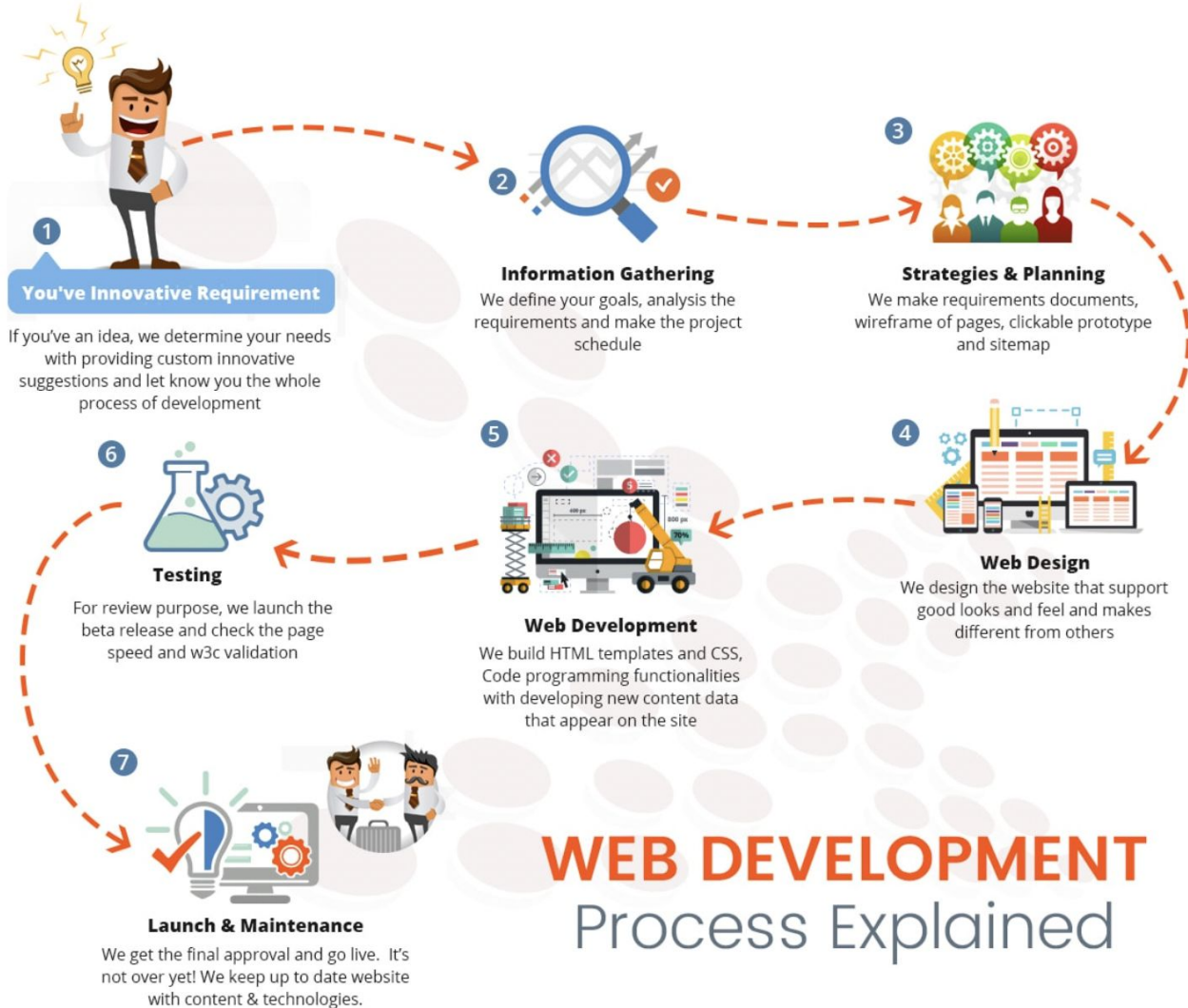


# Software Prerequisite

- 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 ?

---

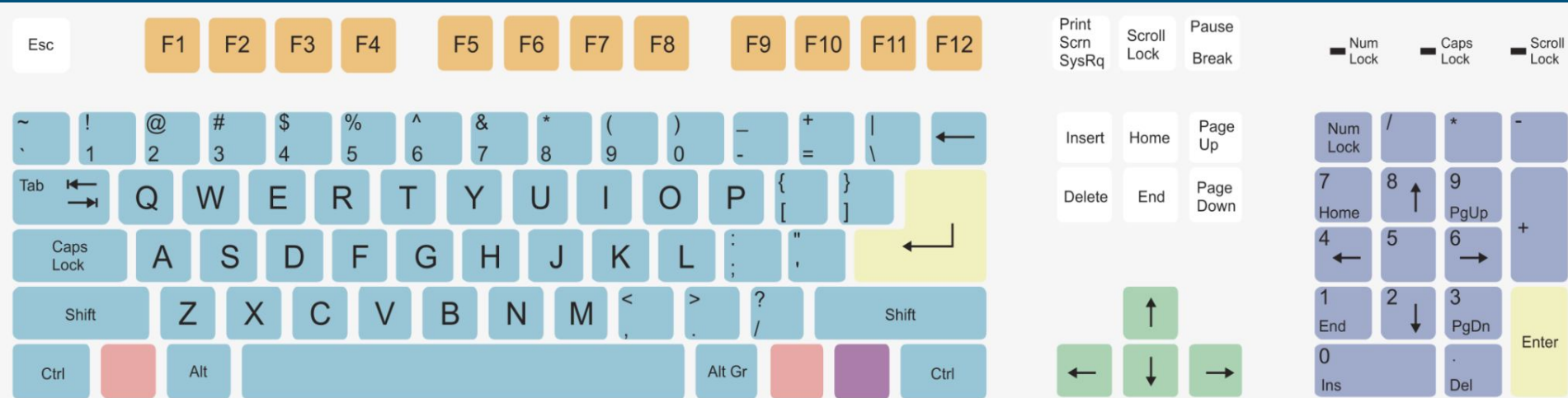
Website is a collection of interlinked web pages that we can view using internet and browser

## 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

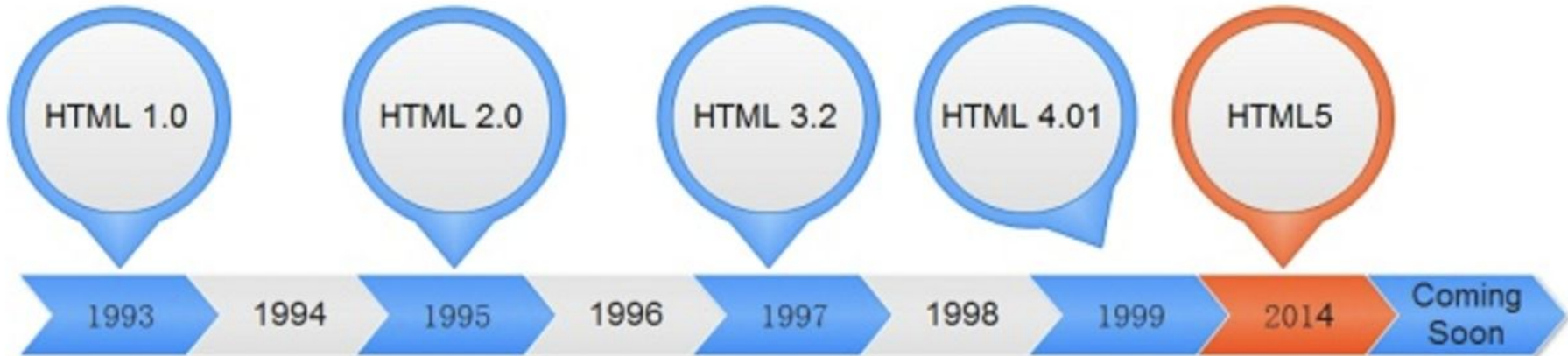


# HTML Introduction

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:

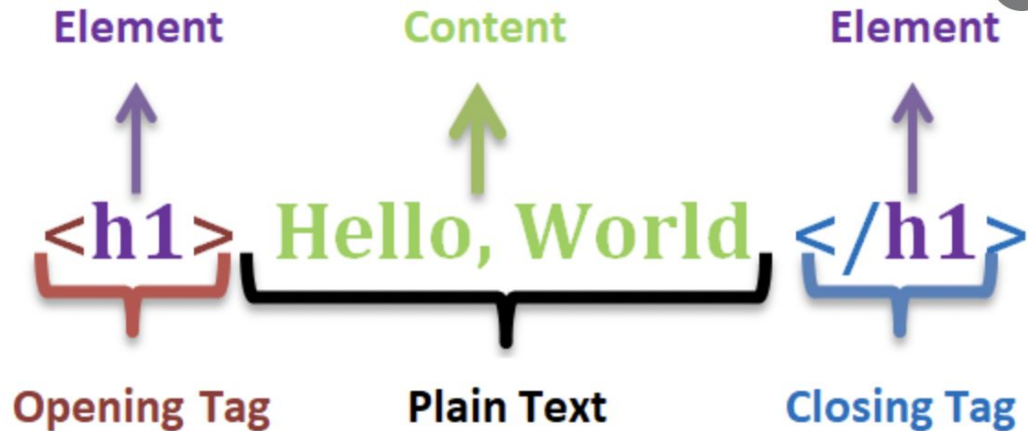
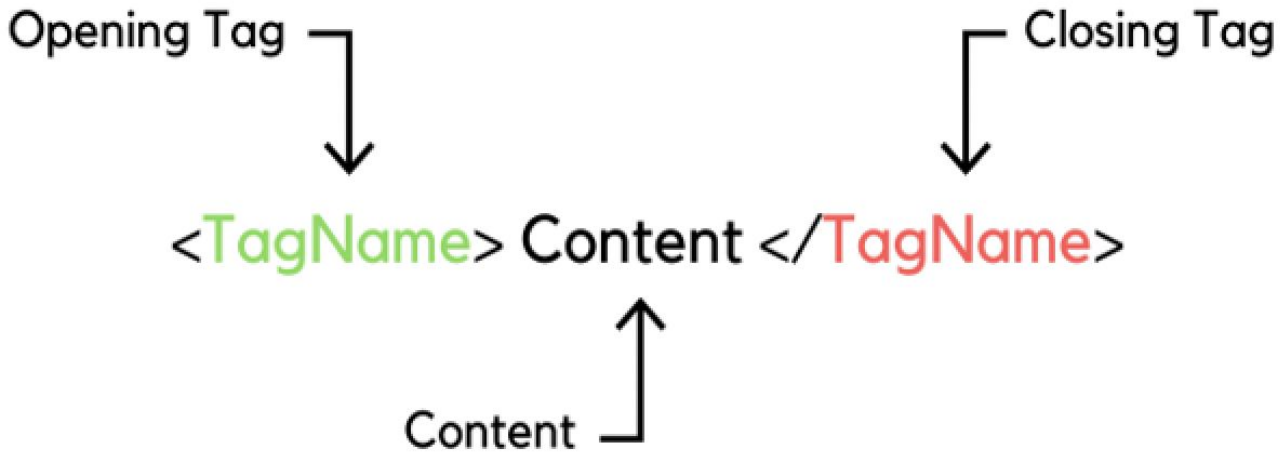


# HTML File naming conventions

- 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

Contains Meta information about the HTML Page

This declaration defines that this document is an HTML 5 document  
This is an instruction to the web browser about what version of HTML the page is written

```
<!DOCTYPE html>
```

Root element of HTML page

```
<html>
```

```
<head>
```

Title of the HTML page

```
<title>Page Title</title>
```

```
</head>
```

```
<body>
```

This element defines document's body.  
This is a container for all the visible contents such as  
- Headings, Paragraphs, links, images etc..

Heading element

```
<h1>My First Heading</h1>
```

Paragraph element

```
<p>My first paragraph.</p>
```

```
</body>
```

```
</html>
```

## 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

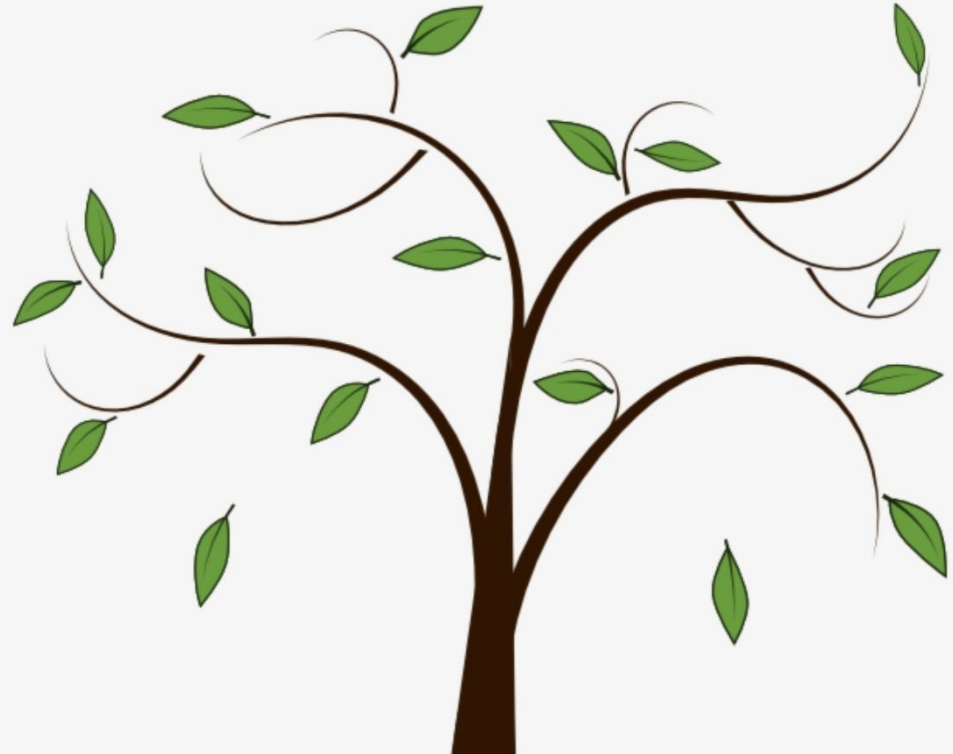
Sub branches

Parent branch

Child branch

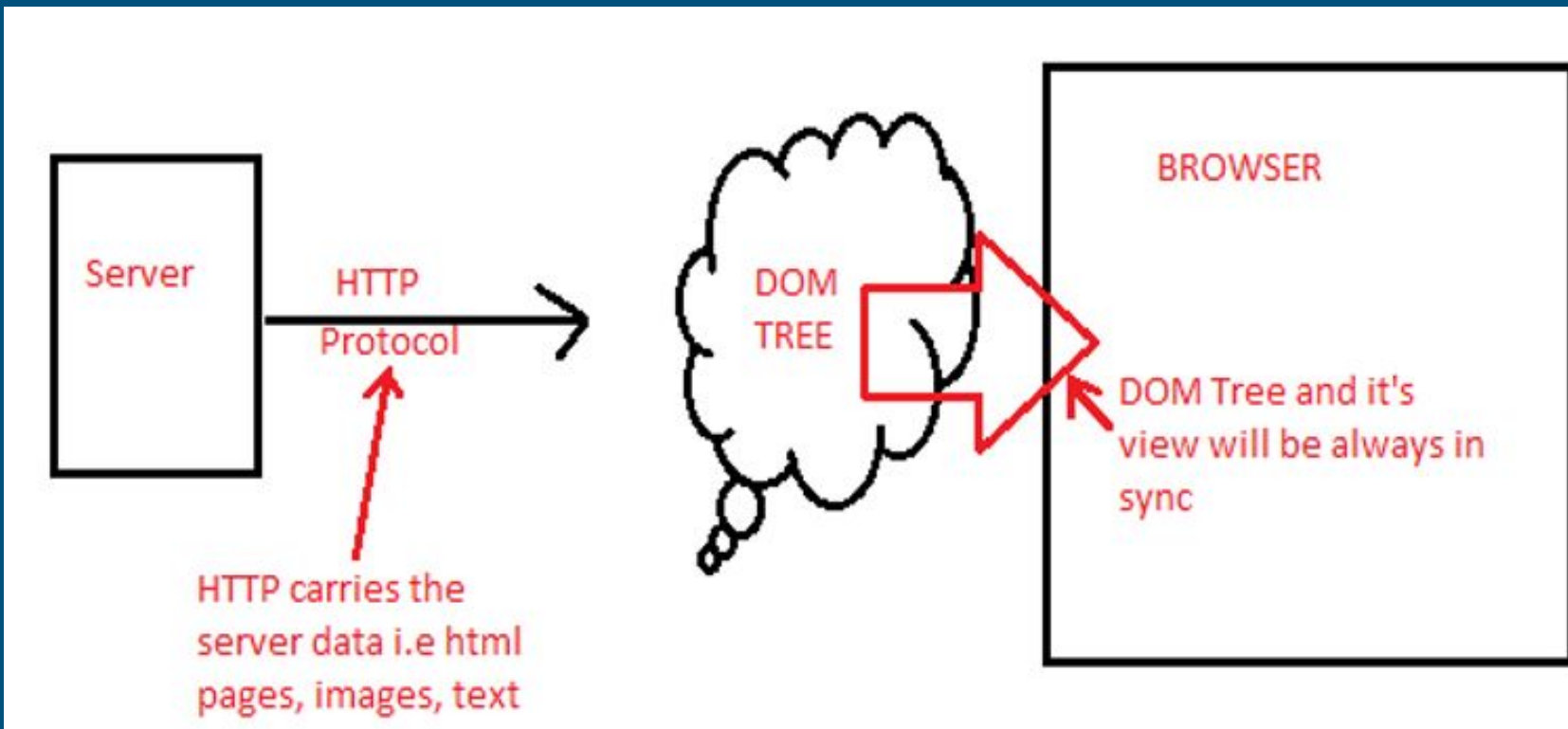
Node

- 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



```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>Title of the document</title>
```

```
  </head>
```

```
  <body>
```

```
    <h1>W3Docs Page</h1>
```

```
    <h2>Welcome to W3Docs page</h2>
```

```
    <p>
```

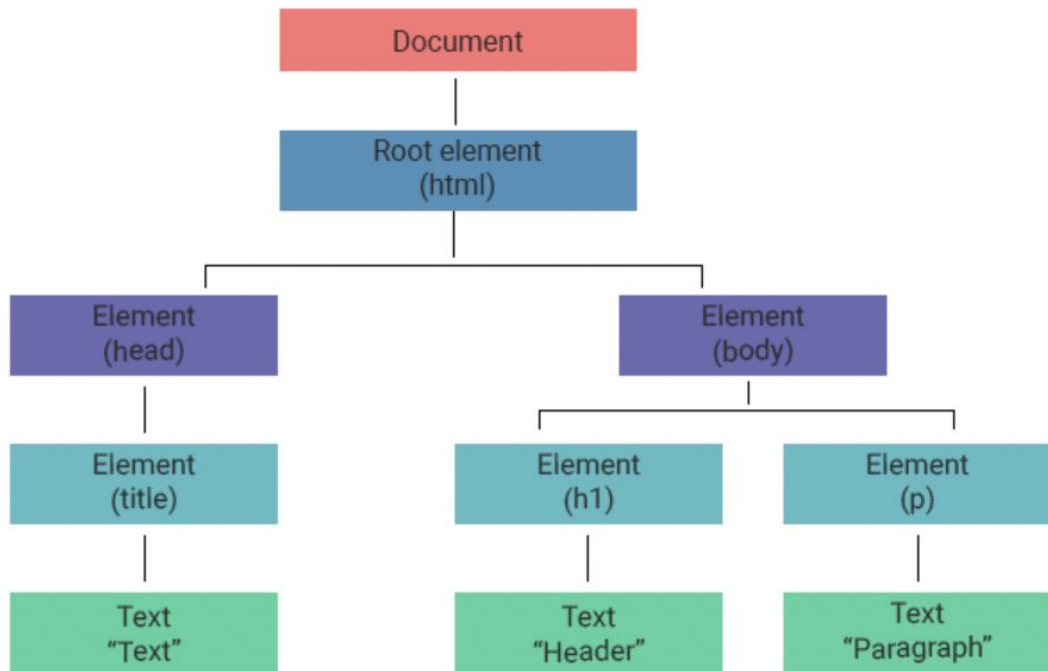
```
      <a href="https://www.w3docs.com/">Link to w3docs</a>
```

```
    </p>
```

```
  </body>
```

```
</html>
```

## HTML code it's DOM tree representation



# HTML heading tags

---

`<h1>HEADING 1</h1>`

`<h2>HEADING 2</h2>`

`<h3>HEADING 3</h3>`

`<h4>HEADING 4</h4>`

`<h5>HEADING 5</h5>`

`<h6>HEADING 6</h6>`

# Text Formatting tags

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

<i> : Italicize

<b> : Bold

<u> : Underline

<mark> : Mark

<strong>: Strong

<small> : Small

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

<br> : The Line break element

<hr> : Horizontal Rule

&nbsp; : Non breaking space

<p>: Paragraph:

<pre>: Preformatted text

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

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



## HTML Syntax - Self closing tag

Element



Self-Closing Tag

Element



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:** 2021-1<sup>st</sup> -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>, <strong>, <sup>, <i>, <u>, &nbsp; <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.

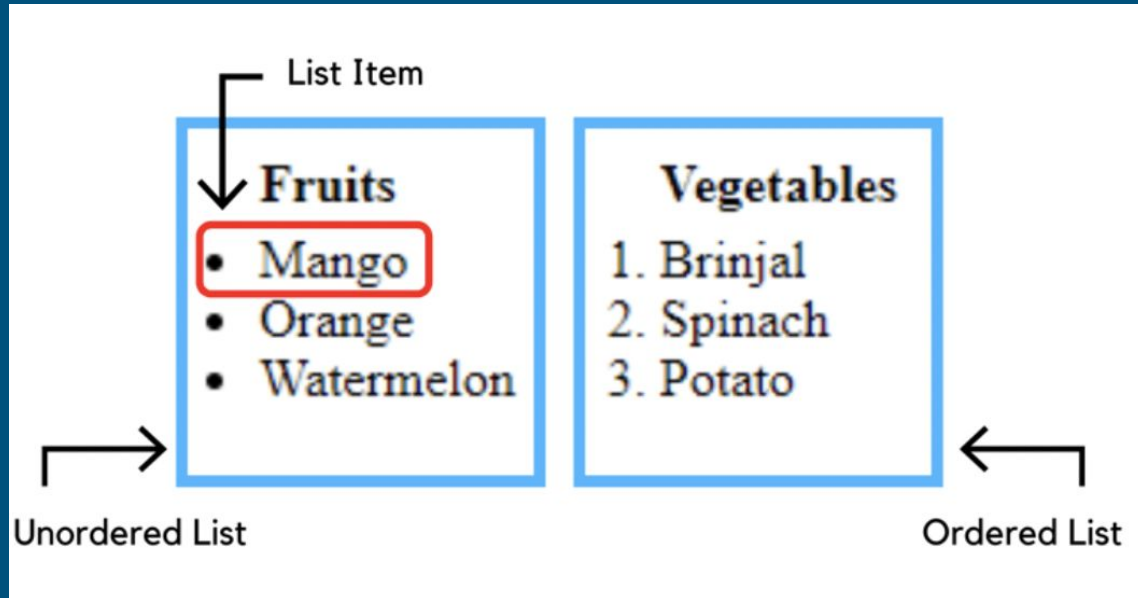
1. College name should be in bold format and italic
2. Make sure to underline your favourite teacher name
3. Highlight or mark your achievements
4. Technical event details must be in bold format and underlined as well

# 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
- Aptitude & Logical Reasoning
- Programming Languages

## Data Structures topics

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

## Assignment B. Nested List

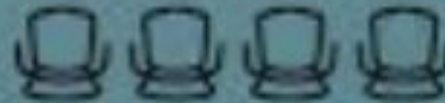
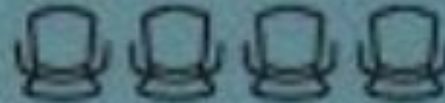
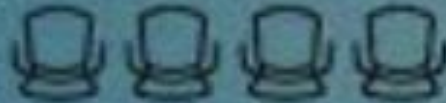
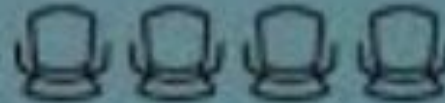
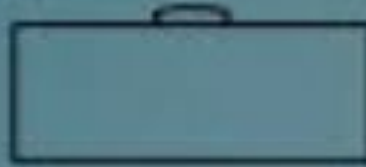
Create a separate html file with name - 'vehicles.html' and

— 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

## THEATRE STYLE





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

`<th>` - Header cell

`<table>` - Table

`<thead>` - Groups the header content in a table

`<tbody>` - Table body

`<tr>` - Table row

`<td>` - Table data (Cell in a table)

| 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

| NAME |  |  |
|------|--|--|
|      |  |  |
|      |  |  |
|      |  |  |
|      |  |  |

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

|       |  |  |
|-------|--|--|
| APRIL |  |  |
|       |  |  |
|       |  |  |
|       |  |  |
|       |  |  |

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" ]

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

| <u>ID</u> | <u>Name</u> | <u>Subject</u> | <u>Marks</u> |
|-----------|-------------|----------------|--------------|
| 1         | David       | Maths          | 80           |
|           |             | Physics        | 90           |
|           |             | Computers      | 70           |
| 2         | Alex        | Maths          | 80           |
|           |             | Physics        | 70           |
|           |             | Computers      | 90           |

Assignment C: Create a table with  
caption → Accessories Details

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

| 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: ``

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



# Global Attributes

---

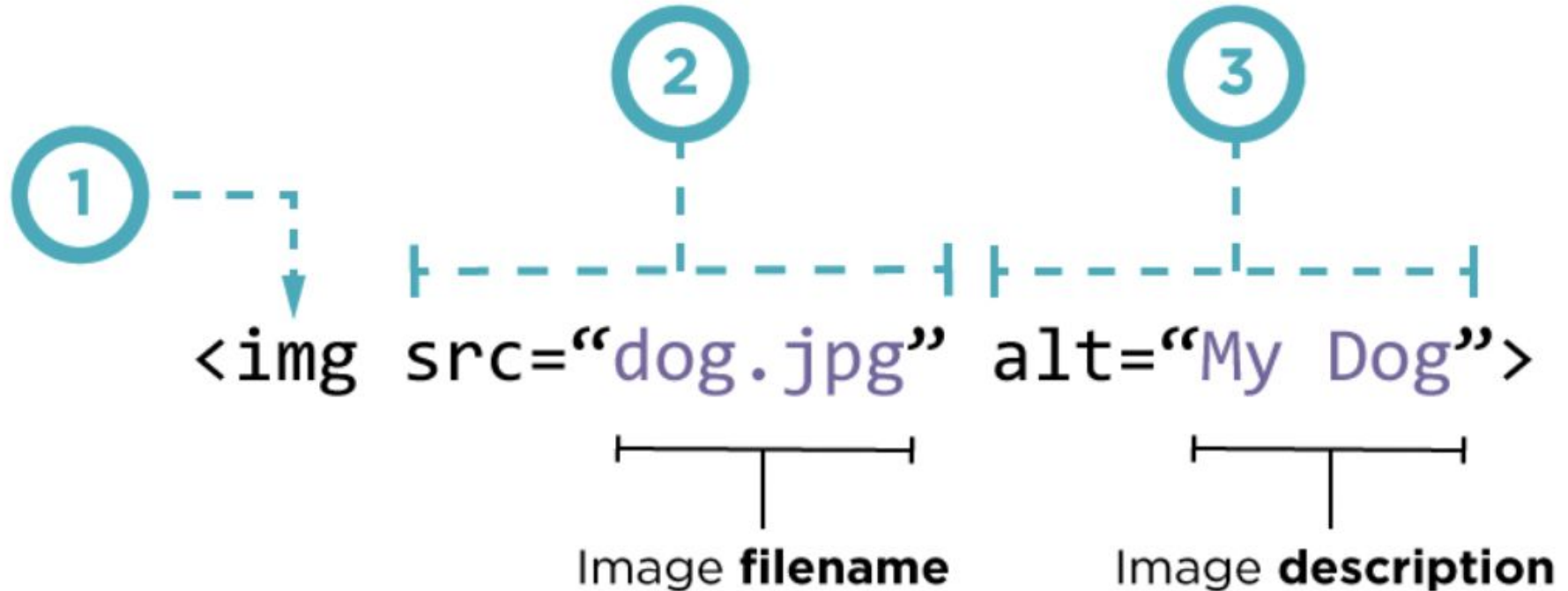
The global attributes are attributes that can be used with all HTML elements.

- **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

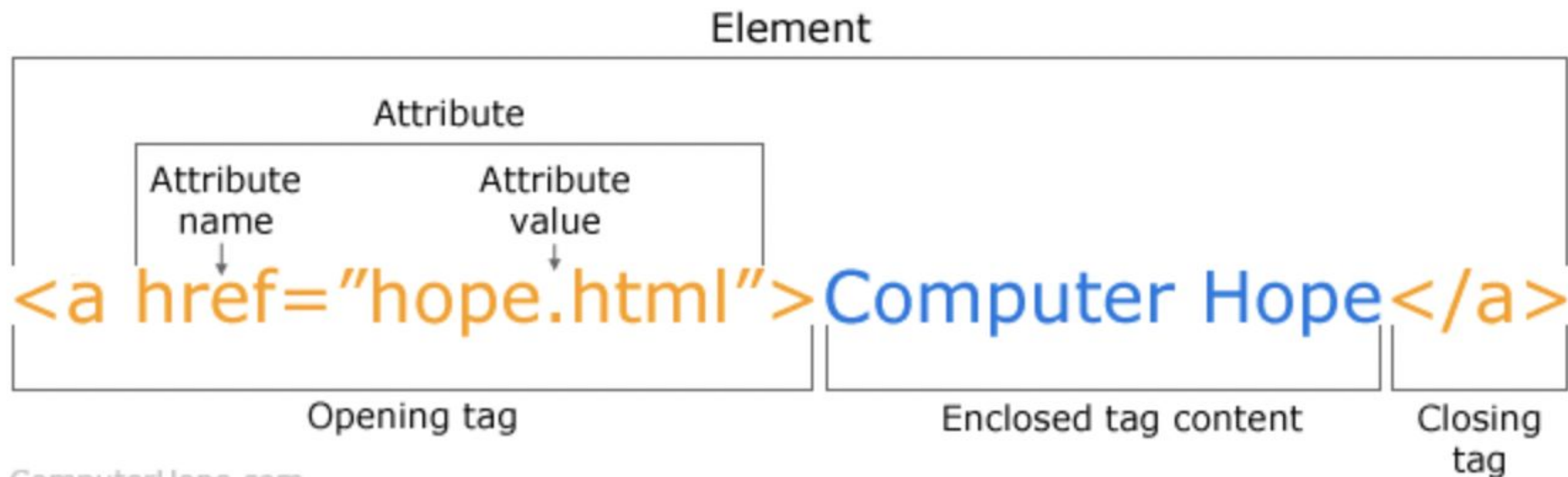
## Academic Details

| 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

### Breakdown of an HTML Tag



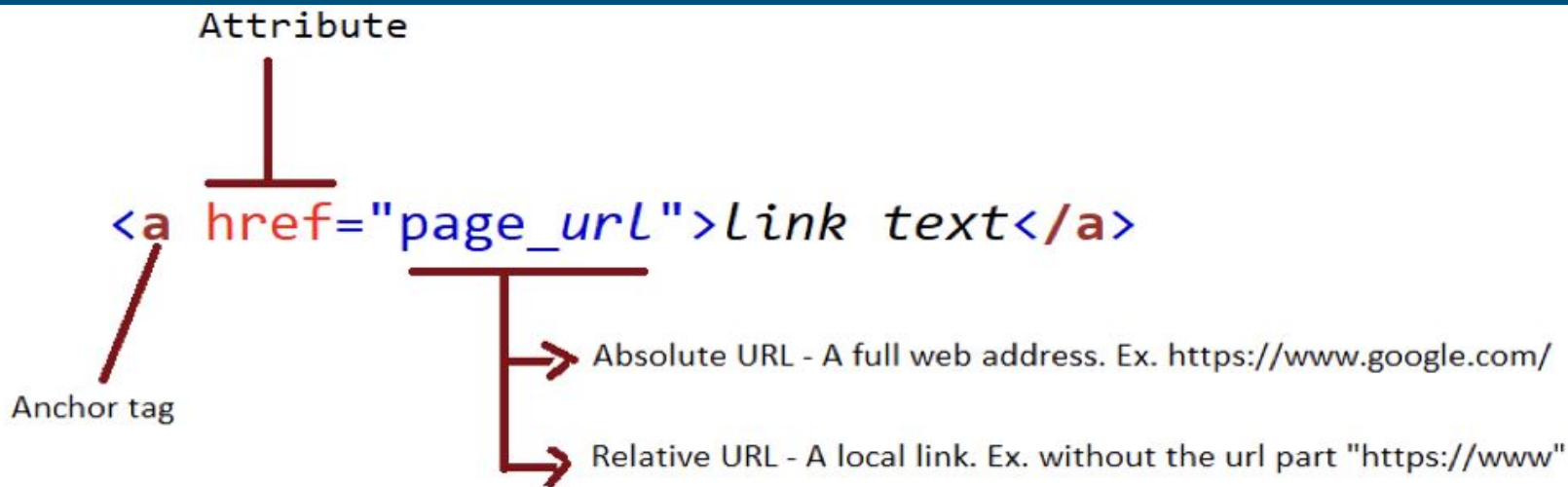
## <a> HTML Links: Anchor Tag

- 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

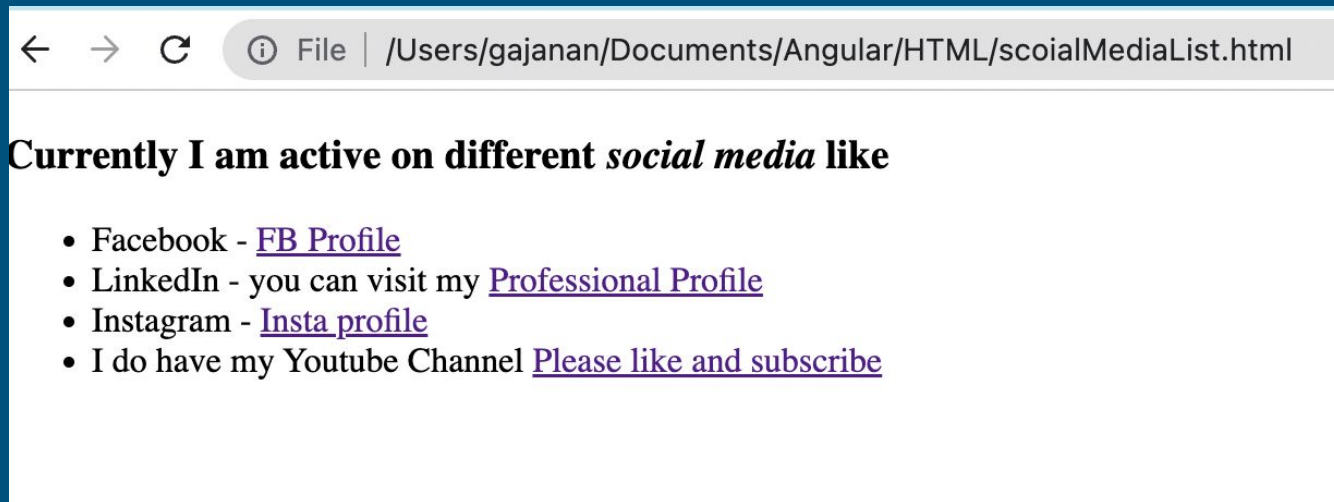
Note: For click on each links such as

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.

`<form>`

Full Name

Rohit Sharma

`<label for="fName"> Full Name </label>`      `<input type="text" id="fName">`



## 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

feedbackForm.html

|                                       |                                      |
|---------------------------------------|--------------------------------------|
| <b>Full Name</b>                      | <input type="text"/>                 |
| <b>Age</b>                            | <input type="text"/>                 |
| <b>Mobile</b>                         | <input type="text"/>                 |
| <b>Email</b>                          | <input type="text"/>                 |
| <b>Qualification</b>                  | <input type="text"/>                 |
| <b>Feedback</b>                       | <div></div>                          |
| <input type="button" value="Submit"/> | <input type="button" value="Reset"/> |

# 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  

Pass out Year  

Permanent Address

SSO sign in options   



# HTML Input Types

## 1 type="text"

Defines a single-line text field

## 2 type="email"

Defines a field for an e-mail address

## 3 type="password"

Defines a password field

## 4 type="tel"

field for entering a telephone number

## 5 type="number"

field for entering a number,  
max min value allowed

## 6 type="search"

text field for entering a  
search string

## 7 type="url"

field for entering a URL

## 8 type="file"

file-select field and a "Browse"  
button for file uploads

 No file chosen

## 9 type="hidden"

A hidden field let web  
developers include data  
that cannot be seen or  
modified by users when a  
form is submitted.

## 10 type="button"

defines a clickable button

## 11 type="reset"

reset button which resets all  
form values to its initial values

## 12 type="submit"

button which submits all  
form values.

### 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

## Student Registration Form

First Name

Only First name

Last Name

Mobile Number

Please enter with cou

Email

Example: abc@gmail.co

Password

Country

India

Do you have bank account

YES

Date Of Birth

dd/mm/yyyy

Available in Week

Week --, ----

Preferred Time

--:-- --

Select Profile Photo

Choose file

No file chosen

Select Certificates

Choose files

No file chosen

Select Graduation

BE

Select Gender

☐ Male ☐ Female ☐ Others

Please Select Trainings

☐ Angular ☐ Java ☐ .Net ☐ DevOps

Address

Submit

Reset

# 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: <div>, <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. <span>, <b>, <a>, <sub>, <sup>, <textarea>

# <div> vs <span>

## <div> : division

Used to divide content into logical sections

It is wrapper for the element to apply CSS

Block element

Nested <div> is allowed

## <span>

Inline Element

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

When used together with CSS, the <span> 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.

# 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="favicon.png">
```



# HTML Media

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`<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, height, autoplay, controls, muted

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```
<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, height, autoplay, controls, muted

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```
<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>
```

### ▼ Family Details

- **Father Name: Shananu sharma**
- **Mother Name: Sawitri sharma**
- **Brother Name: Shyam sharma**
- **Sister Name: Rinku sharma**

# 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

