MEAN STACK

By Anupam Roy

HTML 5 Tags

❖Basic Structure of a HTML 5 page

```html
<!DOCTYPE html>
<html>
    <head>
        <title>Document</title>
    </head>
    <body>

    </body>
</html>
```

HTML 5 Tags

❖ DOCTYPE html tells the browser that this is a HTML document and the version is HTML 5.

❖ Every HTML document must start with an <html> tag and ends with </html> tag

❖ <head></head> tag holds all the meta information about the page and links   to style elements like fonts and CSS . It may also hold different scripts for   bringing interactivity to the page. Whatever you write in head most of the things are not visible to the user except few things . One of them is our next tag tititle

❖ <title></title> tag holds the name of our webpage.

❖ <body></body> within this tag whatever you will write will be visible to the   user .

HTML 5 Tags

❖ Heading Tag – provide headings for the web page .
❖ Headings can range from <h1> to <h6>

```html
<!DOCTYPE html>
<html>
    <head>
        <title>Document</title>
    </head>
    <body>
        <h1> Hi There ! Welcome to my webpage </h1>
        <h1> Hi There ! Welcome to my webpage </h1>
        <h2> Hi There ! Welcome to my webpage </h2>
        <h3> Hi There ! Welcome to my webpage </h3>
        <h4> Hi There ! Welcome to my webpage </h4>
        <h5> Hi There ! Welcome to my webpage </h5>
        <h6> Hi There ! Welcome to my webpage </h6>

    </body>
</html>
```

Hi There ! Welcome to my webpage

Hi There ! Welcome to my webpage

Hi There ! Welcome to my webpage

Hi There ! Welcome to my webpage

Hi There ! Welcome to my webpage

Hi There ! Welcome to my webpage

Hi There ! Welcome to my webpage

HTML 5 Tags

❖ Paragraph tag– is used to write some text in paragrap.

❖ Paragraph tag is represented by <p> and it ends with </p>

❖ HTML line break represented by <br/> tag. This tag is singular

```
<!DOCTYPE html>
<html>
    <head>
        <title>Document</title>
    </head>
    <body>
        <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.<br/> Vivamus
        congue venenatis imperdiet. <br/>Vestibulum ante ipsum primis in faucibus
        orci luctus et ultrices posuere cubilia curae;<br/> Morbi non massa
        aliquet, tempor enim euismod, condimentum eros. Maecenas ut sapien tortor.
        </p>

    </body>
</html>
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit.
Vivamus congue venenatis imperdiet.
Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia curae;
Morbi non massa aliquet, tempor enim euismod, condimentum eros. Maecenas ut sapien tortor.

HTML 5 Tags

❖ HTML Horizontal Line – You can create horizontal lines in HTML using <hr> tag. It is also a singular tag.

```
<!DOCTYPE html>
<html>
    <head>
        <title>Document</title>
    </head>
    <body>
        <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.<br/> Vivamus
        congue venenatis imperdiet. <br/>Vestibulum ante ipsum primis in faucibus
        orci luctus et ultrices posuere cubilia curae;<br/> Morbi non massa
        aliquet, tempor enim euismod, condimentum eros. Maecenas ut sapien tortor.
        </p>
        <hr/>
        <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.<br/> Vivamus
        congue venenatis imperdiet. <br/>Vestibulum ante ipsum primis in faucibus
        orci luctus et ultrices posuere cubilia curae;<br/> Morbi non massa
        aliquet, tempor enim euismod, condimentum eros. Maecenas ut sapien tortor.
        </p>

    </body>
</html>
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit.
Vivamus congue venenatis imperdiet.
Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia curae;
Morbi non massa aliquet, tempor enim euismod, condimentum eros. Maecenas ut sapien tortor.

Lorem ipsum dolor sit amet, consectetur adipiscing elit.
Vivamus congue venenatis imperdiet.
Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia curae;
Morbi non massa aliquet, tempor enim euismod, condimentum eros. Maecenas ut sapien tortor.

HTML 5 Tags

❖ HTML Lists

  ✓ Unordered List

  ✓ Order List

  ✓ Description List

HTML 5 Tags

❖ Unordered List : <ul> tag is used to define the unordered list or bulleted list.

❖ Under <ul> tag there will be <li> tags which defines the list items in unordered list

```
<!DOCTYPE html>
<html>
    <head>
        <title>Document</title>
    </head>
    <body>
        <ul>
            <li> Book 1 </li>
            <li> Book 2 </li>
            <li> Book 3 </li>
        </ul>
    </body>
</html>
```

- Book 1
- Book 2
- Book 3

HTML 5 Tags

❖ Ordered List : <ol> tag is used to define the ordered list or numbered list
❖ Under <ol> tag there will be <li> tags which defines the list items in ordered list

```html
<!DOCTYPE html>
<html>
    <head>
        <title>Document</title>
    </head>
    <body>
        <ol>
            <li> Book 1 </li>
            <li> Book 2 </li>
            <li> Book 3 </li>
        </ol>
    </body>
</html>
```

1. Book 1
2. Book 2
3. Book 3

HTML 5 Tags

❖ Description List : <dl> tag is used to define the description list or definition list

❖ Under <dl> tag there will be <dt> tags which defines the data and <dd> tag defines data definition (description)

```html
<!DOCTYPE html>
<html>
    <head>
        <title>Document</title>
    </head>
    <body>
        <dl>
            <dt>HTML</dt>
            <dd>is a markup language</dd>
            <dt>CSS</dt>
            <dd>is a used to style webpages</dd>
            <dt>JavaScript</dt>
            <dd>is a scripting language</dd>

        </dl>
    </body>
</html>
```

HTML
        is a markup language
CSS
        is a used to style webpages
JavaScript
        is a scripting language

HTML 5 Tags

❖ Font bold, underline, Italics and strikethrough

```
<!DOCTYPE html>
<html>
    <head>
        <title>Document</title>
    </head>
    <body>
        <strong>HTML 5</strong> <br/>
        <b>HTML 5</br > <br/>
        <u>Underline</u> <br/>
        <em>Italics</em> <br/>
        <i>Italics</i> <br/>
        <del>Strike through</del> <br/>

    </body>
</html>
```

HTML 5
HTML 5

<u>Underline</u>
Italics
Italics
~~Strike through~~

HTML 5 Tags

❖ The anchor tag <a> is a tag which helps us to link to other web pages internal to your project or may be some external source as well. The <a> tag also comes in pairs it starts with <a> and ends with . The href attribute hold the webpage that we want the link to go if we click on it.

```
<!DOCTYPE html>
<html>
    <head>
        <title>Document</title>
    </head>
    <body>
        <a href="https://www.google.com">Go to Google</a>
    </body>
</html>
```

Go to Google

HTML 5 Tags

❖ In the previous slide we have seen if we click on the link it is opening in the same window that we are in . But if we don't want the web page to open in the same window then we should use another attribute target and the value should be __blank

```
<!DOCTYPE html>
<html>
    <head>
        <title>Document</title>
    </head>
    <body>
        <a href="https://www.google.com" target="__blank">Go to Google</a>
    </body>
</html>
```

Go to Google

HTML 5 Tags

❖ In the previous slide we have seen if we click on the link it is opening in the same window that we are in . But if we don't want the web page to open in the same window then we should use another attribute target and the value should be __blank

```
<!DOCTYPE html>
<html>
    <head>
        <title>Document</title>
    </head>
    <body>
        <a href="https://www.google.com" target="__blank">Go to Google</a>
    </body>
</html>
```

Go to Google

Some CSS

We can Introduce CSS in our web page in 3 ways

❖Inline CSS

❖Internal CSS

❖External CSS

CSS

Inline CSS – Inline CSS can be written with the help of 'style' attribute for all

HTML tags.

Syntax for writing inline CSS is as follows

 <html_tag style="css_property:value; css_property:value;…."></html_tag>

Let's say we want to make a red color heading. So we can write the inline CSS as below

 <h1 style="color:red;"></h1>

Or

<h1 style ="color:#ff0000;"></h1>

CSS

Let's see some of the CSS properties related to Text

Text color -   color : *color | initial | inherit*

              color property is used to color the text.

Text decoration – text-decoration : *text-decoration-line text-decoration-style text-decoration-color | initial| inherit*

                The text-decoration property specifies the decoration added to

                text, and is a shorthand property for:

                text-decoration-line (required) (Sets the kind of text decoration to use (like underline, overline, line-through)

                text-decoration-color (Sets the color of the text decoration)

                text-decoration-style (Sets the style of the text decoration (like solid, wavy, dotted,

                dashed, double)

CSS

Text alignment - text-align: *left|right|center|justify|initial|inherit;*

   The text-align property specifies the horizontal alignment of text

   in an element.

Text shadow –   text-shadow: *h-shadow v-shadow blur-radius color|none|initial|inherit;*

   Adds shadow to text.

Text transform –   text-transform: *none|capitalize|uppercase|lowercase|initial|inherit;*

   Controls the capitalization of text.

Font Family -   font-family: *family-name|generic-family|initial|inherit;*

   Specifies the font for an element

Font Size -   font-size: *medium|xx-small|x-small|small|large|x-large|xx-large|smaller|lar*   *ger|length|initial|inherit;*

CSS

Font style -   font-style: *normal|italic|oblique|initial|inherit;*

                               specifies the font style for a text.

Font weight –   font-weight: *normal|bold|bolder|lighter|number|initial|inherit;*

                               Sets how thick or thin characters in text should be displayed.

Setting up background color and image

Background : The background property is a shorthand property for

- **background-color**
- **background-image**
- **background-position**
- **background-size**
- **background-clip**
- **background-repeat**
- **background-origin**
- **background-attachment**

CSS

Background : background: *bg-color bg-image position/bg-size bg-repeat bg-origin bg-clip bg-attachment initial|inherit;*

Border : The border property is a shorthand property for

- border-width
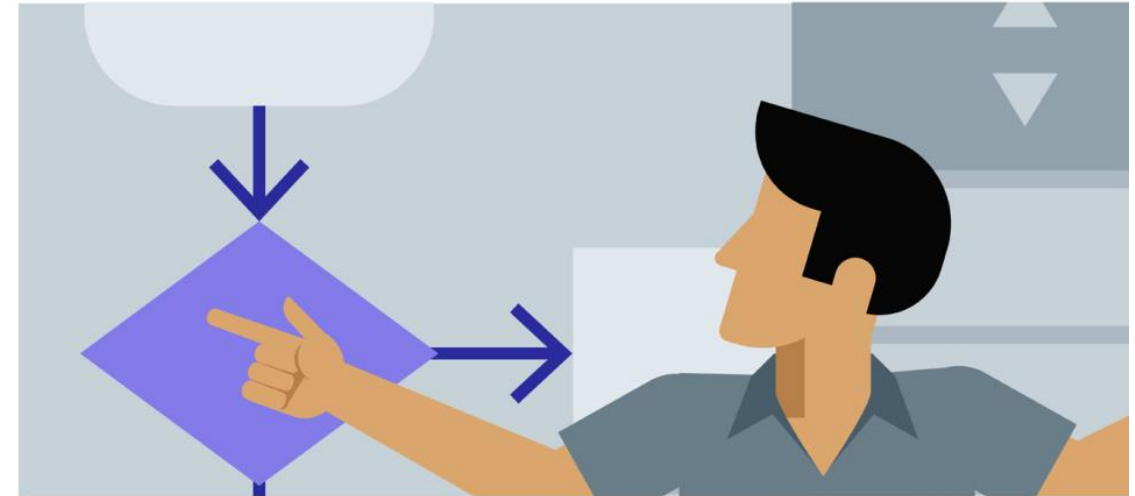- border-style
- border-color

If border-color is omitted, the color applied will be the color of the text.

border: *border-width border-style border-color*|initial|inherit;

HTML 5 Tags

❖ Image - <img> tag is a singular tag and is used to display images in web page
❖ The "src" attributes of img tag holds the source of the image. It can be a local path or may be an url from the web.

```
<!DOCTYPE html>
<html>
    <head>
        <title>Document</title>
    </head>

    <img src="https://cdn.lynda.com/course/636107/636107-637199634991722717-16x9.
    jpg"/>
    </body>
</html>
```

HTML 5 Tags

Also when you use image tag the image that you are using may be of bigger size. So in order to control the height and width of the image we can use the 'width' and 'height' attribute as shown in the following code snippet.

```html
<!DOCTYPE html>
<html>
    <head>
        <title>Document</title>
    </head>


        <img src="https://cdn.lynda.com/course/636107/636107-637199634991722717-16x9.
        jpg" width="600" height="400" />
    </body>
</html>
```

HTML 5 Tags

❖Table tag : An HTML table is defined with the <table> tag.

❖Each table row is defined with the <tr> tag. The header portion of the table is defined with <thead> and body portion of the table is defined with <tbody> but these are optional tags. But to define the header columns in a table you need to define <th> tag and for body section you need to define the columns with <tr> tag

❖ You can create border for the table using **borde**r attribute . The border attribute can take values from 0 to 10.

❖ The **colspan** attribute in HTML specifies the number of columns a cell should span

❖The **rowspan** attribut**e** in HTML specifies the number of rows a cell should span

HTML 5 Tags

A Normal Table without Border

```
        <table>
            <thead>
                <tr>
                    <th>Firstname</th>
                    <th>Lastname</th>
                    <th>Age</th>
                </tr>
            </thead>
            <tbody>
            <tr>
                <td>Jill</td>
                <td>Smith</td>
                <td>50</td>
            </tr>

            <tr>
                <td>Eve</td>
                <td>Jackson</td>
                <td>94</td>
            </tr>
            </tbody>
        </table>
```

Firstname	**Lastname**	**Age**
Jill	Smith	50
Eve	Jackson	94

HTML 5 Tags

A Normal Table with Border

```
<table border="1">
    <thead>
        <tr>
            <th>Firstname</th>
            <th>Lastname</th>
            <th>Age</th>
        </tr>
    </thead>
    <tbody>
    <tr>
        <td>Jill</td>
        <td>Smith</td>
        <td>50</td>
    </tr>

    <tr>
        <td>Eve</td>
        <td>Jackson</td>
        <td>94</td>
    </tr>
    </tbody>
</table>
```

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94

HTML 5 Tags

A table with colspan attribute

```html
<table border="1">
    <thead>
        <tr>
            <th>Firstname</th>
            <th>Lastname</th>
            <th colspan="3">Address</th>
        </tr>
        <tr>
            <th colspan="2"></th>
            <th>City</th>
            <th>State</th>
            <th>Country</th>
        </tr>
    </thead>
    <tbody>
    <tr>
        <td>Jill</td>
        <td>Smith</td>
        <td>Chicago</td>
        <td>Illinois</td>
        <td>USA</td>
    </tr>

    <tr>
        <td>Eve</td>
        <td>Jackson</td>
        <td>Chicago</td>
        <td>Illinois</td>
        <td>USA</td>
    </tr>
    </tbody>
</table>
```

Firstname	Lastname	Address		
		City	State	Country
Jill	Smith	Chicago	Illinois	USA
Eve	Jackson	Chicago	Illinois	USA

HTML 5 Tags

A table with rowspan attribute


```html
<table border="1">
    <thead>
        <tr>
            <th>Name:</th>
            <td>Bill Gates</td>
        </tr>
    </thead>
    <tbody>
        <tr>
            <th rowspan="2">Telephone:</th>
            <td>55577854</td>
        </tr>
        <tr>
            <td>55577855</td>
        </tr>
    </tbody>
</table>
```

Name:	Bill Gates
Telephone:	55577854
	55577855

HTML 5 Tags

❖Division Tag - The <div> tag defines a division or a section in an HTML document.

❖The <div> tag is used as a container for HTML elements

❖ It is a block level HTML element

Let's Learn Some more CSS

❖Float : The CSS **float** property specifies how an element should float. The float property is used for positioning and formatting content

float: *none|left|right|initial|inherit;*

❖Clear - The clear property specifies on which sides of an element floating elements are not allowed to float

 clear: *none|left|right|both|initial|inherit;*

❖Margin - The margin property sets the margins for an element

margin: *length*|auto|initial|inherit;

❖Padding- An element's padding is the space between its content and its border.   The CSS padding property sets the padding of an element

padding: *length*|initial|inherit;

CSS Selectors

Class Selector : The *.class* selector selects elements with a specific class attribute .To select elements with a specific class, write a period (.) character, followed by   the name of the class

Syntax : .class { // CSS property }

❖ID Selector : The **id selector** uses the **id** attribute of an HTML element to select a specific element. The **id** of an element is unique within a page, so the **id selector** is used to select one unique element! To select an element with a specific **id**, write a hash (#) character, followed by the **id** of the element.

Internal CSS

The internal style sheet is used to add a unique style for a single document. It is defined in <head> section of the HTML page inside the <style> tag.

```html
<!DOCTYPE html>
<html>
<head>
<style>
body {
    background-color: linen;
}
h1 {
    color: red;
    margin-left: 80px;
}
</style>
</head>
<body>
    <h1>The internal style sheet is applied on this heading.</h1>
    <p>This paragraph will not be affected.</p>
</body>
</html>
```

External CSS

External CSS is the professional way to implement CSS on a webpage. External CSS can be included in a web page using <link> tag and with "href" attribute in   the <head> section of the HTML web page.

You can include the same external CSS file for multiple pages of your website.   If you want to make some changes in CSS you just need to change in one file.

```html
<!DOCTYPE html>
<html>
<head>


        <link rel="stylesheet" type="text/css" href="style.css">


</head>
<body>
</body>
</html>
```

Using Google Font

Steps to Include Google Fonts in your web page and using it

1. Go to the link https://fonts.google.com/
2. Select a font . Let's say "Roboto"
3. Select the font styles that you want to use in your page
4. Go to the Embed tab. You can include Google font in 2 ways. The first is uisng the Link tag or second is using @import statement in your stylesheet.
5. <link href="https://fonts.googleapis.com/css2?family=**Roboto:wght@400;500;700;900**&display=swap" rel="stylesheet">
6. @import url('https://fonts.googleapis.com/css2?family=**Roboto:wght@400;500;700;900**&display=swap');
7. Then when you want to use it you can use it as below
   font-family: 'Roboto', sans-serif;

Including favicon to your page

1. Search in google for favicon generator
2. Once you get the link for favicon generator . Generate a 16x16 favicon and store it in your website image folder
3. Once you are done with it just use the following markup to setup favicon for your website
4. <link rel ="icon" type ="image/png" href="favicon-16x16.png">
   Note : the name favicon-16x16.png can be anything

Some more HTML 5

❖ HTML 5 Audio - The HTML <audio> element is used to play an audio file on a web page.

❖ The controls attribute adds audio controls, like play, pause, and volume.

❖ The <source> element allows you to specify alternative audio files which the browser may choose from. The browser will use the first recognized format.

❖ MP3 format of Audio is supported by all browser where as WAV is not supported by IE/Edge

Some more HTML 5

Here is how you can implement audio in your site

```html
<!DOCTYPE html>
<html>
<head>

        <link rel="stylesheet" type="text/css" href="style.css">
        <link rel ="icon" type ="image/png" href="favicon-16x16.png">
</head>
<body>
    <audio controls>

        <source src="bensound-summer.mp3" type="audio/mpeg">
    Your browser does not support the audio element.
    </audio>
</body>
</html>
```

Some more HTML 5

HTML 5 Video - To show a video in HTML, use the <video> element:

❖The controls attribute adds audio controls, like play, pause, and volume.

❖ It is 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 <source> element allows you to specify alternative video files which the browser may choose from. The browser will use the first recognized format.

Some more HTML 5

Here is how you can implement video in your site

```html
<!DOCTYPE html>
<html>
<head>

        <link rel="stylesheet" type="text/css" href="style.css">
        <link rel ="icon" type ="image/png" href="favicon-16x16.png">
</head>
<body>
    <video width="320" height="240" autoplay>
        <source src="Pexels_Videos_1234163.mp4" type="video/mp4">
        <source src="Pexels_Videos_1234163.ogg" type="video/ogg">
    Your browser does not support the video tag.
    </video>
</body>
</html>
```

HTML Forms

HTML Form is a document which stores information of a user on a web server using interactive controls. An HTML form contains different kind of information   such as username, password, contact number, email id etc.

The HTML <form> element defines a form that is used to collect user input:

An HTML form contains **form elements**.

Form elements are different types of input elements, like: text fields, checkboxes, radio buttons, submit buttons, and more.

HTML Forms

The <input> element is the most important form element.

The <input> element is displayed in several ways, depending on the **type** attribute.

<input type="text">   Defines a single-line text input field
<input type="radio">   Defines a radio button (for selecting one of many choices)
<input type="checkbox"> Defines a checkbox (for selecting more than one choices)
<input type="submit">   Defines a submit button (for submitting the form)
<input type ="password"> Defines a password input field

Some new type introduced in html 5 are
<input type="email">   Defines a email input field
<input type="tel">   Defines a phone input field

HTML Forms

Drop Down box or Select box –

<select> tag defines a dropdown box or selectbox. The elements under Selectbox is defined by <option> tag.

```
<select name="">
        <option value="val1">Value 1</option>
         <option value="val2">value 2</option>
</select>
```

HTML Forms

Textarea – To define a multiline textbox or textarea we need to use <textarea> tag.

<textarea name="" rows="" cols=""></textarea>