Day_1

Web Applications:

Desktop Apps

- the apps which are running directly on OS
- First we need to install them

Mobile Apps

Web Apps

- Doesn’t need to be installed
- client →Device/ browser
- server→ machine similar to pc/laptop
    - Server had RAM, CPU, Storage Units

Frontend: UI

HTML, CSS, JS, Bootstrap, React vs Angular, vue JS, next JS

Backend: Operations + Database

- Operations: JS, Node JS, Express JS
- Database: MySQL, MongoDB

Frontend:

HTML

- Hyper Text Markup Language
- HTML is used to create a layout of web app, HTML is used to display content on the webpage

CSS

- Cascading style sheet
- styling of web page, beautification

JS

- JavaScript
- is for client side scripting
- e.g. Form validation, arithmetic operations, popups
- LiveScript original name
- Every browser ha JS Engine
- e.g. v8 Engine, Spider Monkey

Bootstrap

- we can make a responsive page

React

- Is a Library to develop frontend of web app

Backend:

Node JS:

- is not a language, not a library
- It is runtime environment for JavaScript

MERN Stack

MEAN Stack

Client & Server Technical Aspects:

- THESE TECHNICAL ASPECTS ARE SAME FOR ALL THE CLIENTS AND SERVER REGARDLESS OF THE TECH USED

Analogy for requests:

- Client sends request to server
  - To send request we need URL(end-point) of the server
- Method of the request:(Purpose of the request)
  - is it for getting the data from server, saving data on the server, deleting data, update data

    - GET, POST, PUT, DELETE, PATCH
    - By Default GET method is executed in case if there is no specific method mentioned

Analogy for the response/Server:

- Server will accept the request
- It will start the processing
- Server will generate the response
- We have certain properties associated with the response
    - Response Data: Array, string, page, object
    - Response Status: Status code is always a numeric value and will have a message associated with it
        - 200 201 202 203......299→Success event from server
        - 300 301 302......399→Redirection
        - 400 401 402......499→Error due to client mistake
        - 500 501 502......599→Error due to server mistake

HTML:

- HTML is only creating layout of UI. It is used to display data in the webpage
- in HTML we have to use inbuilt tags

Tags:

e.g. <abcd> { openiing tag

Hello

</abcd> } closing tag

<p>

This is a para

</p>

h1 h2 h3 h4 h5 h6

```
    <h1> Heading </h1>
```

extension for HTML file:

.html or .htm

Basic Syntax of HTML:

```
<html>
<head>
<title>My First Page</title>
</head>
<body>
<h1>Hello World!!</h1>
<h2>this is 2nd Heading</h2>
<p align=″center″>this is  <br> paragraph demo</p>
<a href=″www.instagram.com/prithviraj.nalawade″>Click this</a>
</body>
</html>
```

- <p align=””>this is <br> paragraph demo</p>← paragraph tag has break line tag(align is attribute for alignment)
- the default is alignment is left
- align=″center″, align=″right″, align=″justify″ are some values for alignment
- <a href=″www.instagram.com/prithviraj.nalawade″>Click this</a>←anchor tag for redirection to a new website or page.(href is attribute stands for hyper reference)
- <b></b>←For bolding the text
- <i></i>← for italic format
- HTML is case insensitive
- HTML is Error Free

HTML 5:

<!DOCTYPE html>

- To let the browser know that we are utilizing the latest version of HTML and browser will enable HTML’s latest feature

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Two types of tags:

1. Container tags:
    - Opening closing : <p></p>
2. Empty tags
    - only opening: <br> <img> <input>

- <img src=”/path_to_img” width=”” height=””>← for inserting the image in page. (src is for source is an attribute of img tag)(width and height has px as default unit)
- always give a relative for src in image take not the absolute path.
- cdn← content delivery network
- SuperScript← the text at upper side <sup></sup>

    <p>(a+b)<sup>2</sup></p>
- SubsScript← the text at a base <sub></sub>

    <p>H<sub>2</sub>O</p>
- <!— html ⟶ ← comment

List:

- Series of items
    - Ordered List
        - labels will follow certain sequence like numeric, alphabetic

        <ol>

        <li>Mumbai</li>

        <li>Delhi</li>

    <li>Chennai</li>

    <li>Kolhapur</li>

    </ol>← by default numeric sequence

    <ol type=”a”>

    <li>Mumbai</li>

    <li>Delhi</li>

    <li>Chennai</li>

    <li>Kolhapur</li>

    </ol>← for alphabetic sequence

    - type: 1, a, A, i, I
    - start: 3←specify the position

  - Unordered List

    <>

    <li>Mumbai</li>

    <li>Delhi</li>

    <li>Chennai</li>

    <li>Kolhapur</li>

    </ul>← default is bullet(disc)

    <ul type=”circle”>

    <li>Mumbai</li>

    <li>Delhi</li>

    <li>Chennai</li>

    <li>Kolhapur</li>

    </ul>

    - type=”disc|circle|square”

Table:

- combination of rows and columns
- We will create a outer box

```
<table>
<tr>
<td>
Prithviraj
</td>
<td>
<a href=”www.google.com”></a>
</td>
</tr>
<tr>
</tr>
<tr>
</tr>
</table>
```

- <table> for outer box
- <tr> for table row
- <td> for table data. also for row columns
- <th> for table heading
- “border” attribute define the border
- “cellspacing” ← outside space of a cell
- “cellspadding”← internal spaces for a cell
- <thead> gives more readablity, specify <th> in this semantic tag
- <tbody> gives more readablity, specify <td> in this semantic tag

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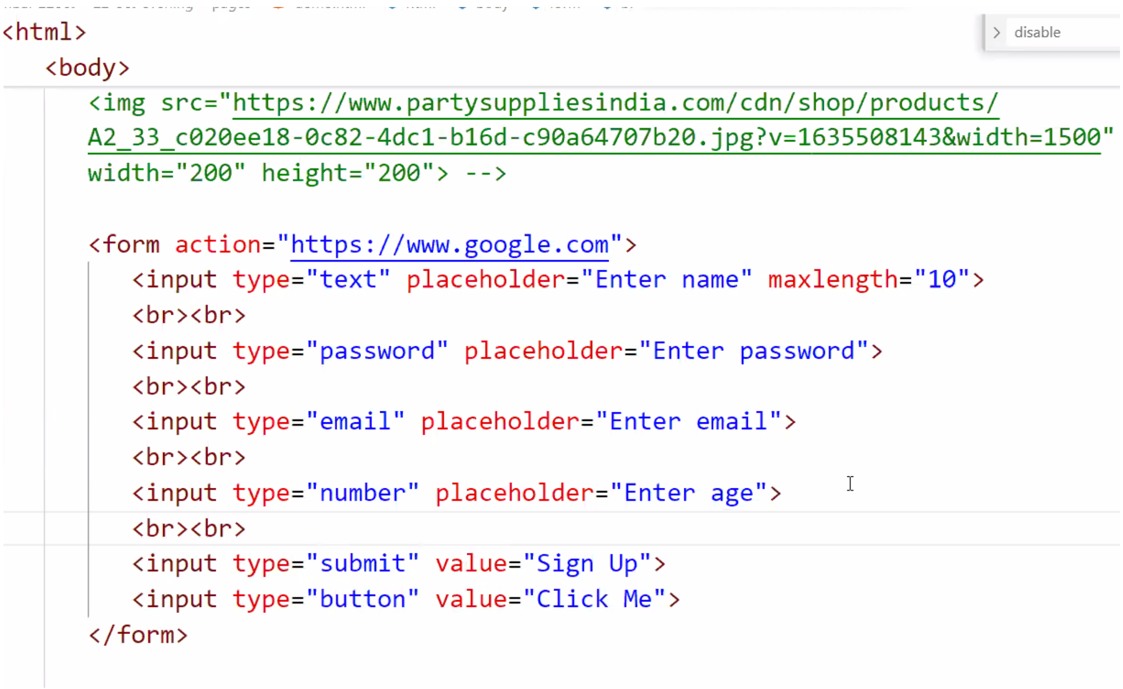
Div:

- is used to create any random section in html page

Semantic tags: <nav>, <footer>, <tbody>, <thead> to provide more readability

Forms:

- Is used to collect the data of fields inside it and submit it to the server
- <form action=""></form>← by default is method is GET
- Form tag is used to submit the data (not to display the form fields)
- Form tag is having two attributes:
  - action: url on which request has to be submitted
  - method: request method using which request will be sent on action url. If no method has been specified then by default it will consider GET request
- The Form action attribute will be activated when user clicks submit button only. User will click submit button, internally submit event is getting fired. Now this submit



```
<html>
  <body>
    <img src="https://www.partysuppliesindia.com/cdn/shop/products/
    A2_33_c020ee18-0c82-4dc1-b16d-c90a64707b20.jpg?v=1635508143&width=1500"
    width="200" height="200"> -->

    <form action="https://www.google.com">
      <input type="text" placeholder="Enter name" maxlength="10">
      <br><br>
      <input type="password" placeholder="Enter password">
      <br><br>
      <input type="email" placeholder="Enter email">
      <br><br>
      <input type="number" placeholder="Enter age">
      <br><br>
      <input type="submit" value="Sign Up">
      <input type="button" value="Click Me">
    </form>
```