HYPER TEXT MARKUP LANGUAGE(HTML)

Basic HTML Page Structure:

In this section we will learn & familiarize ourselves with following html tag.

01. **<!DOCTYPE html>**: This tag tells the browser that this is an HTML 5 Page. Note this tag has no end tag means this is a self-closing tag.

02. **<html>**: This tag indicate the beginning of a html document and is a mandatory tag to build a html documents. This tag ends with </html> tag.

03. **<head>**: This is also another mandatory tag, this tag displays nothing on our web page but it hold important information about an HTML document like **title, favicon, link, metadata, keyword, stylesheet, script** etc. This tag ends with **</head>** closing tag.

04. **<title>**: Title tag resides between **<head> </head>** this page display an HTML page title on the browser window or tabs in modern web browsers.

05. **<body>**: Body is the most important tag in HTML. All the information we see on any HTML page like text, heading, paragraph, image etc. are composed in these sections. This tag ends with **</body>** tag.

06. **<h1>…..<h6>**: All that's called a Heading Tag & used to display heading & sub heading on the page. Usually used to show welcome page header & title of a paragraphs. There are six levels of header from **<h1>** to **<h6>** where **<h1>** is the biggest & **<h6>** is the smallest. This tag ends with **</hn>** where n is the corresponding opening tag number.

07. **<p>**: This is called paragraph tag used to write a paragraph or article on HTML documents & closed with **</p>**.

08. **
**: This is a self-closing tag means has no end tag & used to single line bread in the documents.

09. **<hr>**: This is also a self-closing tag used to insert horizontal rune across the document.

Let's see an example of following tag in practice:

Code	Output

``html
<!DOCTYPE html>
<html>
<head>
<title>Aktar's Web Page Title</title>
</head>
<body>
<h1>H1: Aktarul Pramanik</h1>
<h2>H2: Aktarul Pramanik</h2>
<h3>H3: Aktarul Pramanik</h3>
<h4>H4: Aktarul Pramanik</h4>
<h5>H5: Aktarul Pramanik</h5>
<h6>H6: Aktarul Pramanik</h6>
<hr>
<p>This is an Example Paragraph:
 	
    E-Commerce & Web Engineering
Assignments with 50 HTML
 	
    Tag. Here we will learn some
important tags, elements &
 	
    their attribute.
</body>
</html>
``	

HTML Table, Link, List, Comments & Image:

In this section we will learn & familiarize ourselves with following html tag.

10. **<a>**: HTML links are often referenced as hyperlinks and composed in html page using **<a>** and called as anchor tag. In HTML anchor tag is used to create hyperlink through user can traverse to other page of the same website or another website or resource on the internet. This tag ends with ****. This tag has the following attributes:
   I.   **href**: Hyperlink Reference that hold the location of where to go through hyperlink.
   II. **title**: Show title of the hyperlink as tooltip
   III. **target**: Attribute can have following attributes:
      a. **_self**: Opens the document in the same window/tab as it was clicked. This is the default if you do not use target attribute.
      b. **_blank**: Opens the document in a new window or tab.
      c. **_parent**: Opens the document in the parent frame.
      d. **_top**: Opens the document in the full body of the window.

11. **<img>**: using image tag we can insert image in out HTML document. this tag ends with **</img>** and have following attributes:
      a. **src**: Holds the location of image to insert.
      b. **alt**: Show small tooltip about the image.

You can also make clickable images that works as hyperlink using both **<img>** & **<a>**.

12. **
**: This tag used to create unordered list basically start with bullet & ends with **
**
13. **
**: This tag used to create ordered list basically start with 1 & ends with **
**
14. **
**: This tag is used to create items for both ordered & unordered list & ends with **
**
15. **<dl>**: This tag is used to create description list which is an advance list & ends with **</dl>**
16. **<dt>**: This tag is used to create description Title for description list & end with **</dt>**
17. **<dd>**: This tag is used to create description data for description list & end with **</dd>**
18. **<table>**: This tag used to create table and hold table specification & end with **</table>**
19. **<tr>**: This tag create row under table and hold row specification & end with **</tr>**
20. **<th>**: This tag create table header as a row under table & ends with **<th>**
21. **<td>**: This tag used to enter data to row & end with **</td>**
22. **<! --.-->**: This tag is used to comments on html. Contents inside a comments tag browser doesn't interpret but is very helpful to programmer. This is a self-closing tag thus no closing tag.
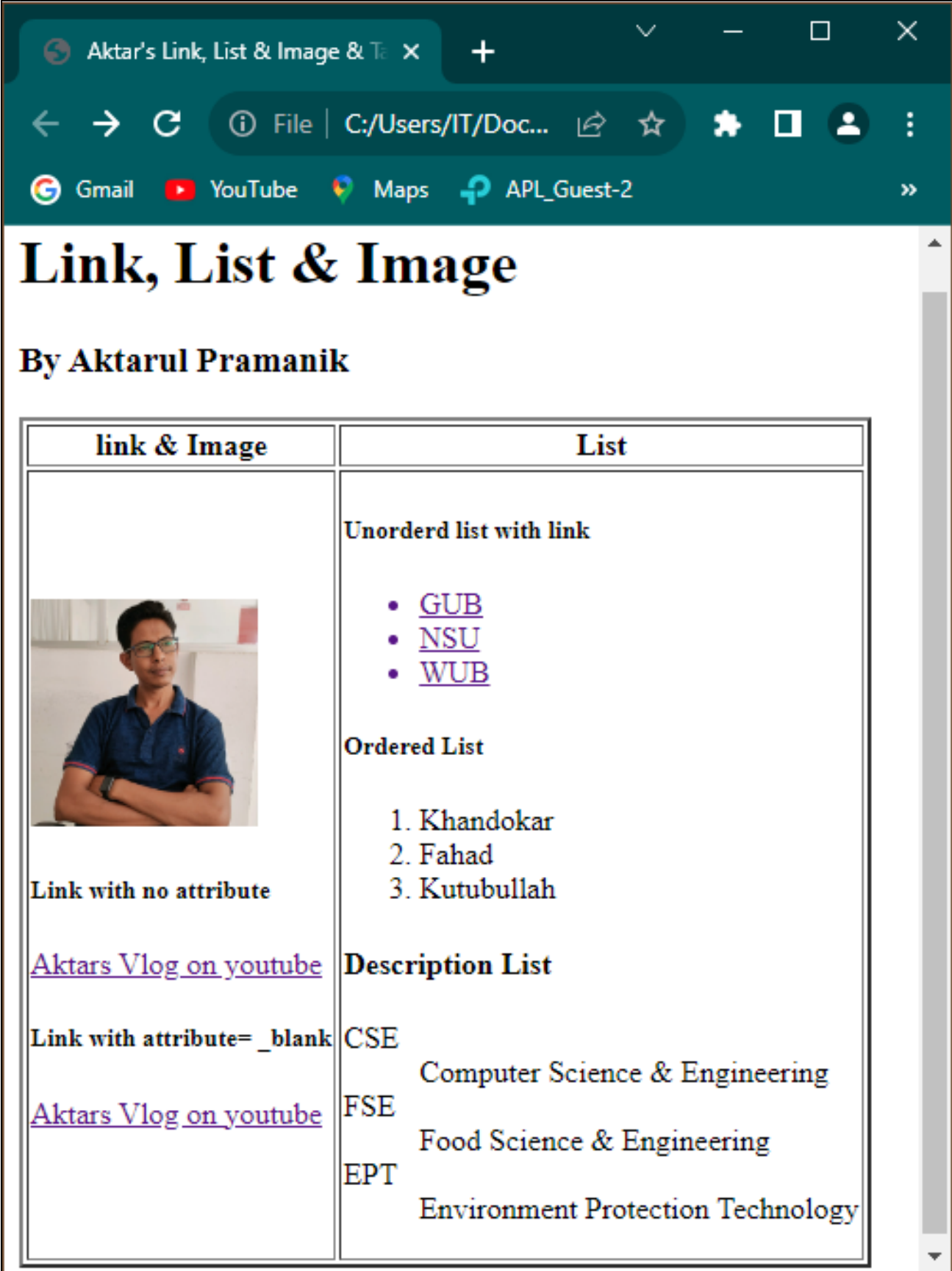
Let's see an example of following tag in practice:

Code

```html
<!DOCTYPE html>
<html>
<head>
<title>Aktar's Link, List & Image & Table </title>
</head>
<body>
    <h1>Link, List & Image</h1>
    <h3>By Aktarul Pramanik</h3>

    <table border="2">
        <tr>
            <th> link &amp; Image </th>
            <th>List</th>
```

```
            </tr>
            <tr>
                <td>
                    <a href="https://bd.linkedin.com/in/aktarul-pramanik-369600b5"
                    title="Follow Aktar on linkedin">
                        <img src="https://shorturl.at/bcqL8" alt="Follow Aktar on
linkedin"
                    width="120px" height="120px">
                </a>
                <h5>Link with no attribute</h5>
<a href="https://youtube.com/@TechTalkTutorial">
    Aktars Vlog on youtube
</a>
<h5>Link with attribute= _blank</h5>
<a href="https://youtube.com/@TechTalkTutorial" target="_blank">
    Aktars Vlog on youtube
</a>
</td>
<td>
<h5>Unorderd list with link</h5>
    <ul>
        <a href="https://gub.edu.bd" target="_blank" title="Go to GUB">
            <li>GUB</li>
        </a>
        <a href="http://www.northsouth.edu/" target="_blank" title="Go to NSU">
            <li>NSU</li>
        </a>
        <a href="https://wub.edu.bd/" target="_blank" title="Go to WUB">
                <li>WUB</li>
            </a>
        </ul>
        <h5>Ordered List</h5>
<ol>
    <li>Khandokar</li>
    <li>Fahad</li>
    <li>Kutubullah</li>
</ol>

<h4>Description List</h4>
<dl>
    <dt>CSE</dt>
    <DD>Computer Science & Engineering</DD>
    <dt>FSE</dt>
    <dd>Food Science & Engineering</dd>
    <dt>EPT</dt>
    <dd>Environment Protection Technology</dd>
</dl>
        </td>
          </tr>
    </table>
    </body>
</html>
```

Output

Link, List & Image

By Aktarul Pramanik

link & Image	List

Link with no attribute
 	
 Aktars Vlog on youtube
 	
 Link with attribute= _blank
 	
 Aktars Vlog on youtube
	Unorderd list with link
	
	 • GUB
	 • NSU
	 • WUB
	
	 Ordered List
	
	 1. Khandokar
	 2. Fahad
	 3. Kutubullah
	
	 Description List
	
	 CSE
	      Computer Science & Engineering
	 FSE
	      Food Science & Engineering
	 EPT
	      Environment Protection Technology

HTML Form & Input Elements:

In this section we will learn & familiarize ourselves with following html tag.

23. **<form>**: The form tag used to create form for user input. It hold numerous form elements and ends with **</form>**

24. **<label>**: This element used to create label for input field & ends with **</label>**
25. **<input>**: This attribute is used to create input filed under form and take and process different kinds of data base on following attributes:
26. **text**: Take text input form user on html form.
27. **number**: Take number input form user on html form.
28. **<select:>** This element used to create drop down as user input on a html.
29. **textarea**: This element is used to create multiline text input.
30. **password**: Take password as input.
31. **fieldset**: Fieldset used to group related input field together often refers as frame.
32. **legend**: Legend is used to set the title of a field set property.
33. **datalist**: This is kind of select list but here you can add your custom value where select allows only predefined value.
34. **option**: This tag is used to create predefined value for a select list.
35. **optgroup**: This tag is used to create a group of related options in the select list.
36. **checkbox**: Create checkbox on the form.
37. **radio**: Create radio button in html form.
38. **range**: Create slider in html form for user input.
39. **reset**: Reset and set predefined value in a html form.
40. **submit**: Create submit button for form submission.
41. **<button>**: This element is used to create buttons in html form.

Let's see an example of following tag in practice:

Code

```html
    <!DOCTYPE html>
<html>
<head>
<title>Aktar's HTML Forms & Input </title>
</head>
<body>
    <h3>Aktars HTML forms & Input Practice</h3>
    <form action="#" id="gub-form">
        <!--Creating Fieldset-->
        <fieldset>
            <legend>Personal Information</legend>
        <label for="name">Full Name:</label> <br>
        <input type="text" id ="name" value="Aktarul Pramanik"> <br>
        <label for="Password">Password</label> <br>
        <input type="password" id="password"> <br>
        <label for="incomelvl">Your Income Lavel</label> <br>
        <input type="range" value="30000" min="10000"
max="1000000"  id="incomelvl"
        oninput="this.nextElementSibling.value = this.value" step="1000">
        <output>30000</output>
        <label for="">Gender</label><br>
        <input type="radio" id="male" name="Gender" value="Male">
        <label for="male">Male</label>
        <input type="radio" id="female" name="Gender" value="Male">
        <label for="female">Female</label><br>
        <label for="Age">Age</label> <br>
        <input type="number" id="age" value="18" min="18"><br>
        <label for="address">Your Location</label><br>
        <select  name="address" id="address">
```

```html
        <!-- Creating Option Group Here-->
        <optgroup for="address"> Dhaka </optgroup>
        <!-- Creating Option Group Dhaka Here-->
        <optgroup label="Dhaka">
          <option value="1">Dhaka North</option>
          <option value="3">Dhaka South</option>
          <option value="4">Keraniganj</option>
          <option value="5">Savar</option>
        </optgroup>
        <!-- Creating Option Outside Dhaka Here-->
        <optgroup label="Outside Dahak">
          <option value="6">Barishal</option>
          <option value="7">Chattogram</option>
          <option value="8">Khulna</option>
          <option value="9">Rajshahi</option>
          <option value="10">Rangpur</option>
          <option value="11">Mymensingh</option>
          <option value="12">Sylhet</option>
        </optgroup>
      </select>
    </fieldset>
    <!--Fieldset End Here-->
<br>
    <fieldset>
        <legend>Choose Subject <br></legend>
<!--------------Check Box Start Here---------------->
    <input type="checkbox" id="CSE-421" name="CSE-421" value="CSE-421">
    <label for="421"> CSE-421 </label><br>
    <input type="checkbox" id="CSE-422" name="CSE-422" value="CSE-422">
    <label for="421"> CSE-422 </label>
<br>
    <input type="checkbox" id="CSE-423" name="CSE-423" value="CSE-423">
    <label for="421"> CSE-423 </label>
<br>
<!--------------Check Box End Here---------------->
    </fieldset>
    <br>
    <center>
        <input type="reset" value="Reset">
    </center>
    <br>
    <center>
        <input type="submit" value="Submit to GUB" >
    </center>
    </form>
    <br>
  <center>
        <button aria-hidden="true"> Go to GUB WebSite for more information
</button>
    </center>
</body>
</html>
```

Output

HTML Audio, Video ifram & YouTube Embed:

In this section we will learn & familiarize ourselves with following html tag.

42. **<audio>**: Audio tag used to add audio file and play on the html document.
43. **<video>**: Audio tag used to add video file and play on the html document.
44. **<iframe>**: This tag basically used to view a webpage in another webpage. Here we use iframe to show how to add and play any YouTube video by embedding it to a webpage or html documents.

Let's see an example of following tag in practice:

Code

```
<!DOCTYPE html>
<html>
<head>
<title>Aktar's HTML Forms & Input </title>
</head>
<body>
    <h4>My local Audo on the browser</h4>
    <audio controls>
        <source src="F:\mixkit-ambience-39.mp3" type="audio/mp3">
    </audio>
```

```
     Audio Credit goes to <a href="https://mixkit.co/" target="_blank">
        Mixxit</a>
<h4>My local Video on the browser</h4>
    <video controls width="420" height="180">
        <source src="F:\video (2160p).mp4" type="Video/mp4">
    </video>
    Video by <a href="https://www.pexels.com/video/a-boy-wears-a-virtual-reality-
headset-3209828/
    " target="_blank">Pressmaster </a>
    <h4>My Youtube Video on the browser</h4>
        <iframe width="420" height="180"
        src="https://www.youtube.com/embed/UM5J7xhnOGY?autoplay=1&mute=1">
        </iframe>
</body>
</html>
```

Output
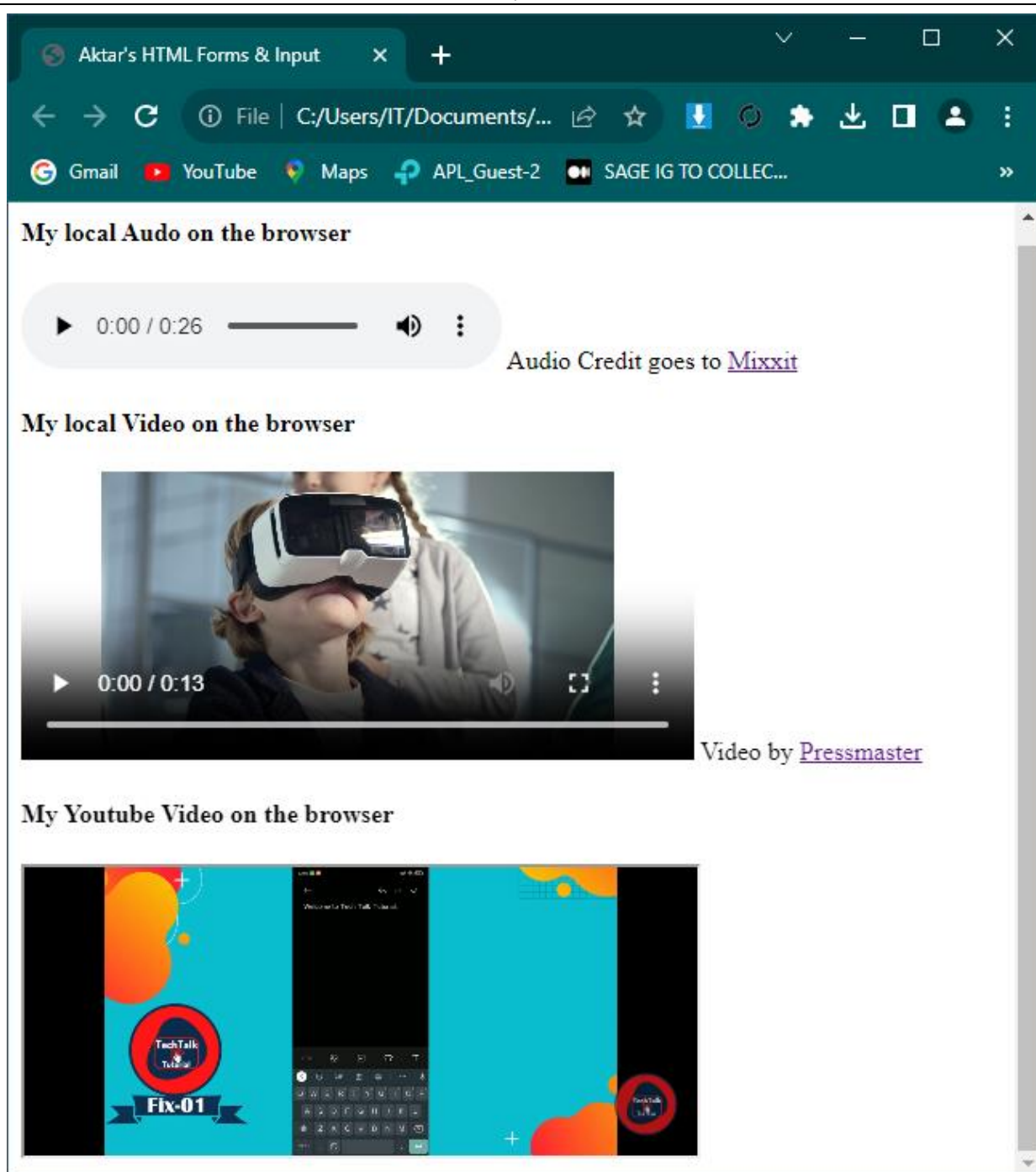
CASCADING STYLE SHEET (CSS)

CSS Font & Text:

In this section we will learn & familiarize ourselves with following html tag.

01. **font-family**: This property is used to set font-face of an html element.
02. **font-weight**: Used to set font weight like bold, bolder.
03. **font-size**: Used to set font size like em/px
04. **font-style**: Used to set font style like italik.
05. **font**: This is a shorthand property that can set all font related value at once.
06. **text-align**: Set alignment of text like center, left, end etc.
07. **text-decoration**: Decorate text using various parameters like underline, overline.
08. **text-transform**: Transform text case like uppercase, lowercase, initial etc.
09. **text-indent**: Set indent of text.
10. **letter-spacing**: Set letter spacing in a paragraph or an article.
11. **line-height**: Set line height of text elements.
12. **word-spacing**: Set word spacing in text.
13. **white-space**: Set white space property in text.
14. **text-shadow**: Set shadow on text.
15. **color**: Set color or an html element.
16. **height**: Set Height of an html element.
17. **width**: Set width of an html element.

CSS Border:

18. **border-style**: Used to set border style like solid, dashed etc.
19. **border-width**: Used to set width of any border.
20. **border-color**: Used to set color of border.
21. **border-top-style**: Used to set topside border style.
22. **border-right-style**: Used to set right-side border style.
23. **border-bottom-style**: Used to set bottom-side border style.
24. **border-left-style**: Used to set left-side border style.
25. **border**: Boder shorthand property to set all border property at once.
26. **border-radius**: Used to set border radius.

Let's see an example of above elements & Their properties:

code

```
<!DOCTYPE html>
<html>
<head>
<title>Aktar's Web Page Title</title>
</head>
<body>
<table style="border: 5px dotted black; border-radius: 25px;">
  <th  style="border: 2px solid green; border-radius: 25px;">
    Fonts Basic &amp; Decoration </th>
  <th  style="border: 2px solid green; border-radius: 25px;">
    Heigh, Width, Color, Stye</th>
  <tr  style="border: 1px solid red; border-radius: 25px;">
    <td  style="border: 3px solid red; border-top-style:dotted; border-right-
style: double;">
      <!--R1C1-->
      <p style="font-family: Verdana, Geneva, Tahoma, sans-serif;">1.I am in
Verdana Font</p>
      <p style="font-weight: bold;"">2.I am a Bold Text</p>
      <p style="font-size: xx-large;">3.I am a xx-Large Text</p>
```

```
        <p style="font: italic initial bold 12px Georgia, serif;">4.I am formated
with font short hand with following property: <br>
        Initial caps Bold+Italic font with 12px Georgia, Serif font</p>
        <p style="text-align: end;">5.I am Right aling text</p>
        <p style="text-transform: uppercase;">6. i am always on uppercase!</p>
        <p style="text-indent: 20px;">7. I am 20px Indent</p>
        <p style="letter-spacing: 4px;">8. I have 4px letter spacing</p>
        <p style="text-decoration: overline">9. I am overline</p>
        <p style="text-decoration: line-through;">10. I am line-through</p>
    </td>
    <td  style="border: 1px solid red">
        <p style="text-decoration: underline;">11. I am underline</p>
        <p style="text-decoration: underline overline;">12. I am underline
overline</p>
        <p style="color: red; width: 100px;">13. I am in Red Color</p>
        <p style="background-color: aquamarine;">14. I have an aquamarine
background-color</p>
        <p style="height: 20px;">15. This paragraph has 20px height.</p>
        <p style="word-spacing: 10px;">16. I have 5px word spacing</p>
        <p style="text-shadow: 2px 2px #058a05;">17. I have a green shadow</p>
        <p style="line-height: 25px;">18. I have 25px line height</p>
        <p style="white-space: normal;">19. I am a normal wraped text</p>
    </td>
  </tr>
  </tr>
</table>
</body>
</html>
```

Output

CSS Margin, Padding & Background:

27. **margin-top**: Used to set top margin.
28. **margin-bottom**: Used to set bottom margin.
29. **margin-left**: Used to set left margin.
30. **margin-right**: Used to set right margin.
31. **margin**: Used to set all margin all at once & is a shorthand property.
32. **padding-top**: Used to set top padding.
33. **padding-right**: Used to set right padding.
34. **padding-bottom**: Used to set bottom padding.
35. **padding-left**: Used to set left padding.
36. **padding**: Used to set all padding as a shorthand property.
37. **background-color**: Used to set background-color.
38. **opacity**: Used to set color opacity.
39. **background-image**: Used to set background image.
40. **background-repeat**: Used to set background image repeat properties.
41. **background-position**: Used to set background image position.
42. **background-attachment**: Used to set background image attachment.
43. **background**: Used to set background all properties as a shorthand property.

Let's see an example of above elements & Their properties:

Code

```
<!DOCTYPE html>
<html>
<head>
<title>Aktar's Web Page Title</title>
<style>
  table {
          border-spacing: 0;
          border-collapse: collapse;
          background-image: url("gub_logo.png");
          background-color: red;
          opacity: 0.7;
          background-attachment: fixed;
          background-repeat: no-repeat;
          background-position: top left;
          background-size: 100%;
          font-weight: 600;
          color: rgb(248, 5, 17);
  }
  tr, td, th {border: 3px solid red;}
</style>
</head>
<body>
  <table>
    <th>Margin</th>
    <th>Padding</th>
    <tr><td><p style="margin-top: 20px; margin-bottom: 0px;">I have 20px top
margin </p></td>
    <td><p style="padding-top: 20px; padding-bottom: 0px;">I have 20px top padding
</p></td></tr>
    <tr><td><p style="margin-top: 0px; margin-bottom: 20px;">I have 20px Bottom
margin </p></td>
```

```
        <td><p style="padding-top: 0px; padding-bottom: 20px;">I have 20px Bottom
padding </p></td></tr>
    <tr><td><p style="margin-top: 20px; margin-bottom: 0px;">I have 20px top
Bottom margin</p></td>
      <td><p style="padding-top: 20px; padding-bottom: 0px;">I have 20px top
Bottom padding</p></td></tr>
    <tr><td><p style="margin-left: 20px; margin-rigth: 0px;">I have 20px top left
margin </p></td>
      <td><p style="padding-left: 20px; padding-rigth: 0px;">I have 20px top left
padding </p></td></tr>
    <tr><td><p style="margin-left: 0px; margin-rigth: 20px;">I have 20px top right
margin </p></td>
      <td><p style="padding-left: 0px; padding-rigth: 20px;">I have 20px top right
padding </p></td></tr>
    <tr><td><p style="margin: 20px 20px 20px 20px;">I have all margin using margin
shorthand </p></td>
      <td><p style="padding: 20px 20px 20px 20px;">I have all margin using padding
shorthand </p></td></tr>
  </table>
</body>
</html>
```

Output
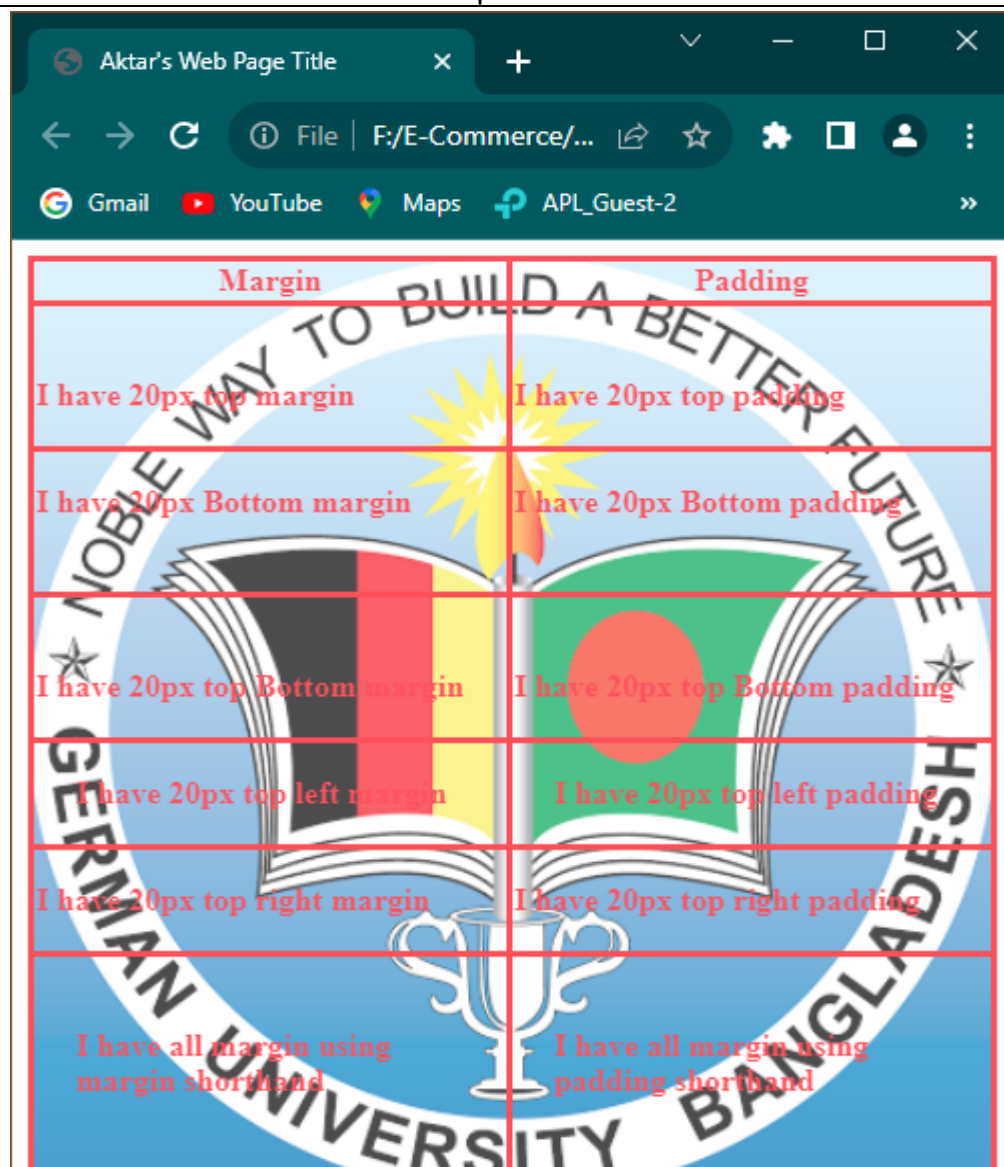
CSS Link & List:

44. **a: link**: Used to set style of hyperlink.
45. **a: visited**: Used to set style of hyperlink that already visited.
46. **a: hover**: Used to set style of hyperlink when mouse over on it.
47. **a: active**: Used to set style of hyperlink which is active now.
48. **list-style-type**: Used to set list style type.
49. **list-style-position**: Used to set list style position.
50. **list-style-image**: Used to set list style image.
51. **list-style**: Shorthand list style that is used to set style of a html list.

Let's see an example of above elements & Their properties:

Code

```html
<!DOCTYPE html>
<html>
<head>
<title>CSS Link & List by Aktar</title>
<style>
  a:link {
    text-decoration: none;
    color: red;
  }
  a:visited{
    text-decoration:none;
    color: green;
  }
   a:hover{
    text-decoration:none;
    color: hotpink;
  }
  a:active{
    text-decoration:none;
    color: blue;
  }

table, tr, td {
  border: 2px solid green;
  border-spacing: 0;
  border-collapse: collapse;
}
tr, td, th {
    border: 2px solid green;
}
.tb_title {
  text-align: center;
  font-family: 'Arial Narrow', Arial, sans-serif;
  color: blue;
  font-weight: bold;
  background-color: aquamarine;
}
.sq_list {
  list-style-type: disc;
}
 .loro_list {
```

```
    list-style-type: lower-roman;
}
.loal_list {
    list-style-type: lower-alpha;
}
.am_list {
    list-style-type: armenian;
}
.circle_list {
    list-style-type: circle;
}
.image_list{
    list-style-image: url('list_logo.png');
}
.multi_img {
    list-style: decimal-leading-zero; list-style-position: inside;
}
h2 {
    text-align: center;"
}
</style>
</head>
<body>
  <h2>Different kinds of list style</h2>
  <table>
    <tr class="tb_title">
      <td>Default List</td>
      <td>Square List</td>
      <td>Lower Roman</td>
      <td>Alpha List</td>
    </tr>
    <!-- ROW TWO START-->
    <tr>
      <td>
        <ul>
        <li>Linkedin</li>
        <li>Facebook</li>
        <li>Thread</li>
        </ul>
      </td>
      <td>
        <ul class="sq_list">
        <li>Linkedin</li>
        <li>Facebook</li>
        <li>Thread</li>
        </ul>
      </td>
      <td>
        <ul class="loro_list">
        <li>Linkedin</li>
        <li>Facebook</li>
        <li>Thread</li>
        </ul>
```

```html
      </td>
      <td>
        <ul class="loal_list">
        <li>Linkedin</li>
        <li>Facebook</li>
        <li>Thread</li>
        </ul>
      </td>
    </tr>
    <!--ROW THREE START HERE-->
    <tr class="tb_title">
      <td>American List</td>
      <td>Circle List</td>
      <td>Image List</td>
      <td>Multi Style</td>
    </tr>

  <!-- ROW FOUR START-->
  <tr>
    <td>
      <ul class="am_list">
      <li>Linkedin</li>
      <li>Facebook</li>
      <li>Thread</li>
      </ul>
    </td>
    <td>
      <ul class="circle_list">
      <li>Linkedin</li>
      <li>Facebook</li>
      <li>Thread</li>
      </ul>
    </td>
    <td>
      <ul class="image_list">
      <li>Linkedin</li>
      <li>Facebook</li>
      <li>Thread</li>
      </ul>
    </td>
    <td>
      <ul class="multi_img">
      <li>Linkedin</li>
      <li>Facebook</li>
      <li>Thread</li>
      </ul>
    </td>
  </tr>
</table>
<h2>Follow me on <a href="https://facebook.com/aktarulp">Facbook</a></h2>
</body>
</html>
```
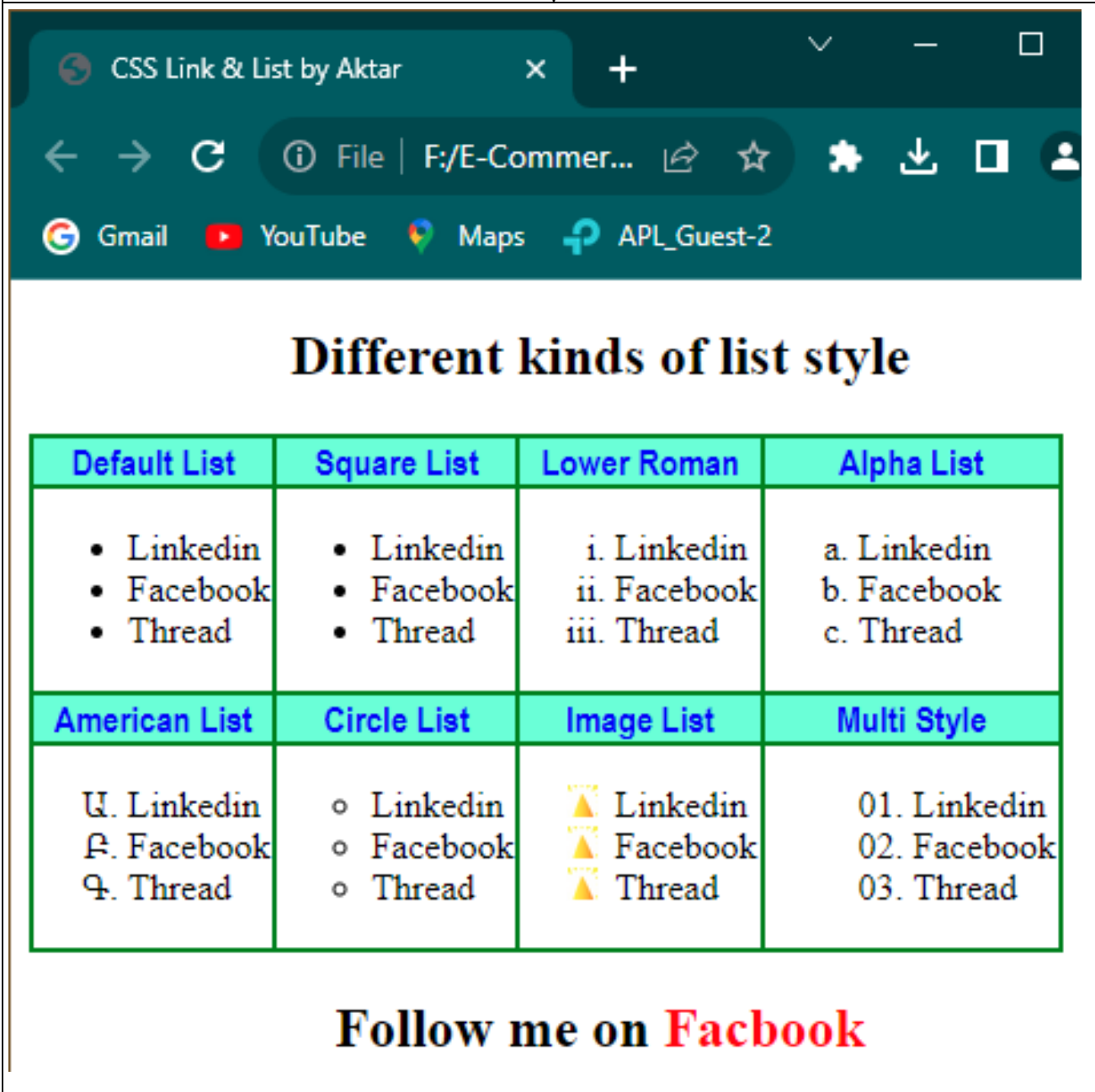
Output

-----------------Thank You----------------