DAY 1.1

Full Stack/Application Development

Frontend:

- Whatever is happening in front of you when you are working or dealing with website or application is frontend.
- It is a user interface (UI)
- It is also called as user interaction (UX)
- Front end development also called as client side programming.

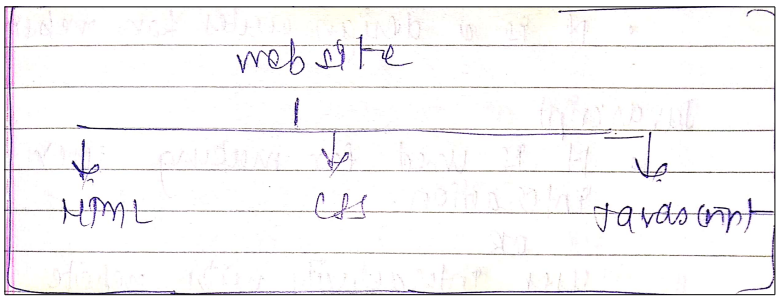
Backend:

- All computation, logic that you do not see while user interaction with website or application is backend.
- Backend development is also called as server side programming.
- Example: Data insertion, deletion, calculation, etc in database.

Frontend Discussion Continued...

- Frontend can be a website, android app, ios app, etc.
- We are dealing with website because it covers large number of audience.
- Website development has 3 different parts.
  - Content
  - Styling this content
  - Adding interactive functions in website
- In simple words,
  - A chair, table and bed in a room is a content.
  - Size, color, strength, etc of chair, table and bed is styling the content.
  - Using the table's drawer, i.e. open/close, put something, remove something are the interactive functions.
- 1st is done using HTML.
- 2nd is done using CSS.
- 3rd is done using Javascript.
- Styling the content is also possible using HTML, but it takes a large time and work.
- CSS saves a lot of time.

Diagram:



Progressive web apps:

- You may have seen this option (Add to home screen) while surfing a website using your smartphone.
- This is nothing but a website in the form of a app which is called as progressive web apps.

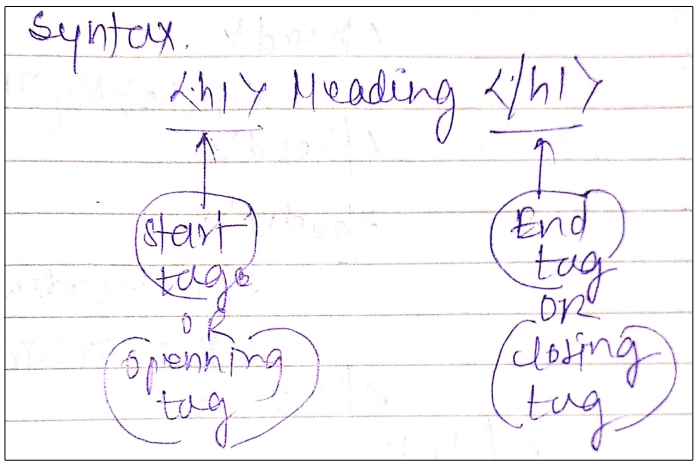
HTML: It describes a structure of a website.
CSS: It is design rules for website.
Javascript: It is used for making user interaction or user interactivity with website.

Important Note:

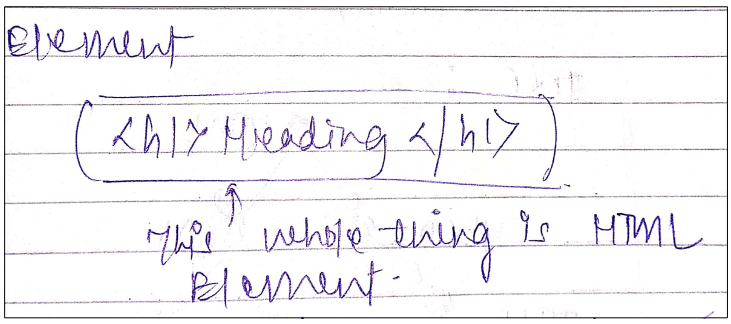
- Don't confuse Javascript with a Java programming language.
- Javascript and java programming language has no relation. Java name in javacript was used just for marketing purposes, because at that time, Java was popular.

HTML:

- To see the html structure of a live website. Right click -> select "inspect"
- Angular brackets < > are used to define a tag in HTML.
- Syntax:



- Element:

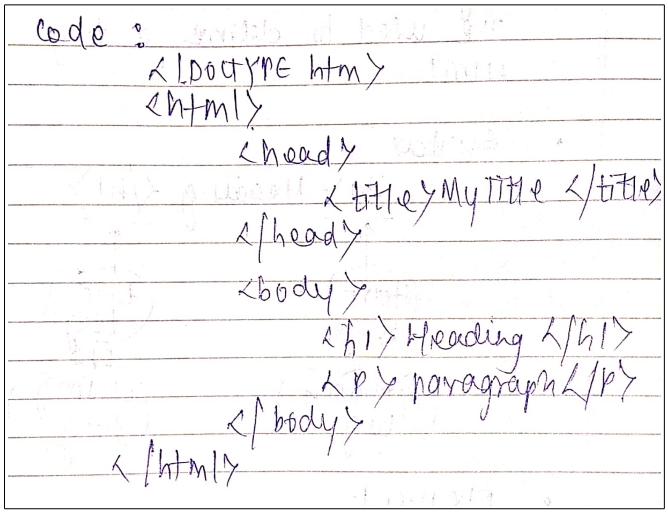


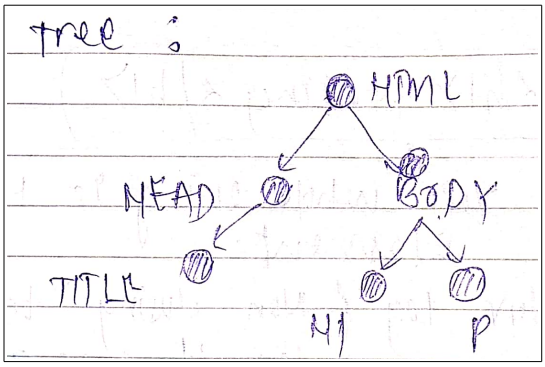
- Singular tags/Non closing tags:
  - Example:
 or
  - These tags doesn't have any content.
  -
 tag function is insert a line break.

DOM tree:

- Its full form is Document Object Module.
- This means entire HTML can be visualized by a tree as shown in figure below.

Diagram:





- Singular tags are not considered in this DOM tree.
- Singular Tag = Empty Tag = Non Closing Tag.

Basic HTML Structure:

```
<!DOCTYPE html>
<html>
        <head>
                <title>My Title</title>
                <meta>_____</meta>
                <script>_____</script>
                <style>_____</style>
                <link>_____</link>
        </head>
        <body>
                <h1>_____</h1>
                <p>_____</p>
        </body>
</html>
```

- <title>My Title</title>
  - My Title will be shown when your website opens. It is shown on the tab.
  - This title is also be shown when user searches a topic through search engine and your title = topic.
- <meta>
  - This tag is mostly used for search engine optimization (SEO).
  - It helps to improve our website's ranking in the search results if used properly.

- <script>
  - Javascript code is written here.
- <style>
  - CSS code is written here.
- <head>
  - This tag renders first when your website loads.
  - You may have noticed, whenever any website loads, its styling is already started and then the content is shown.
- <body>
  - The visible content that you want to show to client is written here.

Semantic Tags:

- These tags are used by search engines and other applications because it tells the meaning of the tag.
- Example: <header>, This tag is telling the meaning that it will have the elements which only belongs to header section.

Tag:

- This tag doesn't have any specific meaning to it. You can create different section using tag. Its a container to keeping different elements for grouping purposes. It can a division of a section, footer, header, etc.

<h1> Tag:

- It defines heading of your webpage.
- It should be used once per webpage (html document = webpage).

<h2> - <h6> Tags:

- These are also headings but of less importance than <h1> tag.
- These can be multiple per webpage.

Semantic Importance

<h1>----------most imp
<h2>
<h3>
<h4>
<h5>
<h6>----------least imp

Note:

- Make a habit of using lowercase in all tags

<p> Tag:

- It is a paragraph tag, shows the content in it will be paragraph.

 or
 tag

- Its an empty tag, used to break the line.
 tag mostly recommended than
.

Block level Element & Inline Element:

- Every element in html has a default predefined style.
- This style could be either block or inline.
- Block level Element:
  - Block Element always starts with new line and covers the entire available width.
  - Examples are: element, <p> element, <h1> element.
- Inline Element:
  - Inline element does not start with new line.
  - It takes only that much amount of width whatever it needs.
  - Example are: element, <button> element.

Assignments:

1. Study various HTML tags from w3schools website.
2. Perform a post class assginment at newton school student portal.