HTML

CODEMIND
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By CODEMIND Technology

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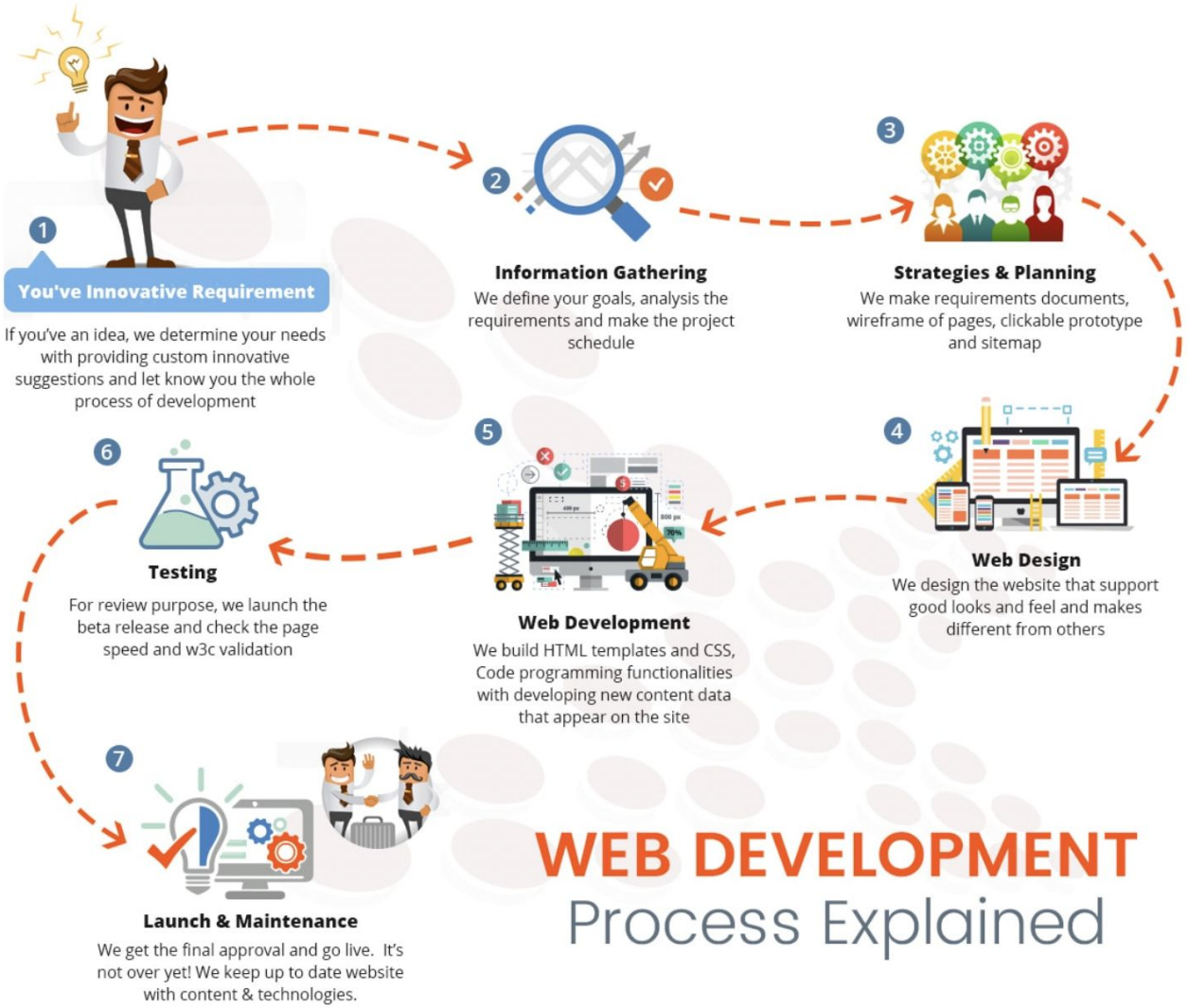
Software Prerequisite

- Visual Studio Code - VS Code
- Google Chrome
  - Latest Version
- Notepad++
- Snipping Tool - To capture screen shot

Web Development Process

Where you will be?



Prerequisite - Software Installation

- VS Code - Visual studio code
  - https://code.visualstudio.com/download
- Google Chrome
- Notepad ++ – Optional
- Snipping Tool - to capture screen

What is Website ?

Website is a collection of interlinked web pages that we can view using internet and browser

What is Page ?

It is a collection of text, images, videos and audios

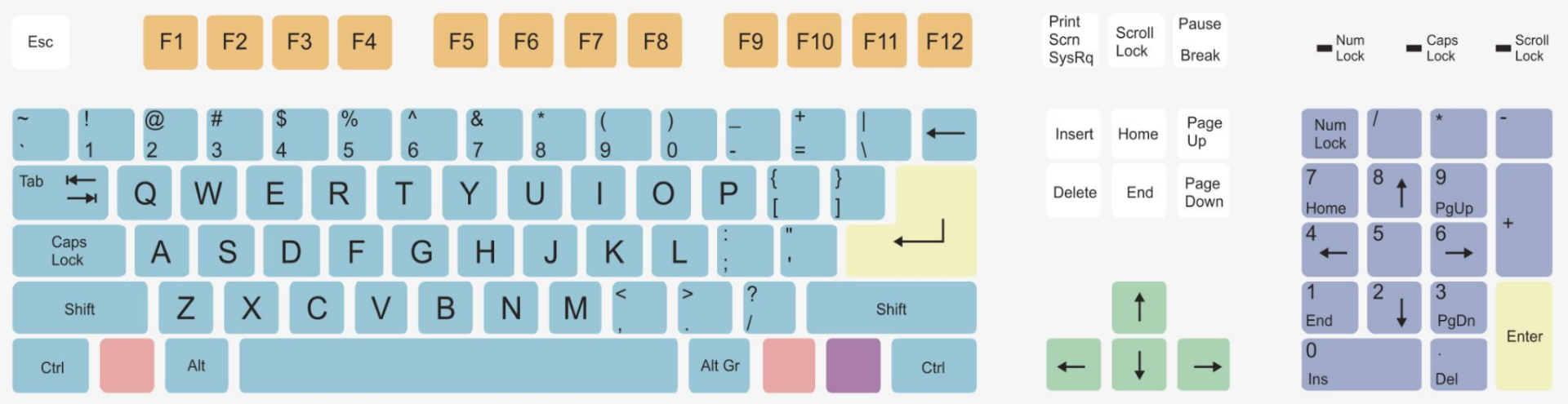
Keyboard Keys and Symbols

! Exclamation Mark

< Opening Angle brackets

> Closing Angle bracket

/ Forward slash



What is camel case ?

When there are more than two words , we should not use spaces to separate them instead we can make the second word first letter capital

Example:

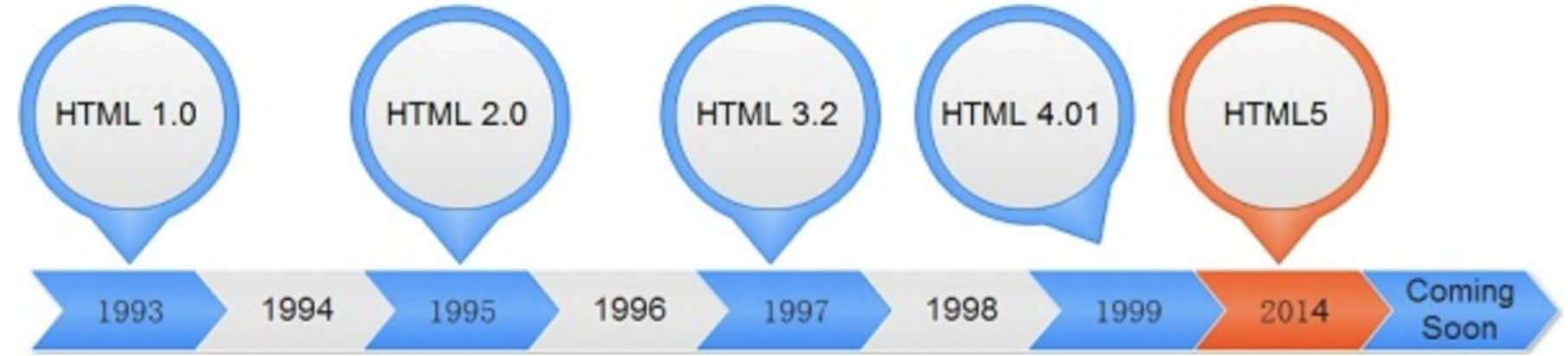
- camelCase
- iPhone
- studentRegistration
- collegeCampusEngineering

HTML Introduction

HTML stands for HyperText markup language

- HTML is the standard markup language for creating Web pages.
- HTML describes the structure of a Web page.
- HTML consists of a series of elements.

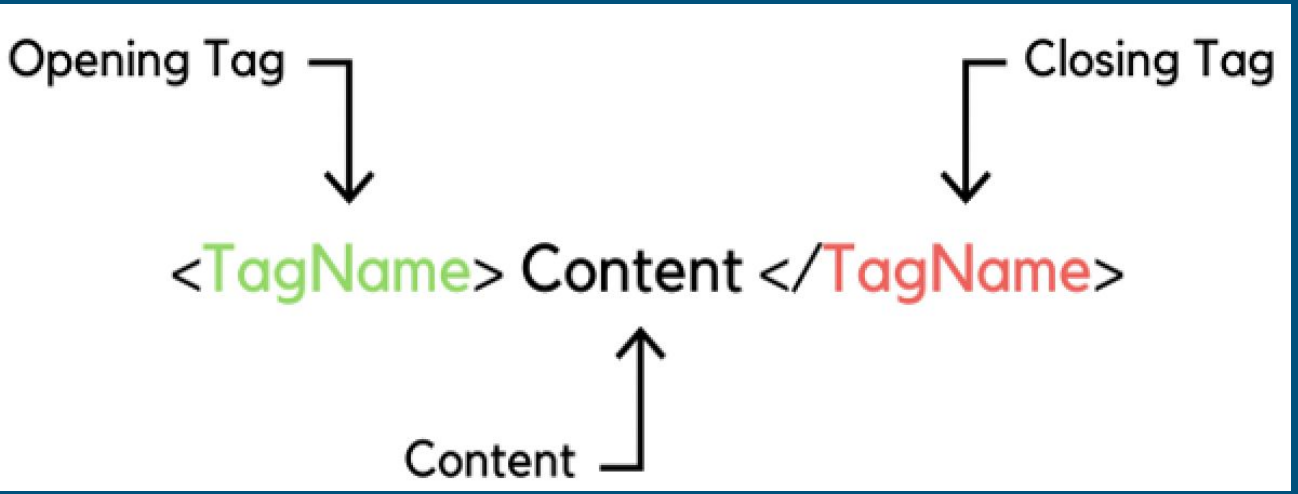
HTML Versions:

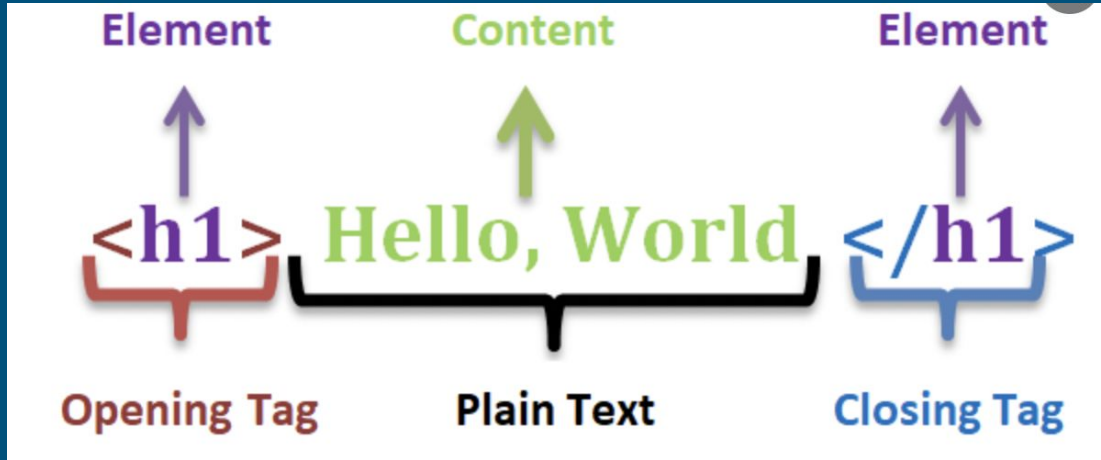


HTML File naming conventions

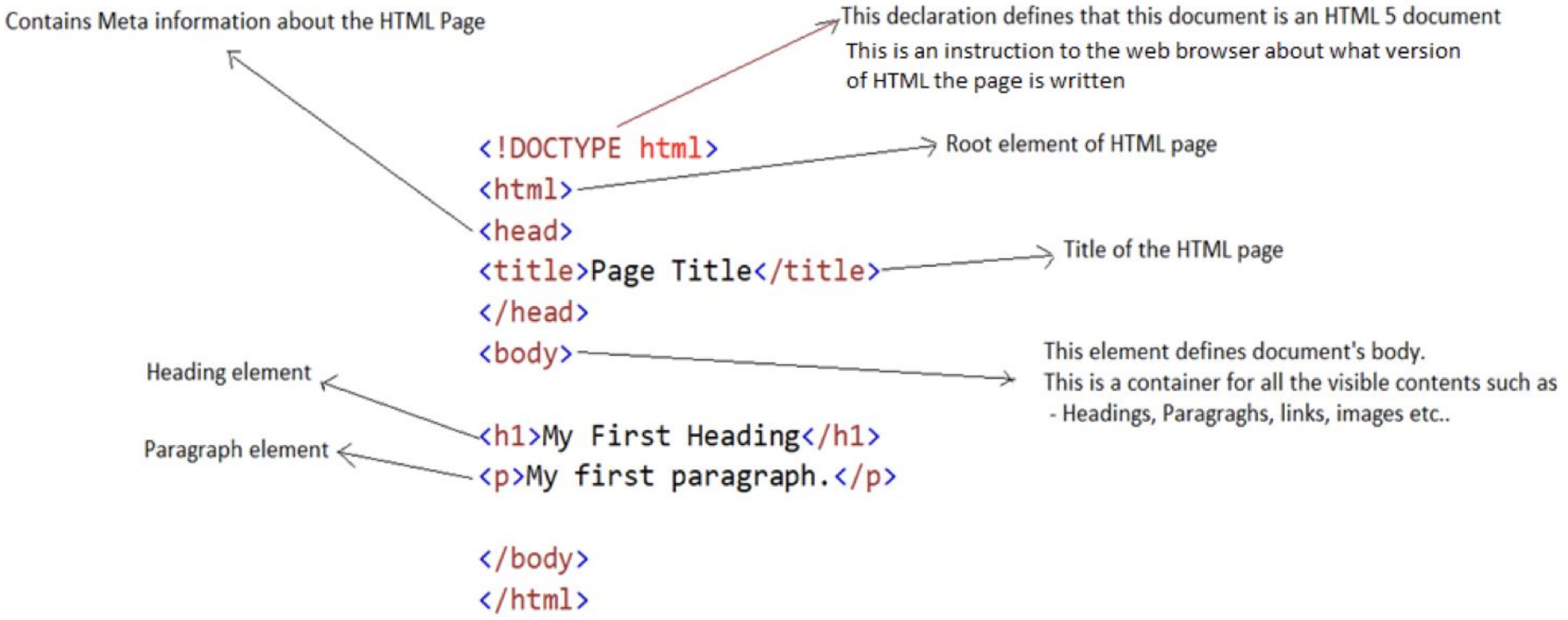
- Don't Use Special Characters → Ex. !, @, #, $, %, ^. &, *, +, /, {, }
- Don't Use Spaces → student registration.html
- Start the File Name With a Letter → Only Alphabets
- Use All Lowercase Letters → Ex. index.html, registration.html
- Keep Your Filenames Short
- Remember the File Extension, It must be **.html**
- Good HTML File-Naming Practices
  - Try to keep file name in single word
  - In case two words follow camelCase Ex. studentRegistration.html

HTML Tag - Syntax





Hello World Program



Rules:

1. Every element must be enclosed in <>
2. Every element must have end in </>

Why Browser?

- The purpose of a web browser is to read HTML documents and display them properly.
- A browser does not display the HTML tags but uses them to determine how to display the document

VS code Extension installation – **Beautify**

Tree Structure ?

Main steam or trunk

Main branches

Sub branches

Parent branch

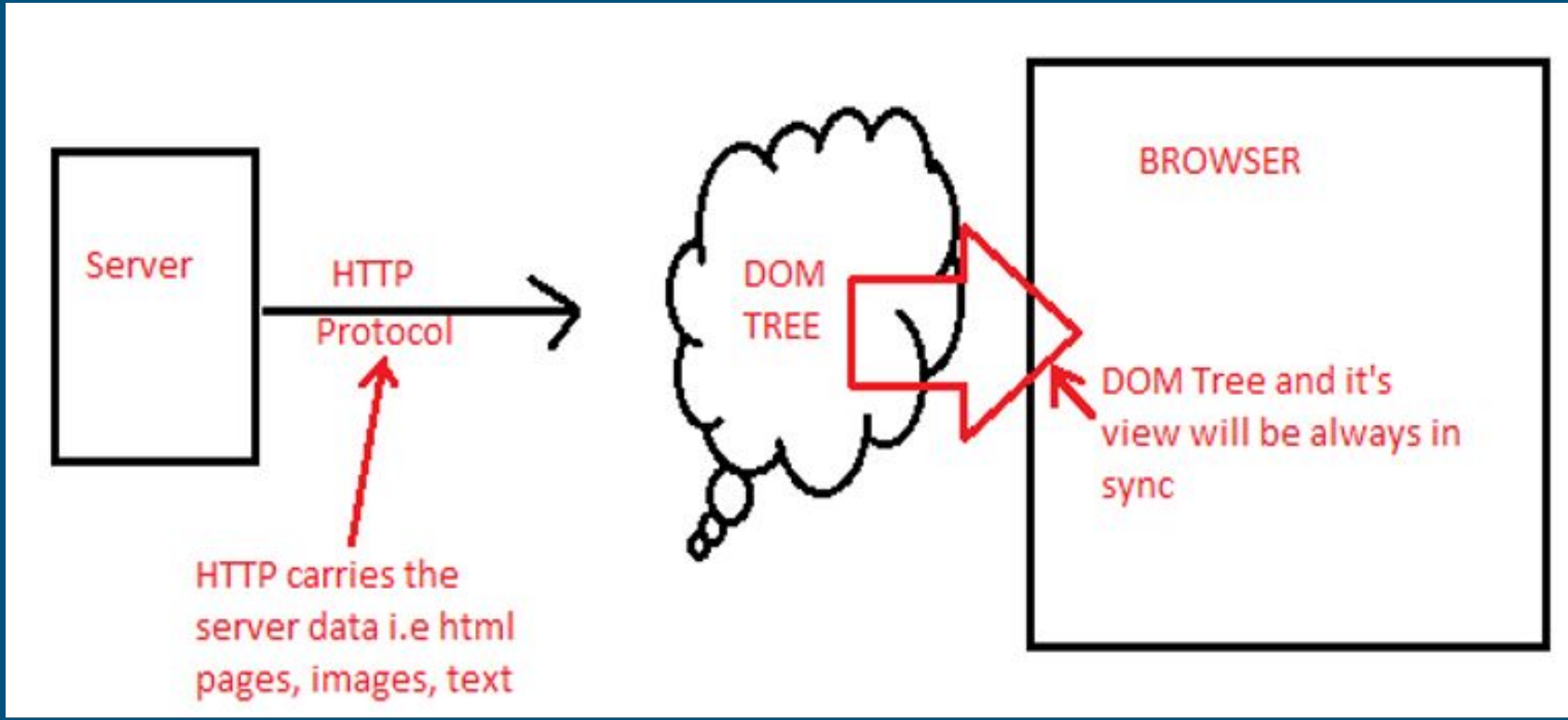
Child branch

Node

- Parent Node
- Child Node

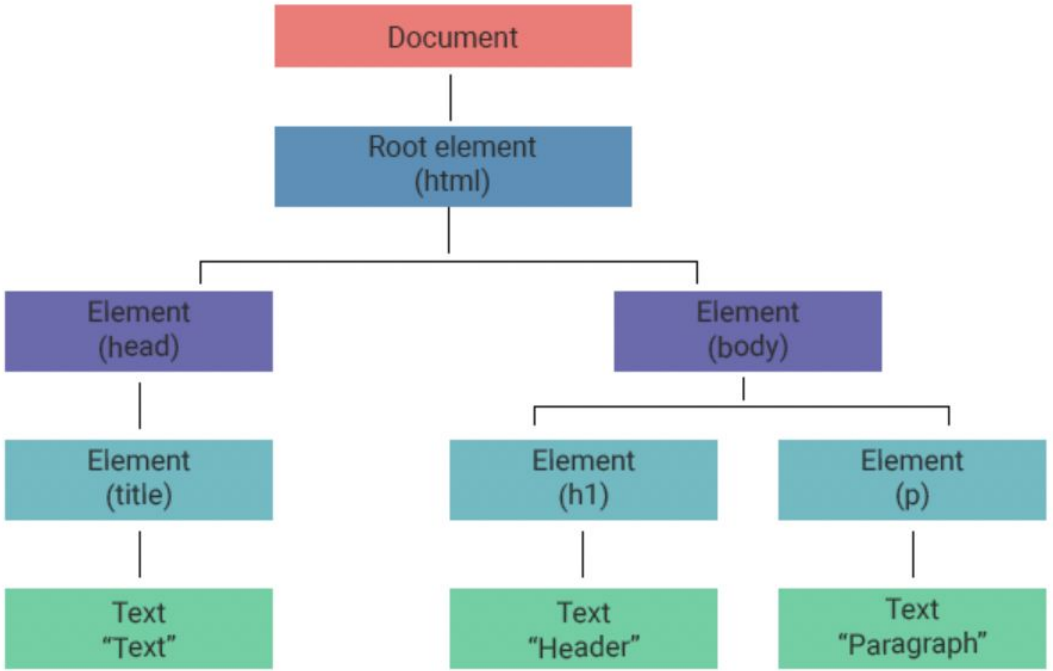
DOM - Document Object Model

- The DOM defines a standard for accessing documents
- In the DOM all HTML elements are defined as objects

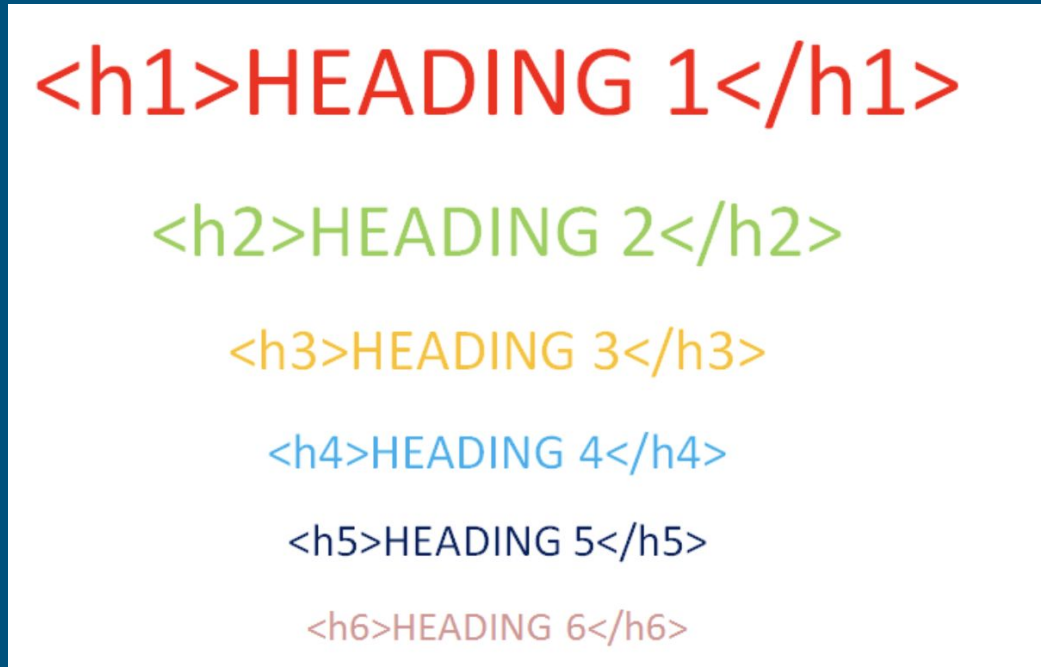


```html
<!DOCTYPE html>
<html>
  <head>
    <title>Title of the document</title>
  </head>
  <body>
    <h1>W3Docs Page</h1>
    <h2>Welcome to W3Docs page</h2>
    <p>
      <a href="https://www.w3docs.com/">Link to w3docs</a>
    </p>
  </body>
</html>
```

HTML code it’s DOM tree representation



HTML heading tags



Text Formatting tags

<h1>, <h2>, <h3>, <h4>, <h5>, <h6> : Headings

<i> : Italicize

<b> : Bold

<u> : Underline

<mark> : Mark

: Strong

<small> : Small

<pre> Preformatted text → It will consider new lines as well as spaces

 : The Line break element

<hr> : Horizontal Rule

  : Non breaking space

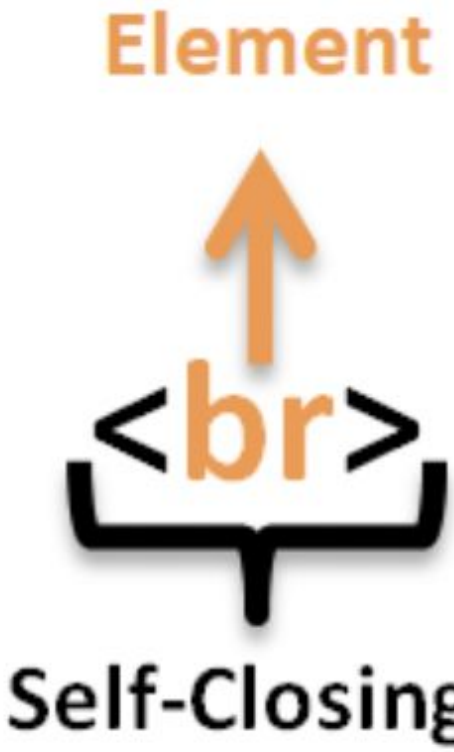
<p>: Paragraph:

<pre>: Preformatted text

<sup>: Superscript ----> Area of Square

<sub> : Subscript ---> Molecular Formula of water

HTML Syntax - Self closing tag



Project Details

Name: **Student Management**

Environment: Angular 8, TypeScript, JavaScript (ES6), HTML5, CSS, Bootstrap, GitHub, Desktop GitHub, Agile and JIRA, IDE - VS Code

Team Size: 06 **Duration:** *2021-1st -Juy till present*

Project Description: This project is mainly used for student management in colleges, where It help to manage student record like student registration, student update information and to see all his or her academic activities like score card, attendance.

Roles and Responsibilities:

Designed and implemented the user interface using HTML 5 and CSS
Work closely with backend developers for code integration
Identifying and troubleshooting issues with front end code
Worked on GIT as a version control
Used JIRA for bug tracking
Implemented project using Agile SCRUM methodology, Involved in daily stand up meetings, sprint showcase and sprint retrospective
Involved in fixing technical issues

Assignment 0A → Create a file with name **projectDetails.html**

Try to use the basic tags like <h1> to <h6>, , <sup>, <i>, <u>,   <mark>, <br>, <hr>

Note: Observe the above snippet carefully and try to get the exact same output, text bold, headings, including extra spaces, marking, underline, italicize, line breaks and horizontal line

Assignment 0B

Create a new html file with name collegeDetails.html

Try to get all possible details at least **minimum in 10 lines** about your college like name, location, total department, when it is established, Principal name, your favourite teacher, your favourite subject, Why it is favourite subject?, Technical event details in case any, your achievements, your hobbies.

Also try use different tags that we have covered so far.

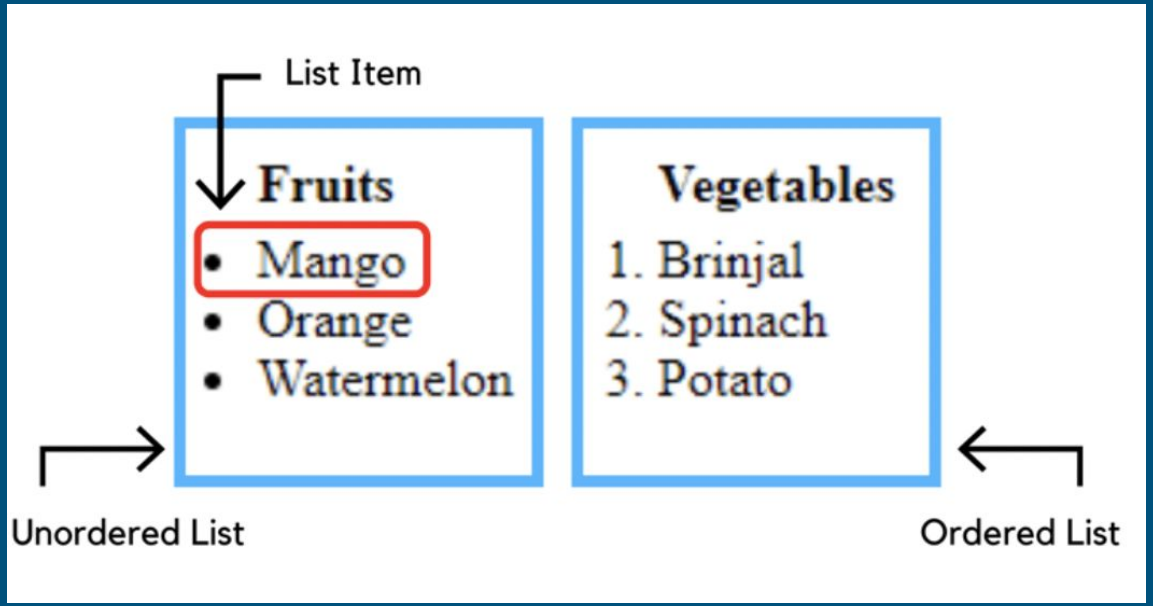
1. College name should be in bold format and italic
2. Make sure to underline your favourite teacher name
3. Highlight or mark your achievements
4. Technical event details must be in bold format and underlined as well

List: Group the set of related items

Types of list:

- Ordered List: Tag <ol> is used to define ordered list
- Unordered List: Tag <ul> is used to define unordered list

Tag <li> → List item, is used to add element into the ordered and unordered list



Nested List

- Ordered list can contains unordered list
- Unordered list can contains ordered list
- Ordered list can contains ordered list
- Unordered list can contains unordered list

Assignment A: Simple List

Create file with name ‘coursesWithDataStructures.html’

and create the list as shown

List of available courses

- Data Structures & Algorithm
- Web Technology
- Apptitude & Logical Reasoning
- Programming Languages

Data Structures topics

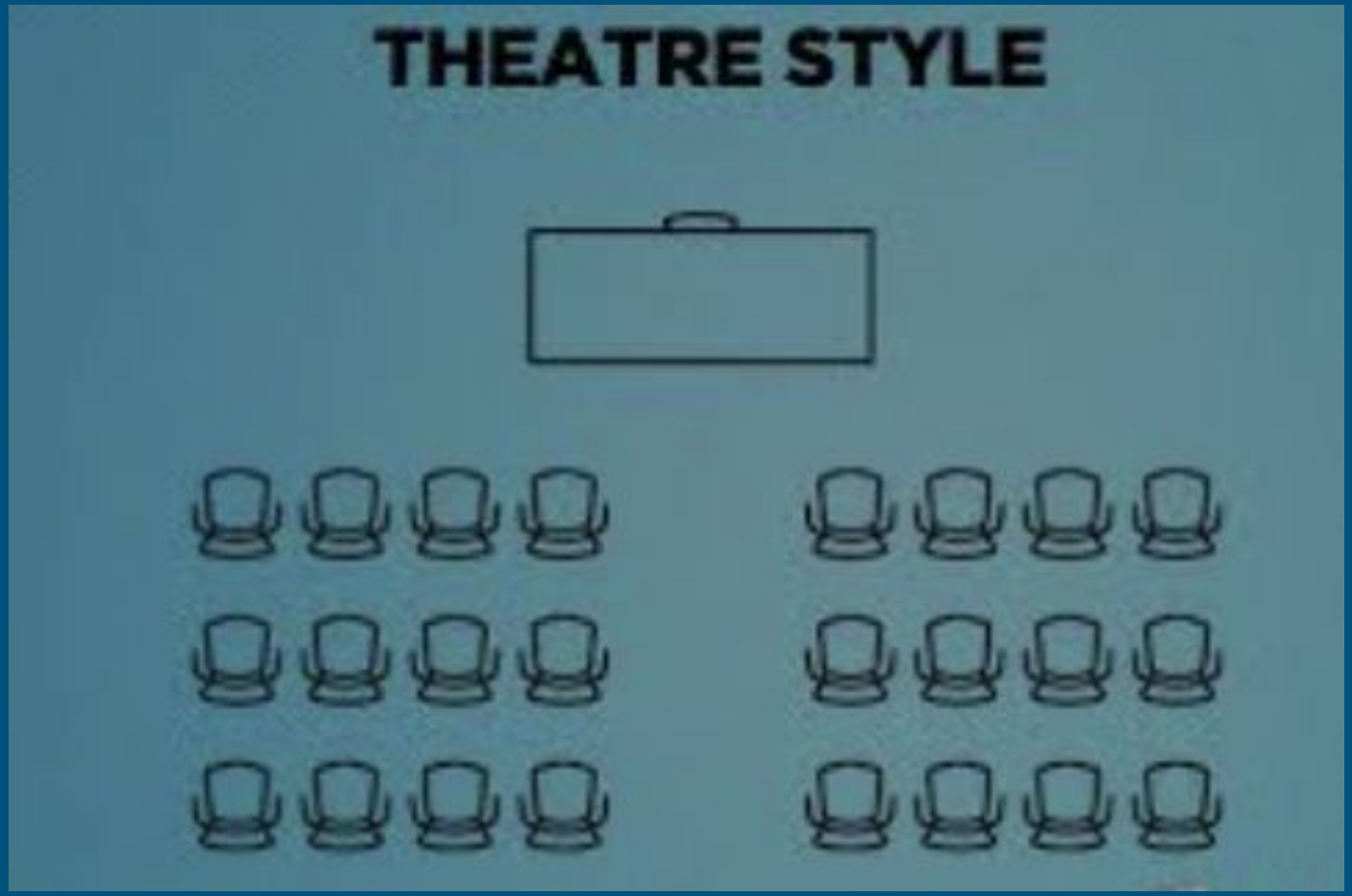
1. Array
2. Linked List
3. Stacks
4. Queues
5. Trees
6. Graphs

Assignment B. Nested List

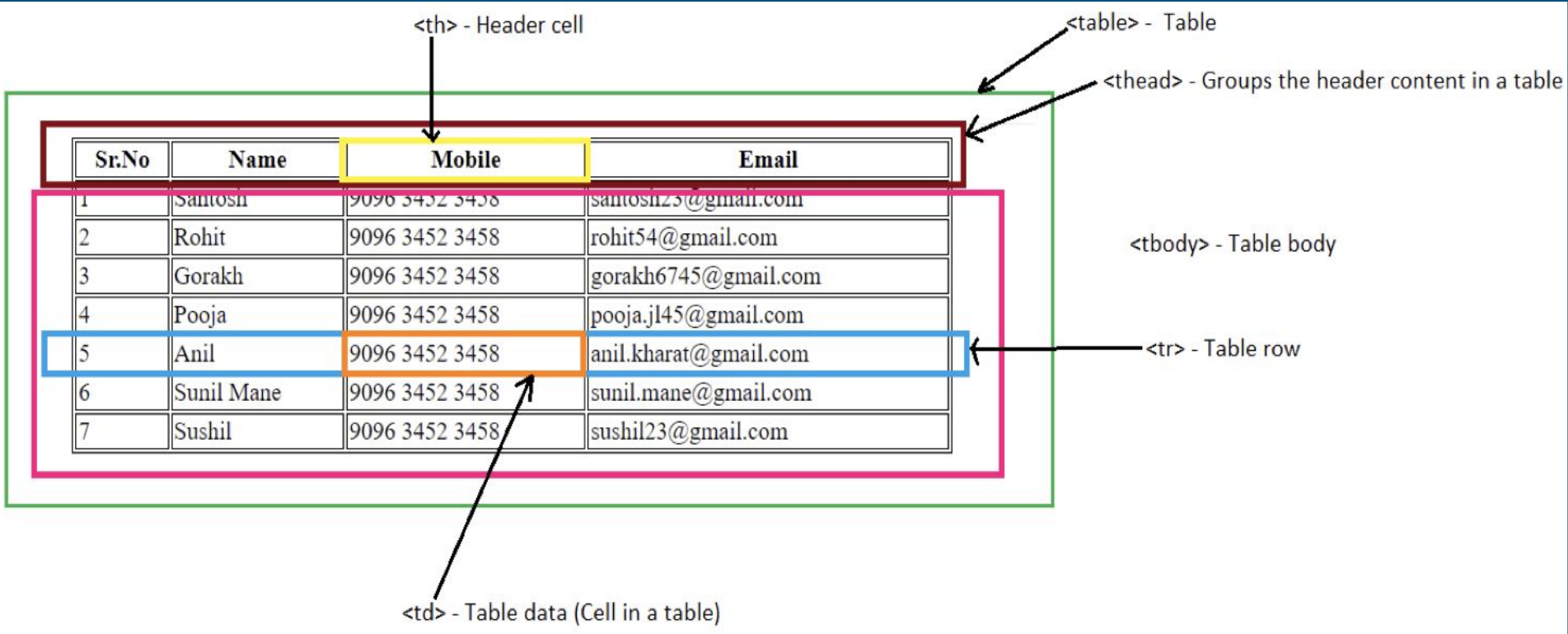
Create a separate html file with name - ‘vehicles.html’ and Prepare the list as shown below

1. Car
2. Bike
    - Electric Bike
    - Super Bike
    - Bike
3. Plane
    - Fighter Plane
    - Commercial Plane
    - Private Plane
4. Helicopter

Theater Arrangement



HTML Table: Allows developers to arrange data into rows and columns



Sr.No	Name	Mobile	Email
1	Santosh	9096 3452 3458	santosh23@gmail.com
2	Rohit	9096 3452 3458	rohit54@gmail.com
3	Gorakh	9096 3452 3458	gorakh6745@gmail.com
4	Pooja	9096 3452 3458	pooja.jl45@gmail.com
5	Anil	9096 3452 3458	anil.kharat@gmail.com
6	Sunil Mane	9096 3452 3458	sunil.mane@gmail.com
7	Sushil	9096 3452 3458	sushil23@gmail.com

HTML Table tags

<table> : To define a table

<tbody>: Table Body: To define body of the table

<thead>: Table Head: Group a header content into a table

<tr> : Table Row : To define row in a table

<th> : Table header cell : To define header cell in a table

<td> Table Data Cell : To define a cell in a table

Assignment #1: Create a table as shown below

tableAssignment.html

Product ID	Product Name	Product Quality	Product Quantity
1	Wheat	Good	200 Bags
2	Rice	Good	250 Bags
3	Sugar	Good	200 Bags

Assignment B. Table

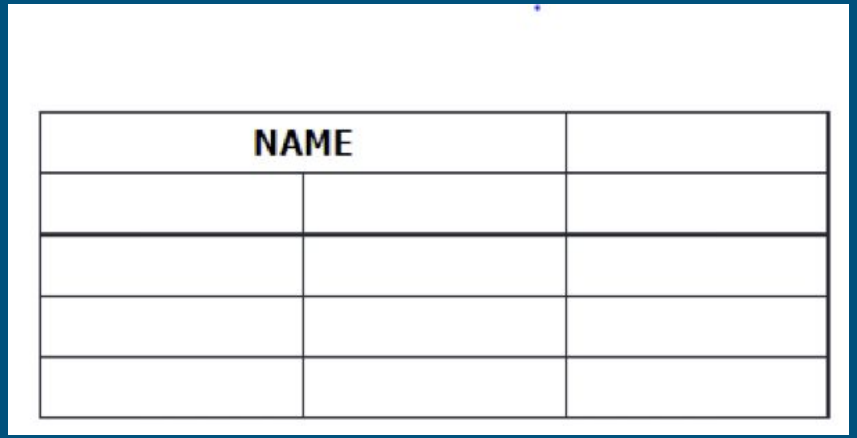
Create a html file: “tableSimpleAssignment.html” and give a try to create the tables as shown below

No.	Full Name	Position	Salary
1	Bill Gates	Founder Microsoft	$1000
2	Steve Jobs	Founder Apple	$1200
3	Larry Page	Founder Google	$1100
4	Mark Zuckeberg	Founder Facebook	$1300

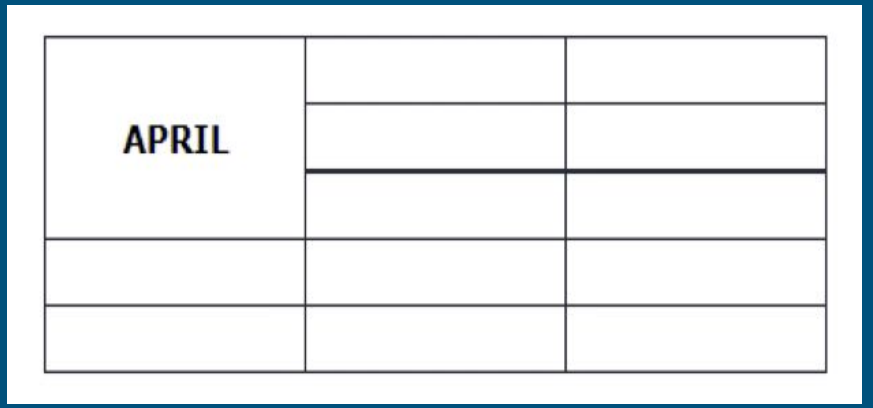
HTML colspan and rowspan attributes

HTML tables can have cells that spans over multiple rows and/or columns

colspan: Use this attributes in order to make a cell span over multiple columns



rowspan: Use this attribute in order to make a cell span over multiple rows



Assignment A: Create a file tableAssignment.html

Accessories

Sr. No	Accessories	
101	Pen	Book
202	Pencil	Note book
303	Rubber	Bag

Accessories with Quantities

Sr. No	Accessories	Quantities
100	Pen	20
200	Pencil	
300	Rubber	25
400	Bag	35

Assignment B: Create a table with caption → Student Marksheet

Note: Don't forget to underline Headers.

[Hint → Use rowspan="3"]

Assignment C: Create a table with caption → Accessories Details

[Hint → pls use: colspan="3" rowspan="3"]

Please create these both tables in same file with name → studentDetails.html

ID	Name	Subject	Marks
1	David	Maths	80
		Physics	90
		Computers	70
2	Alex	Maths	80
		Physics	70
		Computers	90

Product		
No	P. Name	P. Count
1	Pen	50
2	Book	
3	Dust	

Attributes

- AN HTML element can have attributes
- Attributes provides additional information about elements
- Attributes always specified in the start tag

Example: <img src=”my_image.png”>

Note: Here src is the attribute which specifies the source of image

Global Attributes

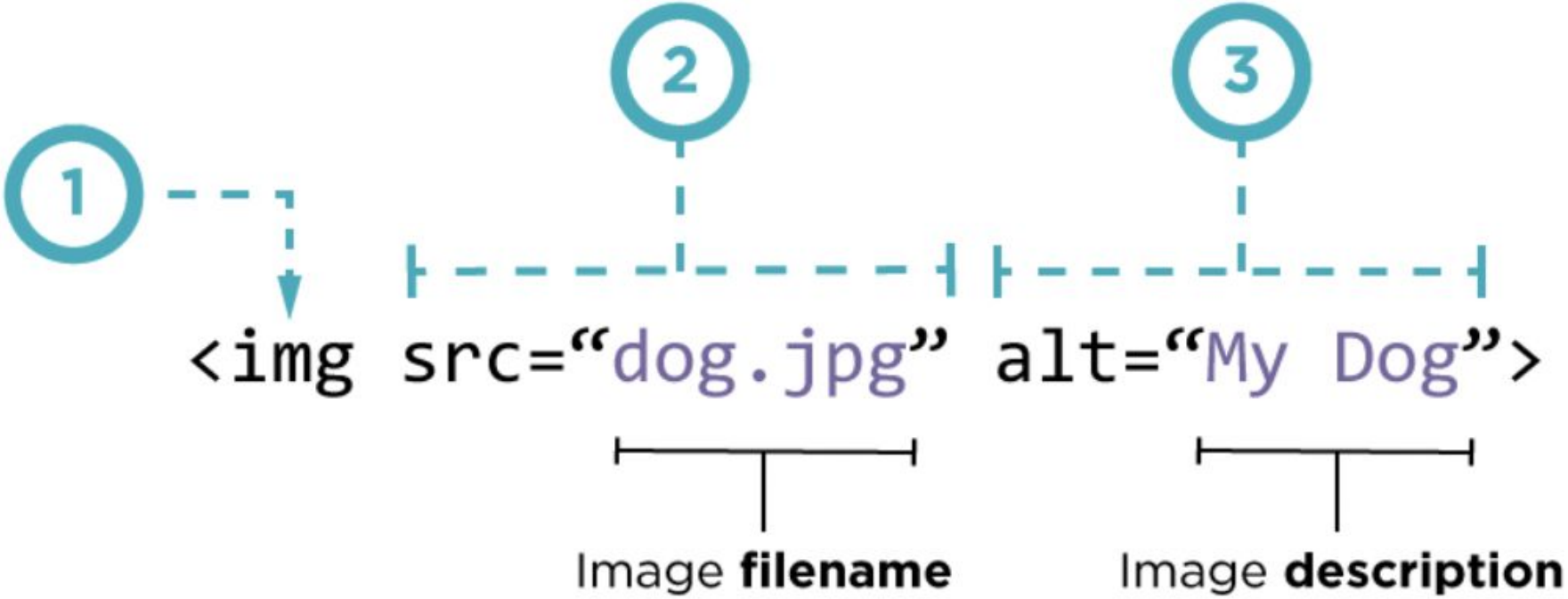
The global attributes are attributes that can be used with all HTML elements.

- class: Specifies one or more class names for an element (refers to a class in a style sheet)
- id: Specifies a unique id for an element
- style: Specifies an inline CSS style for an element
- spellcheck: Specifies whether the element is to have its spelling and grammar checked or not

<img src> → This tag is used to insert an image on the page

Attributes: src, alt, width, height

Common image formats: gif, jpeg, png, svg



Note:

File Name → personalDetails.html

Please don’t show the actual details,

If possible please try to use the dummy details

My Personal Details

Name: Mohit Sharma

Contact Details

Mobile: 12345 690 90
Email: mohit.sharma@gmail.com

My Technology Stack

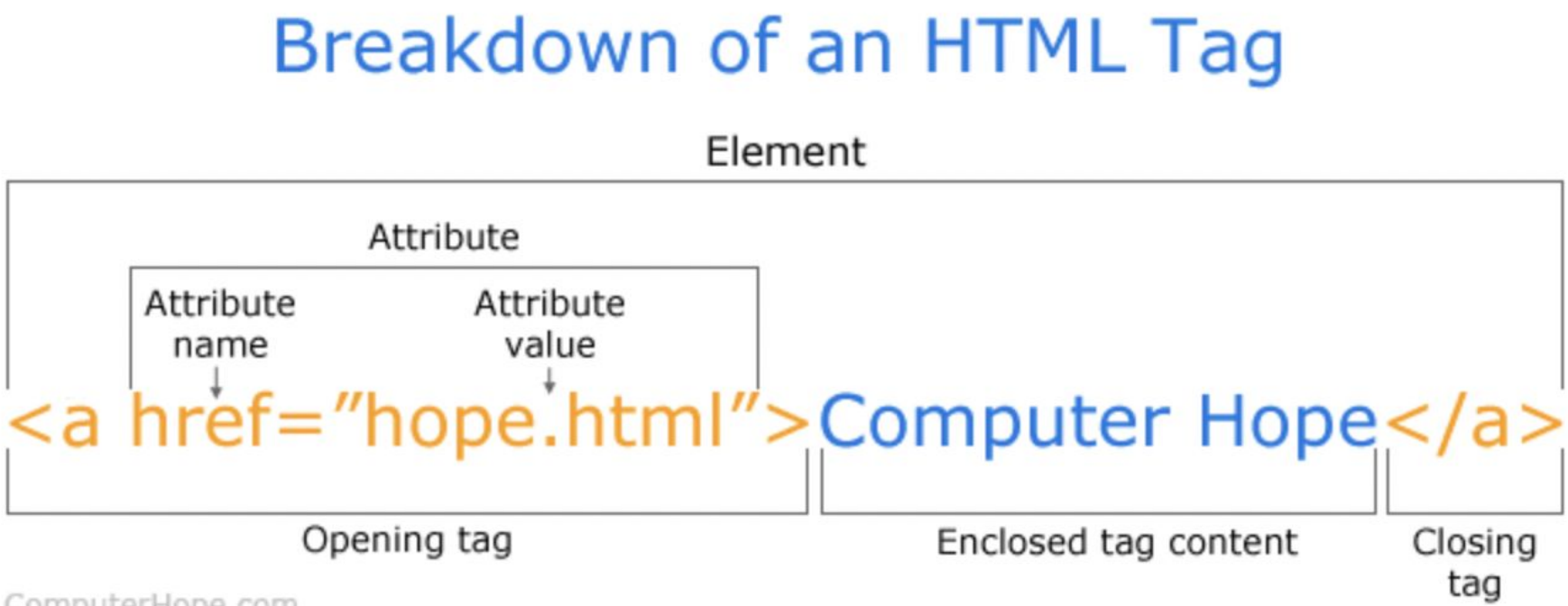
- HTML5
- CSS
- JavaScript
- Angular

Academic Details

Sr. No	Academic	College Name	University / Board
1	Graduation	COEP College	Pune University
2	HSC or 12th	The Lexicon International School,	Maharashtra Divisional Board
3	SSC or 10th	Indus International School	Maharashtra Divisional Board

<a> → This anchor tag is used to add link to the page

Examples of <a> tag



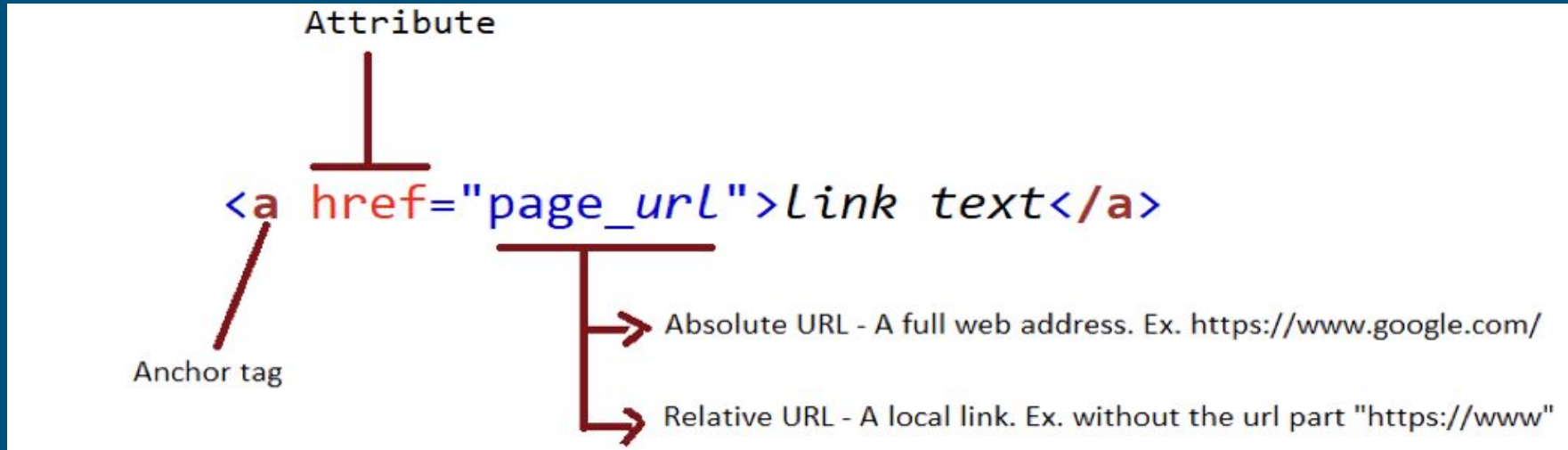
<a> HTML Links: Anchor Tag

- HTML links are hyperlinks, when we click on a link it will jump to another page
- A link can be text, image or HTML element like button

Attribute: href → Hypertext REFerence

Attribute: target → _blank, _self

Note: If we will not use target attribute then link will open in same page.



Assignment : Anchor tag hands on

Create a page with name → socialMedia.html

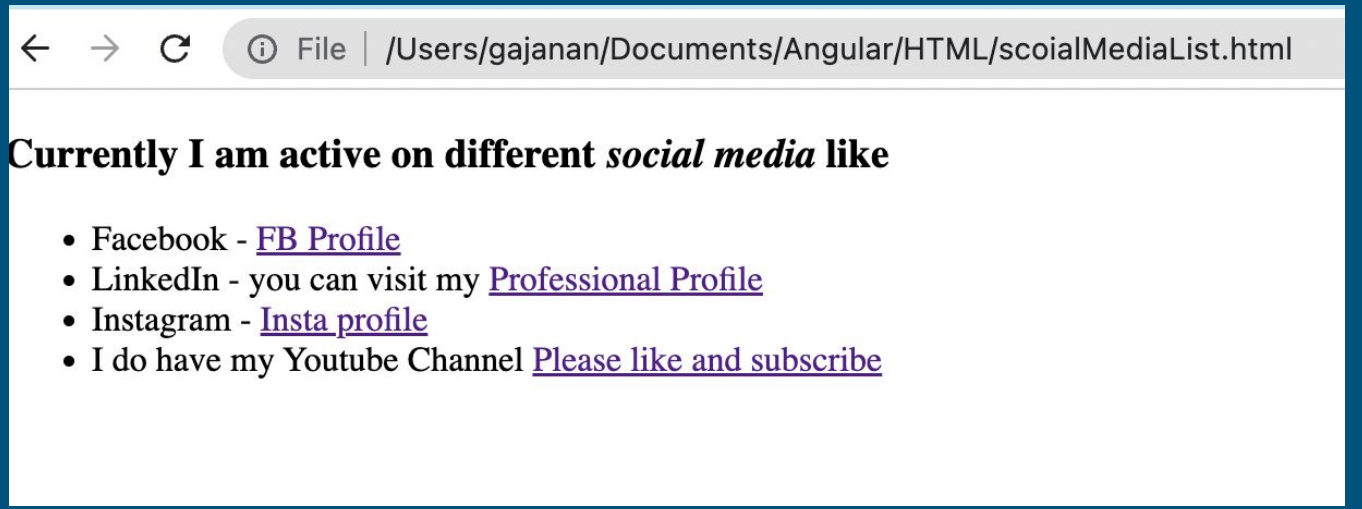
Note: For click on each links such as

FB Profile → Navigate to facebook's home page and facebook home page must load in browser's new tab

Profession Profile → Navigate to linkedIn home page and LinkedIn home page must load in same browser tab

Insta Profile → Navigate to insta home page and insta home page must load in browser's new tab

Please like and Subscribe → link to youtube home page and it must load in same browser tab



Assignment B: Links and Images

Create a page linksAndImages.html and implement the step 1 and step 2 please

1. Create a Link for text → WebSite for HTML learning
   After click on above link you must navigate to page https://www.w3schools.com/
   Ques: What is the type url that is being used in step 2 hyper link.

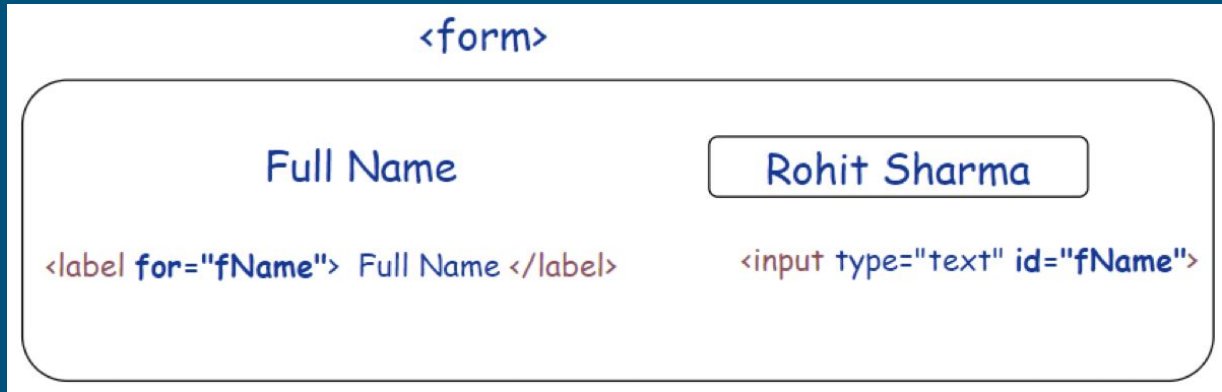
2. Add any three images and in case you want to resize it then please use attributes width=280px height=250px. Set the values as per your requirements

HTML FORMS

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

The <label> Elements:

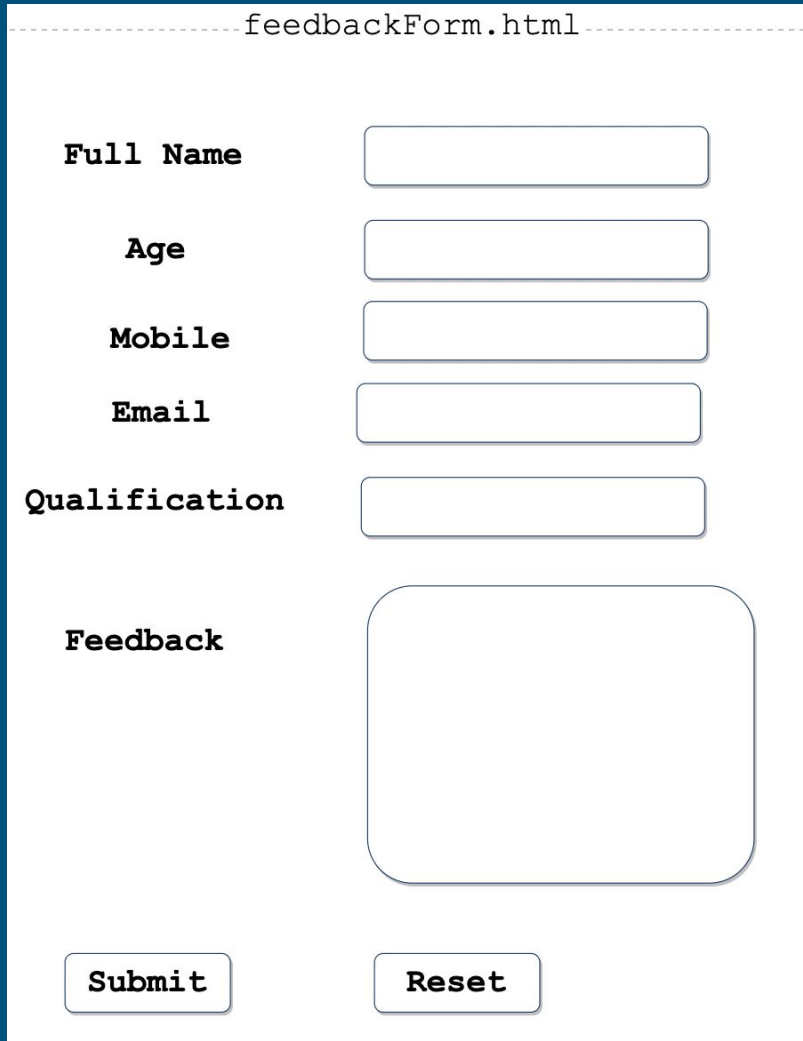
- The <label> tag defines a label for HTML FORM element
- The <label> element is useful for screen-reader users
- The for attribute of the <label> tag should be equal to the id attribute of the <input> element to bind them together.



Assignment: File → feedbackForm.html

While implementing please have a note on below points.

1. Age and Mobile form controls should allow only numbers
2. Email must have placeholder ‘Ex. abc@gmail.com’
3. Feedback field should allow by default 7 lines (Ignore)
4. Full Name field should be autofocused
5. Please make ‘Mobile’ field as mandatory
6. Reset button should reset the filled data



Assignment

While implementing please have a note on below points.

1. File name → studentRegistrationForm.html

2. Don't worry about about alignment, We are going to cover It tomorrow

3. SSO sign in options should be font awesome icons respectively for Google, Instagram and facebook
Also all these icons must be clickable and page should Open in new browser tab.

4. For Field Date of birth use the type="date" in order to get calendar

Student Registration form

First Name

Last Name

Email Address

Password

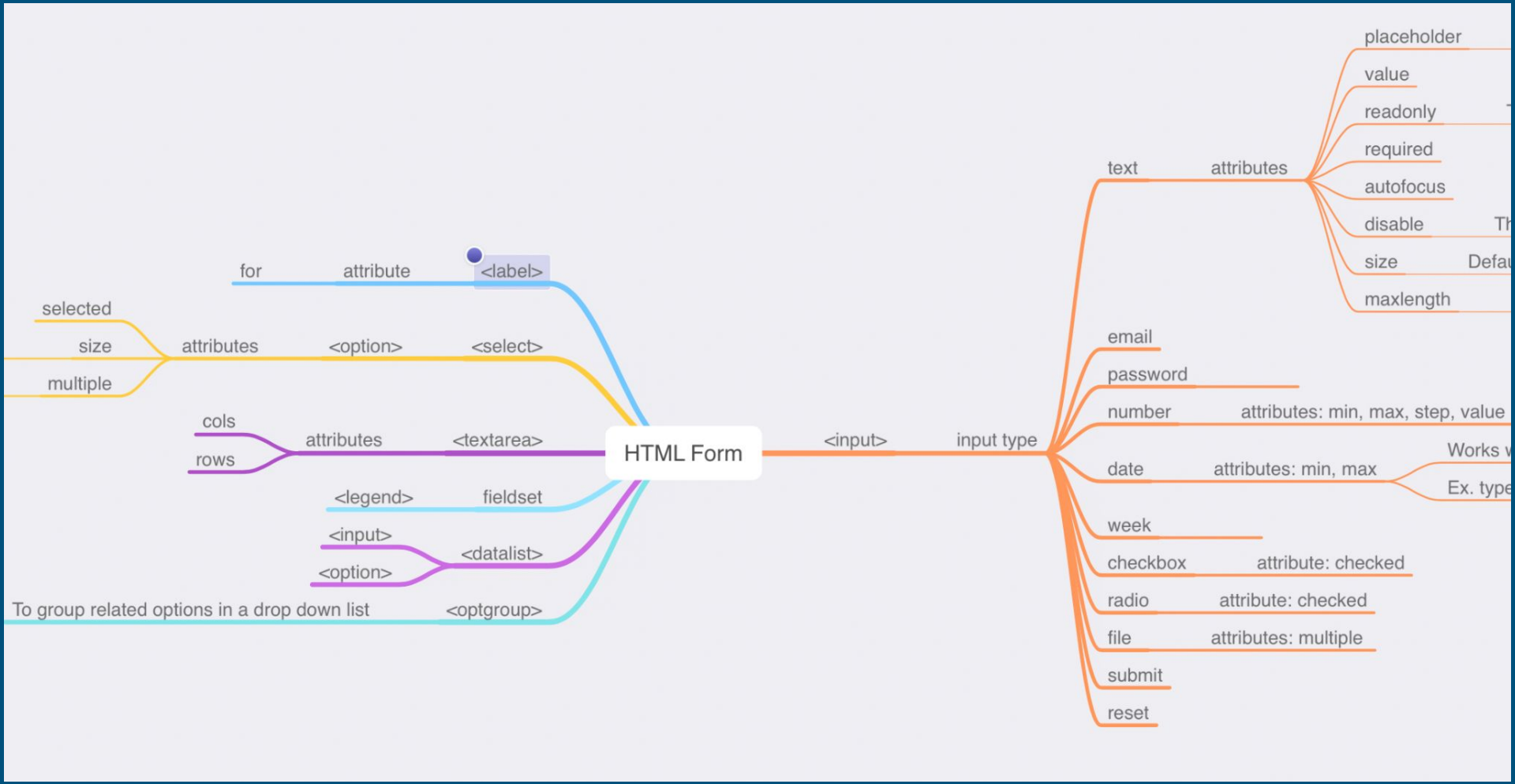
Graduation

Date of birth dd/mm/yyyy

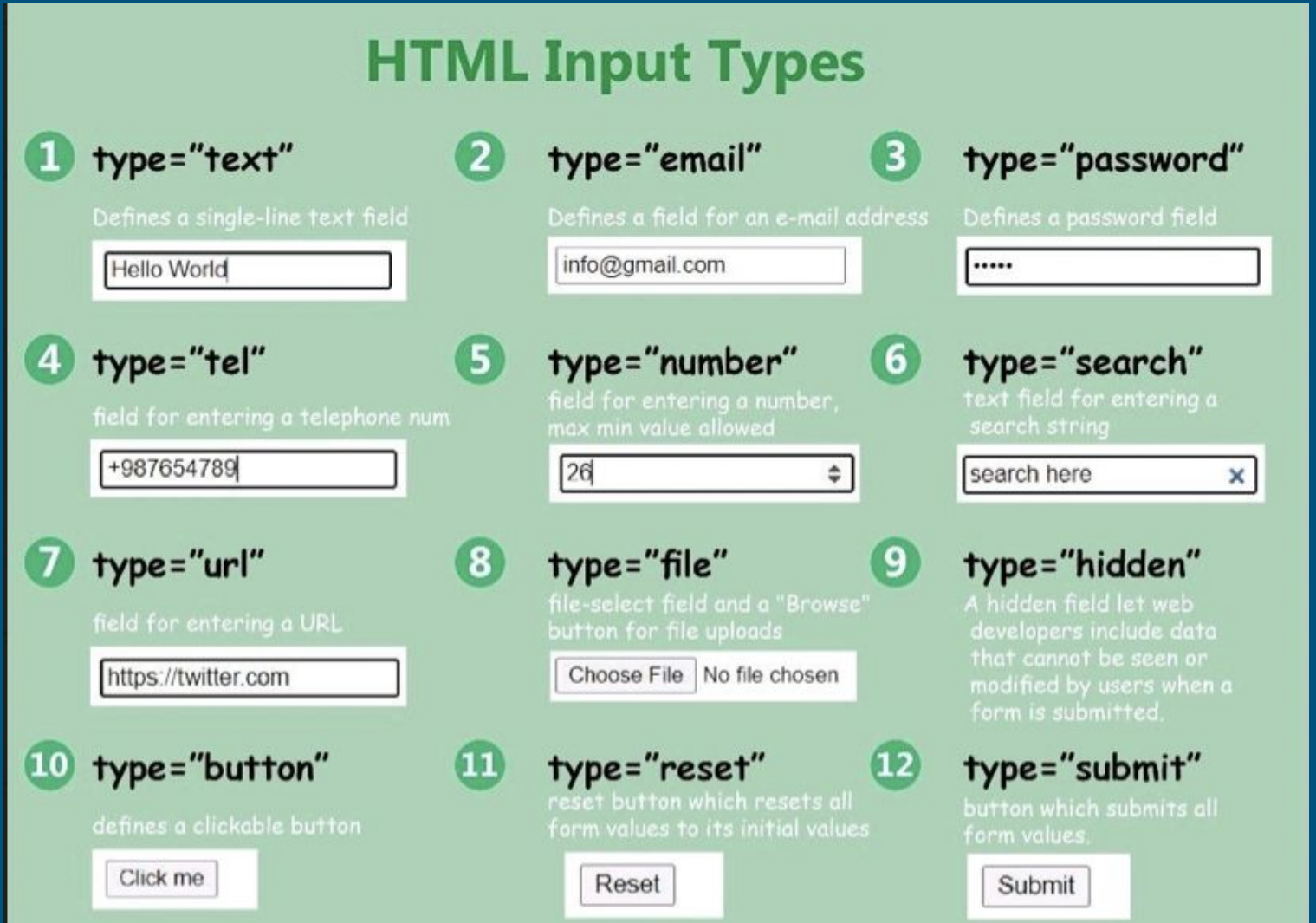
Pass out Year dd/mm/yyyy

Permanent Address

SSO sign in options

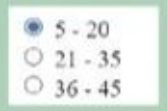

HTML Form
<input>
input type
text
attributes
placeholder
value
readonly
required
autofocus
disable
size
maxlength
email
password
number
attributes: min, max, step, value
date
attributes: min, max
week
checkbox
attribute: checked
radio
attribute: checked
file
attributes: multiple
submit
reset
<label>
for
attribute
<select>
<option>
attributes
selected
size
multiple
<textarea>
attributes
cols
rows
fieldset
<legend>
<datalist>
<input>
<option>
<optgroup>
To group related options in a drop down list

HTML Input Types



13 type="radio"

Only one radio button in a group can be selected at the same time.



14 type="checkbox"

checkbox let a user select one or more options

15 type="range"

defines a control for entering a number

16 type="image"

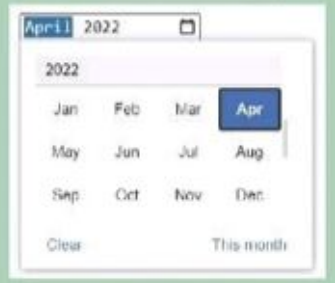
defines image as a submit button

17 type="color"

defines a color picker the default value is black.

18 type="month"

defines a month and year control

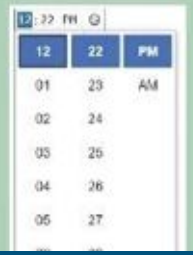


19 type="date"

defines a date picker. The resulting value includes year, month, and day.

20 type="time"

defines a control for entering a time.



21 type="week"

defines a week and year control

Form Validations

Common Examples:

- This field is required
- Please Enter Valid email address

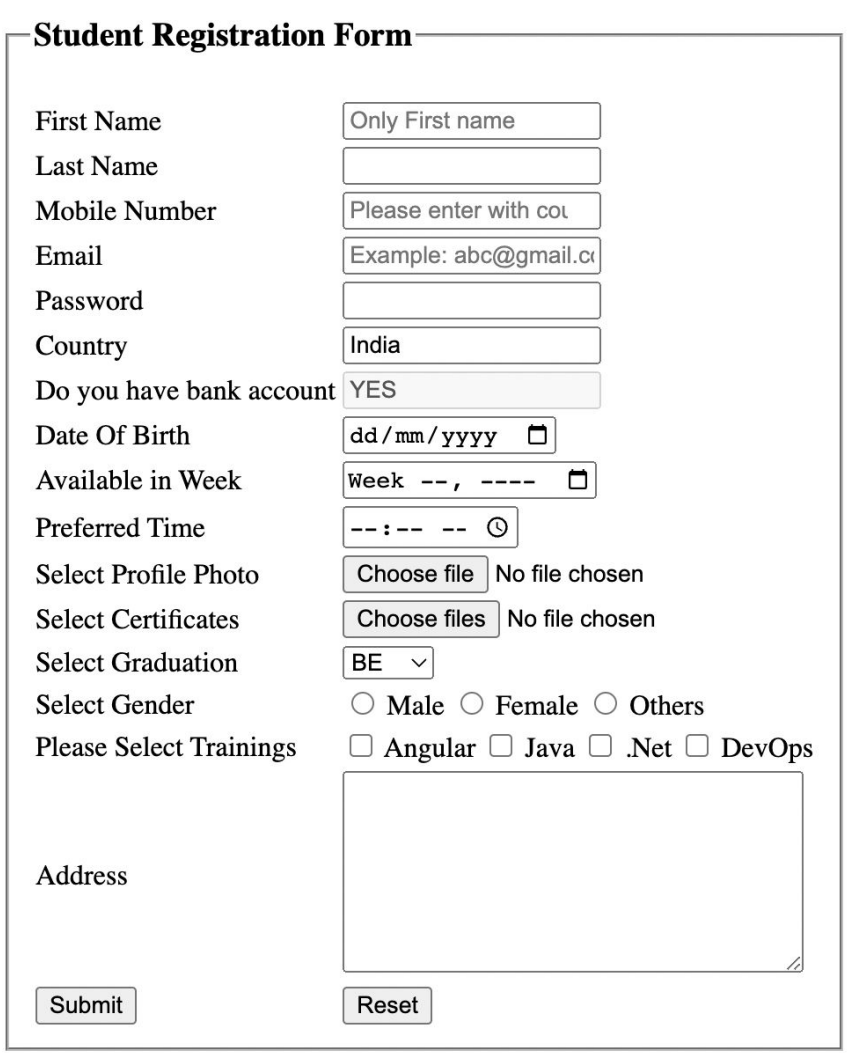
Why form Validations are required?

- We want to get right data in the right format
- We want to protect ourselves

Different types of Validations:

1. Client-side validation
    a. Built-in form validation: Like required, minLength, maxLength, min, max
    b. JavaScript:
2. Server-side validation

Student Registration Form



Drop-down list

```
<label> Select Options</label>
 <select>
        <option> Options 1 </option>
        <option> Options 2  </option>
        <option> Option 3 </option>
</select>
```

Buttons

Reset button: →

<input type="reset">

Submit button: →

<input type="submit">

Or <button type=”submit”> Submit </button>

Syntax: Text area

<textarea cols="total_columns" rows="total_rows"> </textarea>

Checkbox and Radio button

Syntax: Check box

```
<input type="checkbox" id="id_1">
<label for="id_1"> Label </label>
```

Syntax: Radio Button

```
<input type="radio" name="gender">
<label> Male </label>
<input type="radio" name="gender">
<label> Female </label>
```

Syntax: File

```
<input type="file" id="certificates" multiple>
```

<fieldset> Tag

```
<fieldset>
        <legend>
            <span> Student Registration Form </span>
        </legend>
</fieldset>
```

Employee Application form: File name → empApplicationForm.html. Form should be aligned properly

- Full Name: [Must be autofused, Required and max character length = 40]
- Email Address: [Required with placeholder → Ex. abc@gmail.com]
- Password: [Required and It should not be visible]
- Contact Number: [Required and Only numeric digits allowed not characters]
- Profile Photo: Option to upload
- Date of Birth: [Required and should have Calendar]
- Gender: [Either male or female or Transgender] → Radio Buttons
- Marital Status: [Either Yes or No]
    - Note: [Hint→ Radio buttons]
- Known Tools & Technology : [Angular, React, Python, Java, Jenkin, GIT, Database]
    - Employee can have hands-on multiple technologies [Hint → Check box]
- Designation: [UI Developer, Backend Developer, Full stack Developer, DevOps Engineer, Tester]
    - Note: Employee can be from only one profile [Hint → Dropdown]
- Country: [With some default value and readonly]
- Present Address: [Should have big text box with 7 lines]
- Submit Button:
- Clear Button: [Hine type = “reset”]

Structure element

Block Element:

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

Example: , <h2>, <pre>, <p>, <ul>, <header>

Inline Element:

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

Example. , <b>, <a>, <sub>, <sup>, <textarea>

vs

: division

Used to divide content into logical sections

It is wrapper for the element to apply CSS

Block element

Nested is allowed

Inline Element

Used to mark up a part of a text, or a part of a document

When used together with CSS, the element can be used to style parts of the text

HTML Media

It can be almost anything we can hear or see, like

images, music, sound, videos, records, films, animations, and more.

Common video formats: .mpg, .mpeg .mp4, .avi, .wmv, .ogg

Note: Only MP4, WebM, and Ogg video are supported by the HTML standard.

Common audio formats: .mp3, .mp4, .ogg, .wma, .aac, .wav

Note: Only MP3, WAV, and Ogg audio are supported by the HTML standard.

HTML Media

<video> element with attributes like controls, autoplay, muted
<audio> element with attributes like controls, autoplay, muted

Displaying youtube video with autoplay + muted + controls

Video and Audio tags

<video> tag with attributes→ width, heigh, autoplay, controls, muted

```
<video width="350px" height="250px" autoplay controls muted>
        <source src="video_waterfall.mp4" type="video/mp4">
        Sorry Boss.. Your browser does not support video html5 tag
</video>
```

How to insert youtube video

<video> tag with attributes→ width, heigh, autoplay, controls, muted

```
<iframe width="420" height="315"
        src="https://www.youtube.com/embed/gCiXCi70tds?autoplay=1&mute=1">
</iframe>
```

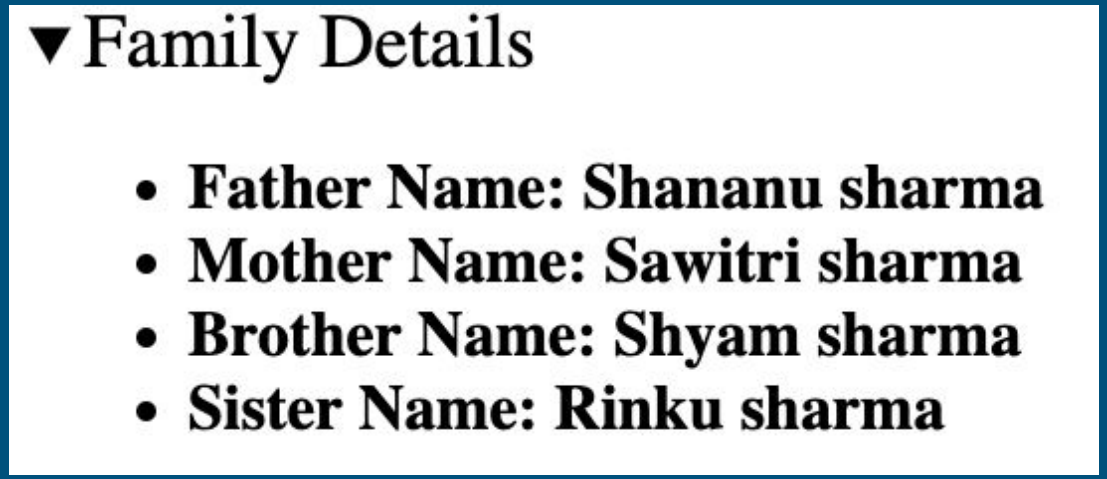
Few More Semantic Tags

<details> and <summary>

Example. To show Family Details

OR Language Known

```
<details>
    <summary>
        <strong>Family Details</strong>
    </summary>
    <ul>
        <li> Father name : Tarka Sharma </li>
        <li> Mother name : Manika Sharma</li>
    </ul>
</details>
```

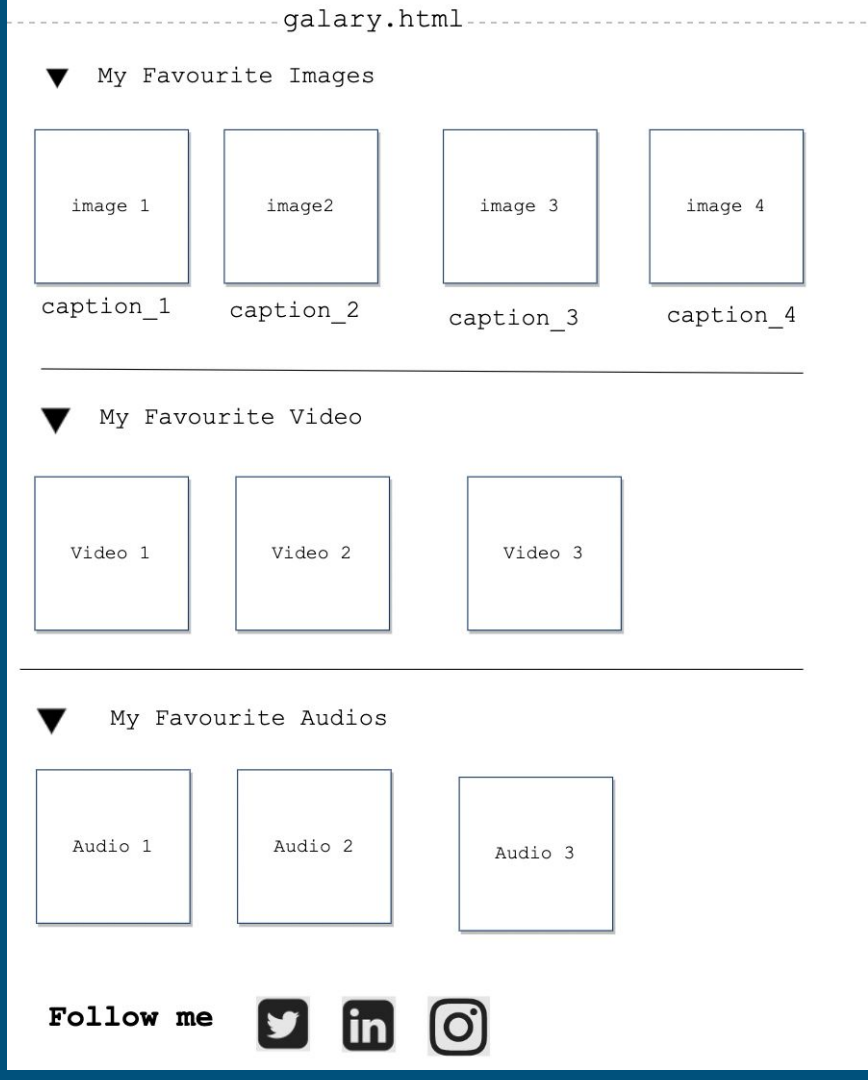


Assignment A

Implement the favorite video, audio and images galary in ‘galary.html’

Hint: Use <details> and <summary> tags

For arrow ▼ show and hide functionality



Font awesome Library

In order to use this icon we need to insert CDN - Content Delivery Network link inside <head> tag.

```
<head>
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css">
</head>
```

To search the fontawesome icons please use the link →

https://fontawesome.com/v4/icons/

The fa-lg, fa-2x, fa-3x, fa-4x, or fa-5x classes are used to increase the icon sizes relative to their container.

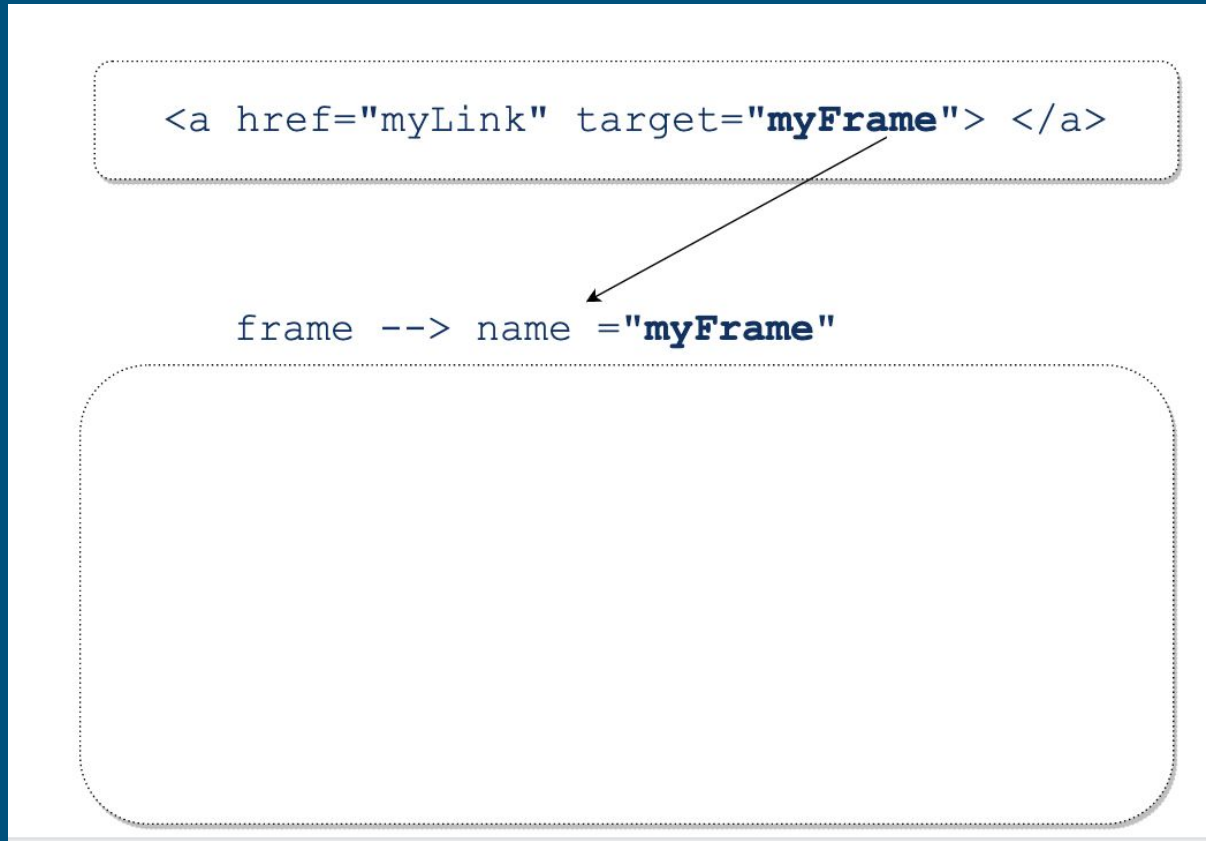
Favicon

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

We can use <link> element after the title element

<link rel="icon" type="image/x-icon" href="fevicon.png">

Navigation inside frame



<iframe> tag

An inline frame is used to embed another document within the current HTML document

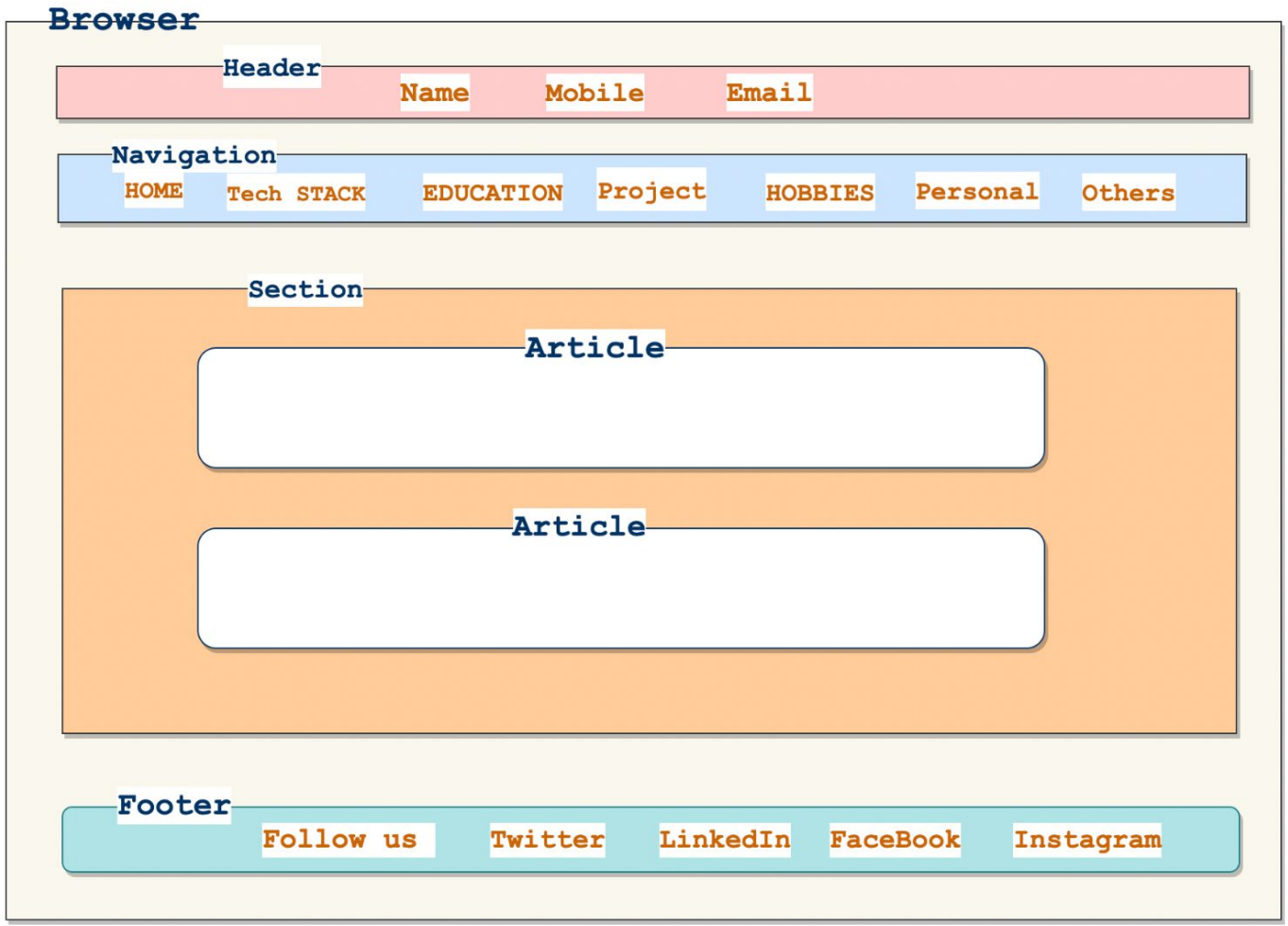
Attributes:

- name: Specifies the name of an iframe
- height: Specifies the height, By default height is 150px
- width: Specifies the width, By default width is 300px
- src: source

<iframe width="850px" height="550px" name="my_frame" src="home.html" style="border: none;">

</iframe>

Structuring Web Page



Modify a page home.html, With contents as it is

Professional Summery

- Having 1 years of experience in developing Single page Web Applications using Angular 8, HTML5, CSS3, Bootstrap 5, JavaScript, TypeScript
- Experience on working with version control system - GIT and GitHub
- Experience working with JIRA for user stories and bug tracking
- Strong Debugging & Troubleshooting code experience using Chrome Developer Tool
- Working exposure on ID's like VS Code and Notepad++
- Good working experience under Agile methodologies environment
- Experience in using Chrome Developer Tool for debugging and Troubleshooting the code
- Knowledge of NodeJS
- Ability to work with people at all levels in the program

Assignment A: Create below files inside ‘my-profile’ repository, please commit and push the code in main branch

Create File home.html with below contain and add link ‘HOME’ before ‘EDUCATION’ link in index page. Make sure when you click on ‘HOME’ link it should load into same index page and inside iframe

Professional Summery

- Having 5 years of experience in developing Single page Web Applications using Angular 13, HTML5, CSS3, Bootstrap 5, JavaScript, ES6, TypeScript
- Experience on working with version control system - GIT and GitHub
- Experience working with JIRA for user stories and bug tracking
- Strong Debugging & Troubleshooting code experience using Chrome Developer Tool
- Working exposure on ID's like VS Code and Notepad++
- Good working experience under Agile methodologies environment
- Experience in using Chrome Developer Tool for debugging and troubleshooting the code
- Knowledge of NodeJS
- Knowledge of API and Database

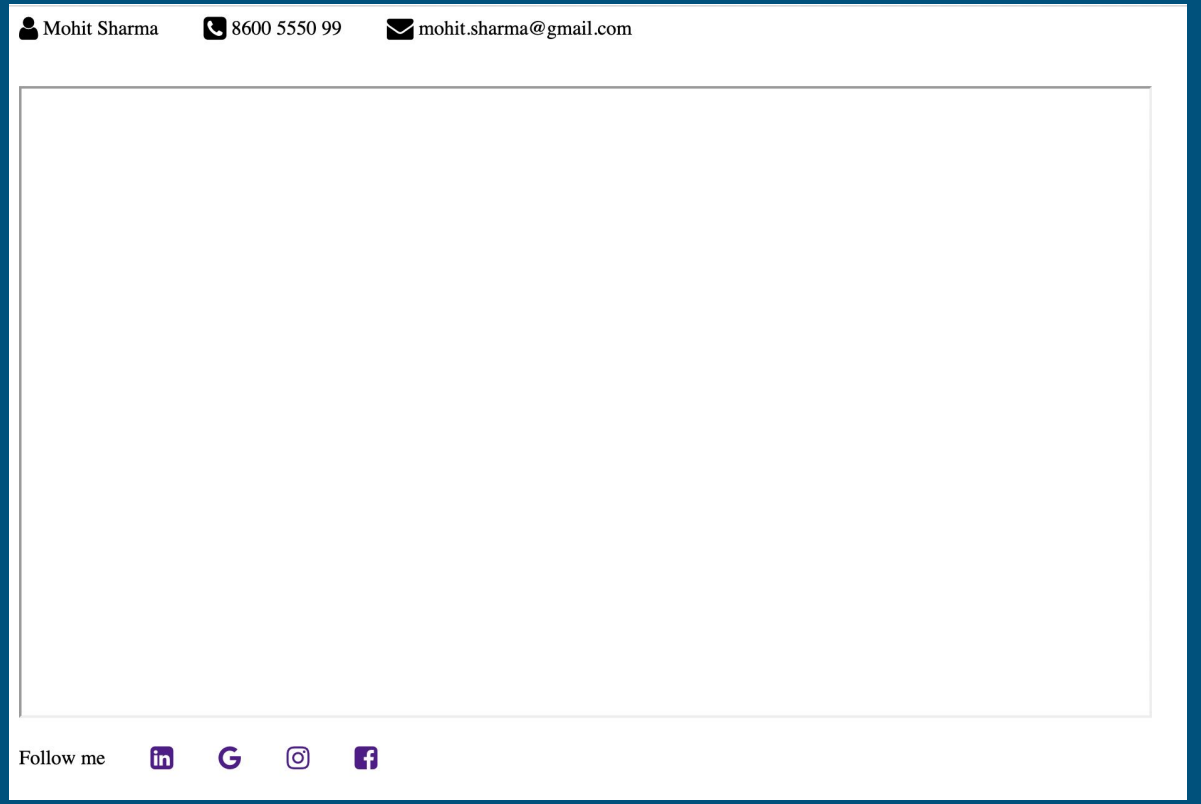
For you Reference - Index Page

Index.html page: With your details and add the font awesome icons

Hint: Search for user, phone, mobile to get the required icon on link: https://fontawesome.com/v4/icons/

Note: Don't forget to add CDN link to get Font awesome icons

1. Keep the frame empty with width 900px and height 500px
2. Add the Social media icons after frame



Assignment B: Create below files inside ‘my-profile’ repository, please commit and push the code in main branch

Create file techStack.html with below contain and add link ‘TECH STACK’ after ‘HOME’ link and before ‘EDUCATION’ link in index page.

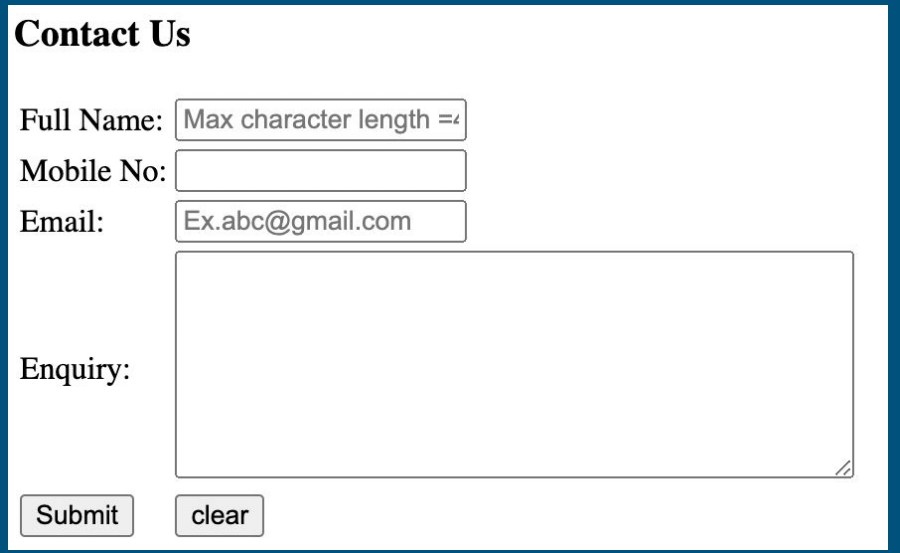
Make sure when you click on ‘TECH STACK’ link it should load into same index page and inside iframe

Technology Stack

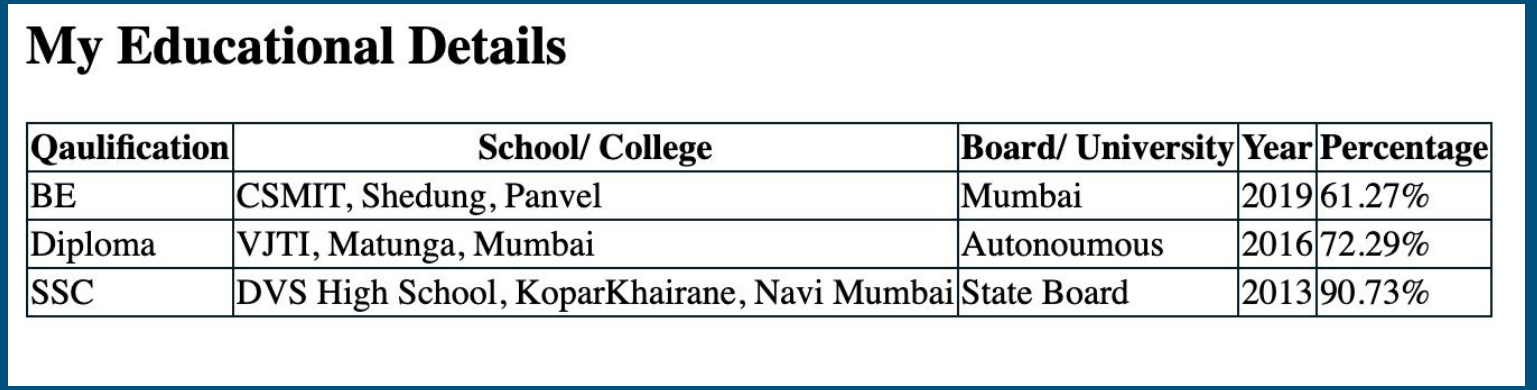
Sr. No	Technology Stack	Rating
1	HTML	4
2	CSS	4
3	JavaScript	4
4	Angular	3

Assignment A: Create below files inside ‘my-profile’ repository, please commit and push the code

contactus.html



education.html



My Educational Details

Qaulification	School/ College	Board/ University	Year	Percentage
BE	CSMIT, Shedung, Panvel	Mumbai	2019	61.27%
Diploma	VJTI, Matunga, Mumbai	Autonoumous	2016	72.29%
SSC	DVS High School, KoparKhairane, Navi Mumbai	State Board	2013	90.73%

Create a page techStack.html, With contents as it is

Techcnology Stack for Angular Web Development

Techcnology	HTML5 + CSS
	Bootstrap
	JavaScript
	TypeScript
	Angular
Tools	GIT + GitHub
	Agile + JIRA

Note: In case not able to create table as like this then please add all these into two lists under heading Technology and Tools

personal.html with your dummy data and photo

Profile photo:

Mohit Sharma
Mobile Number: 9900 8850 66
Email: mohit.sharma@gmail.com
Date of birth: Feb-19-2004
Address: OM Vrindawan colony, Pune
▼ **Family Details**

- Father name : Tarka Sharma
- Mother name : Manika Sharma

HTML5 Semantic

Semantic elements = elements with a meaning → Nam mai sab kuch rakha hai

A semantic element clearly describes its meaning to both the browser and the developer

- Non-Semantic Elements: and
- Semantic Elements: <table> , <form>,
  - <details> and <summary>
  - <video>, <audio>
  - <nav>
  - <header>
  - <footer>

Note: HTML5 offers new elements for better document structure

HTML5	HTML4
DOCTYPE declaration is quite simple and easy	Doctype declaration is too long and quite complicated
HTML5 is capable of handling inaccurate syntax	It can not handle inaccurate syntax
Semantic elements are introduced like <header>, <footer>, <nav>, <section>, <article>, <summary> etc	These elements were not present <header>, <footer>, <nav>, <section>, <article>, <summary>
It is supported by all new browsers like Firefox, Safari, Chrome, Edge etc	It works with all old browsers
It allows drag and drop effect	It does not allows drag and drop effect
In HTML5 <video> and <audio> tag is introduced	These tag <video> and <audio> was not the part of HTML4
HTML5 language is more mobile friendly	HTML4 is less mobile friendly
One can track GeoLocation of a user easily using JS geographic location	It is almost impossible to get true GeoLocation of a user with the help of browser