

# Visual Studio Code

## Topics introduced:

1. What is a text editor?
2. What is Visual Studio Code?
3. Installing Visual Studio Code.
4. Installing extensions in Visual Studio Code.
5. Creating file in VS code.

### 1. Text Editor:

- A text editor is a program that allows you to open, view, and edit plain text files.
- a text editor provides an "empty" display screen (or "scrollable page") with a fixed-line length and visible line numbers. You can then fill the lines in with text, line by line.
- Example: **Notepad** is a very basic text editor with minimal features and low capabilities.

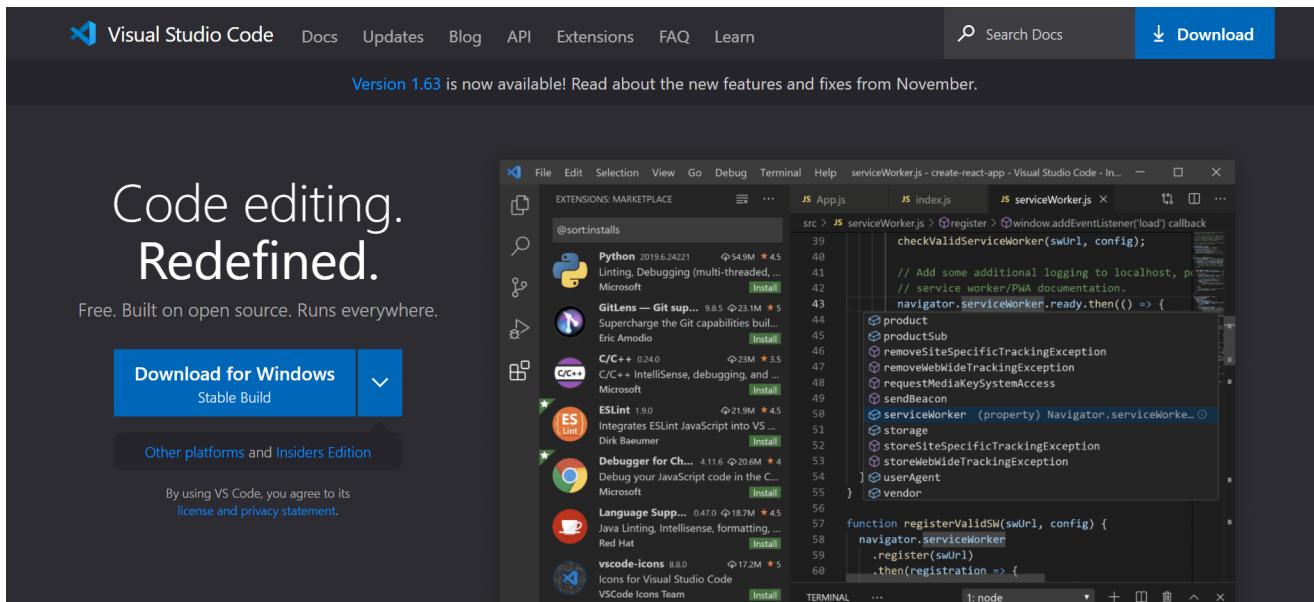
### 2. Visual Studio Code:

The Visual Studio code is more than a text editor. The features of Visual Studio code are as follows:

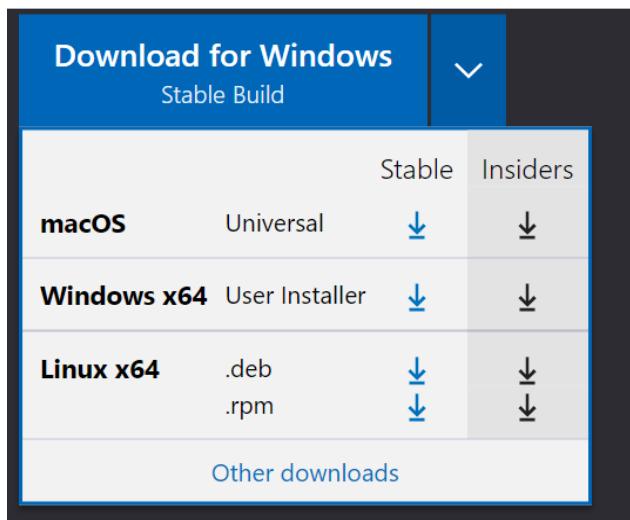
- **Lightweight** but powerful source code editor.
- Runs on desktop and is available for **Windows, macOS and Linux**.
- Comes with built-in support for JavaScript, TypeScript and Node.js.
- Has a rich ecosystem of extensions for other languages (such as C++, C#, Java, Python, PHP, Go) and runtimes (such as .NET and Unity).
- Combines the simplicity of a source code editor with powerful developer tooling, like IntelliSense code completion and debugging.
- Combines the best of web, native, and language-specific technologies.

### 3. Installing Visual Studio Code:

- Visual studio code can be downloaded using the official [Link](#).



- Depending on the OS VS code can be downloaded.



- The frequently asked questions while installing VS code and their solutions can be seen in the official [link](#) of VS code. Some among them are:
  - What if the firewall blocks my installation?
    - Click on System and Security.
    - Click on Windows Defender Firewall.
    - From the left pane click on "Allow an app or feature through Window Defender Firewall".
  - How to find the version of VS Code?
    - You can find the VS Code version information in the About dialog box.
    - On macOS, go to Code > About Visual Studio Code.
    - On Windows and Linux, go to Help > About.

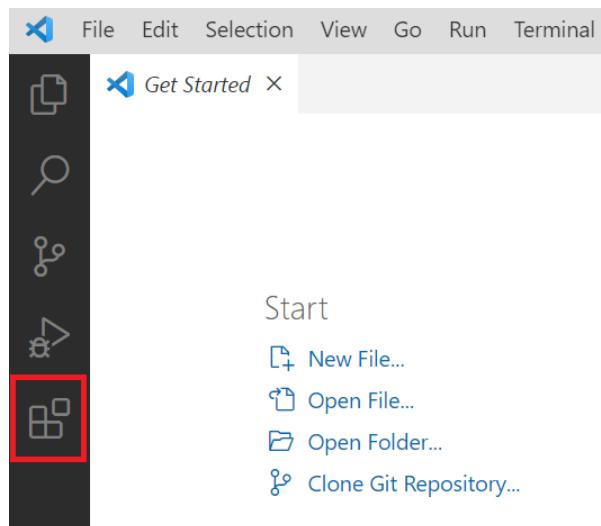
#### 4. Installing extension in VS code:

##### Reason for having extension:

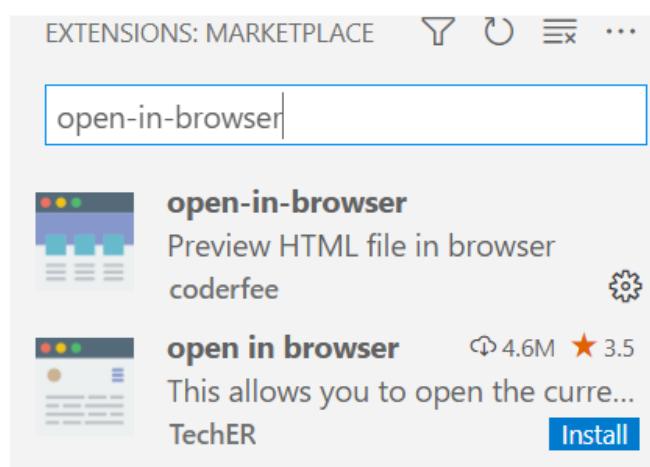
- Each time for opening the HTML files in the browser we need to go to the >> file location >> do right click >> open the file with >> default browser.
- Which is a really time consuming and long process. To make it short we are downloading extensions in the VS code to open the HTML files in the default browser directly.

Steps to Download and install extensions are as follows:

- Open the Visual studio code for installing extensions that will help to open the web pages directly on the browser.
- To download and install extensions click on the extension icon in the left pane.



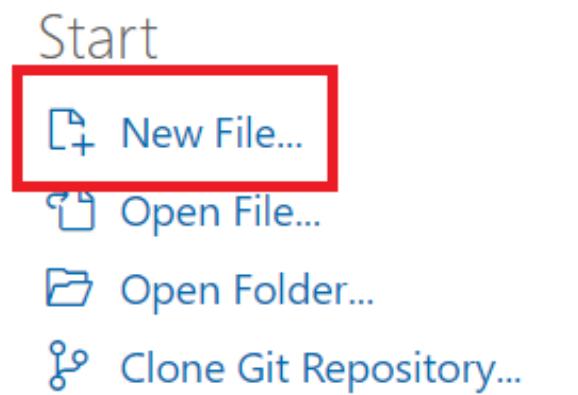
- Open-in-browser is the extension that needs to be installed.



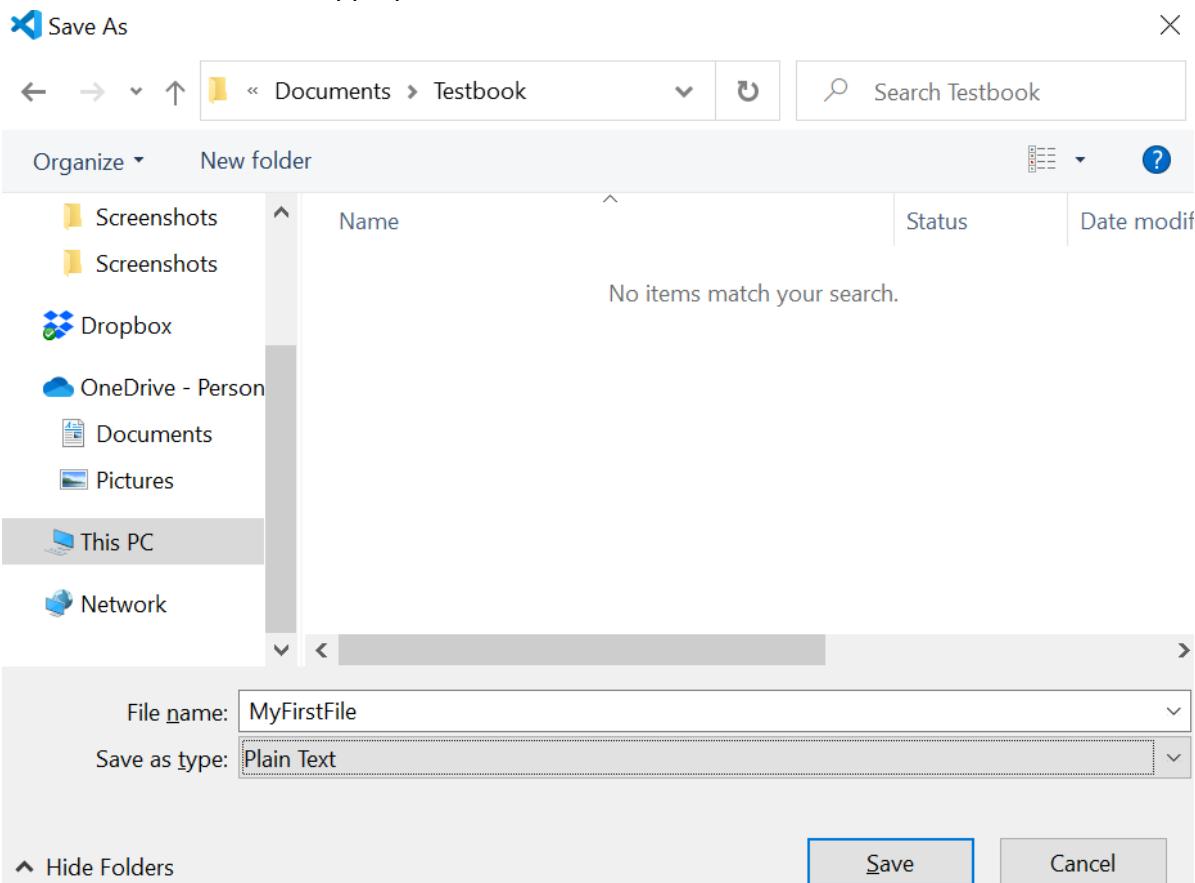
## 5. Creating new file in VS code:

To create a webpage, follow these steps:

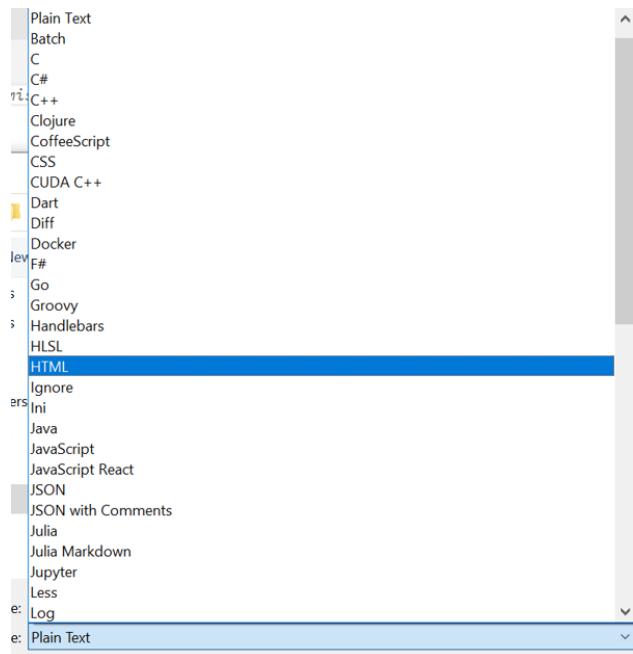
- Select New File...



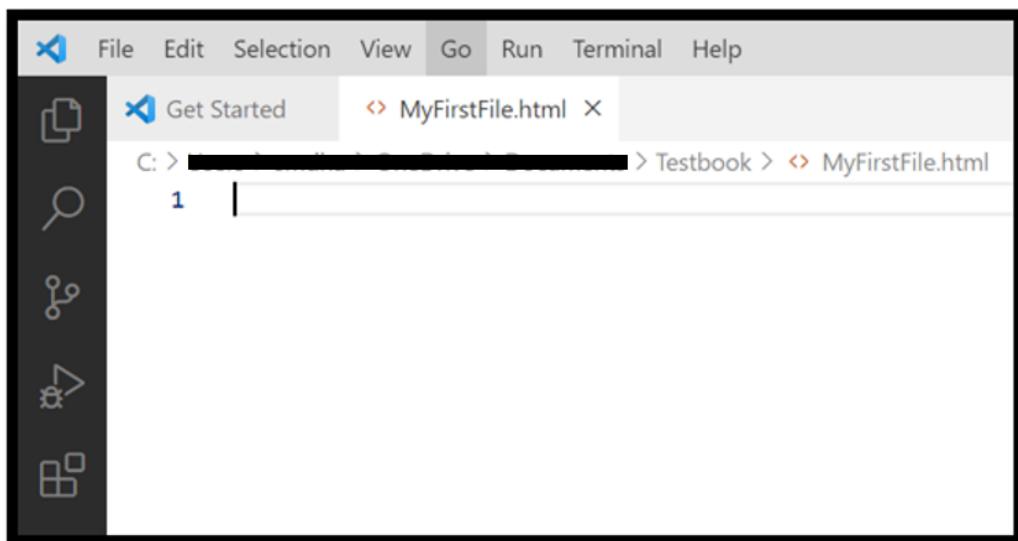
- Save the file in the appropriate folder/ create the folder.



- Choose the file type while saving.



- The file in the VS Code appears with file extension after saving.



# Getting started with HTML

## Topics Covered:

- What is HTML?
- What is HyperText?
- What is Markup?
- What are the benefits of using HTML5?
- What is the basic structure of HTML?
- How to save an HTML file?
- What is the importance of learning HTML?
- What are HTML Elements?
- How to distinguish between headings and paragraphs in HTML?
- What are void elements?
- What are nested elements?
- What are different types of elements in HTML?
- What is an attribute?
- What is a comment?
- How to apply styles in HTML?

## HTML:

- HTML stands for **HyperText Markup Language**.
- HTML is the standard markup language used for designing web pages.
- HTML elements are represented by tags <>.
- HTML can be assisted by CSS style sheets(CSS) and scripting languages like JavaScript(JS).
- HTML was created to document pages that are displayed on the web pages. The HTML helps the browser to display text, load images, and other elements.
- HTML was created in **1993** by **Tim Berners-Lee**. Since then, we have had different versions of HTML that are upgraded and now the most widely used version is **HTML5**.
- HTML is used for creating pages that are displayed on the web pages. All the pages that we see on World Wide Web(**www**) are written on different versions of HTML.

## HyperText:

- The word or words that contain a link to a website is HyperText.
- The term Hypertext was coined in 1963 by **Ted Nelson**.
- Example:



## Markup:

- A markup language uses **tags** </> to define elements within a document.
- The readable files contain standard words, rather than using typical programming syntax called Markup language.
- Example markup languages: **HTML**, **SGML**, and **XML**.
- Example:

```
<p>Hello. Welcome to <b> Full Stack Development Course </b></p>
```



Hello. Welcome to **Full Stack Development Course**

*Markup language*

## Benefits of HTML5 over other version of HTML:

- Cleaner markup,
- consistency,
- support multimedia with new tags,
- Offline application cache.

## Structure of HTML:

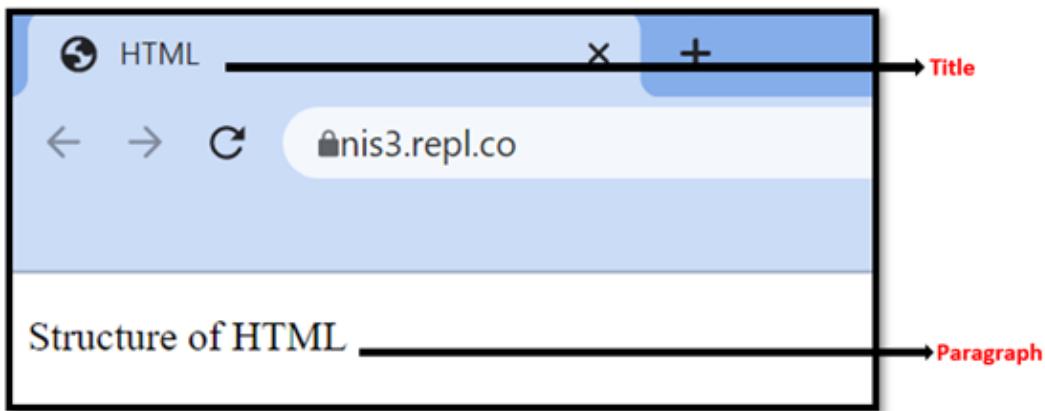
Code:

```
<!DOCTYPE html>
<html>
  <head>
    <!-- title of the web page -->
    <title>HTML</title>
  </head>
  <body>
    <!-- paragraph -->
    <p>Structure of HTML</p>
  </body>
</html>
```

Where,

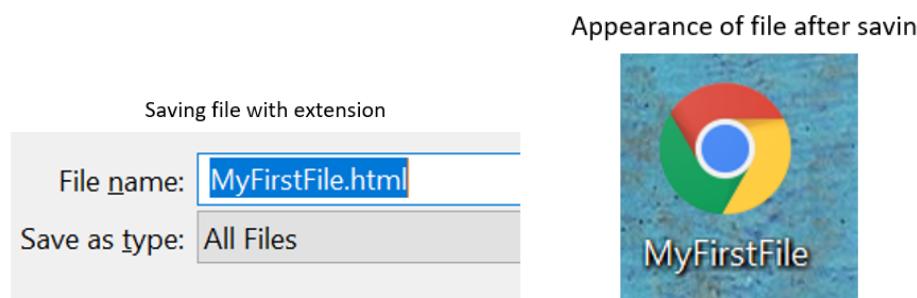
Tags	Purpose
<!DOCTYPE html>	Defines the document as an HTML5 document.
<html> </html>	<b>Root element</b> of the HTML document.
<head> </head>	Contains the <b>information</b> about the document
<title></title>	Specify the title that has to be shown in the <b>browser's title bar/tab</b> .
<body> </body>	Defines the document body, it's the <b>container for all contents</b> like headings, images, paragraphs, tables, lists, etc...
<p></p>	Defines a <b>paragraph</b> .

Output:



## HTML File extension:

- To be recognized by the web browsers all the HTML files must have a special file extension.
- The extension is **.html**

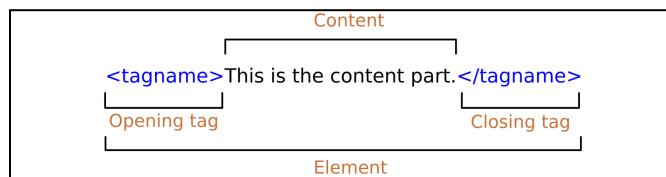


## Importance of HTML:

- HTML is the foundation of all web pages.
- HTML is the beginning and basic level to start with web development.
- HTML is far easier to understand and learn.
- Almost every browser supports HTML. So it is bound to show up in all browsers regardless of where it is accessed through.

## HTML Elements:

- HTML is made of **elements**.
- These elements are responsible for creating web pages and defining content in the web page.
- An element in HTML usually consists of a **start tag** <tag name>, **close tag** </tag name> and **content** inserted between them.
- Syntax:



- Example:

```
<p>Structure of HTML</p>
```

## Headings in HTML:

- **HTML headings** are titles or subtitles that you want to display on a webpage.
- There are **six** levels of headings defined by HTML.
- These 6 heading elements are **H1, H2, H3, H4, H5, and H6**.
- H1 being the **highest level (main heading)** and H6 the **least level (least important heading)**.
- Example:

```

<!DOCTYPE html>
<html>
  <head>
    <title>Headings</title>
  </head>
  <body>
    <h1>Heading 1</h1>
    <h2>Heading 2</h2>
    <h3>Heading 3</h3>
    <h4>Heading 4</h4>
    <h5>Heading 5</h5>
    <h6>Heading 6</h6>
  </body>
</html>

```

# Heading 1

## Heading 2

### Heading 3

#### Heading 4

##### Heading 5

###### Heading 6

## Paragraphs in HTML:

- **<p>** element defines a paragraph.
- browser itself adds an empty line before and after a paragraph.
- Content inside **<p>** element always starts with a new line.
- Example:

```

<p>This element defines the paragraph in HTML</p>
<p>Content inside this tag will appear in a new line.</p>

```



This element defines the paragraph in HTML

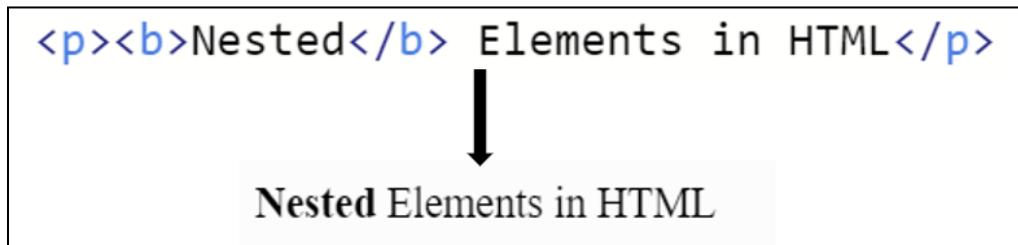
Content inside this tag will appear in a new line.

## Void Elements:

- All the elements in HTML do not require a **start tag and end tag**.
- Some elements do not have content and end tag such elements are known as **Void elements** or **empty elements**.
- These elements are also called unpaired **tags**.
- Example:
  - **<br>** (represents a line break)
  - **<hr>**(represents a horizontal line)

## Nested Elements:

- Elements inside other elements are called **nesting**.
- Elements nested inside other elements are called nested elements.
- Example:



## Types of Elements:

There are two types of elements in HTML:

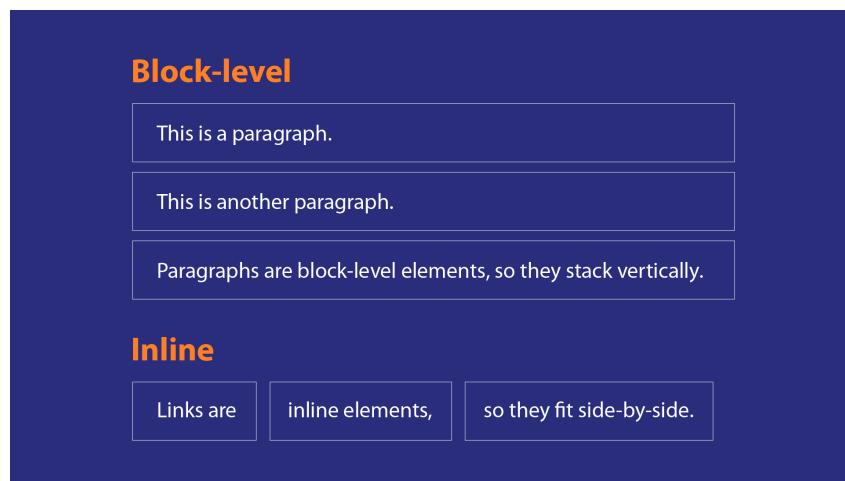
- Block level elements.
- Inline elements.

### Block level elements:

- They form a visible block on a page — they will appear on a **new line** from whatever content went before it,
- And any content that goes after it will also appear on a new line.
- **Example:** <p> or <h1>.

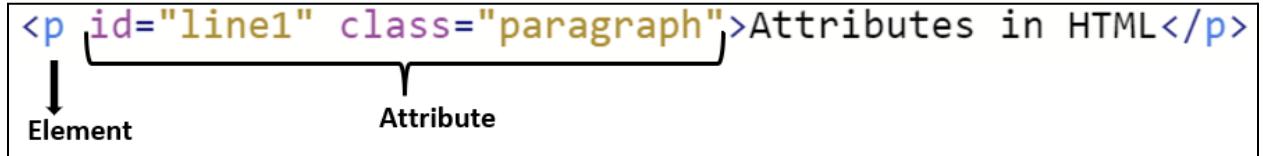
### Inline elements:

- Inline elements will not cause a new line to appear in the document.
- They would normally appear inside a paragraph of text.
- **Example:** <a> (hyperlink) or <b> (bold).



## Attributes in HTML:

- Special words which provide **additional information** about the elements.
- Each element or tag can have **attributes**, which defines the behavior of that element.
- Attributes should always be applied with the start tag.
- Attribute values are case sensitive. Multiple attributes can be applied to a single element.
- Example:



## Comments:

- **Comments** are text notes added to the program to provide explanatory information about the source code.
- Comment is a programmer-readable explanation or annotation in the source code.
- Comment is a piece of code which is **ignored by any web browser**.
- Comments help you and others understand your code and **increase code readability**.
- Comments are placed in between `<!-- ... -->` tags.
- Example:

```
<!-- paragraph -->  
<!-- title of the web page -->
```

## Styles:

- **HTML style attribute** is used to add styles to an element, such as color, font, size, and more.
- The **style** in HTML are rules for making the web-pages more **attractive, engaging** and **presentable**.
- The styles applied in the style attribute are known as inline styles. But applying styles in a style sheet is a good practice.
- Example:

```
<p style="color:blue;">Styles in HTML</p>
```

↓  
Styles in HTML

## Challenge:

With your new gained knowledge on HTML conduct further research about HTML and get

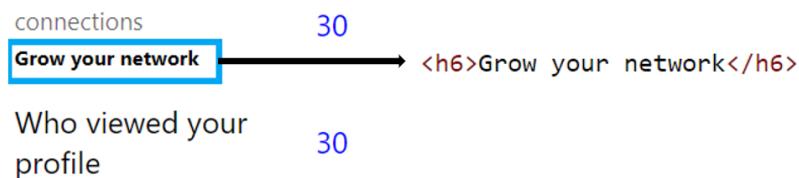
familiar with the following:

- What is the relationship between browser and HTML?
- What are the advantages of HTML5 over other versions?
- Which language is used to decorate/ style HTML elements?

## Utility of today's topics in Static linkedIn page:

The basic structural elements of HTML in our final project:

- You can refer the file in the github link:  
<https://github.com/testbook123/Full-Stack-Development.git>
- Headings and paragraphs:



- Void elements:

```
<div class="news_head">
    <div class="news_title">LinkedIn News</div>
    <i class="bi bi-info-square-fill" style="font-size:15px;"></i>
</div>
<br>

<div class="new_list">
    <div class="act_title" style="display: flex;flex-direction: row;align-items: center;">
        <i class="bi bi-record-fill" style="font-size:14px;margin-right:10px;"></i>
        Indian crosses 3,58,974 daily cases
    </div>
    <div style="margin-left:25px;" class="account_name">10h ago - 5,043 readers</div>
</div>
```

# Links and List in HTML

## Topics introduced:

- What is an HTML link?
- What is the syntax for including hyperlinks?
- How to differentiate visited and unvisited links?
- What is the target attribute?
- What are HTML Lists?
- Different types of HTML Lists?

## Topics in Detail:

### Links:

- A link is a **connection** from one web resource to another.
- A link need not be a text always, it can be an image or any other HTML elements.
- By using a link one can jump from the current web page to another web page.
- A link has two ends,
  - Source
  - Destination.
- The link starts at the “source” anchor and points to the “destination” anchor.
- The destination may be any Web resource such as an image, a video clip, a sound bite, a program, an HTML document or an element within an HTML document.

### HTML Link Syntax:

- <a> tag defines hyperlink.
- Syntax:  
`<a href="url">link text</a>`
- where,
  - **href** → specifies the destination address.
  - **link text** → the visible part.
- Example:

```
<a href="https://www.testbook.com/">Visit testbook.com!</a>
```

### HTML Link colors:

When you move the mouse over a link, two things will normally happen:

- The mouse arrow will turn into a little hand.
- The color of the link element will change.

By default, links will appear as follows in all browsers:

- An unvisited link is underlined and **blue**.

[Visit testbook.com!](https://www.testbook.com/)

- The visited link is underlined and **purple**.

[Visit testbook.com!](#)

- An active link is underlined and **red**.

[Visit testbook.com!](#)

#### **HTML Target attributes:**

- By default, the linked page will be displayed in the current browser window. But this can be changed by specifying another target for the link.
- The target attribute specifies where to open the linked document.

Values of target attribute and description:

<b>Value</b>	<b>Description</b>
_self	Default. Opens the document in the same window/tab as it was clicked.
_blank	Open the document in a new window or tab.
_parent	Open the document in the parent frame.
_top	Open the document in the full body of the window.

#### **HTML List:**

- The list allows us to group the set of items.
- Types of list in HTML:
  - Unordered list.
  - Ordered list.
  - Description list.

#### **Unordered list:**

- The unordered list is a bulleted list.
- The unordered list starts with <ul> and ends with </ul>
- Each item is to be listed in <li> </li> tag.
- Example:

```
<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
```

- Coffee
- Tea
- Milk

#### Ordered list:

- The ordered list can be either numerical order or alphabetical order.
- The ordered list starts with `<ol>` and ends with `</ol>`
- Each item is to be listed in `<li> </li>` tag.
- Type attribute has to be used to specify the order of the list.
- The type can be numerics, alphabets in upper or lower case, and roman numbers in upper or lower case.
- The default value for type is 1, which denotes numerics.
- Example:

```
<ol>
  <li>Coffee</li>      1. Coffee
  <li>Tea</li>        2. Tea
  <li>Milk</li>        3. Milk
</ol>

<ol type="A">
  <li>Coffee</li>      A. Coffee
  <li>Tea</li>        B. Tea
  <li>Milk</li>        C. Milk
</ol>
```

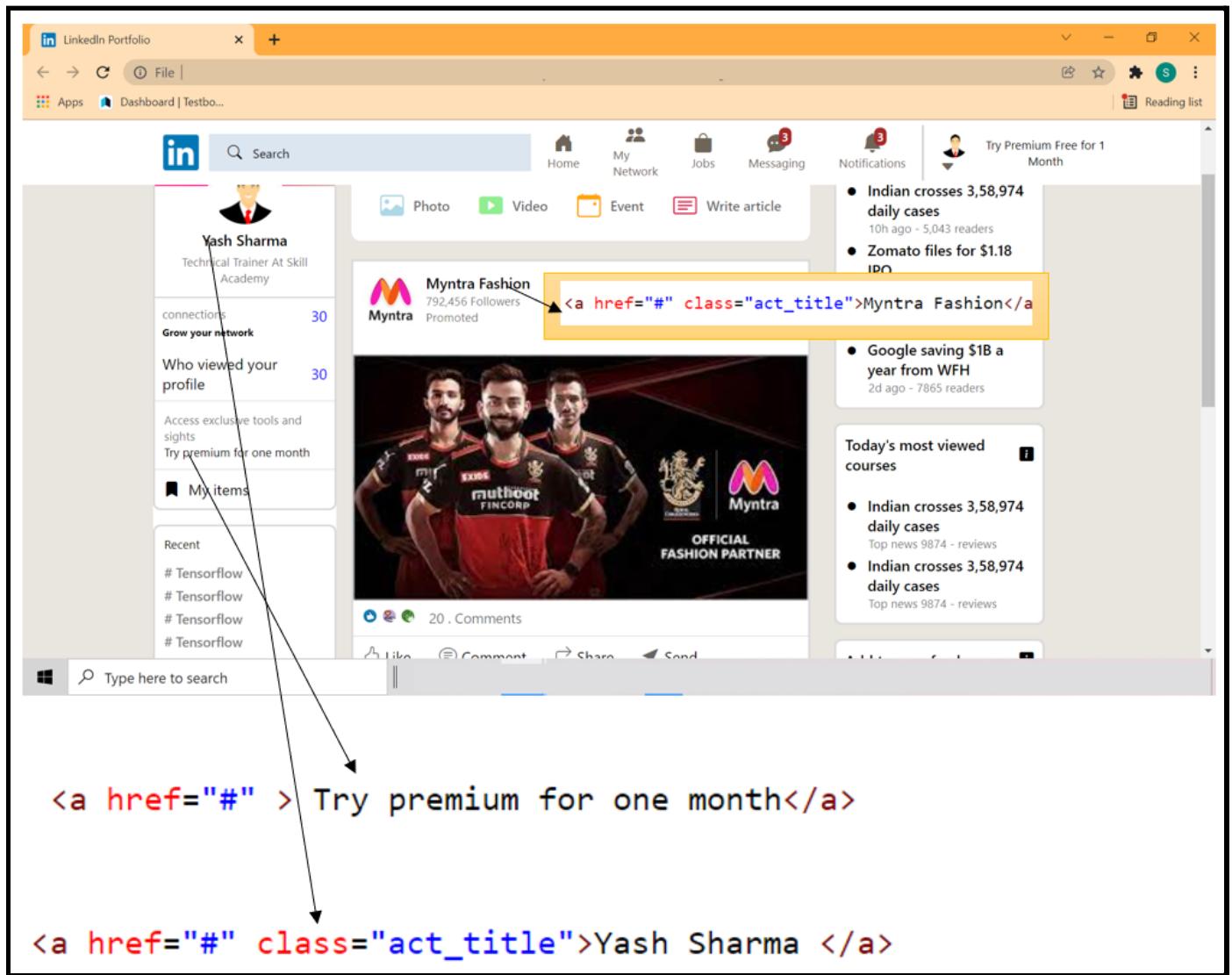
#### Descriptive list:

- The descriptive list is used to provide description to the items listed.
- `<dl></dl>` tag defines the description list.
  - `<dt> </dt>` tag defines the items in the list.
    - `<dd> </dd>` tag defines the description of the tag.
- Example:

```
<dl>
  <dt>Coffee</dt>          Coffee
  <dd>- black hot drink</dd> - black hot drink
  <dt>Milk</dt>            Milk
  <dd>- white cold drink</dd> - white cold drink
</dl>
```

## Utility of topics learned in Static linkedin page project:

Links:



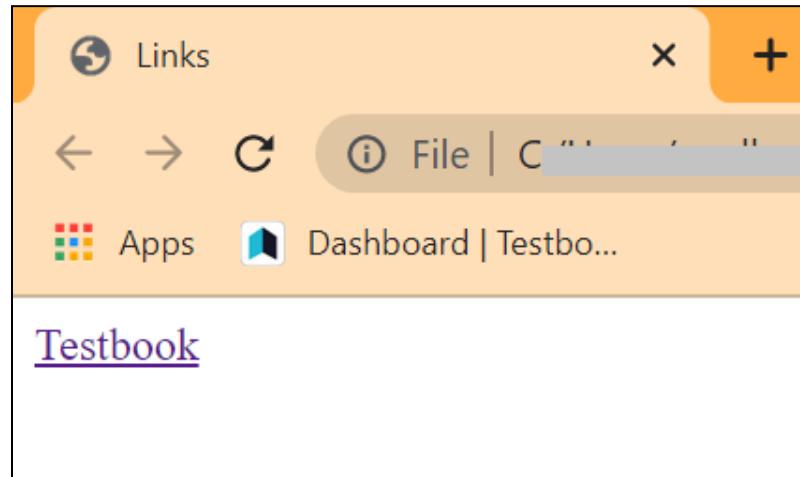
The screenshot shows a LinkedIn homepage with several UI components and their associated HTML code snippets:

- Profile Sidebar:** Shows a profile picture of "Yash Sharma" and the title "Technical Trainer At Skill Academy".  
`<a href="#" class="act_title">Yash Sharma </a>`
- Search Bar:** A search bar at the top with the placeholder "Type here to search".  
`<a href="#"> Try premium for one month</a>`
- Header Navigation:** Home, My Network, Jobs, Messaging, Notifications, and Premium offer.  
`<a href="#"> Try Premium Free for 1 Month</a>`
- Post Preview:** A post from "Myntra Fashion" featuring three men in jerseys.  
`<a href="#" class="act_title">Myntra Fashion</a>`
- News Feed:** A list of news items with titles like "Indian crosses 3,58,974 daily cases" and "Zomato files for \$1.1B IPO".  
`<a href="#"> Indian crosses 3,58,974 daily cases</a>`  
`<a href="#"> Zomato files for $1.1B IPO</a>`
- Today's most viewed courses:** A section with course titles and descriptions.  
`<a href="#"> Today's most viewed courses</a>`

## Practice code - Links and List

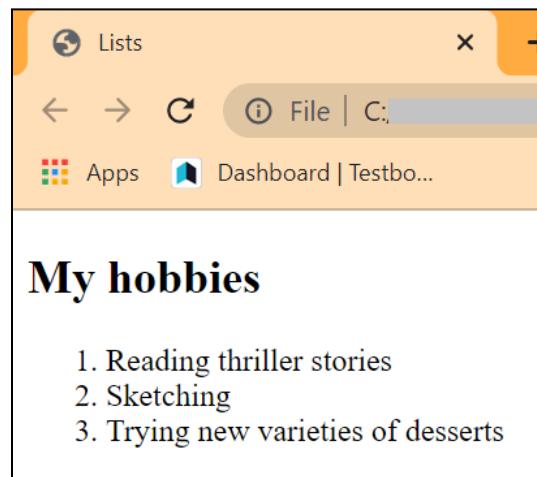
### Problem Statement 1: Hyperlink

Create a webpage that has a link to any website. When clicked on the link it should navigate to the website from your webpage.



### Problem Statement 2: Ordered List

Create a webpage that displays your hobbies as an ordered list. As you list your hobbies in an ordered list, order it from best to worst.



### Problem Statement 3: Unordered List

Create a webpage that displays your favorite beverages as an unordered list.

#### An unordered HTML list

- Coffee
- Tea
- Milk

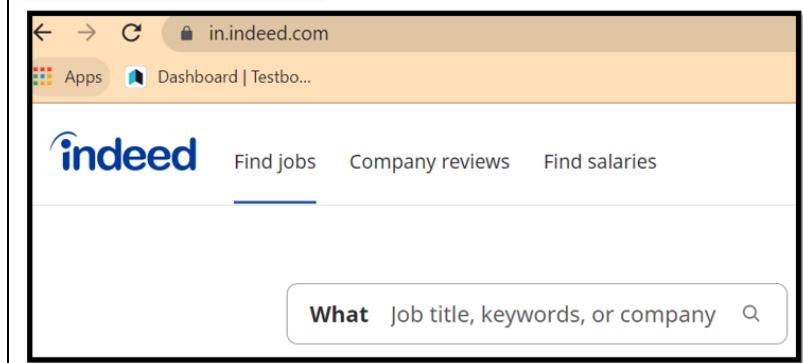
### Problem Statement 4: Links and List

Create a web page that lists the top job alert websites with links. When you click on the listed website, it should navigate to those official websites.

#### Job websites

- [LinkedIn](#)
- [Naukri](#)
- [FreeJobAlert](#)
- [Indeed](#)

When clicked is should redirect to respective website



## Solutions for problem statements:

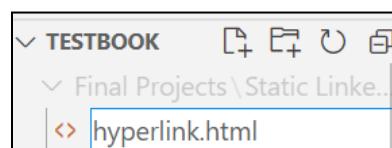
### Problem Statement 1: Hyperlink

#### Steps

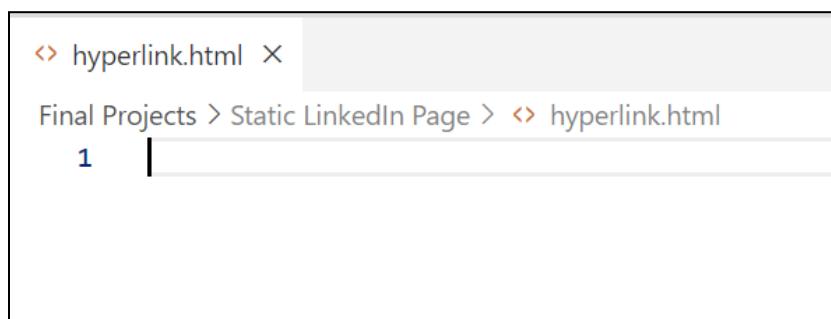
- Open VS code.
- Select New File in the opened folder...



- Save the file in the appropriate folder/ create the folder and save the file with extension.



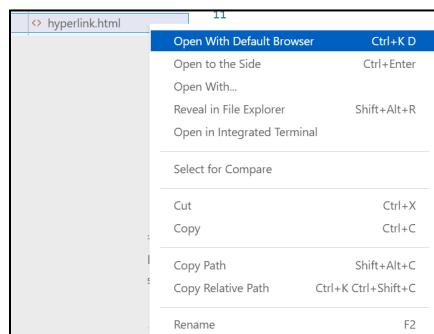
- The file in the VS Code appears with file extension after saving



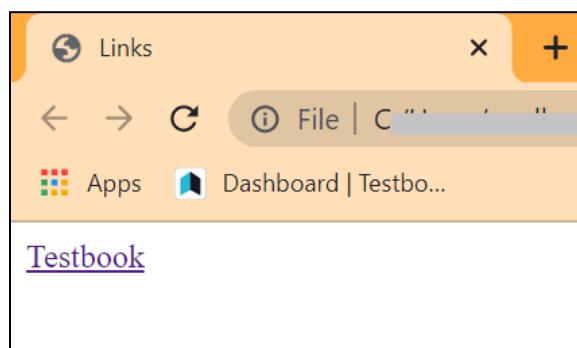
- Copy and Add the below given html code in the file.

```
<!DOCTYPE html>
<html>
  <head>
    <title>Links</title>
  </head>
  <body>
    <a href="https://www.testbook.com/">Testbook</a>
  </body>
</html>
```

- View the file in the browser, by right click on the file name in the left pane.



- View of file in browser.



## Problem Statement 2: Ordered List

Sample Code:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Lists</title>
  </head>
  <body>
    <h2>My hobbies</h2>
    <ol>
      <li>Reading thriller stories</li>
      <li>Sketching</li>
      <li>Trying new varieties of desserts</li>
    </ol>
  </body>
</html>
```

### Problem Statement 3: Unordered List

Sample Code:

```
<!DOCTYPE html>
<html>
<body>
<h2>An unordered HTML list</h2>
<ul>
    <li>Coffee</li>
    <li>Tea</li>
    <li>Milk</li>
</ul>
</body>
</html>
```

### Problem Statement 4: List and Links

Sample Code:

```
<!DOCTYPE html>
<html>
<head>
    <title>HTML Links</title>
</head>
<body>
    <!-- You can add any heading-->
    <h2>Job websites</h2>
    <ul>
        <!-- You can add any job portals or website links that provide job
information-->
        <li><a href="https://www.linkedin.com/">LinkedIn</a></li>
        <li><a href="https://www.naukri.com/">Naukri</a></li>
        <li><a href="https://www.freejobalert.com/">FreeJobAlert</a></li>
        <li><a href="https://in.indeed.com/">Indeed</a></li>
    </ul>
</body>
</html>
```

# Media in HTML

## Topics covered:

- What is media?
- How can images be included in HTML?
- How can audio/sounds/videos be added to your web page?
- How to include the youtube link and make them play in your web page?

## Topics in detail:

### Media:

- Media on the web page is images, sounds, videos, and animations.
- Media elements can be included in different formats.

### Images in HTML:

- Images can be added to the web page by using the tag <img>. Images are linked to the web pages and not inserted in the web pages.
- <img> tag can be included in the <body> of the HTML document.
- Attributes of <img> tag:
  - **src** - source attribute specifies the path of the image that needs to be displayed/ linked to the web page.
  - **alt** - alternate attribute specifies the alternate text that has to be displayed on the web page in case of issues in viewing the image (slow connection).
  - **width** and **height** attributes are used to define the width and height of the image in pixels.
- Syntax: <img src= "image url" alt= "alternate text">
- Example: 

```
</img>
```

Common image formats:

File extension	File format
.png	Portable Network Graphics
.jpg, .jpeg, .jfif, .pjpeg, .pjp	Joint Photographic Expert Group image
.svg	Scalable Vector Graphics
.gif	Graphics Interchange Format
.apng	Animated Portable Network Graphics

## Audio in HTML:

- <audio> element is used to include and play audio files in the HTML.
- The <source> element allows you to specify the audio link.
- Multiple <source> elements can be included under a single <audio> element, where the browser will choose the first recognized format.
- Play, pause and volume can be controlled by using the **controls** attribute to the audio element.
- The text in between the <audio> and </audio> element will be displayed when the browser does not support the included audio source.
- Example:

```
<audio controls autoplay>
  <source src="alligator.mp3" type="audio/ogg">
  Your browser does not support the audio element.
</audio>
```

- Output:



- As the controls attribute is given there is an option for play, pause and volume control in the audio, and since autoplay is given before clicking the play button the sound will be played.
- If the controls attribute is not given, then nothing will be displayed in the output screen, only the audio will be played automatically without any controls.

Common audio formats:

File extension	File format
mp3	MPEG audio Layer-3.
ogg	Ogg
wav	Waveform Audio File Format

## Video in HTML:

- <video> element is used to include and play audio files in the HTML.
- The <source> element allows you to specify the audio link.
- Multiple <source> elements can be included under a single <video> element, where the browser will choose the first recognized format.
- Play, pause and volume can be controlled by using the **controls** attribute to the audio element.
- The text in between the <video> and </video> element will be displayed when the browser does not support the included audio source.
- Width and height attributes can be added to specify the area of the video clip and to avoid unwanted flickering.
- Example:

```
<video width="320" height="240" autoplay>  
  <source src="video1.mp4" type="video/mp4">  
    Your browser does not support the video tag.  
</video>
```

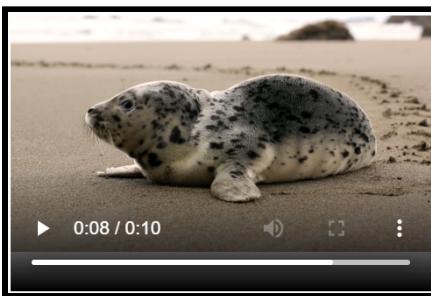
- Output:



- In the above example, as the controls attribute is not included in the <video> element no control is there in the output for play, pause and volume adjustment.
- Example:

```
<video controls width="320" height="240" autoplay>  
  <source src="video1.mp4" type="video/mp4">  
    Your browser does not support the video tag.  
</video>
```

- Output:



## Iframes:

- HTML Iframes are used to display a webpage within a webpage.
- <iframe> is an inline level tag.
- Youtube videos can be played inside a webpage by using <iframe> tag.
- Example:

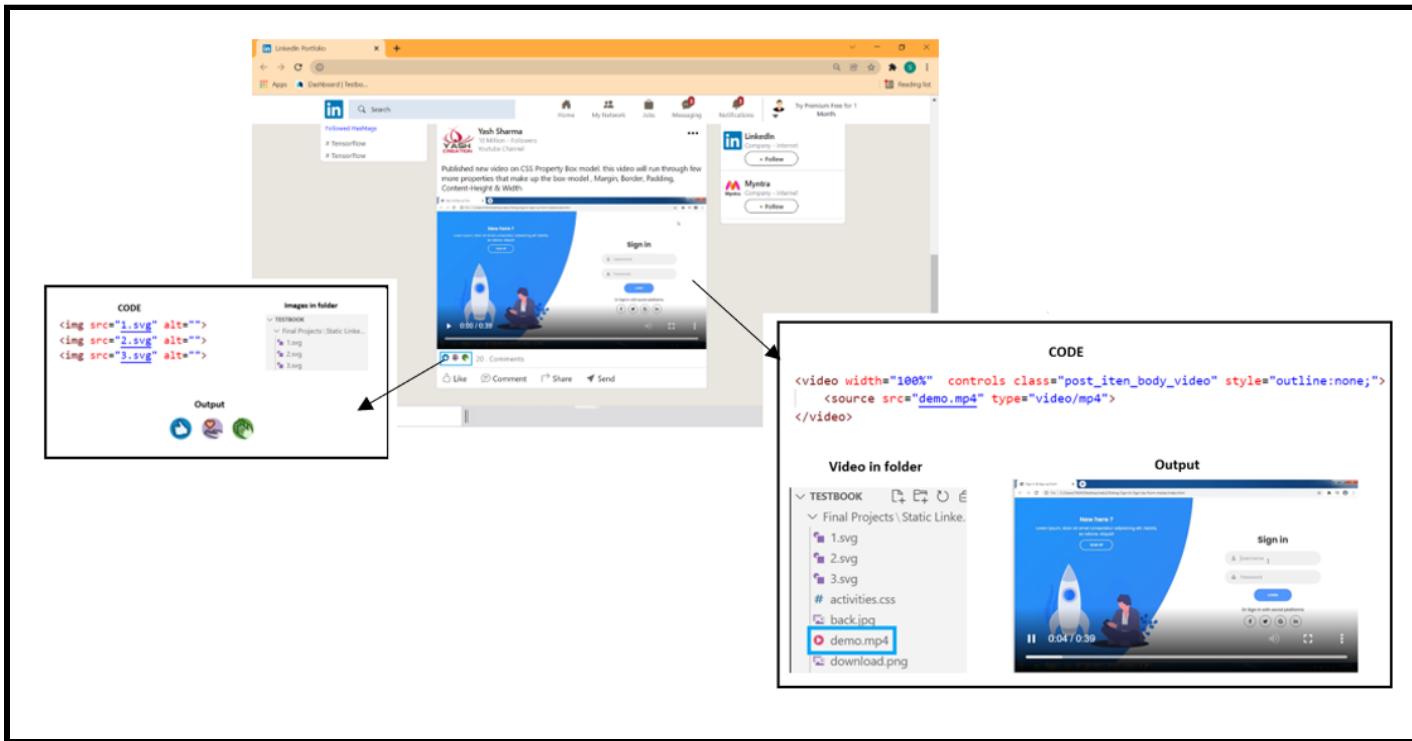
```
<iframe width="420" height="315">
  https://www.youtube.com/embed/tgbNymZ7vqY
</iframe>
```
- Options like autoplay, mute, loop, and controls can be added along with the youtube link for additional features.
- Autoplay of a youtube video is not allowed, however it is allowed when the video is muted.
- Example (Autoplay + Mute):

```
<iframe width="420" height="315">
  https://www.youtube.com/embed/tgbNymZ7vqY?autoplay=1&mute=1
</iframe>
```
- To play the video loop=1 has to be added along with the youtube link.
- Example (loop):

```
<iframe width="420" height="315">
  https://www.youtube.com/embed/tgbNymZ7vqY?playlist=tgbNymZ7vqY&loop=1
</iframe>
```
- By default the player control will be displayed for youtube video, the default value of controls is 1.

## Utility of topics learned in Static linkedin page project:

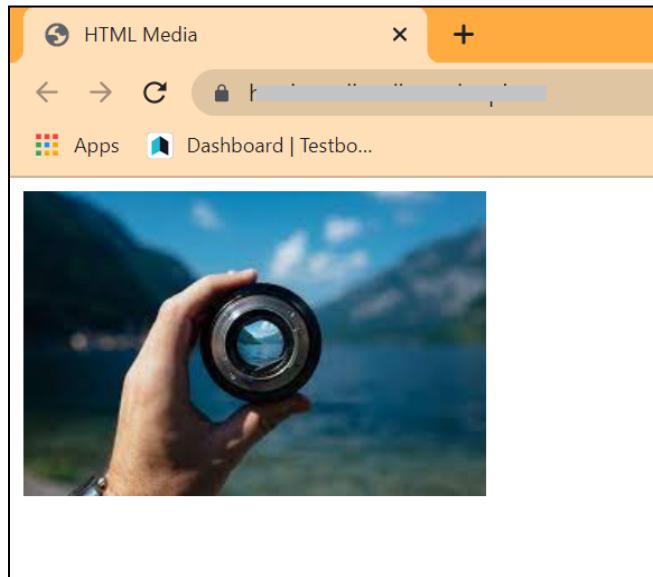
Images and video:



# Practice code - Media

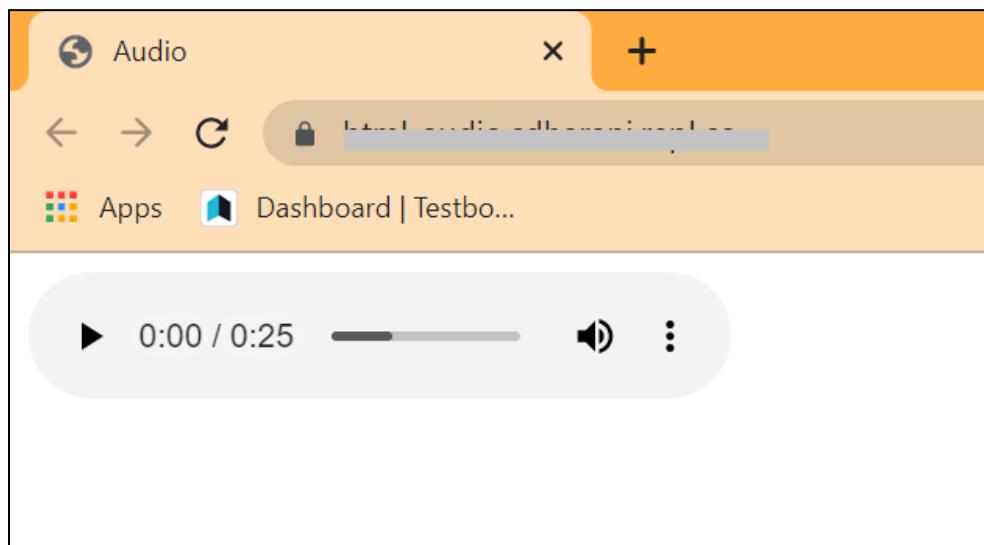
## Problem Statement 1: Image

Create a webpage that has an image. Make sure to upload the image and add its path as the value for the **src** field.



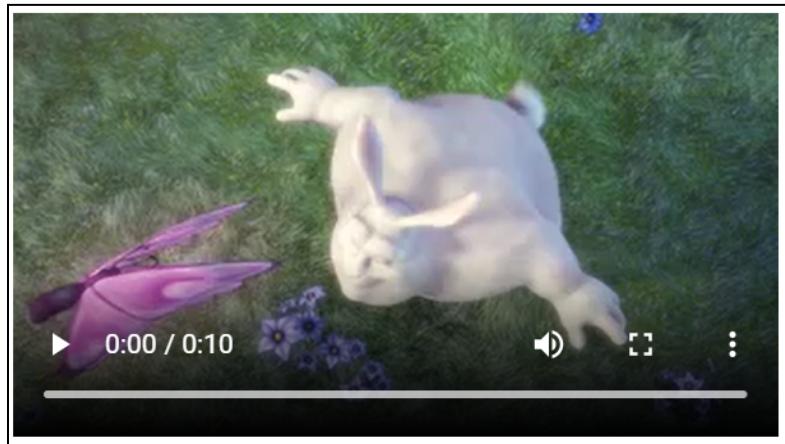
## Problem Statement 2: Audio

Create a webpage that has an audio file about yourself, with audio controls like: volume control and play/pause buttons.



### Problem Statement 3: Video

Create a webpage that has a random video. Make sure to have video controls in it.



### Problem Statement 4: Iframe

Create a webpage that has a youtube video in it. Make sure to add width, height, and controls like autoplay, mute, loop...



## Problem Solutions:

### Problem statement 1: Image

```
<!DOCTYPE html>
<html>
  <head>
    <title>HTML Media</title>
  </head>
  <body>
    <!--Include your image path-->
    </img>
  </body>
</html>
```

### Problem statement 2: Audio

```
<!DOCTYPE html>
<html>
  <head>
    <title>Audio</title>
  </head>
  <body>
    <audio controls autoplay>
      <!-- You can add any audio/sound that is supported by HTML,
provided media should be uploaded in the same folder of the file-->
      <source src="alligator.mp3" type="audio/ogg">
      Your browser does not support the audio element.
    </audio>
  </body>
</html>
```

### Problem statement 3: Video

```
<!DOCTYPE html>
<html>
<body>

<video width="400" controls>
  <source src="mov_bbb.mp4" type="video/mp4">
  <source src="mov_bbb.ogg" type="video/ogg">
    Your browser does not support HTML video.
</video>

<p>
  Video courtesy of
  <a href="https://www.bigbuckbunny.org/" target="_blank">Big Buck Bunny</a>.
</p>

</body>
</html>
```

### Problem statement 4: Iframe

```
<!DOCTYPE html>
<html>
<body>

<iframe width="420" height="345" src="https://www.youtube.com/embed/tgbNymZ7vqY?controls=0">
</iframe>

</body>
</html>
```

# HTML Tables

## Topics Covered:

- HTML Table.
- Table Rows and Cells.
- Table Headers and Captions.
- HTML Borders.
- Table Colspan and Rowspan.

## Topics in Detail:

### Tables:

- HTML Tables allows us to arrange the data in the form of rows and columns.
- <table> tag is used to create a table in HTML.
- The table consists of rows and cells.
- The table can have headings and captions.

Table caption

Heading 1	Heading 2	Heading 3
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell 3
Row 2 Cell 1	Row 2 Cell 2	Row 2 Cell 3
Row 3 Cell 1	Row 3 Cell 2	Row 3 Cell 3

Table overview

### Table row:

- Table rows are created by using <tr> tag.
- Multiple rows can be used in a table.
- The content inside the row can be defined by the Table cells.

### Table cells:

- Table cells are defined by using <td> tag, where td means table data.
- The content of the cell has to be included in between <td> </td>.
- The content can be any HTML elements like: text, image, list, another table, etc...

## Table Headers:

- The headers will be inside the row.
- Table headers are defined by using `<th>` tag, instead of `<td>` tag.
- By default the content between `<th>` and `</th>` are center aligned and appears in bold, where `<td>` is left aligned and normal.

## Table caption:

- To provide caption to the tables `<caption>` tag can be used.
- The `<caption>` tag has to be used immediately after the `<table>` tag before `<tr>` tag.
- By default the content between the `<caption>` `</caption>` are center aligned.

## Table border:

- By default the tables do not have borders.

Table caption		
Heading 1	Heading 2	Heading 3
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell 3
Row 2 Cell 1	Row 2 Cell 2	Row 2 Cell 3
Row 3 Cell 1	Row 3 Cell 2	Row 3 Cell 3

Default table without border

- Borders can be added to the table/cells in different shapes and styles, but the border attribute is applicable only for `<table>`. For rows and cells the border can be applied in styles.
- When the border is added to the table, the border will be automatically added around each table cell.

Table caption		
Heading 1	Heading 2	Heading 3
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell 3
Row 2 Cell 1	Row 2 Cell 2	Row 2 Cell 3
Row 3 Cell 1	Row 3 Cell 2	Row 3 Cell 3

```
<table border="1">
```

- When the borders are added as styles for the table cells.

Table Caption

Heading 1	Heading 2	Heading 3
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell 3
Row 2 Cell 1	Row 2 Cell 2	Row 2 Cell 3
Row 3 Cell 1	Row 3 Cell 2	Row 3 Cell 3

```
<th style="border: 1px solid black;">
<td style="border: 1px solid black;">
```

### Table Colspan:

- Multiple rows can be included in the table but all the rows `<tr>` should have the same number of cells `<td>`.
- If the number of cells are different, colspan can be used to balance them.
- To span the cells over multiple columns colspan is used.

Table Caption

Heading 1	Heading 2	Heading 3
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell 3
Row 2 Cell 1	Row 2 Cell 2	Row 2 Cell 3
Row 3 spanned column		

```
<td colspan = "3">
```

### Table Rowspan:

- To span the cells over multiple rows, rowspan is used.

Table Caption

Heading 1	Heading 2	Heading 3
Row 1 and 2 Cell 1	Row 1 Cell 2	Row 1 Cell 3
	Row 2 Cell 2	Row 2 Cell 3
Row 3 Cell 1	Row 3 Cell 2	Row 3 Cell 3

```
<td rowspan = "2">
```

## Practice code - Table

### Problem Statement 1: Table without border

Create a webpage that displays a simple table without borders.

Person 1	Person 2	Person 3
Emil 16	Tobias 14	Linus 10

### Problem Statement 2: Table creation with border

Create a webpage that displays a running champion table list, which has first name, last name, and grade of champions.

## Running Champions list

Name		Grade
Jill	Smith	4
Eve	Jackson	7
Jill	Jackson	9
Eve	Smith	2

### Problem Statement 3: Report Card

Create a webpage that displays the student report card. The report card should have the basic details(name, grade, and address of the student), subject names with mark and total mark.

#### Student Report card

Name: Name	5
Address: door number,street,City, PIN, STATE	
<b>English</b> <b>Maths</b> <b>Science</b> <b>Social</b>	
80	88
79	92
<b>Total</b> <b>339</b>	

## Problem Statement 4: Shopping bill

Create a shopping bill with help of the following sample output.

Shopping bill

Invoice #123456789		18 January 2022		
Pay to:	Customer:			
Acme Billing Co. 123 Main St. Cityville, NA 12345		John Smith 321 Willow Way Southeast Northwestershire, MA 54321		
Name / Description	Qty.	@	Cost	
Paperclips	1000	0.01	10.00	
Staples (box)	100	1.00	100.00	
Subtotal		110.00		
Tax	8%	8.80		
Grand Total		Rs. 118.80		

## Problem Solution:

Problem Statement 1:

```
<!DOCTYPE html>
<html>
<body>
<h2>Table</h2>
<table style="width:100%">
<tr>
    <th>Person 1</th>
    <th>Person 2</th>
    <th>Person 3</th>
</tr>
<tr>
    <td>Emil</td>
    <td>Tobias</td>
    <td>Linus</td>
</tr>
<tr>
    <td>16</td>
    <td>14</td>
    <td>10</td>
</tr>
</table>
</body>
</html>
```

## Problem Statement 2:

```
<!DOCTYPE html>
<html>
<head>
    <title>HTML Tables</title>
</head>
<body>
    <h1>Running Champions list</h1>
    <table border="1" style="width:30%">
        <!--Header row-->
        <tr>
            <th colspan="2">Name</th>
            <th>Grade</th>
        </tr>
        <!--Data row 1-->
        <tr>
            <td>Jill</td>
            <td>Smith</td>
            <td>4</td>
        </tr>
        <!--Data row 2-->
        <tr>
            <td>Eve</td>
            <td>Jackson</td>
            <td>7</td>
        </tr>
        <!--Data row 3-->
        <tr>
            <td>Jill</td>
            <td>Jackson</td>
            <td>9</td>
        </tr>
        <!--Data row 4-->
        <tr>
            <td>Eve</td>
            <td>Smith</td>
            <td>2</td>
        </tr>
    </table>
</body>
</html>
```

### Problem Statement 3:

```
<!DOCTYPE html>
<html>
  <head>
    <title>HTML Tables</title>
  </head>
  <body>
    <table border="1">
      <!--Caption/ title for the table-->
      <caption>Student Report card</caption>
      <!--Row 1 defines the name and grade of the student-->
      <!--Total 4 columns are splitted into 3 and 1-->
      <tr>
        <td colspan="3">Name: Name</td>
        <td>5</td>
      </tr>
      <!--Row 2, all columns are merged-->
      <tr>
        <td colspan="4">
          Address:<br> door number,street,City, PIN, STATE
        </td>
      </tr>
      <!--Row 3, Defined as the heading to highlight them, no spanning is done-->
      <tr>
        <th>English</th>
        <th>Math</th>
        <th>Science</th>
        <th>Social</th>
      </tr>
      <!--Row 4, no spanning-->
      <tr>
        <td>80</td>
        <td>88</td>
        <td>79</td>
        <td>92</td>
      </tr>
      <!--Row 5, 4 columns are splitted into 3 and 1-->
      <tr>
        <th colspan="3">Total</th>
        <th>339</th>
      </tr>
    </table>
  </body>
</html>
```

#### Problem Statement 4:

```
<!DOCTYPE html>
<html>
<head>
    <title>HTML Tables</title>
</head>
<body>
    <table border="1">
        <!--Caption/ title for the table-->
        <caption>Shopping bill</caption>
        <!--Total 4 columns are splitted into 3 and 1-->
        <tr>
            <th colspan="3">Invoice #123456789</th>
            <th>18 January 2022</th>
        </tr>
        <!--Total 4 columns are splitted into 2 and 2-->
        <tr>
            <td colspan="2"><strong>Pay to:</strong><br> Acme Billing Co.<br> 123
                Main St.<br> Cityville, NA 12345</td>
            <td colspan="2"><strong>Customer:</strong><br> John Smith<br> 321
                Willow Way<br> Southeast Northwestershire, MA 54321</td>
        </tr>
        <!--no spanning is done the size of each column varies depending on the
        data length-->
        <tr>
            <th>Name / Description</th>
            <th>Qty.</th>
            <th>@</th>
            <th>Cost</th>
        </tr>
        <!--no spanning is done the size of each column varies depending on
        the data length of the headers row-->
        <tr>
            <td>Paperclips</td>
            <td>1000</td>
            <td>0.01</td>
            <td>10.00</td>
        </tr>
        <!--no spanning is done the size of each column varies depending on the
        data length of the headers row-->
        <tr>
```

```
<td>Staples (box)</td>
<td>100</td>
<td>1.00</td>
<td>100.00</td>
</tr>
<!--Total 4 columns are splitted into 3 and 1--&gt;
&lt;tr&gt;
&lt;th colspan="3">Subtotal</th>
<td>110.00</td>
</tr>
<!--Total 4 columns are splitted into 2, 1 and 1--&gt;
&lt;tr&gt;
&lt;th colspan="2">Tax</th>
<td>8%</td>
<td>8.80</td>
</tr>
<!--Total 4 columns are splitted into 3 and 1--&gt;
&lt;tr&gt;
&lt;th colspan="3">Grand Total</th>
<td>Rs. 118.80</td>
</tr>
</table>
</body>
</html>
```

## Minor Assignment

### Assignment - Resume Creation - 1

(This is a minor assignment and submission is not required. Will release solution next week so that you can self-evaluate)

#### Problem statement:

With your new gained knowledge in HTML elements, links, list, media, and table create a simple resume that has the following:

- Profile image
- Name as paragraph
- Your interest as an unordered list
- Your skills as an ordered list
- Your educational details and contact information as a table

#### NOTE:

- Make sure to use headings and paragraphs
- Add the links of your school and college in educational details

#### Sample output:

Resume															
															
<b>Your Name</b>															
<b>Interests</b>															
<ul style="list-style-type: none"><li>• Drawing</li><li>• Photography</li><li>• Design</li><li>• Programming</li><li>• Computer Science</li></ul>															
<b>Skills</b>															
<ol style="list-style-type: none"><li>1. Web Design with HTML</li><li>2. JavaScript</li><li>3. React JS</li></ol>															
<b>Education</b>															
<table border="1"><thead><tr><th>Education Type</th><th>Name</th><th>Website</th><th>Grade</th></tr></thead><tbody><tr><td>School</td><td>School Name</td><td><a href="#">School name</a></td><td>A</td></tr><tr><td>UG</td><td>College Name</td><td><a href="#">college name</a></td><td>B</td></tr></tbody></table>				Education Type	Name	Website	Grade	School	School Name	<a href="#">School name</a>	A	UG	College Name	<a href="#">college name</a>	B
Education Type	Name	Website	Grade												
School	School Name	<a href="#">School name</a>	A												
UG	College Name	<a href="#">college name</a>	B												
<b>Contact</b>															
<table border="1"><thead><tr><th>Phone</th><th>Email</th></tr></thead><tbody><tr><td>0987654321</td><td><a href="mailto:name@gmail.com">name@gmail.com</a></td></tr></tbody></table>				Phone	Email	0987654321	<a href="mailto:name@gmail.com">name@gmail.com</a>								
Phone	Email														
0987654321	<a href="mailto:name@gmail.com">name@gmail.com</a>														

### Grading Parameters:

Parameters	Rubrics
Media	10 - If added an image with alternate text for profile picture. 5 - Added only image without alternate text for profile picture. 0 - If no image is added for profile picture.
List	10 - If an unordered list and ordered list is used as specified in the problem statement. 5 - If any one type of list is used or they mismatch the specification in the problem statement. 0 - If no list is used.
Link	10 - Added link for both school and college inside the educational info table 0 - Links are not used
Table	10 - If both the educational info and contact info is done by using table with borders 5 - If tables are used without borders 0 - no tables are used

# Resume Creation I

With you new gained knowledge in HTML elements, links, list, media, and table create a simple resume that has the following:

- Profile image
- Name as paragraph
- Your interest as an unordered list
- Your skills as an ordered list
- Your educational details and contact information as a table

Sample output:

## Resume



**Your Name**

**Interests**

- Drawing
- Photography
- Design
- Programming
- Computer Science

**Skills**

1. Web Design with HTML
2. JavaScript
3. React JS

**Education**

<b>Education Type</b>	<b>Name</b>	<b>Website</b>	<b>Grade</b>
School	School Name	<a href="#">School name</a>	A
UG	College Name	<a href="#">college name</a>	B

**Contact**

<b>Phone</b>	<b>Email</b>
0987654321	<a href="mailto:name@gmail.com">name@gmail.com</a>

## Sample Code:

```
<!DOCTYPE html>

<html>
  <head>
    <title>replit</title>
  </head>
  <body>
    <h1>Resume</h1>
    <!--include about your image link after uploading the image-->
    </img>
    <!-- Enter your name-->
    <h4>Your Name</h4>
    <p style="color:blue">Interests</p>
    <ul>
      <li>Drawing</li>
      <li>Photography</li>
      <li>Design</li>
      <li>Programming</li>
      <li>Computer Science</li>
    </ul>
    <p style="color:blue">Skills</p>
    <ol>
      <!--if needed more Skills can be added in the list-->
      <li>Web Design with HTML</li>
      <li>JavaScript</li>
      <li>React JS</li>
    </ol>

    <p style="color:blue">Education</p>
    <table border="1" width="30%">
      <!--Header row-->
      <tr>
        <th>Education Type</th>
        <th>Name</th>
        <th>Website</th>
        <th>Grade</th>
      </tr>
```

```
<!--Data row 1-->
<tr>
    <td>School</td>
    <td>School Name</td>
    <td><a href="https://kvsangathan.nic.in/" target="_blank">School
name</a></td>
    <td>A</td>
</tr>
<!--Data row 2-->
<tr>
    <td>UG</td>
    <td>College Name</td>
    <td><a href="https://kvsangathan.nic.in/" target="_blank">college
name</a></td>
    <td>B</td>
</tr>
</table>
<p style="color:blue">Contact</p>
<table border="1" width="30%">
<!--Header row-->
<tr>
    <th>Phone</th>
    <th>Email</th>
</tr>
<!--Data row 1-->
<tr>
    <td>0987654321</td>
    <td>name@gmail.com</td>
</tr>
</table>
</body>
</html>
```

**NOTE:**

- The image needs to be added to the folder and the relative path of that image needs to be included as the value of the **src** attribute of the **img** tag.



*Files in project folder*

## Grouping Element in HTML

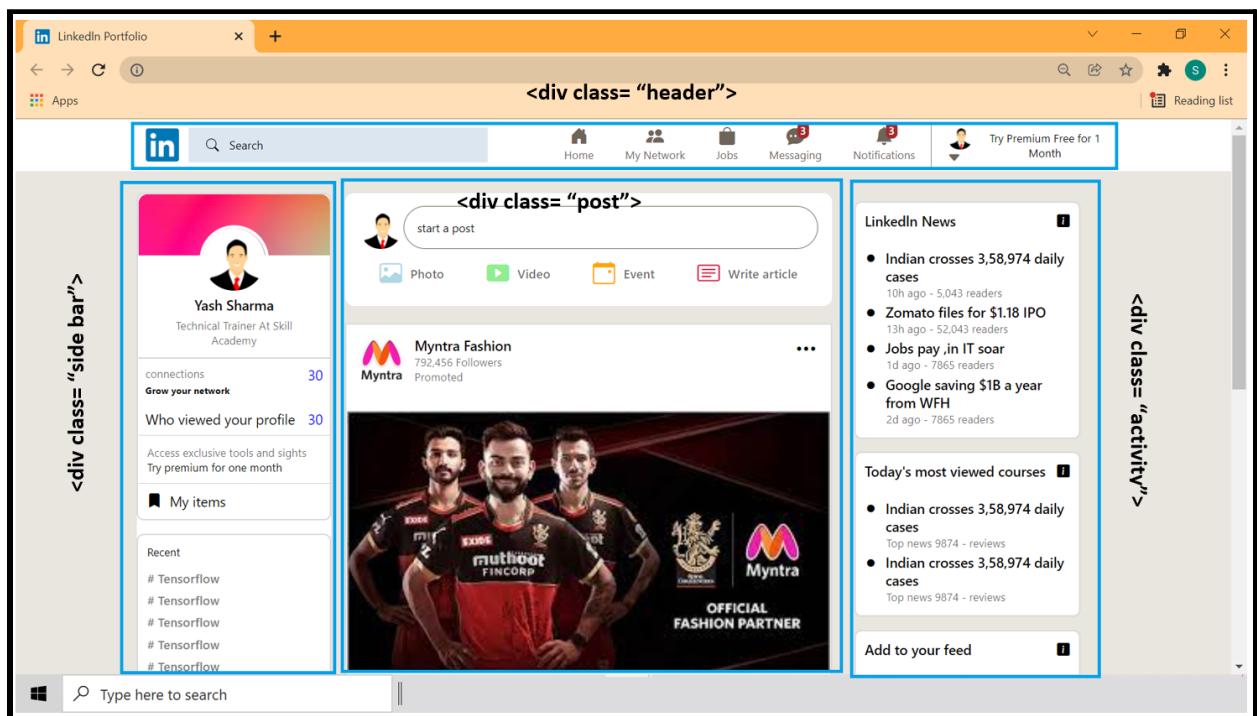
### Topics Covered:

- What is the <div> tag and its purpose in HTML?
- What is the <span> tag and its purpose in HTML?
- How is the <div> different from <span>?

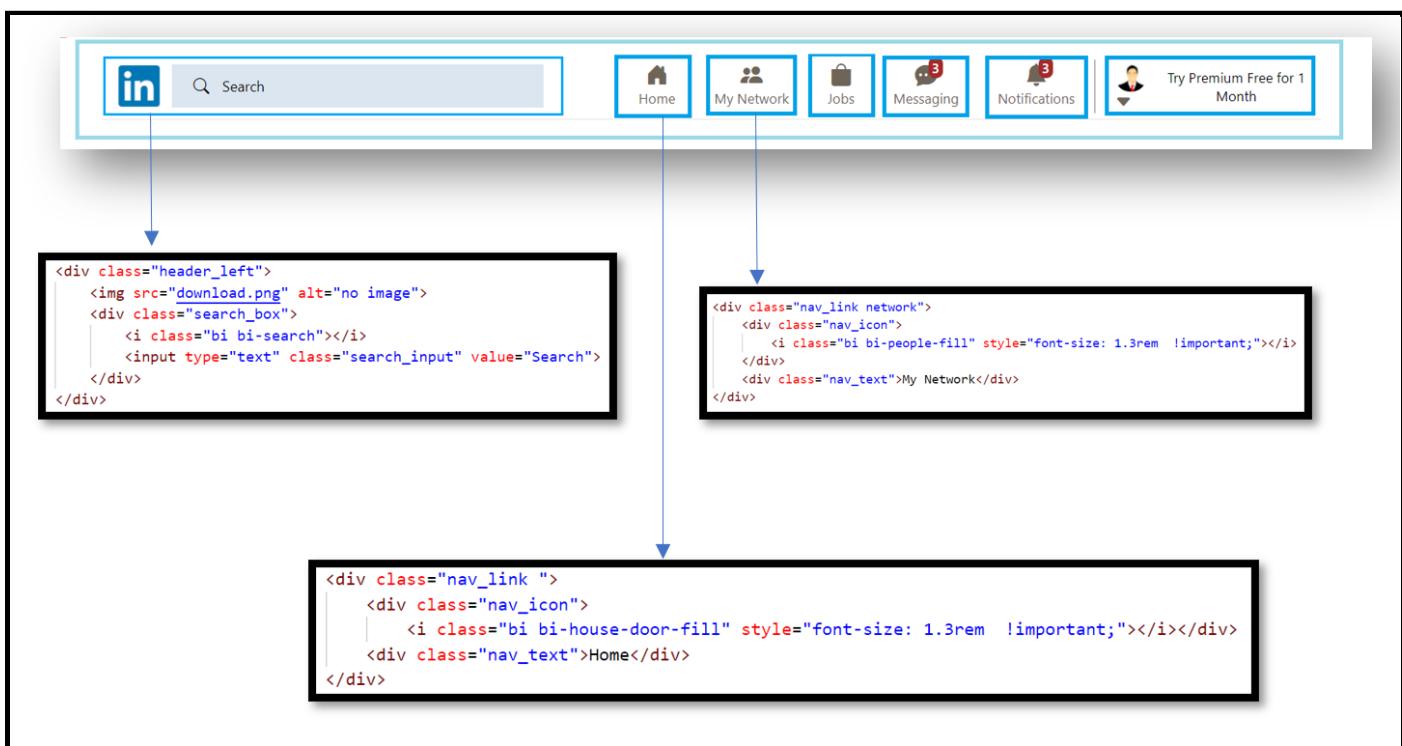
### Topics in Detail:

#### <div> tag:

- <div> tag in HTML defines the division/section in the document.
- <div> tag is the container of HTML elements.
- It is easy to apply styles and scripts to the HTML elements when they are inside the <div> tag with help of the attributes of the <div> tag.
- The **class** and **id** attributes help in styling and applying scripts to the HTML elements inside the <div> </div>.
- <div> is a block-level element, so there will be a line before and after the <div> </div>.
- <div> is the most important tag in web development, because it helps us to separate the content/data in the web page, and helps us to apply different styles and behaviors to different divisions.
- <div> tag is used to group the large section of HTML elements together.
- <div> tag encapsulates HTML elements and divides the HTML document into sections.
- <div> tag cannot be used inside <p> element.
- Example:



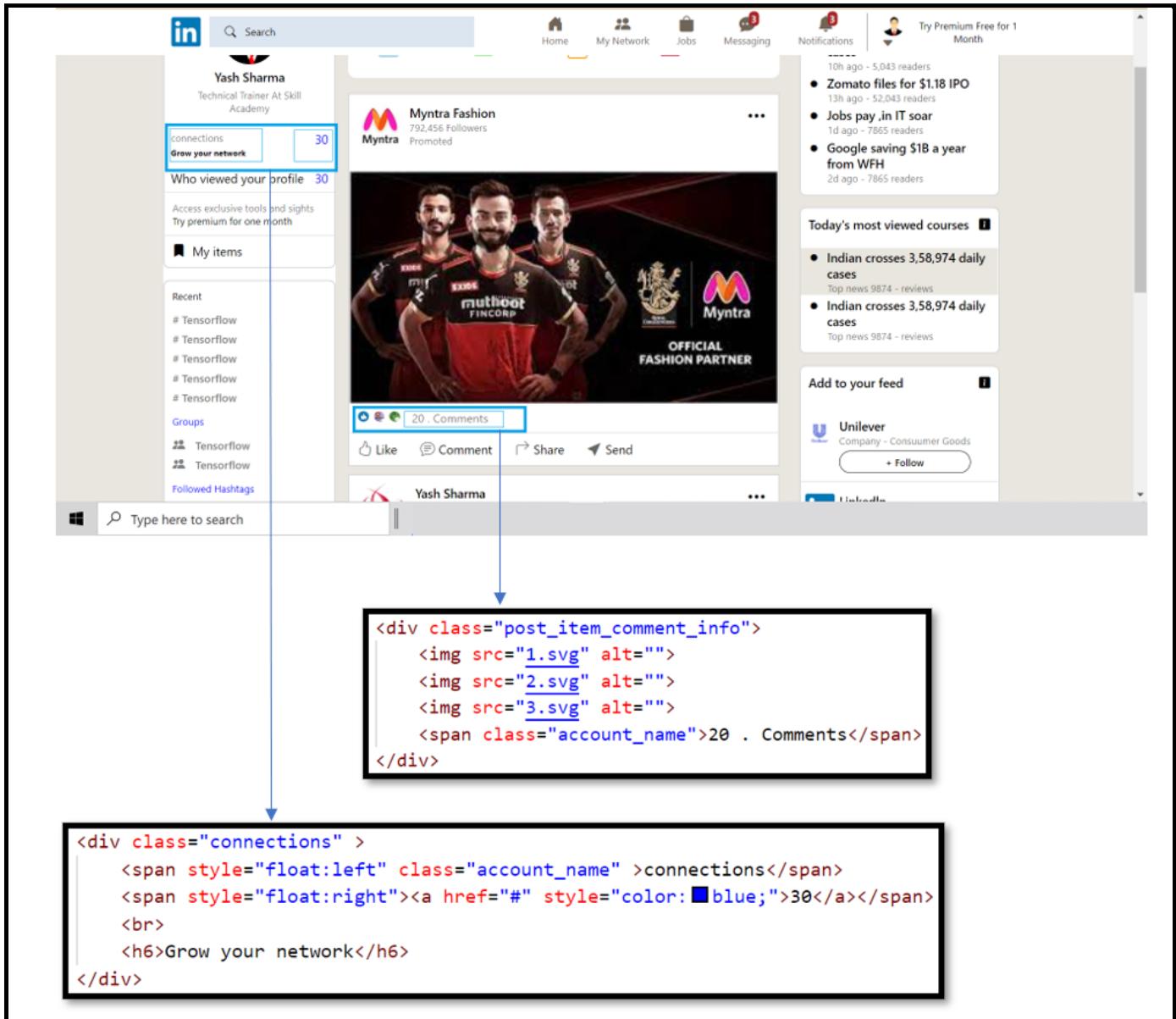
Divisions in the web page



Few sub divisions inside the `<div class= "header"> </div>`

## <span> tag:

- <span> tag is an **inline container**.
- <span> tag is used to markup part of text/ content in an element.
- <span> tag also helps to apply styles and scripts easily with help of id and class attributes similar to <div> tag, but <div> is a block-level element and <span> is an inline element.
- <span> can be used inside <p> tags, to apply different styles to part of the content in the <p> tag.
- Example:



```

<div class="post_item_comment_info">
    
    
    
    <span class="account_name">20 . Comments</span>
</div>

```

```

<div class="connections" >
    <span style="float:left" class="account_name" >connections</span>
    <span style="float:right"><a href="#" style="color: blue;">30</a></span>
    <br>
    <h6>Grow your network</h6>
</div>

```

*span tags used inside the div tags in the web page*

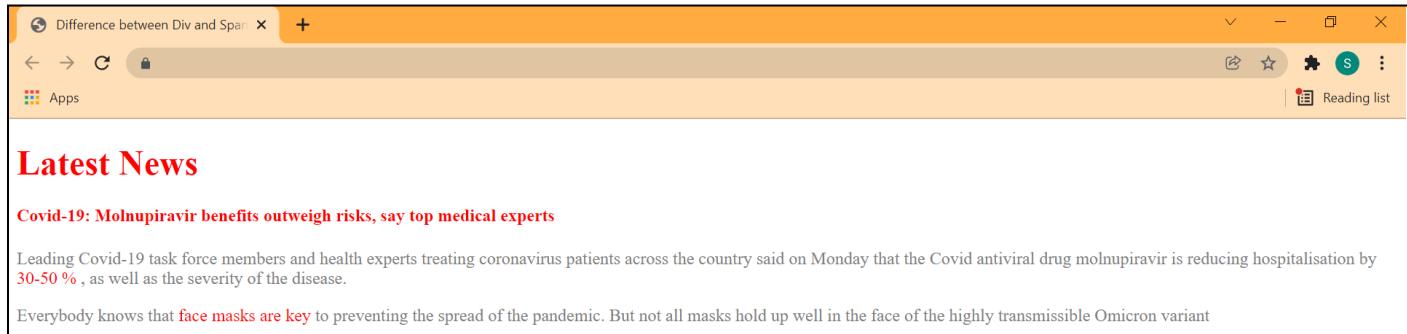
## Difference between div and span tags:

<div>	<span>
The <div> tag is a block level element.	The <span> tag is an inline element.
It is best to attach it to a section of a web page.	It is best to attach a CSS to a small section of a line in a web page.
It accepts/supports <b>align</b> attribute.	It does not accept/support <b>align</b> attribute.
This tag should be used to wrap a section, for highlighting that section.	This tag should be used to wrap any specific word that you want to highlight in your webpage.
Used for CSS based HTML Layouts.	Used to stylise text.
<div> tag displayed in a new line.	<span> tag does not begin a new line.

# Practice code - Grouping Elements

## Problem Statement 1: Span

Create a simple paragraph and differentiate certain words in the paragraph using the `<span>` element.



## Problem Statement 2: Div

Create a web page with heading and paragraph. Wrap them with `<div>` element and add styles to it.

## The div element

**This is a heading in a div element**

This is some text in a div element.

## Problem Statement 3: Div and simple external styles

Create a webpage that has multiple HTML elements like headings, paragraphs, table, list... separate the elements using `<div>` element and add simple styles to them.

The screenshot shows a web browser window titled "DIV and SPAN". The address bar displays "div-and-span.sdharni.repl.co". The page content is as follows:

## Running Champions

In our school we conducted **Intra school Running competitions**, where students from all school participated. Some of our student have won the competition. List of students **who won the competitions** are as follows:

Name	Grade
Jill	Smith
Eve	Jackson

Rank of winners can be seen in the following list

1. Jack Wills
2. Jill Smith
3. Mark William
4. Eve Jackson

## Problem Statement 4: Portfolio using `<div>` and `<span>`

Create a simple portfolio web page with multiple sections and add simple styles to them using `<div>` and `<span>` elements.

The screenshot shows a web browser window titled "portfolio". The address bar displays "portfolio.sdharni.repl.co". The page content is as follows:

## Hi I'm Kunal

### About me

Thanks for visiting my web page. My name is Kunal. I've completed my graduation in the year **2019** in the stream **Electronics and Communication Engineering** in IIT Roorkee.

### My Experience

Right after my graduation I started my career as a **Software Engineer**. As a Software Engineer I've a work experience of 2.8 years.

### My Skill set

1. HTML, CSS, JS
2. React
3. Python Flask
4. Database

### My hobbies

- Drawing
- Photography
- Design
- Programming
- Computer Science

## Problem Solutions:

### Problem statement 1: Span

```
<!DOCTYPE html>
<html>
<head>
    <title>Difference between Div and Span</title>
    <!--Apply styles using the class names this is known as class
selector, you will learn about this in detail -->
    <!-- Same style is applied to class header and highlights-->
    <style>
        .header, .highlights{
            color: red;
        }
        .content{
            color: grey;
        }
    </style>

</head>
<body>
    <!-- the main class encapsulates header and content divisions, if any
style is applied to main class then those styles will be applicable to
header and content divisions-->
    <div class="main">
        <!-- header class division-->
        <div class="header">
            <h1>Latest News</h1>
            <h4>Covid-19: Molnupiravir benefits outweigh risks, say top
medical experts</h4>
        </div>
        <!-- content class division-->
        <div class="content">
            <p>
                Leading Covid-19 task force members and health experts treating
coronavirus patients across the country said on Monday that the Covid
antiviral drug molnupiravir is reducing hospitalisation by
                <!-- the span is included inside the paragraph and a seperate
```

```

style is applied to it-->
    <span class="highlights"> 30-50 % </span>, as well as the
severity of the disease.
</p>
<p>
    Everybody knows that
    <!-- the span is included inside the paragraph and a seperate
style is applied to it--><span class="highlights">face masks are key
</span> to preventing the spread of the pandemic. But not all masks hold
up well in the face of the highly transmissible Omicron variant
</p>
</div>
</div>
</body>
</html>

```

## Problem statement 2: Div

```

<!DOCTYPE html>
<html>
<head>
</head>
<body>

<h1>The div element</h1>

<div style="border: 5px outset red; background-color: pink; text-align:
center;">
    <h2>This is a heading in a div element</h2>
    <p>This is some text in a div element.</p>
</div>

</body>
</html>

```

### Problem statement 3: Div and simple external styles

```
<!DOCTYPE html>
<html>
<head>
    <!--Title of the web page-->
    <title>DIV and SPAN</title>
    <!--styles given using the class name of the divisions-->
    <style>
        .main{
            text-align: justify;
        }
        .highlights{
            color: red;
            font-weight: bold;
        }
        .content{
            background-color: lightblue;
        }
        .table{
            background-color: lightgreen;
        }
        .lists{
            background-color: lightpink;
        }
    </style>
</head>
<body>
    <div class="main">
        <div class="content">
            <!--Content with highlights-->
            <h1>Running Champions</h1>
            <p>In our school we conducted <span class="highlights">Intra
            school Running competitions</span>, where students from all school
            participated. Some of our student have won the competition. List of
```

```
students<span class="highlights"> who won the competitions </span> are as follows:</p>
</div>
<div class="table">
  <table border="1" style="width:30%">
    <!--Header row-->
    <tr>
      <th colspan="2">Name</th>
      <th>Grade</th>
    </tr>
    <!--Data row 1-->
    <tr>
      <td>Jill</td>
      <td>Smith</td>
      <td>4</td>
    </tr>
    <!--Data row 2-->
    <tr>
      <td>Eve</td>
      <td>Jackson</td>
      <td>7</td>
    </tr>
  </table>
</div>
<div class="lists">
  <p>Rank of winners can be seen in the following list</p>
  <ol>
    <!-- ordered list-->
    <li>Jack Wills</li>
    <li>Jill Smith</li>
    <li>Mark William</li>
    <li>Eve Jackson</li>
  </ol>
</div>
</div>
</body>
</html>
```

## Problem statement 4: Portfolio using <div> and <span>

```
<!DOCTYPE html>
<html>
<head>
    <!--title of the web page-->
    <title>portfolio</title>
    <!--styles for classes-->
    <style>
        .intro{
            background-color: lightblue;
        }
        .about{
            background-color: lightgreen;
        }
        .experience{
            background-color: lightpink;
        }
        .skills{
            background-color: orange;
        }
        .hobbies{
            background-color: skyblue;
        }
        .highlights{
            color: red;
            font-weight: bold;
        }
    </style>
</head>
<body>
    <!--Main division-->
    <div class="main">
        <!--seperate division for intro-->
        <div class="intro">
            <h2>Hi I'm Kunal</h2>
        </div>
        <!--seperate division for about content and some part of the text
        are highlighted using span-->
```

```
<div class="about">
    <h2>About me</h2>
    <p>Thanks for visiting my web page. My name is Kunal. I've completed my graduation in the year <span class="highlights">2019</span> in the stream <span class="highlights">Electronics and Communication Engineering</span> in <span class="highlights">IIT Roorkee.</span></p>
</div>
<!--seperate division for experience content and some part of the text are highlighted using span--&gt;
&lt;div class="experience"&gt;
    &lt;h2&gt;My Experience&lt;/h2&gt;
    &lt;p&gt;Right after my graduation I started my career as a &lt;span class="highlights"&gt; Software Engineer&lt;/span&gt;. As a Software Engineer I've a work experience of 2.8 years.&lt;/p&gt;
&lt;/div&gt;
<!--seperate division for skill set listed in order--&gt;
&lt;div class="skills"&gt;
    &lt;h2&gt;My Skill set&lt;/h2&gt;
    &lt;ol&gt;
        &lt;li&gt;HTML, CSS, JS&lt;/li&gt;
        &lt;li&gt;React&lt;/li&gt;
        &lt;li&gt;Python Flask&lt;/li&gt;
        &lt;li&gt;Database&lt;/li&gt;
    &lt;/ol&gt;
&lt;/div&gt;
<!--seperate division for hobbies listed in unordered list--&gt;
&lt;div class="hobbies"&gt;
    &lt;h2&gt;My hobbies&lt;/h2&gt;
    &lt;ul&gt;
        &lt;li&gt;Drawing&lt;/li&gt;
        &lt;li&gt;Photography&lt;/li&gt;
        &lt;li&gt;Design&lt;/li&gt;
        &lt;li&gt;Programming&lt;/li&gt;
        &lt;li&gt;Computer Science&lt;/li&gt;
    &lt;/ul&gt;
&lt;/div&gt;
&lt;/div&gt;
&lt;/body&gt;
&lt;/html&gt;</pre>
```



# HTML Forms

## Topics Covered:

- What are HTML Forms and its purpose?
- What are the important attributes of form tag?
- What are input elements and their types?
- What are the important attributes of input elements?
- What are the important HTML elements included in Forms?

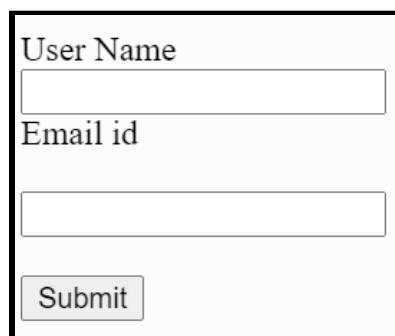
## Topics in Detail:

### HTML Forms:

- HTML Form is a part of a document, used to collect and store user information/data.
- The collected information is often sent to the server for processing.
- Form can contain the input elements like input text boxes, input text areas, labels, checkboxes, radio buttons, submit button, etc...
- The form can contain different elements for collecting username, password, email id, Date of birth, check box, radio buttons...
- HTML Forms can be created by using <form></form> tag.
- Code:

```
<form>
  <label for="username">User Name</label><br>
  <input type="text" name="username">
  <br>
  <label for="email_id">Email id</label><br><br>
  <input type="email" name="email_id">
  <br><br>
  <input type="submit" value="Submit">
</form>
```

- Output:



The image shows a screenshot of a web browser displaying a simple HTML form. The form consists of two text input fields and a submit button. The first field is labeled "User Name" and the second is labeled "Email id". Both fields have placeholder text inside them. Below the fields is a "Submit" button.

## HTML Form Attributes:

Attributes	Purpose											
action	Defines the action to be performed when the form is submitted.											
method	Defines the HTTP method to be used while submitting the form. <table border="1" data-bbox="453 481 1416 1039"> <thead> <tr> <th>Method</th><th>Description</th></tr> </thead> <tbody> <tr> <td>get</td><td>           After submission of form, form values will be visible in the address bar of the browser tab. So for sending sensitive information the get method should not be used.            Length of the url is limited.(2048 characters)            Form submission with get method can be bookmarked.         </td></tr> <tr> <td>post</td><td>           After submitting the form the values will not be visible in the address bar.            No size limitations, large amounts of data can be sent.            Form submission with post method cannot be bookmarked.         </td></tr> </tbody> </table>		Method	Description	get	After submission of form, form values will be visible in the address bar of the browser tab. So for sending sensitive information the get method should not be used. Length of the url is limited.(2048 characters) Form submission with get method can be bookmarked.	post	After submitting the form the values will not be visible in the address bar. No size limitations, large amounts of data can be sent. Form submission with post method cannot be bookmarked.				
Method	Description											
get	After submission of form, form values will be visible in the address bar of the browser tab. So for sending sensitive information the get method should not be used. Length of the url is limited.(2048 characters) Form submission with get method can be bookmarked.											
post	After submitting the form the values will not be visible in the address bar. No size limitations, large amounts of data can be sent. Form submission with post method cannot be bookmarked.											
target	Defines the place where the response(received after submitting the form) is to be displayed. <table border="1" data-bbox="677 1199 1215 1516"> <thead> <tr> <th>Value</th><th>Response displayed in</th></tr> </thead> <tbody> <tr> <td>_blank</td><td>New tab.</td></tr> <tr> <td>_self</td><td>Current window.</td></tr> <tr> <td>_parent</td><td>Parent frame.</td></tr> <tr> <td>_top</td><td>Full body of the window.</td></tr> </tbody> </table>		Value	Response displayed in	_blank	New tab.	_self	Current window.	_parent	Parent frame.	_top	Full body of the window.
Value	Response displayed in											
_blank	New tab.											
_self	Current window.											
_parent	Parent frame.											
_top	Full body of the window.											
autocomplete	Defines whether the form should have autocomplete on or off. <table border="1" data-bbox="453 1657 1416 1784"> <tbody> <tr> <td>on</td><td>Browser automatically completes values based on previous inputs.</td></tr> <tr> <td>off</td><td>Browser will not support autocomplete functionality.</td></tr> </tbody> </table>		on	Browser automatically completes values based on previous inputs.	off	Browser will not support autocomplete functionality.						
on	Browser automatically completes values based on previous inputs.											
off	Browser will not support autocomplete functionality.											

## Input element in HTML Forms:

The `<input>` element is used to get input from the user. The `<input>` element can be displayed in many ways depending on the **type** attribute. The default value of the type attribute is **text**.

Some of the important values of type attribute are described as follows:

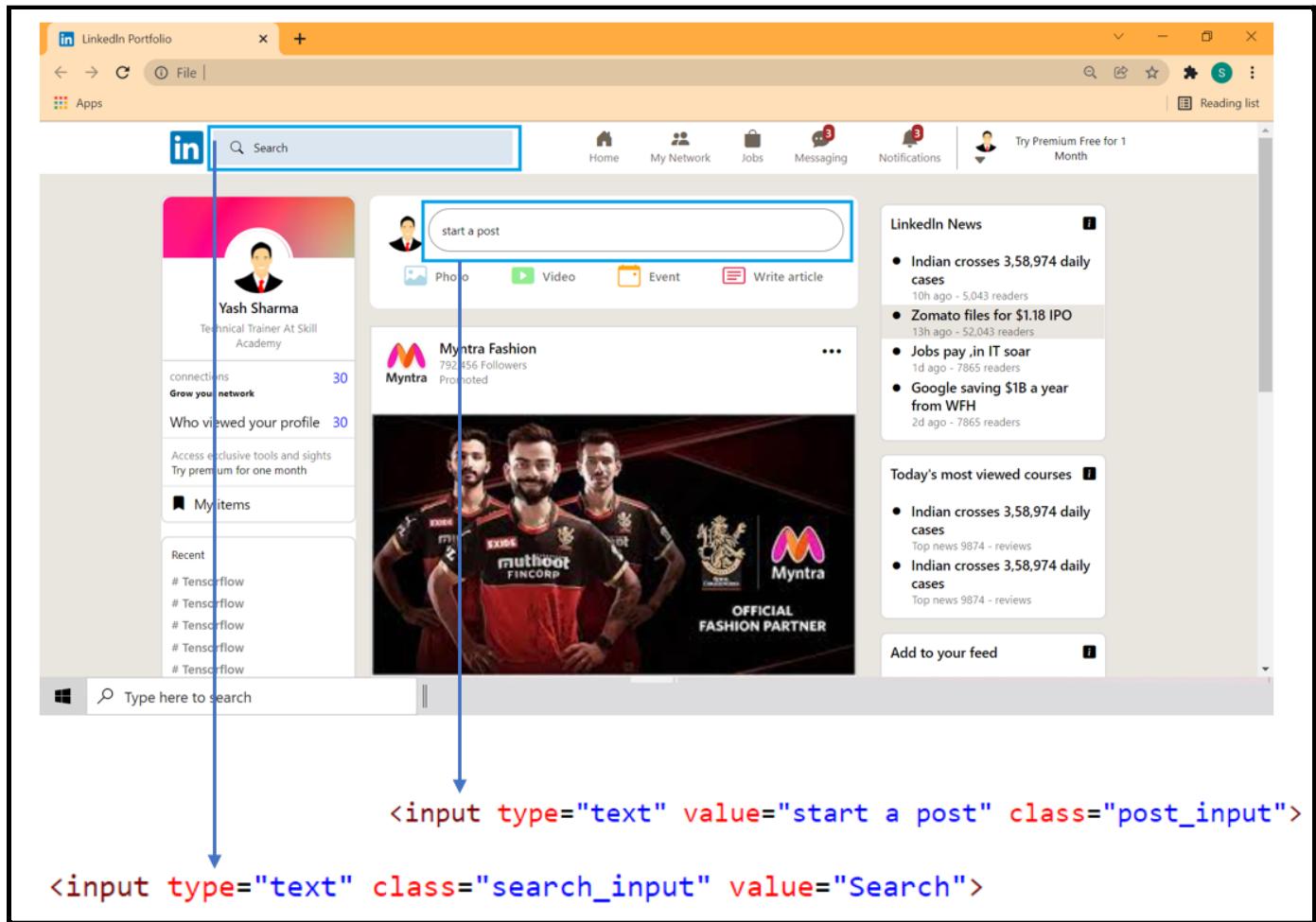
<b>type attribute values</b>	<b>Description</b>
<code>&lt;input type= "text"&gt;</code>	Text input field
<code>&lt;input type= "email"&gt;</code>	The user input should contain an email address when submitting the email validation will be done automatically.
<code>&lt;input type= "submit"&gt;</code>	Displays a submit button, for submitting a form.
<code>&lt;input type= "button"&gt;</code>	Displays a clickable button.
<code>&lt;input type= "radio"&gt;</code>	Displays radio button, to select one of multiple options.
<code>&lt;input type= "checkbox"&gt;</code>	Displays checkbox, to select zero/one/multiple options.
<code>&lt;input type= "date"&gt;</code>	The user field should contain a date, it does date validations
<code>&lt;input type= "number"&gt;</code>	Numeric input field, the restriction can be made to accept only a specific set of numbers.
<code>&lt;input type= "tel"&gt;</code>	The user input should contain a telephone number.

## Attributes of input element:

Some of the important input attributes are as follows:

<b>Attribute</b>	<b>Values</b>	<b>Description</b>
class	Name of the class	Specifies one or more class names for the element. Used to apply styles.
id	Unique id of the element	Used to apply styles and scripts.
name	Name of the element	Used to refer to the element in JavaScript.
placeholder	Any name	Specifies a short hint of the expected value.
required	When present specifies, the input field must be filled before submitting the form.	
type	text, number, email, button...	Specifies the type of input that the user should enter before submitting the form.

## Input elements in Static LinkedIn page:



## Important HTML elements included in Forms:

### <textarea>

- The text area is a multiple-line text input field.
- The text area is often used in a form to collect user information like comments, messages, reviews, etc...
- Example:

```
<textarea rows="5" cols="50" name="Description" id="Description"></textarea>
```

- The Attributes rows and cols are used to specify the size of the text area.

### <label>

- Label defines what to be entered in the input fields.
- Labels are optional in forms.
- Example:

```
<label for="username">User Name</label>
```

- The attribute for is used to define for which input field this label is used.

### <button>

- The <button> tag defines the clickable button.
- The <button> tag also has the type and class attribute which is the same as the <input> tag.
- Example:

```
<button type="button" onclick="alert('Hello world!')>Click Me!</button>
```

- The attribute onclick defines what should happen on the click of a button. Usually it is used to call JavaScript functions.

# Practice code - Forms

## Problem Statement 1: Simple form with input elements

Create a simple form with labels and input elements with different types: text, email, radio, checkbox, and submit.

User Name	<input type="text"/>
Email id	<input type="text"/>
Gender	<input type="radio"/> Female <input type="radio"/> Male
Skills	<input type="checkbox"/> HTML <input type="checkbox"/> CSS <input type="checkbox"/> JavaScript
<input type="button" value="Submit"/>	

## Problem Statement 2: Validate Form

Create a form that validates the input elements using the **required** attribute, and display an alert on the click event of the **button**.

User Name	<input type="text" value="Enter your name"/>
Email id	<input type="text" value="Enter your email id"/>
Password	<input type="text" value="Enter your password"/>
<input type="button" value="Validate"/>	

Server validating
<input type="button" value="OK"/>

*Alert on the click of a button*

### Problem Statement 3: Textarea

Create a form that has a textarea with 5 rows and a submit button.

The diagram shows a simple form layout. At the top, the word "Textarea" is prominently displayed in a large, bold, dark blue font. Below this, the text "About you" is written in a smaller, dark blue font. Underneath the text is a large, empty rectangular box with a thin black border, representing a textarea. At the bottom of the form is a single button labeled "Submit" in a dark blue font, enclosed in a light gray rounded rectangle.

### Problem Statement 4: Survey Form

Create a survey form with input text box (type = text, number, email, password...), text area, dropdown, labels, and button. Use placeholder attributes.

Name	<input type="text" value="Enter Your Name"/>
Email	<input type="text" value="test@gmail.com"/>
Roll No	<input type="text" value="roll"/>
How do you rate our courses?	
<input type="button" value="Excellent ▾"/>	
Your Favorite Topic in HTML	
<input type="checkbox"/> Structural Elements <input type="checkbox"/> Links and List <input type="checkbox"/> HTML Media <input type="checkbox"/> HTML Table <input type="checkbox"/> Grouping Elements <input type="checkbox"/> Forms	
Do you like the HTML course?	
<input type="radio"/> Yes <input type="radio"/> No	
Few words about course	
<input type="text"/>	
<input type="button" value="Submit"/>	

## Problem Solutions:

### Problem statement 1: Simple form

```

<!DOCTYPE html>
<html>
<body>
<form>
  <!--label included to define what should be given as the input-->
  <label for="username">User Name</label><br>
  <!--input type as text-->
  <input type="text" name="username"> <br><br>
  <!--label included to define what should be given as the input-->
  <label for="email_id">Email id</label><br>
  <!--input type as email-->
  <input type="email" name="email_id"> <br><br>
  <!--label included to define what should be given as the input-->

```

```

<label>Gender</label><br>
<!--input type as radio button-->
<input type="radio" name="gender" value="Female"> Female <br>
<input type="radio" name="gender" value="Male"> Male <br><br>
<!--label included to define what should be given as the input-->
<label>Skills</label> <br>
<!--input type as checkbox with multiple choice-->
<input type="checkbox" name="skill1" value="HTML">HTML <br>
<input type="checkbox" name="skill2" value="CSS">CSS <br>
<input type="checkbox" name="skill3" value="JS">JavaScript<br><br>
<!--input type as submit this is act as a button-->
<input type="submit" value="Submit">
</form>
</body>
</html>

```

## Problem statement 2: Validate form

```

<!DOCTYPE html>
<html>
<body>
<form>
    <!-- label for getting user information-->
    <label for="username">User Name</label><br>
    <!--input element - mandatory field -->
    <input type="text" name="username" required placeholder="Enter your
name">
    <br><br>
    <!-- label for getting user information-->
    <label for="email_id">Email id</label><br>
    <!--input element - mandatory field -->
    <input type="email" name="email_id" required placeholder="Enter
your email id">
    <br><br>

```

```

<!-- label for getting user information-->
<label for="password">Password</label><br>
<!--input element - mandatory field -->
<input type="password" name="password" required placeholder="Enter
your password">
<br><br>
<!--button is used with alert function -->
<button onclick="alert('Server validating')">Validate</button>
</form>
</body>
</html>

```

### Problem statement 3: Text area

```

<!DOCTYPE html>
<html>
<body>

<h2>Textarea</h2>

<p>About you</p>

<form action="/action_page.php">
  <textarea name="message" rows="5"></textarea>
  <br>
  <input type="submit">
</form>

</body>
</html>

```

### Problem statement 4: Survey form

```

<!DOCTYPE html>
<html>

```

```
<head>
    <title>HTML Forms</title>
</head>
<body>
    <form>
        <!-- label for defining user information-->
        <label id="name-label" for="name">Name</label> <br>
        <!-- input with required fields -->
        <input type="text" name="name" id="name" placeholder="Enter Your
Name" required> <br><br>
        <!-- label for defining user information-->
        <label id="email-label" for="email">Email</label> <br>
        <!-- input with required fields -->
        <input type="email" name="email" id="email"
placeholder="test@gmail.com" required> <br><br>
        <!-- label for defining user information-->
        <label id="number-label" for="number">Roll No</label> <br>
        <!-- input with required fields -->
        <input type="number" name="number" id="number" placeholder="roll"
min="0" max="100" required> <br><br>
        <!-- label for defining user information-->
        <label for="drop-down">How do you rate our courses?</label> <br>
        <!-- drop-down -->
        <select name="drop-down" id="drop-down">
            <option value="Excellent">Excellent
            </option>
            <option value="Good">Good
            </option>
            <option value="Fair">Fair
            </option>
            <option value="Poor">Poor
            </option>
        </select> <br><br>
        <!-- label for defining user information-->
        <label>Your Favorite Topic in HTML</label> <br>
```

```
<!-- checkbox -->
<input type="checkbox" name="topic1"
value="Structuralelements">Structural Elements <br>
<input type="checkbox" name="topic2" value="LinksandList">Links and
List <br>
<input type="checkbox" name="topic3" value="media">HTML Media<br>
<input type="checkbox" name="topic4" value="tables">HTML Table<br>
<input type="checkbox" name="topic5" value="groupelements">Grouping
Elements<br>
<input type="checkbox" name="topic6" value="forms">Forms<br><br>
<!-- label for defining user information-->
<label>Do you like the HTML course?</label> <br>
<!-- radio button -->
<input type="radio" name="course" value="yes"> Yes
<input type="radio" name="course" value="no"> No <br><br>
<!-- label for defining user information-->
<label>Few words about course</label> <br>
<!-- text area -->
<textarea rows="5" cols="50" name="Description"
id="Description"></textarea> <br><br>
<!--button with alert-->
<button type="button" onclick="alert('Validating')">Submit</button>
</form>
</body>
</html>
```

## Minor Assignment

### Assignment - Resume Creation - 2

(This is a minor assignment and submission is not required. Will release solution next week so that you can self-evaluate)

#### Problem statement:

With your new gained knowledge in HTML grouping elements, forms and simple styles take your resume to next level by adding the following:

- Add “About” section in your resume by highlighting some words using the `<span>` element
- Wrap all the sections (Name, About, Interest, Skills, Education, Contact..) inside a `<div>` element and add a text color to all divisions.
- Add a **form** that has a text area and a submit button, that helps the resume reader to connect with you

#### Sample output:

<b>Resume</b>															
															
<b>Your Name</b> I am a punctual and motivated individual who is able to work in a busy environment and produce high standards of work. I am an excellent team worker and am able to take instructions from all levels and build up good working relationships with all colleagues. I am flexible, reliable and possess excellent time keeping skills. I am a dedicated, organized and methodical individual. I have good interpersonal skills, am an excellent team worker and am keen and very willing to learn and develop new skills. I am reliable and dependable and often seek new responsibilities within a wide range of employment areas. I have an active and dynamic approach to work and getting things done. I am determined and decisive. I identify and develop opportunities.															
<b>Interests</b> • Drawing • Photography • Design • Programming • Computer Science															
<b>Skills</b> 1. Web Design with HTML 2. JavaScript 3. React JS															
<b>Education</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Education Type</th> <th>Name</th> <th>Website</th> <th>Grade</th> </tr> </thead> <tbody> <tr> <td>School</td> <td>School Name</td> <td>School name</td> <td>A</td> </tr> <tr> <td>UG</td> <td>College Name</td> <td>college name</td> <td>B</td> </tr> </tbody> </table>				Education Type	Name	Website	Grade	School	School Name	School name	A	UG	College Name	college name	B
Education Type	Name	Website	Grade												
School	School Name	School name	A												
UG	College Name	college name	B												
<b>Contact</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Phone</th> <th>Email</th> </tr> </thead> <tbody> <tr> <td>0987654321</td> <td>name@gmail.com</td> </tr> </tbody> </table>				Phone	Email	0987654321	name@gmail.com								
Phone	Email														
0987654321	name@gmail.com														
<b>Connect with me</b> Add your message here: <div style="border: 1px solid #ccc; height: 40px; width: 100%; margin-bottom: 5px;"></div> <input style="width: 100px; height: 20px; border: 1px solid #ccc; border-radius: 5px; padding: 2px;" type="button" value="Submit"/>															

## Grading Parameters:

Parameters	Rubrics
Inline element	10 - Use of <span> element to highlight certain words in the “About” section. 0 - If no <span> element is used.
Division	10 - If all the sections in the resume are separated using the <div> section and styles are applied for each section. 5 - If only the sections are separated using <div> but no styles are added to it. 0 - No <div> element is used.
Form	10 - A contact form with a text area and a submit button is created at the end of the resume. 0 - No form is added at the end.

1.

## Resume Creation II

With you new gained knowledge in HTML grouping elements, forms and simple styles take your resume to next level by adding the following:

- Add “About” section in your resume by highlighting some words using the `<span>` element
- Wrap all the sections (Name, About, Interest, Skills, Education, Contact..) inside a `<div>` element and add a text color to all divisions.
- Add a **form** that has a text area and a submit button, that helps the resume reader to connect with you

Sample output:

### Resume



**Your Name**

I am a punctual and motivated individual who is able to work in a busy environment and produce high standards of work. I am an excellent team worker and am able to take instructions from all levels and build up good working relationships with all colleagues. I am flexible, reliable and possess excellent time keeping skills. I am a dedicated, organized and methodical individual. I have good interpersonal skills, am an excellent team worker and am keen and very willing to learn and develop new skills. I am reliable and dependable and often seek new responsibilities within a wide range of employment areas. I have an active and dynamic approach to work and getting things done. I am determined and decisive. I identify and develop opportunities.

**Interests**

- Drawing
- Photography
- Design
- Programming
- Computer Science

**Skills**

1. Web Design with HTML
2. JavaScript
3. React JS

**Education**

Education Type	Name	Website	Grade
School	School Name	School name	A
UG	College Name	college name	B

**Contact**

Phone	Email
0987654321	name@gmail.com

**Connect with me**

Add your message here:

## Sample Code:

```
<!DOCTYPE html>

<html>
  <head>
    <title>replit</title>
  </head>
  <body>
    <h1>Resume</h1>
    <div style="color:green;">
      <!--include about your image link after uploading the image-->
      </img>
      <!-- Enter your name-->
      <h4>Your Name</h4>
    </div>
    <div>
      <p>
        I am a punctual and <span style="color:blue">motivated individual
      </span>who is able to work in a busy environment and produce high standards
      of work. I am an <span style="color:blue">excellent team worker</span> and
      am able to take instructions from all levels and build up <span
      style="color:blue">good working relationships </span>with all colleagues. I
      am <span style="color:blue">flexible, reliable and possess excellent time
      keeping skills</span>. I am a dedicated, organized and methodical
      individual. I have good interpersonal skills, am an excellent <span
      style="color:blue">team worker </span>and am keen and very willing to learn
      and develop new skills. I am reliable and dependable and often seek new
      responsibilities within a wide range of employment areas. I have an active
      and dynamic approach to work and getting things done. I am determined and
      decisive. I identify and develop opportunities.
      </p>
    </div>
    <div style="color:coral">
      <h2>Interests</h2>
      <ul>
        <li>Drawing</li>
        <li>Photography</li>
        <li>Design</li>
      </ul>
    </div>
  </body>
</html>
```

```
<li>Programming</li>
<li>Computer Science</li>
</ul>
</div>
<div style="color:brown">
    <h2>Skills</h2>
<ol>
    <!--if needed more Skills can be added in the list-->
    <li>Web Design with HTML</li>
    <li>JavaScript</li>
    <li>React JS</li>
</ol>
</div>
<div style="color:blue">
    <h2>Education</h2>
    <table border="1" width="30%">
        <!--Header row-->
        <tr>
            <th>Education Type</th>
            <th>Name</th>
            <th>Website</th>
            <th>Grade</th>
        </tr>
        <!--Data row 1-->
        <tr>
            <td>School</td>
            <td>School Name</td>
            <td><a href="https://kvsangathan.nic.in/" target="_blank">School name</a></td>
            <td>A</td>
        </tr>
        <!--Data row 2-->
        <tr>
            <td>UG</td>
            <td>College Name</td>
            <td><a href="https://kvsangathan.nic.in/" target="_blank">college name</a></td>
        </tr>
    </table>
</div>
```

```
<td>B</td>
</tr>
</table>
</div>
<div style="color:purple">
    <h2>Contact</h2>
    <table border="1" width="30%">
        <!--Header row-->
        <tr>
            <th>Phone</th>
            <th>Email</th>
        </tr>
        <!--Data row 1-->
        <tr>
            <td>0987654321</td>
            <td>name@gmail.com</td>
        </tr>
    </table>
</div>
<div>
    <h2>Connect with me</h2>
    <form>
        <!-- label for defining user information-->
        <label>Add your message here:</label> <br>
        <!-- text area -->
        <textarea rows="5" cols="50" name="Description"
id="Description"></textarea> <br><br>
        <!--button with alert-->
        <button type="button" onclick="alert('Thanks for your
message') ">Submit</button>
    </form>
</div>
</body>
</html>
```

# The Complete HTML Guide

## Topics covered:

1. Introduction to HTML
  - 1.1. HTML Tags and Elements
  - 1.2. HTML Document Structure
  - 1.3. HTML Important attributes
  - 1.4. HTML Formatting
  - 1.5. HTML Comments
2. Links and List
  - 2.1. HTML List
  - 2.2. href attribute
3. Media
  - 3.1. SRC Attribute
  - 3.2. HTML Iframes
  - 3.3. HTML Video/Audio
4. HTML Tables
5. Grouping elements
  - 5.1. HTML Block Elements and Inline Elements
  - 5.2. HTML Semantic and Non Semantic Elements
  - 5.3. HTML Classes
  - 5.4. HTML ID
6. HTML Forms

## Topics in Detail:

### 1. Introduction to HTML:

- HTML is a standard markup language used to create web pages.
- HTML stands for HyperText Markup Language.
- HTML defines the structure of web pages.
- HTML consists of a series of elements that tell the browser how to display the content.

#### 1.1.HTML Tags and Elements:

HTML uses tags to format the content:

Tags	Description
<!DOCTYPE html>	Defines that this document is an HTML5 document
<html>	Root element of an HTML page
<head>	Contains meta-information about the HTML page
<title>	Specifies a title that is shown in the browser title bar
<body>	Defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.

An HTML element is defined by a start tag, some content, and an end tag.

Open tag	Closing tag	Description
<h1> to <h6>	</h1> to </h6>	Heading tags, <h1> defines the most important heading. <h6> defines the least important heading.
<p>	</p>	Defines a paragraph
 	No ending tag	Anything following this tag starts from the next line

## 1.2. HTML Document Structure:

Simple HTML structure:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Headings</title>
  </head>
  <body>
    <h1>Heading 1</h1>
    <h2>Heading 2</h2>
    <h3>Heading 3</h3>
    <h4>Heading 4</h4>
    <h5>Heading 5</h5>
    <h6>Heading 6</h6>
  </body>
</html>
```

**Heading 1**

**Heading 2**

**Heading 3**

**Heading 4**

**Heading 5**

**Heading 6**

## 1.3. Important attributes:

- Attributes provide additional information about elements.
- Attributes are always specified in the start tag.
- Attributes usually come as name-value pairs. Ex: name= “value”.

Tag	Attribute	Description
<p>	style	To add styles to elements like color, font, size..
<html>	lang	To declare the language of web page Example: <html lang= “en”> <html lang= “en-US”>
<p>	title	To provide some additional information about the attribute and this appears as tooltip when mouse is placed over the attribute

## 1.4. HTML Formatting:

Inline tags	Description
<b>	Bold text
<i>	Italic text
<strong>	Important text

<em>	Emphasized text
<mark>	Marked text
<sub>	Subscript text
<sup>	Superscript text

### Code and Output:

```

<!DOCTYPE html>
<html>
  <head>
    | <title>HTML Formatting</title>
  </head>
  <body>
    | <p><b>This text is bold</b></p>
    | <p><strong>This text is Important</strong></p>
    | <p><i>This text is italics</i></p>
    | <p><em>This text is Emphasized</em></p>
    | <p><mark>This text is Marked</mark></p>
    | <p>This text has <sub>subscript </sub> and
      <sup>Superscript</sup>.</p>
  </body>
</html>

```

This text is bold

This text is Important

*This text is italics*

*This text is Emphasized*

This text is Marked

This text has <sub>subscript</sub> and <sup>Superscript</sup>.

### 1.5. HTML Comments:

- Comments are not displayed in the browser, they are used to document the HTML source code.
 

```

        | <!--include about your image Link after uploading the image-->
        | </img>
        | <!--include about yourself-->
        | <p>My name is "", about yourself</p>
        | <!--include about your audio Link after uploading the audio-->
      
```

## 2. Links and List

### 2.1. HTML List:

HTML lists are used to group a set of related items in a list. Types of List:

Unordered list:

- Starts with - <ul>; Each list starts with- <li>

- **Code and Output:**

```
<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
```

- Coffee
- Tea
- Milk

Ordered list:

- Starts with - **<ol>**; Each list starts with - **<li>**
- **Code and Output (default ordered list):**

```
<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```

1. Coffee
2. Tea
3. Milk

- **Code and Output (by using type attribute):**

```
<ol type="A">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```

- A. Coffee
- B. Tea
- C. Milk

Description list :

- Starts with - **<dl>**; Tag name - **<dt>**; Tag Description - **<dd>**
- **Code and Output:**

```
<dl>
  <dt>Coffee</dt>
  <dd>- black hot drink</dd>
  <dt>Milk</dt>
  <dd>- white cold drink</dd>
</dl>
```

Coffee Milk	- black hot drink - white cold drink
----------------	---

## 2.2. href attribute:

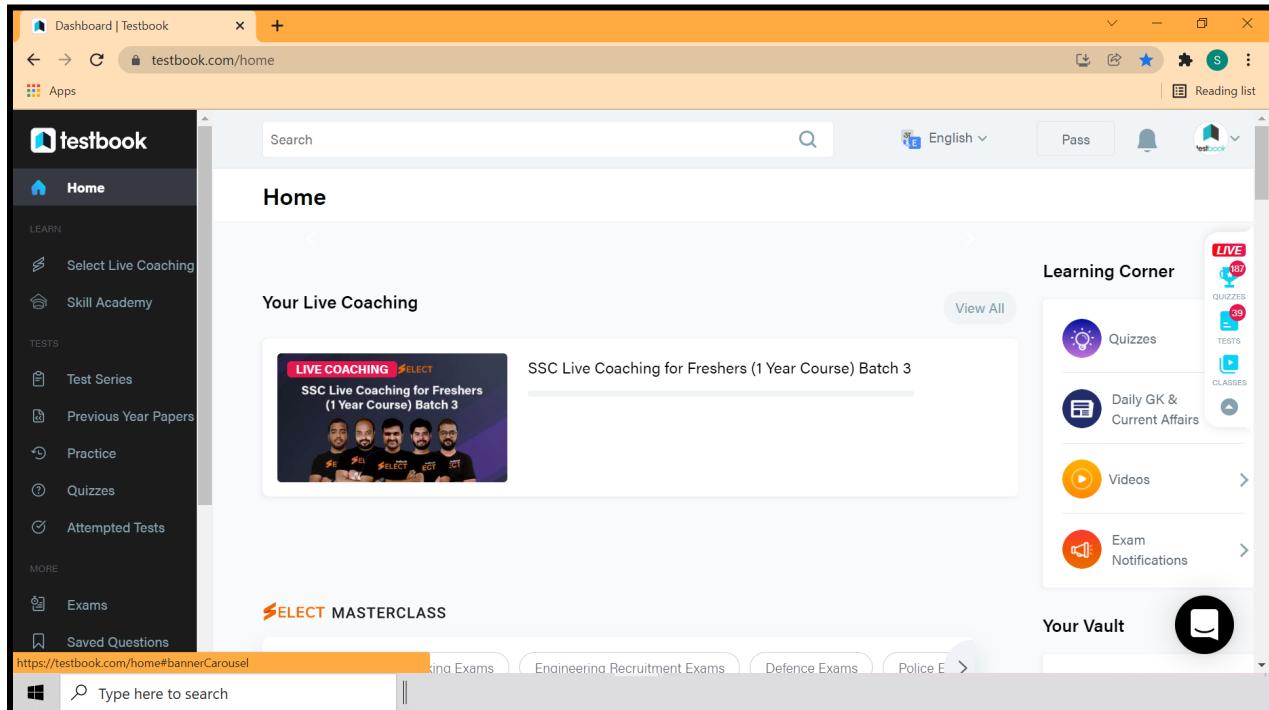
- **<a>** tag defines the hyperlink and the **href** attribute specifies the URL link of the page.
- Code:

```
<a href="https://www.testbook.com/">Visit testbook.com!</a>
```

- Output:

[Visit testbook.com!](https://testbook.com/)

- When clicked the link:



### 3. Media

#### 3.1. src attribute:

- <img> tag is used to embed an image in an HTML page. The src attribute specifies the path of the image to be displayed.
- Code:

```
<!DOCTYPE html>
<html>
  <head>
    <title>HTML Media</title>
  </head>
  <body>
    <!--Include your image path-->
    </img>
  </body>
</html>
```

- Image file added in the same folder of the html file:



- Output:



Important attributes of <img> tag:

Tag	Attribute	Description
<img>	width, height	To specify width and height of the image in pixels
<img>	alt	Specifies alternate text for image(not loaded)

### 3.2. HTML Iframes:

- HTML Iframes are used to display a webpage within a webpage.
- <iframe> is an inline level tag.
- Height and width attributes can be used to specify the size of other web pages included.
- Example Code:

```
<iframe width="560" height="315" src="https://www.youtube.com/embed/LGehGKhJXSU" title="YouTube video player" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe>
```

Output:

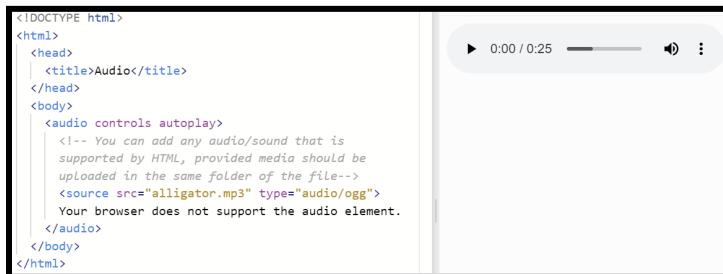


### 3.3. HTML video/audio:

- HTML <video> element is used to show video.
- HTML <audio> element is used to play an audio file in a web page.
- a good idea to always include width and height attributes. If height and width are not set, the page might flicker while the video loads.
- The controls attribute adds video controls, like play, pause, and volume.
- The <source> element allows you to specify alternative video/audio files which the browser may choose from. The browser will use the first recognized format.
- Example:



**video file should be included in the same folder of the html file**



**audio file should be included in the same folder of the html file**

## 4. HTML Tables:

HTML tables are used to arrange data in rows and columns.

Tags	Description
<table>	Defines HTML table
<tr>	Defines row
<th>	Defines table header, has bold and center style as default
<td>	Defines table data cell, has regular alignment

Example:

Table caption

Heading 1	Heading 2	Heading 3
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell 3
Row 2 Cell 1	Row 2 Cell 2	Row 2 Cell 3
Row 3 Cell 1	Row 3 Cell 2	Row 3 Cell 3

*The border is appearing because of the style included.*

## 5. HTML Grouping elements:

### 5.1. HTML Block and Inline Elements:

- HTML blocks and inline elements are used for displaying values.
- A block level element always takes up the full width available.
- An inline level element does not start in a new line and takes up as much width as necessary.
- A block level element has a top and bottom margin, whereas inline elements do not.
- Block Level elements:

<address>	<article>	<aside>	<blockquote>	<canvas>	<dd>
<div>	<dl>	<dt>	<fieldset>	<figcaption>	<figure>
<footer>	<form>	<h1>-<h6>	<header>	<hr>	<li>
<main>	<nav>	<noscript>	<ol>	<p>	<pre>
<section>	<table>	<tfoot>	<ul>	<video>	

- Inline level elements:

<a>	<abbr>	<acronym>	<b>	<bdo>	<big>
 	<button>	<cite>	<code>	<dfn>	<em>
<i>	<img>	<input>	<kbd>	<label>	<map>
<object>	<output>	<q>	<samp>	<script>	<select>
<small>	<span>	<strong>	<sub>	<sup>	<textarea>
<time>	<tt>	<var>			

- Important Block and Inline level element:

Tag	Description	Level
<div>	Defines the section in document	Block level
<span>	Defines a section inside the section in a document	Inline level

- Example:

```

<div class="header">
    <h1>Latest News</h1>
    <h4>Covid-19: Molnupiravir benefits outweigh risks, say top medical
        experts</h4>
</div>

```

*div tag*

```

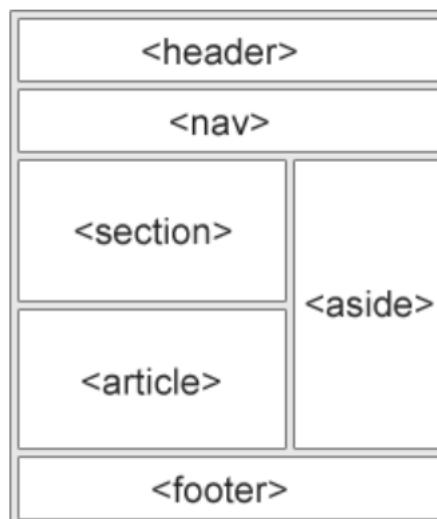
<p>
    Everybody knows that <span class="highlights">face masks are key </span>
    to preventing the spread of the pandemic. But not all masks hold up well
    in the face of the highly transmissible Omicron variant
</p>

```

*span tag*

## 5.2. HTML Semantic and Non elements:

- Semantic elements are the elements with meaning.
- Semantic elements example: <form>, <table>.
- Non semantic elements example: <div>, <span>.



### 5.3. HTML Classes:

- HTML class attribute is used to specify a class for an HTML element.
- Multiple HTML elements can share the same class.
- Often the class attribute is used to point to the class name in a style sheet.
- Example:
- **div with class name**

```
<div class="header">
  <h1>Latest News</h1>
  <h4>Covid-19: Molnupiravir benefits outweigh risks, say top medical
    experts</h4>
</div>
```

- Style for the class

```
.header, .highlights{
  color: red;
}
```

### 5.4. HTML ID:

- HTML ID attribute is used to specify the unique id of the element.
- Multiple elements cannot have the same id.
- Id attribute is used to give specific style and also used by JavaScript to access and manipulate the HTML elements.

## 6. HTML Form:

- HTML form is used to collect user input.
- Important Form attributes:

Attributes	Description
action	Defines the action to be performed when the form is submitted.
target	Specifies where to display the response received after submitting the form.
method	Specifies the HTTP method (get/post) to be used when submitting the form data.
onsubmit	Specifies what should happen on submit of form

- Important Form Elements:

Elements	Purpose
<input>	Used to get inputs from the user, can be used in many ways depending on the type(may be "number" or "name" ...)attribute of input.
<label>	Used to give some information about the input field. Can be used for good user experience.
<select>	For dropdown list.
<option>	Gives option for dropdown list used along with <select>.
<textarea>	Defines multiple line input field area.
<button>	Defines the clickable button.

- Example:

```

<form>
  <!-- Label for getting user information-->
  <label for="username">User Name</label><br>
  <!--input element - mandatory field -->
  <input type="text" name="username" required placeholder="Enter your name">
  <br><br>
  <!-- Label for getting user information-->
  <label for="email_id">Email id</label><br>
  <!--input element - mandatory field -->
  <input type="email" name="email_id" required placeholder="Enter your email id">
  <br><br>
  <!-- Label for getting user information-->
  <label for="passwrdf">Password</label><br>
  <!--input element - mandatory field -->
  <input type="password" name="passwrdf" required placeholder="Enter your password">
  <br><br>
  <!--button is used with alert function -->
  <button onclick="alert('Server validating')">Validate</button>
</form>

```

- Output:

User Name	<input type="text" value="Enter your name"/>
Email id	<input type="text" value="Enter your email id"/>
Password	<input type="text" value="Enter your password"/>
<input type="button" value="Validate"/>	