Item	Price	
		INR	USD
Samosa	10.	0.14	
Faafati	12	0.17	
Chips	20	0.28	

Tags:-



It does not have any range.

→ <html> ... </html>
→ <p> ... </p>
→ <div> ... </div>

Forms in HTML:-

Forms are used to collect data from the user.

`<form>`

Form Content:

`</form>`

Action Attribute:-

Action attribute is used

to define what action needs to be performed when a form is submitted or where the form data should be sent.

`<form action="/action.php">`

`<form action="e/action">`

Forms Element:-

=> Input

- Used to create multiple form controls
- There are multiple types of inputs that can be created using type attribute.

type attribute

<input>

<input type = "text">

<input type = "password">

<input type = "number">

<input type = "time">

<input type = "color">

Placeholder attribute

<input type = "text" placeholder = "Enter name">

<input type = "text" placeholder = "Enter age">

<input type = "text" placeholder = "Enter address">

<input type = "text" placeholder = "Enter phone number">

Label:

Label element represents a caption for an item in a user interface.

<label>

Enter your username:

<input type = "text" placeholder = "username">

</label>

Label Classical Approach

```
<label for="username"> Enter username: </label>  
<input type="text" id="username" placeholder="username">  
<label for="password"> Enter password: </label>  
<input type="password" id="password" placeholder="password">
```

Button Element

```
<button> Submit </button>
```

type attribute

```
<button type="submit"> Submit. </button>  
<button type="button"> do something </button>  
<button type="reset"> Reset. </button>
```

Name attribute:-

Name of the form control, submitted with the form as part of a name/value pair.

```
<input type="text" placeholder="enter name" id="username" name="username">
```

```
<form action="https://www.youtube.com/results">  
  <input type="text" placeholder="Search in Yt" name="Search-Query">  
  <button> Search </button>  
</form>
```

Checkbox!:-

It is wrapped by default checked.

<label for="age"> I am 18+ </label>

Radio button!:-

<label for="apple"> Apple </label>

Select element!:-

Dropdown

<select name="profession" id="profession">
 <option>Select your option </option>
 <option value="Student"> Student </option>
 <option value="Developer"> Developer </option>
 <option value="Dev"> Dev </option>
 </select>

use for Default
Selected.

Range!:-

<label for="vol"> Select your volume level: </label>

Text area:-

```
<label for="feedback"> Please give ur valuable feedback  
</label>
```

```
<textarea id="feedback" name="feedback" rows="5"  
cols="100" placeholder="give ur feedback">
```

readonly:-

```
<input type="text" value="It's me" readonly>
```

Button:-

```
button type="button" onclick="alert(['done'])"  
Click me </button>
```

Tags:-

```
<mark> use for highlight text </mark>
```

```
<del> Strikethrough </del>
```

```
<meter> min="0" max="100" value="30" </meter>
```