



Html

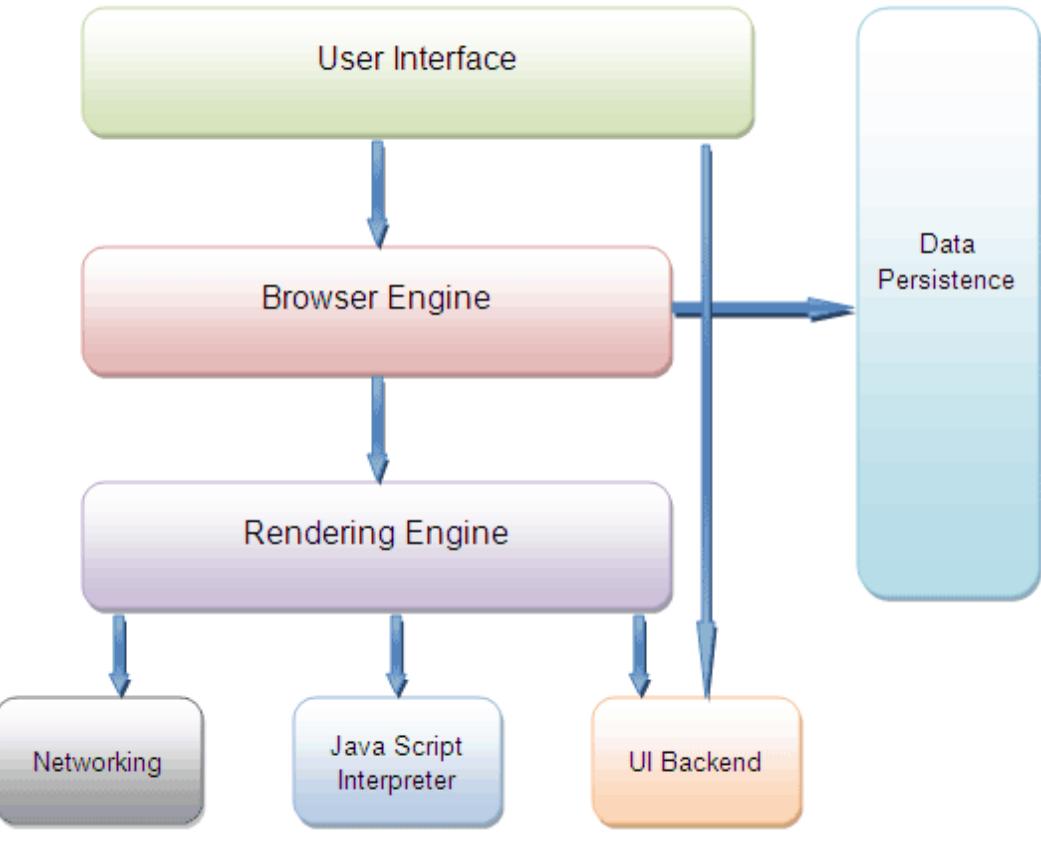
Hypertext Markup Language



How browser works?



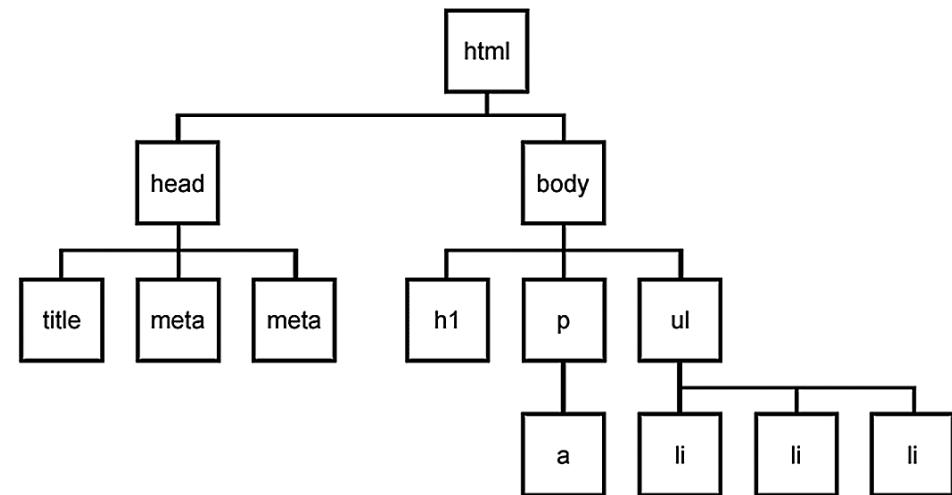
- Browsers have very differentiate parts.
- We are interested in two of them:
 - the Rendering Engine (in charge of transforming our **HTML+CSS** in a visual image).
 - The Javascript Interpreter (also known as VM), in charge of executing the **Javascript** code.





DOM Tree

- Every element can only have one parent
- Every element can have several children
- DOM structure looks like a tree.





Most common HTML tags and attributes

► There are many html tags, but some tags are used more than others

- **<div>**: a container, usually represents a rectangular area with information inside.
- ****: an image
- **<a>**: a clickable link to go to another URL
- **<p>**: a text paragraph
- **<h1>**: a title (h2,h3,h4,h5,h6 are titles of less importance)
- **<input>**: a widget to let the user introduce information
- **<style>**: to insert CSS rules
- **<script>**: to execute Javascript
- ****: a null tag (doesn't do anything)
- **<button>**: to create a button
- **<iframe>**: to put another website inside ours
- **, , **: ordered or unordered list items
- **<link rel>**: external links are linked to html
- **<script>**: dynamic and interactive like javascript codes
- **<form>**: to create form elements like input, button, ...

► There are many html attributes, but some are used more than others

- **href**: a links path or URL
- **src**: image path or URL
- **alt**: short description for image
- **class**: for formatting multiple elements. Class may repeat for different elements
- **id**: for identifying unique elements. Id must be unique
- **type**: used inside an input for creating radio, checkbox, text box, button,...
- **<!-- text -->**: comment



What is HTML?

➤ Introduction to web technologies:



- **HTML(Hypertext Markup Language)** is the language that creates a document and web page that is displayed in the web browser. HTML is not a programming language (cannot define an algorithm with html).
 - Example : Create a button
- **CSS (Cascading Style Sheets)** is a style sheet language that shows how the html is displayed (color, layout, font size,).
 - Example: Change the color of a button
- **Javascript** how css and html is loaded in a website. It makes the website interactive and responsive.
 - Example: Make button interactive. When user clicks on the button, then login the application.



Html without CSS and JS

➤ Introduction to web technologies:

- **HTML** to create the document structure and content
- **CSS** to control its visual aspect
- **Javascript** for interactivity

*When you only know
HTML and develop a
web application*





IDE (integrated development environment)



- IDE is used to create development frameworks
- IDE is used to keep project documents all together in organized way



Notepad++



Sublime Text



Atom



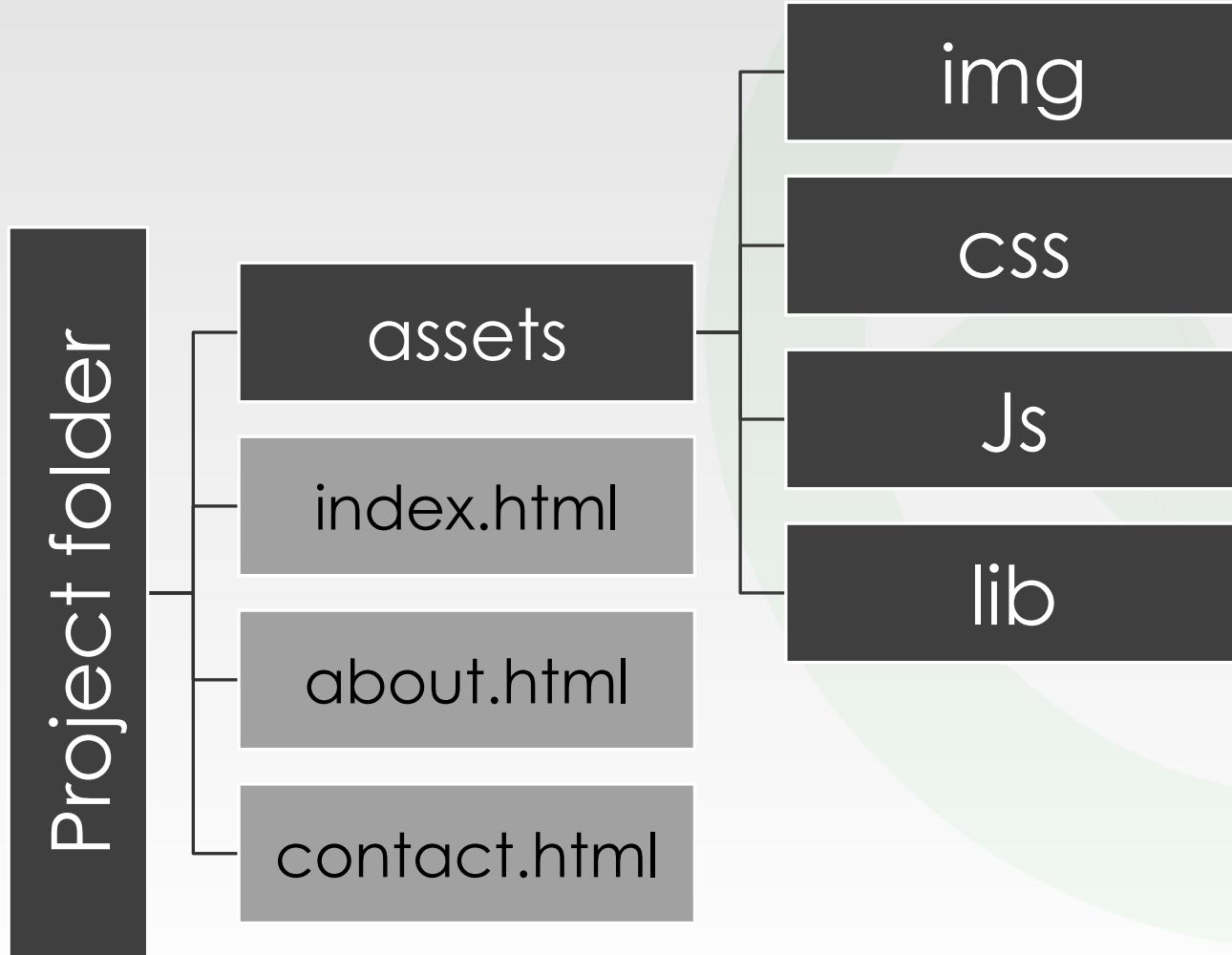
Visual Studio
Code



Adobe
DreamViewer



Folder structure





How to create a page?

- Use doctype and html tag to create an html document

```
<!doctype html>
<html>

</html>
```

Html tags
are not
case-
sensitive

<https://www.w3schools.com/tags/default.asp>



How to create a page?

➤ Create HTML document

➤ Create page using HTML elements

- **Html** : Used to create html document. All elements goes inside html tag.
- **Head** : Information about the webpage, such as title, styles, stylesheet, script, ...
- **Body** : All page contents goes to body. Body contains all of the page elements.
- **Title** : Used to create the text that is displayed at the tab of the browser.

SEO

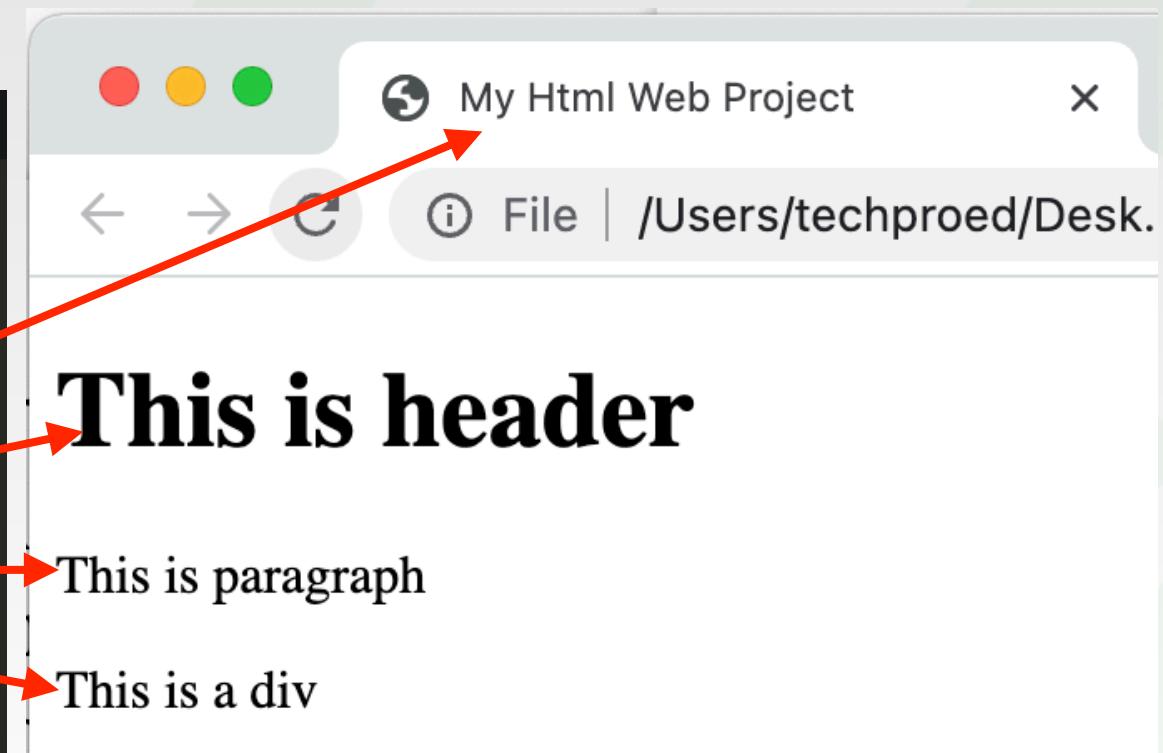
Title is important for SEO. The most important words must be in the title.
Key words should be used in the title.
It should not be longer than 60 characters.



How to create a page?

- There are 2 main parts: head and body
- Tags : head, title, body, h1, p, div

```
index.html
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>My Html Web Project</title>
5   </head>
6   <body>
7     <h1>This is header</h1>
8     <p>This is paragraph</p>
9     <div>This is a div</div>
10    </body>
11 </html>
```

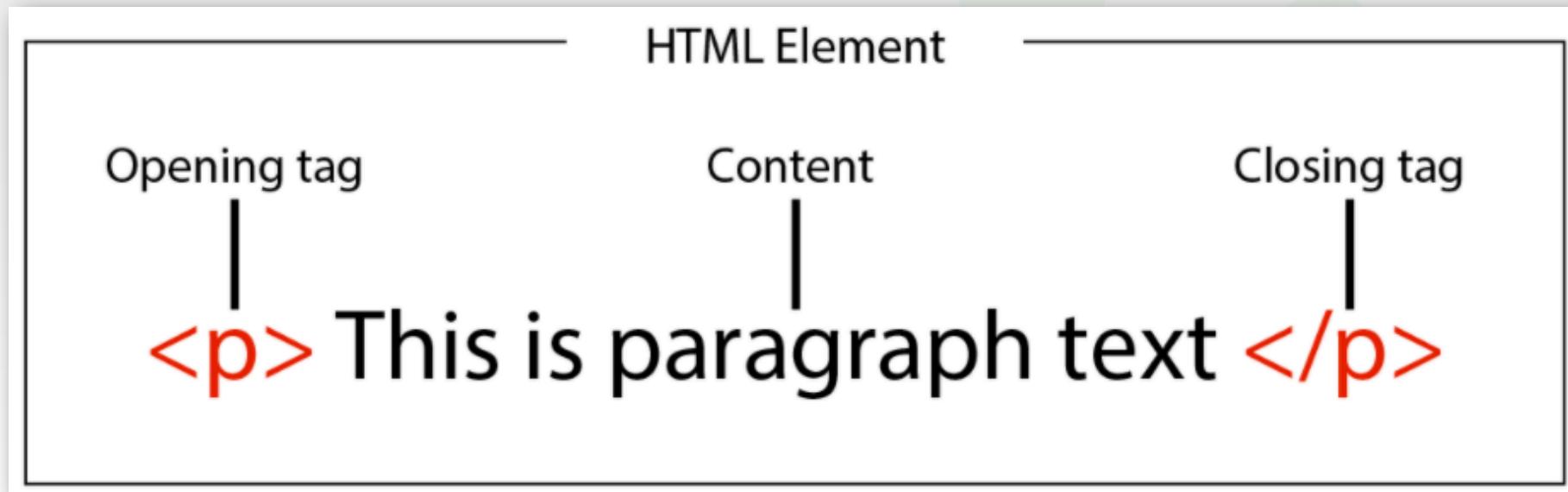




How to create an html element?

TAGS

➤ HTML Elements are created using tags



➤ <https://developer.mozilla.org/en-US/docs/Web/HTML/Element>



Use html tags properly!



```
<div>  
    Heading  
    Content goes here  
    Some more content goes here  
</div>
```



```
<div>  
    <h1> Heading </h1>  
    <p>Content goes here</p>  
    <p>Some more content goes here</p>  
</div>
```

Note

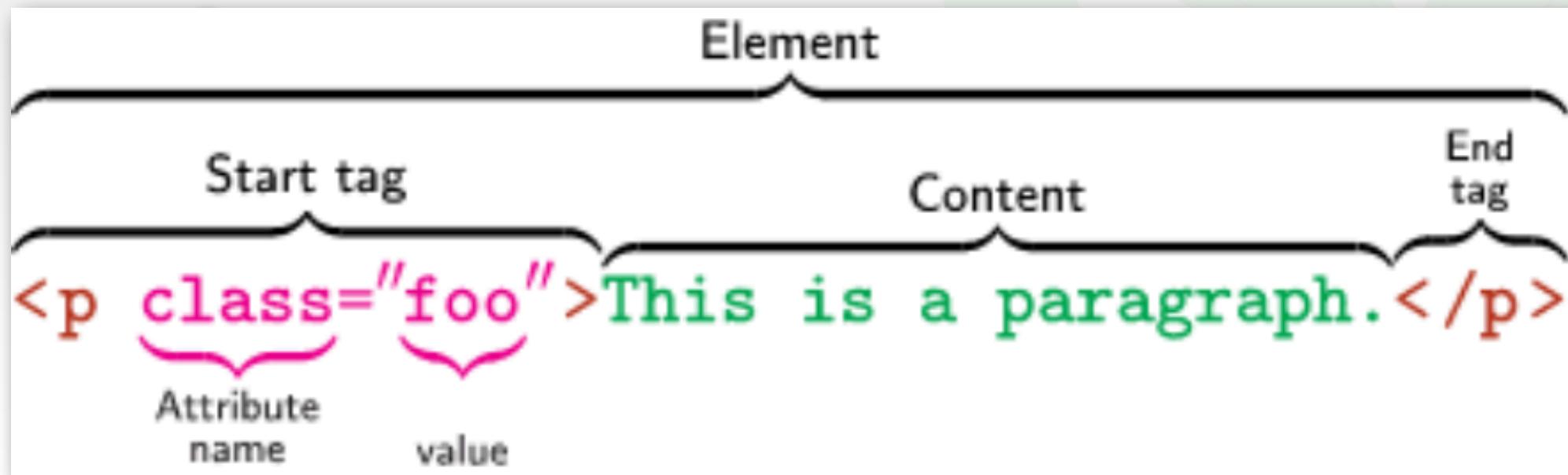
Tags should be used at all time
They help for SEO, design, and styles



What is an Attribute?



- Attributes define additional characteristics such as font size of a text.
- Attributes are always specified in the opening tag and usually consists of name-value pairs like class="my-class-name".
- Attribute values should always be enclosed in quotation marks.





Sample page

Each element can have only one tag, but multiple attributes

- Element : div is used to create a div element
- Parent : div is parent of h1,p, button, and img elements
- Child : h1 is child of div

```
index.html      x  untitled •  
1 <!DOCTYPE html>  
2 <html>  
3   <head>  
4     <title>My HTML Page</title>  
5   </head>  
6   <body>  
7     <div id="top">  
8       <!-- this is a comment -->  
9       We can add text without a tag  
0       <h1 class="my-button">Welcome !</h1>  
1       <p class="my-button">Hope you enjoy!</p>  
2       <button class="my-button">Click me!</button><br>  
3         
4     </div>  
5   </body>  
6 </html>
```

Annotations on the code:

- Opening tag: Points to the opening tag of the div element.
- comment: Points to the multi-line comment block.
- text without tag: Points to the text "We can add text without a tag".
- Closing tag: Points to the closing tag of the div element.
- self-closing tag: Points to the self-closing img tag.
- attributes: Points to the attributes of the img tag.

We can add text without a tag

Welcome !

Hope you enjoy!

Click me!





How to comment in html file?

<!-- -->

Browser will not read these codes

<!-- this is just a comment -->

Shortcut :

Command + /

Control + /



How to test html code?

Testing

Just open the **index.html** in a browser

When you do any change to the code, then save the code and check the browser

To open the developer tools press:

Windows: Control + Shift + I or F12

OSX: Command + Opt + I

Alternatively : There are online editors you can use for writing your html/css/js codes

<https://www.codeply.com/>

<https://jsbin.com/>

<http://htmledit.squarefree.com/>



Heading tags

hx

Used to create heading. There are 6 heading H1 - H6. H1 is largest, H6 is smallest/

```
<h1>Heading 1</h1>
```

```
<h2>Heading 2</h2>
```

- H tag is important for SEO
- H1 is used for the most important heading
- There should be only one H1 tag
- H tags usually is used used in hyrarcy.

SEO



Heading tags

hx

- Used to create heading. There are 6 heading.
- H1 is largest, H6 is smallest

```
6   <body>
7     <h1>Heading 1</h1>
8     <h2>Heading 2</h2>
9     <h3>Heading 3</h3>
10    <h4>Heaidng 4</h4>
11    <h5>Heading 5</h5>
12    <h6>Heading 6</h6>
13  </body>
```

Heading 1

Heading 2

Heading 3

Heaidng 4

Heading 5

Heading 6



P tag

p

► P tag is used to create a paragraph
<p>Paragraph</p>

```
<!-- color names -->
<h1>Heading 1</h1>
<p>
    I live in USA
    USA has freedom
    USA is very rich
</p>
<!-- color names -->
<h2>Heading 2</h2>
```

I live in USA USA has freedom USA is very rich



Ideal Page

<h1>Heading 1</h1>

<p>Paragraph 1</p>

<h2>Heading 2</h2>

<p>Paragraph 2</p>

<h3>Heading 3</h3>

<p>Paragraph 3</p>



Br tag

br

➤ used to give horizontal line break

```
<body>
  <h1>Heading 1</h1>
  <p>
    I live in USA<br>
    USA has freedom<br>
    USA is very rich
  </p>
</body>
```

I live in USA
USA has freedom
USA is very rich



Pressing Enter or giving extra space do not have any effect to go to the next line. We use special tags to move elements to the next line



Hr tag

hr

➤ Used to start from a new line

```
<html>
  <head>
    <title>Hr tag</title>
  </head>
  <body>
    <h1>Heading 1</h1>
    <p>
      I live in USA<br>
      USA has freedom<br>
      USA is very rich<br>
    </p>
  </body>
</html>
```

I live in USA
USA has freedom
USA is very rich



Pressing Enter or giving extra space do not have any effect to go to the next line. We use special tags to move elements to the next line



Strong and b tags

strong

- For making texts bold.

```
<p>I live in <strong> USA </strong> for a long time</p>
```

b

- For making texts bold. B is not a semantic tag. Will not effect search engine.
- Strong is a semantic tag. It will have effect on Search engine.
- Use b tag if you just want to make the text bold.

```
<b>Hello</b>
```



em, i, and u tags

em

➤ For making a text italic. Em is semantic.

Hello

i

➤ For making a text italic.

<i>Hello</i>

U

➤ For underlining a text.

<u>This will be underlined</u>



Bold, italic, underline

```
<!-- color names -->
<h1>Heading 1</h1>
<p>
    I live in <b>USA</b><br>
    <i><u><b>USA</b></u></i> has <i>freedom</i><br>
    USA is very <u>rich</u>
</p>
<!-- color names -->
```

I live in **USA**
USA has *freedom*
USA is very rich



Inner Tags



➤ Note : Make sure to check the orders of tags. First open, last close!

```
<p>
  <strong>Hello</strong>
  <u>World</u>
</p>
```



```
<p>
  <strong>Hello
  <u>World</u>
  </strong>
</p>
```



```
<p>
  <strong>Hello</strong>
  <u>World</p>
  </u>
```



```
<p>
  <em>Hello <u>World
  </em></u>
</p>
```





CSS intro



- CSS is used style HTML elements using CSS style attribute
- For example, use style and change the color with color names or codes
- https://developer.mozilla.org/en-US/docs/Web/CSS/color_value
- https://www.w3schools.com/colors/colors_picker.asp

```
, media  
<body>  
    <!-- color names | -->  
    <h1 style="color: red">Heading 1</h1>  
    <!-- color names -->  
    <h2 style="color: mediumvioletred">Heading 2</h2>  
    <!-- color codes -->  
    <h3 style="color: #ff9999">Heading 3</h3>  
    <h4>Heaidng 4</h4>  
    <h5>Heading 5</h5>  
    <h6>Heading 6</h6>  
</body>
```

Heading 1

Heading 2

Heading 3

Heайдng 4



Most common CSS fields

► There are many css fields, but some are used more than others

- `color: #FF0000; red; rgba(10,00,10,1.0);`
- `background-color: red;`
- `background-image: url('file.png');`
- `font: 18px 'Tahoma';`
- `font-size: 18px;`
- `font-family: cursive;`
- `border: 2px solid black;`
- `border-radius: 2px;`
- `margin: 10px;`
- `padding: 2px;`
- `width: 100%; 300px; 1.3em; height: 200px;`
- `text-align: center;`
- `box-shadow: 3px 3px 5px black;`
- `cursor: pointer;`
- `display: inline-block;`



3 Ways to style html elements with CSS



There are three ways to add **CSS** to your website:

- **INLINE** : Using the attribute style on a tag

```
<p style="color: red; margin: 10px">
```

- **INTERNAL** : Inserting the code inside a style tag

```
<style>  
    p { color: red }  
</style>
```

- **EXTERNAL** : Referencing an external CSS file

```
<link href="styles.css" rel="stylesheet" />
```



CSS styles

```
index.html
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>My Html Web Project</title>
5     <style type="text/css">
6       .class1{
7         color: blue;
8       }
9     </style>
10    <link rel="stylesheet" type="text/css" href="styles.css">
11  </head>
12  <body>
13    <h1 style="color: red;">This is header</h1>
14    <p class="class1">This is paragraph</p>
15    <div class="class2">This is a div</div>
16  </body>
17 </html>

styles.css
1 .class2{
2   color: green;
3 }
```

RED: inline styling
BLUE: internal styling
GREEN: external styling

This is header

This is paragraph

This is a div



CSS styles-color

- We can select any color name or code that is available:
- We can use color names or color codes
- https://developer.mozilla.org/en-US/docs/Web/CSS/color_value
- https://www.w3schools.com/colors/colors_picker.asp

```
<head>
<body>
    <!-- color names | -->
    <h1 style="color: red">Heading 1</h1>
    <!-- color names -->
    <h2 style="color: mediumvioletred">Heading 2</h2>
    <!-- color codes -->
    <h3 style="color: #ff9999">Heading 3</h3>
    <h4>Heaidng 4</h4>
    <h5>Heading 5</h5>
    <h6>Heading 6</h6>
</body>
```

Heading 1

Heading 2

Heading 3

Heaidng 4



CSS styles-font-size

- We can change front size of texts using font-size
- When we use more than one styling, we use ; between styles
- <https://developer.mozilla.org/en-US/docs/Web/CSS/font-size>

- Different font-size units
- <https://www.w3.org/Style/Examples/007/units.en.html>

```
<body>
  <!-- color names -->
  <h1 style="color: red; font-size: 40px">Heading 1</h1>
  <!-- color names -->
  <h2 style="color: mediumvioletred; font-size: 50px">Heading 2</h2>
  <!-- color codes -->
  <h3 style="color: #ff9999">Heading 3</h3>
  <h4>Heaidng 4</h4>
  <h5>Heaidng 5</h5>
```

Heading 1

Heading 2

Heading 3

Heaidng 4



CSS styles-font-family

- We can change front family of texts using font-family
- <https://developer.mozilla.org/en-US/docs/Web/CSS/font-family>

```
<body>
  <!-- color names -->
  <h1 style="color: red;
  font-size: 50px;
  font-family: arial-black">Heading 1</h1>
  <!-- color names -->
  <h2 style="color: mediumvioletred;
  font-size: 1.8em;
  font-family: cursive">Heading 2</h2>
  <!-- color codes -->
  <h3 style="color: #ff9999; font-size: 80%">Heading 3</h3>
  <h4>Heaidng 4</h4>
```

Heading 1

Heading 2

Heading 3

Heaidng 4



CSS styles-text-align

- We can change text alignment of texts using text-align
- <https://developer.mozilla.org/en-US/docs/Web/CSS/text-align>
- text-align: center;
- text-align: right;
- text-align: left;
- text-align: justify;

```
<h3 style="color: #ff9999;  
font-size: 120%;  
text-align: center;">Heading 3</h3>
```

leading 2

leading 4

Heading 3



CSS styles-background-color

- We can change background color using background-color
- <https://developer.mozilla.org/en-US/docs/Web/CSS/background-color>
- We can use texts, color codes, rgb codes

```
background-color: brown;  
background-color: #74992e;  
background-color: rgb(255, 255, 128);  
background-color: rgba(255, 255, 128, .5);  
background-color: hsl(50, 33%, 25%);  
background-color: hsla(50, 33%, 25%, .75);
```

```
<h3 style="color: #ff9999;  
font-size: 120%;  
text-align: center;  
background-color: green">Heading 3</h3>
```

Heading 3

```
<body style="background-color: honeydew;">
```

Mv Infor



CSS- match the style

- Style h4 tag:
- Color gold
- Font size 45 px
- Font Family Courier
- Background-color light blue
- Align to the right

Heading 4



CSS- Internal Styling

- So far we used style tag in the body inside the tags
- This can be complicated and looks messy
- We can use Style in the heading to style
 - 1. Use style tag under title tag in the heading
 - 2. Use tag names and assign the styles
 - 3. Then delete styles from the body

```
<head>
<title>My Website</title>
<style type="text/css">
  h1{
    color: red;
    font-size: 50px;
    font-family: arial-black;
  }
  h2{
    color: mediumvioletred;
    font-size: 1.8em;
    font-family: cursive
  }
  h3{
    color: #ff9999;
    font-size: 120%;
    text-align: center;
    background-color: green
  }
  h4{
    color: gold;
    font-size: 45px;
    font-family: Courier;
    background-color: lightblue;
    text-align: right;
  }
</style>
</head>
<body>
  <!-- color names -->
  <h1>Heading 1</h1>
  <!-- color names -->
  <h2>Heading 2</h2>
  <!-- color codes -->
  <h3>Heading 3</h3>
  <h4>Heading 4</h4>
```



Styling with tags

Below makes all elements with h1 tag color will be red

```
h1{  
    color: red;  
}
```

Below makes the background color of the page blue

```
body{  
    background-color: blue;  
}
```



It is not a good practice to use tag names to style
We should use classes to style elements
This is the best css practice when styling multiple elements



Using class for styling

Below makes all elements with h1 tag color red

```
.my-class{  
    color: red;  
}  
  
<h1 class="my-class">Heading 1</h1>  
  
<p class="my-class">Paragraph 1</p>  
  
<h1 class="my-class">Heading 2</h1>
```



We should use classes to style elements
This is the best css practice when styling multiple elements with the same style



CSS- Styling with class attribute

- What would you do if I want to use same style for h4 and h5?
- Do I copy paste all style form h4 and paste in h5? No
- We use class attribute when we want to add SAME styles for different elements

X

```
h4{  
    color: gold;  
    font-size: 45px;  
    font-family: Courier;  
    background-color: lightblue;  
    text-align: right;  
}  
  
h5{  
    color: gold;  
    font-size: 45px;  
    font-family: Courier;  
    background-color: lightblue;  
    text-align: right;  
}
```



✓

```
<h4 class="yb">Heading 4</h4>  
<h5 class="yb">Heading 5</h5>
```

```
.yb{  
    color: gold;  
    font-size: 45px;  
    font-family: Courier;  
    background-color: lightblue;  
    text-align: right;  
}  
</style>
```



Using class for styling

Below makes only h1 with heading-1 id color red

```
#heading-1{  
    color: red;  
}  
  
<h1 class="my-class" id="heading-1">Heading 1</h1>  
  
<p class="my-class" id="parag-1">Paragraph 1</p>  
  
<h1 class="my-class" id="heading-2">Heading 2</h1>
```



We can use id to style elements
This should be done when applying unique style



CSS- Styling with id attribute

- ID is not common
- But ID can be used to style UNIQUE ELEMENT

```
<h6 id="hf">Heading 6</h6>
```

- Create id="hf" for H6
- Then create #hf to style this unique element

```
#hf{  
    font-weight: lighter;  
    color: darkblue;  
    font-size: 3em;  
    font-family: arial  
}
```

Heading 6



Using class for styling

Below makes only h1 with heading-1 id color red

```
#heading-1{  
    color: red;  
}  
  
<h1 class="my-class" id="heading-1">Heading 1</h1>  
  
<p class="my-class" id="parag-1">Paragraph 1</p>  
  
<h1 class="my-class" id="heading-2">Heading 2</h1>
```

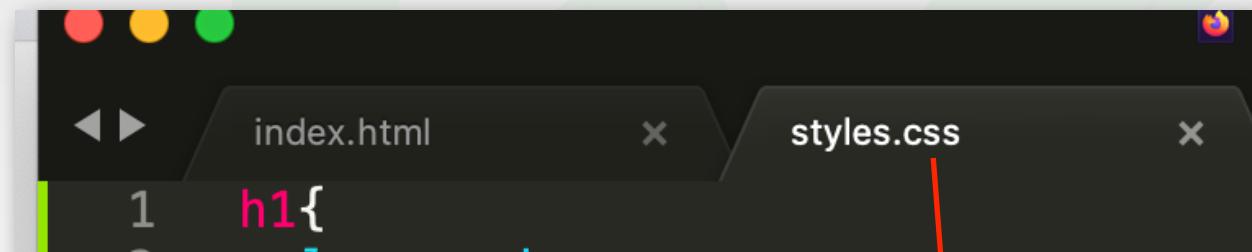


We can use id to style elements
This should be done when applying unique style



CSS-External CSS

- External css: adding style in an external sheet(We will learn now)
 - Create a new file and add styles.css and save as in the same folder
 - Cut and paste all style from style tag from heading(not including style)
 - Then delete style tag from heading in html file
- Create a link tag right under title tag. Save.
- Then all should work the same
- When you want to update styles, you can use the external css file
- External css is like inheritance



```
<head>
    <title>My Website</title>
    <link rel="stylesheet" type="text/css" href="styles.css">
</head>
```



Using class for styling

- **tag name:** just the name of the tag
 - `p { ... }` affects to all `<p>` tags
- **(.):** used for classes
 - `p.my-class { ... }` means p whose class is my-class
- **(#):** specifies tags with that id
 - `p#my-id { ... }` means p whose id is my-id
- **two dots (:):** behavior such as mouse over
 - `p:hover { ... }` styles the p tags when moving the mouse over
- **tag[attribute='value']:** tags with the attribute with the value 'value'
 - `input[type="text"] {...}` input tag, type attribute, text value



There are different ways to locate the targeted element for styling
Again most common way is to use class



Css display

The CSS display property is specified using keyword values.

<https://developer.mozilla.org/en-US/docs/Web/CSS/display>

```
display: block;  
display: inline;  
display: inline-block;  
display: flex;  
display: inline-flex;  
display: grid;  
display: inline-grid;  
display: flow-root;
```



Css grids

The CSS grid layout logic is used for dividing a page into different parts

https://developer.mozilla.org/en-US/docs/Web/CSS/CSS_Grid_Layout



Images



img

➤ is used to insert image

```

```



SEO

Alt attribute is important for SEO on images



unsplash.com, pexels.com,
flaticon.com can be used for
free images



CSS-Spacing with Padding and margin

> 

> Margin-:Used to create space AROUND an element

> https://www.w3schools.com/css/css_margin.asp

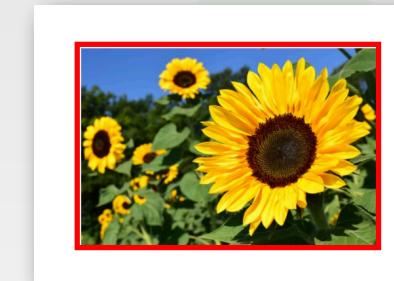
```
margin-top: 100px;  
margin-bottom: 100px;  
margin-right: 150px;  
margin-left: 80px;
```

> Padding is used to create space INSIDE an element

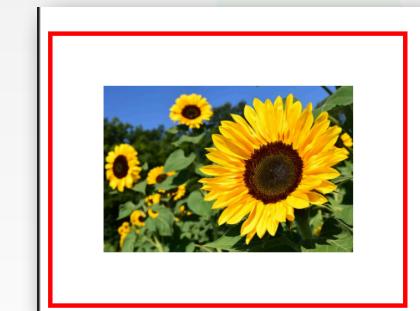
> https://www.w3schools.com/css/css_padding.asp

```
padding-top: 50px;  
padding-right: 30px;  
padding-bottom: 50px;  
padding-left: 80px;
```

Margin: 50px



Padding: 50px



```
#img1{  
    width: 100%;  
    border: 5px solid;  
    color: pink;  
    margin-bottom: 80px;  
    border-radius: 200px  
}  
  
#img2{  
    width: 250px;  
    border: 5px solid;  
    color: red;  
    padding: 50px;  
    border-radius: 100px  
}  
  
style>
```



Links

a

In webpages,

- When going to a different website.
- When going to a different page,
- When going to different parts in the same page,
- When going to different parts of different page,
- Email address, Phone numbers, What's up apps,...

Use <a> tag to link.



Links-Text Link

a

- When going to a different website

To go to a different page use a tag and href attribute

```
<a href="https://www.techproeducation.com">TechPro Education</a>
```

To open the page in a new tab:

```
<a href="https://www.techproeducation.com"  
target="_blank"
```

To link a file such as image:

```
<a href="img/logo.jpg">Open the logo</a>
```



Links-Image Link

A

- When going to a different website

Adding the image link. Use a tag then add img tag to add a link to and image

```
<a href="https://www.techproeducation.com" target="_blank">
    
</a>
```

```
<h3>Heading 3</h3>
<a href="https://www.techproeducation.com/" target="_blank">TechPro Education</a>
<br><br>
<a href="https://www.google.com/" target="_blank">
    
</a>
<h4 class="yb">Heading 4</h4>
```



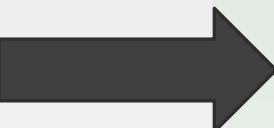


Links



When going to a different page

```
<a  
href="page1.html"  
title="cheap  
computer">Click</a>
```



index.html



page1.html



Title tag is important for a tags for SEO



Links

a

➤ When going to different parts in the same page

```
<a href="#products">click</a>
.
.
.
<h2 id="products">Products</h2>
```



Links

a

➤ When going to different parts of different page,

```
<a href="page1.html#projects">click</a>
```



```
....  
<p id="projects"></p>  
....
```

index.html

page1.html



Links

a

➤ E mails

```
<a href="mailto:abayram@techproed.com">Send email</a>
```

➤ Phone numbers

```
<a href="tel:+15019998877">Call</a>
```

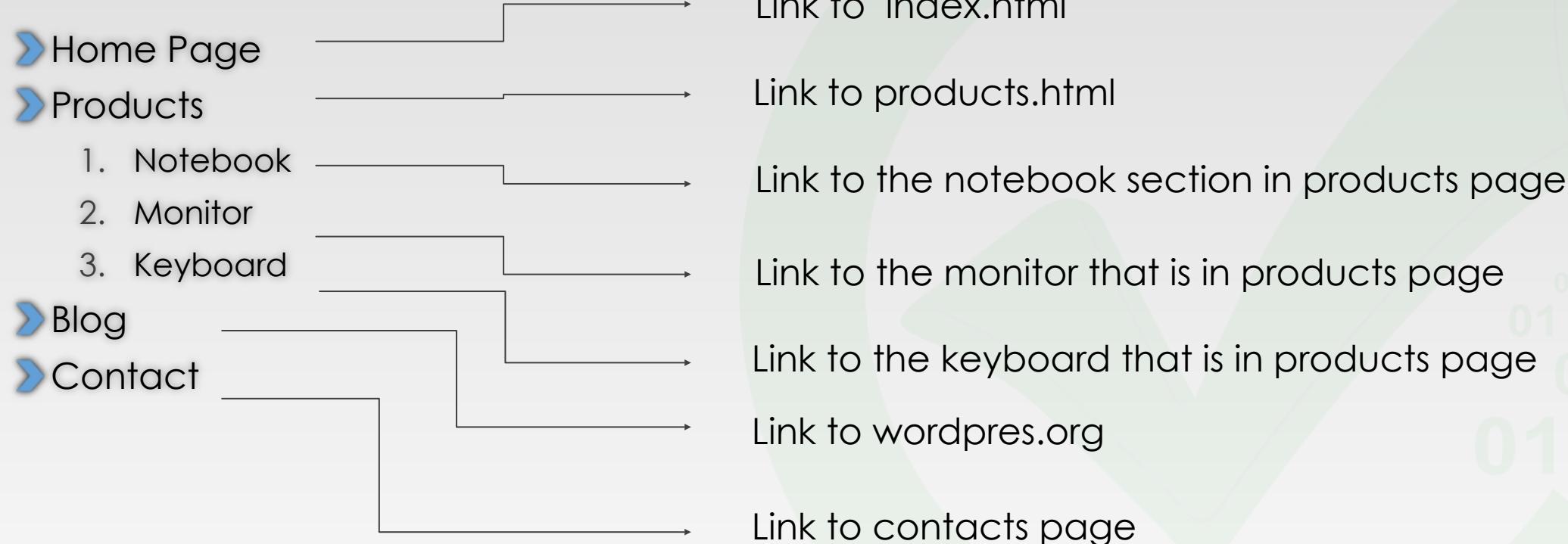
➤ What's up

```
<a href="https://wa.me/15019998877">Whatsapp</a>
```

```
<a href="https://wa.me/15019998877?text=Hi">Whatsapp</a>
```



Create a menu assignment



In products page Create a link (download the document)and link to a pdf document

In contacts page create a link for email, phone, and what's up



Lists



» Unordered List

```
<ol>
  <li>Apple</li>
  <li>Tea</li>
  <li>Orange</li>
</ol>
```

- Apple
- Tea
- Orange

- Apple
- Tea
- Orange

- α. Apple
- β. Tea
- γ. Banana



» Ordered List

```
<ol>
  <li>Apricot</li>
  <li>Grapes</li>
  <li>Banana</li>
</ol>
```

- i. Apricot
- ii. Grape
- iii. Banana



» List Item

```
<li>Apricot</li>
<li>Grapes</li>
<li>Banana</li>
```

```
<ul style="font-size: 50px; list-style-type: lower-greek;">
  <li>Apple</li>
  <li>Tea</li>
  <li>Orange</li>
</ul>
<ol style="font-size: 50px;" type="i">
  <li>Apricot</li>
  <li>Grapes</li>
  <li>Banana</li>
</ol>
```



Lists

➤ Changing list types

```
<ul style = "list-style-type:list|circle|square|upper-roman|lower-greek">  
    <li>Apple</li>  
    <li>Tea</li>  
    <li>Orange</li>  
</ul>
```

attribute

list-style-type can edit style for ul element:
list, circle, square, upper-roman,lower-greek...

```
<ol type="1 | A | a | I | i">  
    <li>Apricot</li>  
    <li>Grapes</li>  
    <li>Banana</li>  
</ol>
```

attribute

type attribute can edit style for ol element
By default we see number



Lists

▶ Changing starting value

```
<ol type="a" start="c">  
  <li>Apricot</li>  
  <li>Grapes</li>  
  <li>Banana</li>  
</ol>
```

start="c"



Lists

- We use list inner list

```
<ol>
  <li>Teams
    <ul>
      <li>LA Lakers</li>
      <li>Miami Heat</li>
      <li>Boston Celtics</li>
    </ul>
  </li>
  <li>NBA
    <ul>
      <li>Eastern Conference</li>
      <li>Western Conference</li>
    </ul>
  </li>
</ol>
```



Background Image

```
body{  
background-image: url("https://media-exp1.licdn.com/dms/image/C4D1BAQGmyFIY3ZNplw/company-background_10000/0/1596152714244?e=2159024400&v=beta&t=dKaVV5hMBg2aH9s30b93_U4qEY2Yofxz0dj2s5mDJZQ");  
/*background-repeat: repeat;*/  
background-repeat: no-repeat;  
  
/*styling BACKGROUND color*/  
background-color: lightgrey;  
  
/*styling text color*/  
color: green;}
```

```
p{  
font-size: 35px;  
color: blue  
}  
body{  
background-image: url("https://media-exp1.licdn.com/dms/image/C4D1BAQGmyFIY3ZNplw/company-background_10000/0/1596152714244?e=2159024400&v=beta&t=dKaVV5hMBg2aH9s30b93_U4qEY2Yofxz0dj2s5mDJZQ");  
/*add entire background image*/  
/*background-repeat: repeat;*/  
background-repeat: no-repeat;  
/*styling BACKGROUND color*/  
background-color: lightgrey;  
/*styling text color, if not styled this will apply*/  
color: green;  
}  
:style>
```

The screenshot shows a web page with a red header bar containing the text "Heading". Below the header, there is a list of items. The first item is a radio button followed by the text "Apple". The second item is a radio button followed by the text "Tea". The third item is a radio button followed by the text "Oracge". At the bottom of the list, there are two additional items: "A. Apricot" and "B. grames".

- Apple
- Tea
- Oracge
- A. Apricot
- B. grames

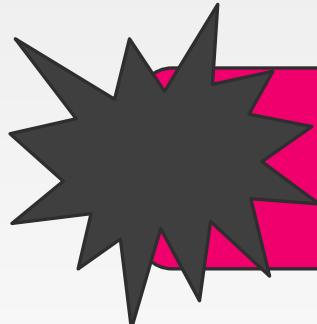


Videos

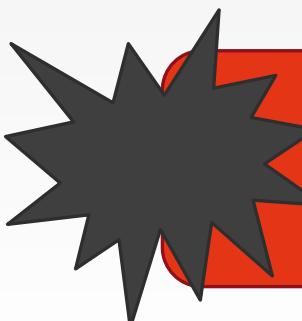


➤ video tag is used to add videos

```
<video width="320" height="240" controls>
  <source src="movie1.mp4" type="video/mp4">
  Your browser does not support the video tag.
</video>
```



MP4, WEBM, OGG type of videos can be used,
but MP4 is used the most



Pexels.com can be used for
free videos



Youtube Videos

- Go to YouTube
- Click share
- Click Embed
- Click COPY
- Then paste in you html
- `<iframe width="560" height="315" src="https://www.youtube.com/embed/2cMdTLpWeQc" title="YouTube video player" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe>`



Iframe

iframe

- Iframe is used to create pages within page. Maps and YouTube videos are created using iframes

```
<iframe src="https://www.w3schools.com" title="W3Schools Free Online Web Tutorials"></iframe>
```



Iframes are used to create maps
For example, to insert google map, we can sue iframes



Iframe

iframe

```
<h6 id="hf">Heading 6</h6>
<iframe src="https://en.wikipedia.org/wiki/Main_Page"
        class="iframe"></iframe>
</body>
```

```
69      }
70      iframe{
71          width: 100%;
72          height: 750px;
73          border-style: solid;
74          border-width: 20px;
75          border-color: red
76      }
```

Line 75 Column 22

The screenshot shows the Wikipedia homepage. On the left, there is a sidebar with a red border containing links like Main page, Talk, Wikipedia:Main page, and Wikipedia:Contents. The main content area displays the "Welcome to Wikipedia" banner and the "From today's featured article" section, which features a photograph of the battleship HMS *Princess Royal*.



Inserting a map

➤ Insert a map of destination in a destination page.

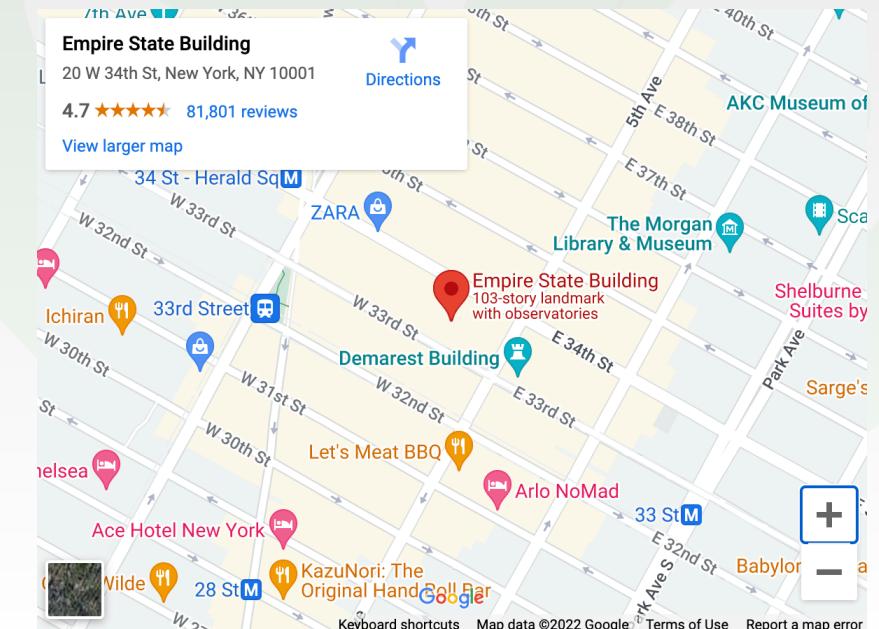
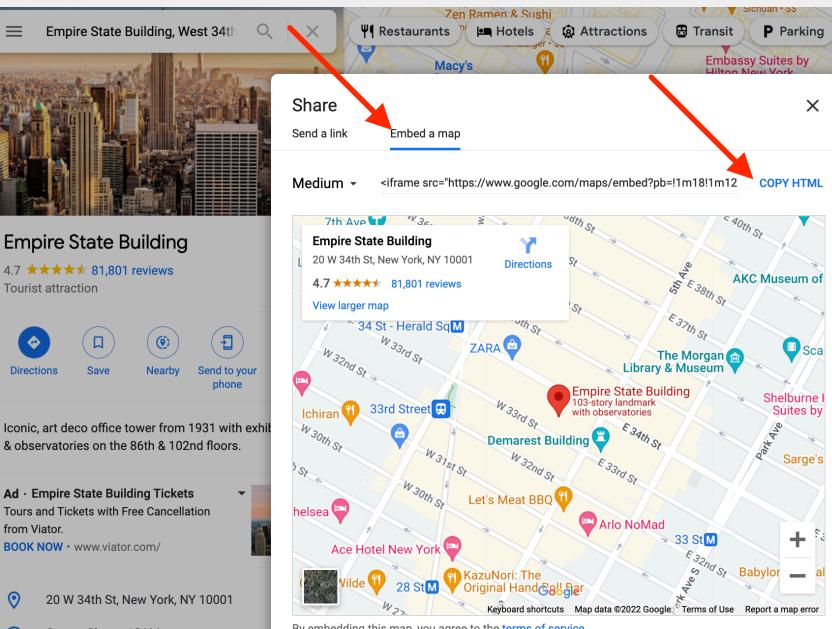
Choose an address in google maps

Click on Share button

Click on Embedded map

Choose the size of map

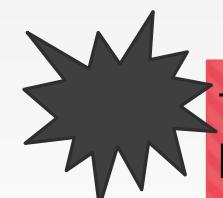
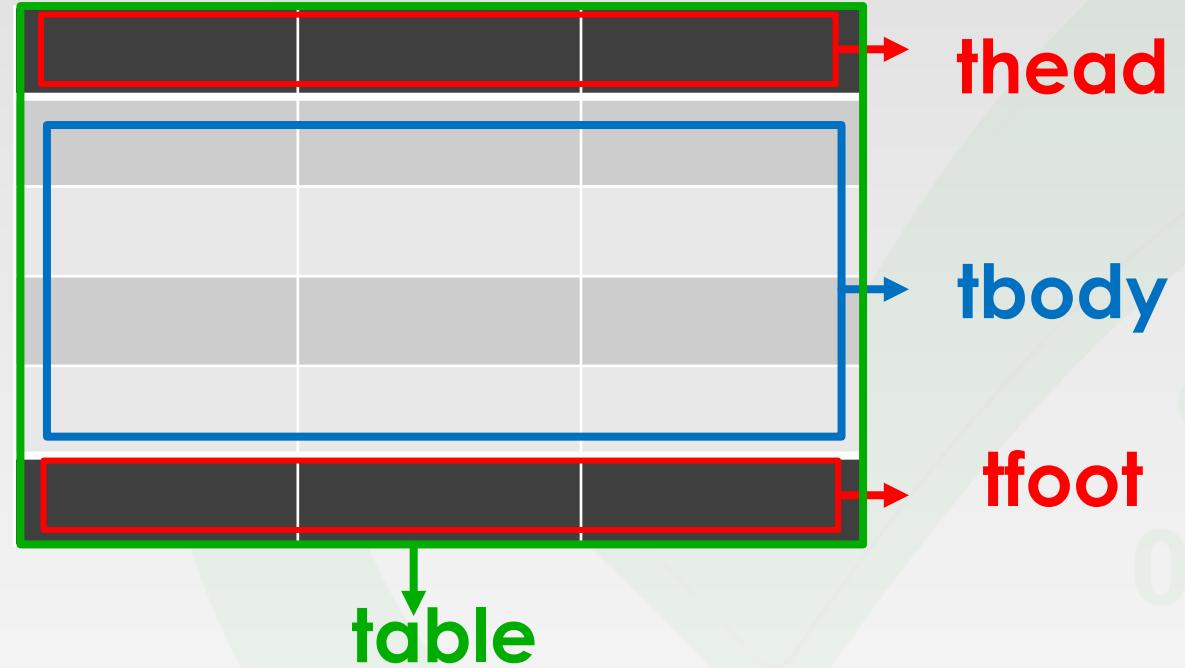
Copy the link and paste in your html document





Web tables

- table** ➤ Create table
- thead** ➤ Creates header
- tbody** ➤ Creates table body
- tfoot** ➤ Creates table footer



tbody, thead, tfoot is not mandatory to use.
It is helpful when using css styles



Web tables

tr

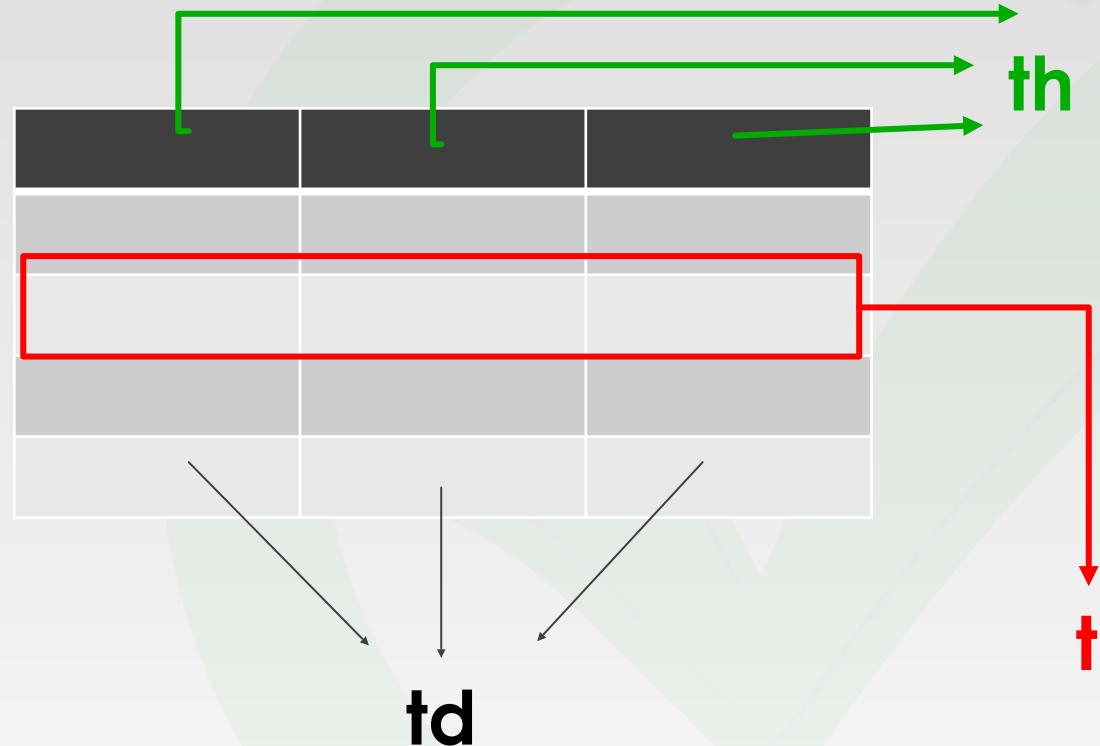
➤ Creates table row

td

➤ Creates table data

th

➤ Creates table header
data





Web tables

- Web tables are used to create rows and column data

```
<h5 class="yb">Tables</h5>
<table>
  <!-- first create table rows, then add table cells -->
  <thead style="background-color: darkgrey; color: black">
    <th>Name</th>
    <th>City</th>
    <th>Phone</th>
  </thead>
  <tr>
    <td>John</td> → ALI   DALLAS 123
    <td>Dallas</td> → VELI   PLANO  456
    <td>1234</td>
  </tr>
  <tr style="background-color: lightgrey">
    <td>Sam</td>
    <td>LA</td>
    <td>5678</td>
  </tr>
</table>
```

Name	City	Phone
John	Dallas	1234
Sam	LA	5678

```
table, td, th{
  font-size: 50px;
  border-style: solid;
  border-color: red;
  border-spacing: 10px
}
td{
  border-color: purple;
}
```

Name	City	Phone
John	Dallas	1234
Sam	LA	5678



Web tables task

- Web tables are used to create rows and column data

Order	Product	Price
1	Notebook	1000\$
2	Mouse	5\$
3	Keyboard	5\$
4	Monitor	150\$
5	Adaptor	50\$
6	Speakers	350\$



Web tables task

➤ Create a league table

Takım	O	G	M	B	A	Y	P
Real Madrid	9	8	0	1	25	7	25
Barcelona	8	7	0	1	23	6	22
Sevilla	9	7	1	1	24	9	22
Atletico Madrid	9	6	2	1	20	12	19
Villareal	9	5	3	1	18	14	16



Web tables

colspan

➤ Horizontal merge

rowspan

➤ Vertical merge

		colspan
	rowspan	



Web tables task

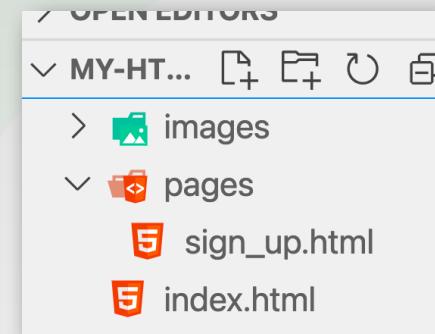
>Create below table

Time Table						
Days		Mon	Tue	Wed	Thu	Fri
Hours	1	Math	Social Studies	Math	Social Studies	Math
	2	Math	Social Studies	Math	Social Studies	Math
	Break					
	3	English	Science	English	Science	English
	4	English	Science	English	Science	English



Create a new page

- We can create a new html page and link it to root html page, which is index.html
- Create a folder : pages
- Create a new file : sign_up.html
- In index.html create a link. When you click the link, it would take you to the sign up page.
- In sign page create a link. When you click the link, it would take you to the root page.
- And create a sign up page in sign up html page



```
<a href="#">pages/sign_up.html" target="_blank">Sign Up Page</a>
```

```
index.html      sign_up.html ×  
... > sign_up.html > html > body  
<!DOCTYPE html>  
<html>  
  <head>  
    <title>Sign Up</title>  
  </head>  
  <body>  
    <h1>Please Sign Up!!!</h1>  
    <a href="#">../index.html  </body>  
</html>
```



Forms UI

Open an account

Full Name :

Username :

Password :

Re-type Password :

Email :

Languages :

 English Spanish French

Gender :

 Male Female Others

Select Your Birthday

Country:

Select Your Color

Upload a file

 No file chosen

Description :

Default
description

Html

```
<form>
  <fieldset style="background-color: #lightpink">
    <legend>
      style="color: #red;font-size:35px">Open an account</legend>
    <label>Full Name : </label><br>
    <input type="text" placeholder="enter your name"><br>
    <label>Username : </label><br>
    <input type="TextBox" placeholder="enter your username"><br>
    <label>Password : </label><br>
    <input type="text" placeholder="enter your password"><br>
    <label>Re-type Password : </label><br>
    <input type="text" placeholder="re-type your password"><br>
    <label>Email : </label><br>
    <input type="email" placeholder="enter your email"><br>
    <label>Languages : </label><br>
    <input type="checkbox" name ="english">
    <label class="custom-label">English </label><br>
    <input type="checkbox" name ="spanish">
    <label class="custom-label">Spanish</label><br>
    <input type="checkbox" name ="french">
    <label class="custom-label">French </label><br>
    <label>Gender : </label><br>
    <input type="Radio" name ="gender">
    <label class="custom-label">Male </label><br>
    <input type="Radio" name ="gender">
    <label class="custom-label">Female </label><br>
    <input type="Radio" name ="gender">
    <label class="custom-label"> Others </label><br>
    <label>Select Your Birthday </label><br>
    <input type="date" name ="birthday"><br>
    <label>Country: </label><br>
    <select>
      <!--<select size="3" multiple> limit size to 3 and multiple selectable -->
      <option value="usa">USA</option>
      <option value="usa">Canada</option>
      <option value="germany" selected>Germany</option>
      <option value="usa">England</option>
    </select><br>
    <label>Select Your Color </label><br>
    <input type="color"><br>
    <label>Upload a file </label><br>
    <input type="file"><br>
    <label>Description : </label><br>
    <textarea rows="10" cols="10">Default description</textarea><br>
    <input type="submit" value="Submit!"><br>
  </fieldset>
</form>
```

Css

```
form{
  color: #darkblue;
  font-size: 25px;
}
input{
  background-color: #lightgoldenrodyellow;
}
textarea{
  background-color: #lightgoldenrodyellow;
}
button{
  background-color: #lightgoldenrodyellow;
}
.custom-label{
  font-size: 15px;
  color: #darkgreen;
}
```



Forms

- Forms are used to take user information. Login, signup, register,...
- Label, textbox, button, radio button, checkbox,... elements are form elements.



To create a form



To create different elements such as input box, button, checkbox,...



To name the form elements



To create a textarea that is bigger than textbox



To create a clickable button



Forms- Input

```
<form>  
    <label> E-Mail </label>  
    <input type="text">  
    <input type="button" value="Save">  
</form>
```

Email

 Save



Forms-Input

INPUT TYPES IN HTML

@codewamir

<input type="text">



abc

<input type="password">



<input type="email">



abc@gmail.com

<input type="number">



34567

<input type="checkbox">



<input type="radio">



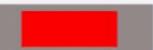
NO YES

<input type="hidden">



Button

<input type="button">



<input type="color">



Choose File pic.png

<input type="file">



Submit image

<input type="image">



Forms-Input

```
<input type="text | email | hidden ...." name="name" value="ahmet" placeholder="">
```

text

➤ General info

password

➤ Password creating. Masks
the entered value

number

➤ Number creation

search

➤ Search box creation

url

email

hidden

tel

➤ Accepts only http, https

➤ Email creation

➤ Privation info creation

➤ Phone number creating



Forms-Input

```
<input type="button | submit | reset" name="btn" value="Save!">
```

button

➤ Button creation

submit

➤ Button creation and sending the information

reset

➤ Button creating to reset the entered information from the page



Forms-Input

➤ Create below form

Email

Pass

Security Code

Save!

Reset



Forms-Input

When we click on submit, form elements are sent to database.
Name and value is used during this process.

```
<form>
    <label>Name</label>
    <input type="text" name="name" value="">
    <br>

    <label>Pass</label>
    <input type="password" name="pass" value="">
    <br>

    <label>Age</label>
    <input type="number" name="age" value="">
</form>
```



```
name=Ali
pass=12345
age=25
```



Forms-Input

For attribute is used to connect the label and inputs.
When clicking out on the label, input is activated.
Input id is used to link

```
<form>
  <label for="email">EMail</label>
  <input id="email" type="text">
  <input type="button" value="Click!">
</form>
```

disabled attribute makes the input inactive temporarily

```
<input type="button" value="Click" disabled>
```



Forms-Input

```
<input type="radio | checkbox | file ...." name="hobbies" value="soccer">
```

checkbox

➤ We can select more than one element

radio

➤ We can select only one element

file

➤ We can upload a file



Forms-Checkbox

- Input type = checkbox
- https://www.w3schools.com/html/html_form_elements.asp

```
<H6 id="hf">Check Box</H6>
<form>
  <label style="font-size: 25px; color: blue">CHOOSE FROM THE MENU : </label><BR>

  <input type="checkbox" name="cheese">
  <label style="font-size: 25px">Cheese</label><BR>

  <input type="checkbox" name="cheese">
  <label style="font-size: 25px">Mushroom</label><BR>

  <input type="checkbox" name="cheese">
  <label style="font-size: 25px">Pepperoni</label><BR>

  <input type="checkbox" name="cheese">
  <label style="font-size: 25px">Olives</label><BR>
</form>
```

CHOOSE FROM THE MENU :

- Cheese
- Mushroom
- Pepperoni
- Olives



Forms-Radio

- Input type = Radio
- https://www.w3schools.com/html/html_form_elements.asp

```
<H6 id="hf">Radio Button</H6>
<form>
  <label style="font-size: 25px">GENDER : </label><BR>

  <input type="Radio" name="gender">
  <label style="font-size: 25px">Male</label><BR>

  <input type="Radio" name="gender">
  <label style="font-size: 25px">Female</label><BR>

  <input type="Radio" name="gender">
  <label style="font-size: 25px">Other</label><BR>
</form>
```

GENDER :

- Male
- Female
- Other



Forms-Dropdown

select

- Select class is used to create dropdown
- Option tag is used to add the choice
- https://www.w3schools.com/html/html_form_elements.asp

```
<select name="cars" multiple size="5">
  <option value="01">Audi</option>
  <option value="02">BMW</option>
  <option value="02" selected>Mercedes</option>
  <option value="03">Honda</option>
  <option value="04">Tesla</option>
</select>
```

Car:

- Audi
- BMW
- ✓ Mercedes
- Honda
- Tesla



Multiple is used to select more than one option
Size is used to limit the selectable options



Forms-Date

```
<input type="date | time ...." name="birthday" value="">
```

date

To create a date field value="2021-08-05"

time

To create time field value="21:15"

Select your birth date:

mm/dd/yyyy

SAVE

https://www.w3schools.com/html/html_form_elements.asp

```
<!-- enter time -->
<input type="time">
<!-- pick date -->
<input type="date">
<!-- pick date and time -->
<input type="datetime-local">
```



Forms-Textarea

textarea

Used to create long texts

```
<textarea name="w3review" rows="4" cols="50"></textarea>
```



Rows row num, cols column num



Forms-Validations

► We can add some requirements in the form elements

required

Element filling is required

min

Min value

minlength

Min character

max

Max value

maxlength

Max character



Forms-Validations

Create below form element. Use appropriate requirement rules.

Name

Last Name

Gender

 Male Female

City

Email

Website

Phone

Hobbies

- Soccer
- Voleybol
- Basketbol

Photo

Select a file Browse

Birthday

Address

Enroll



HTML5 Semantic tag

- The elements that are important for SEO, whose value is important is known as semantic elements.
- HTML5 brought some new semantic tags

- <article>
- <aside>
- <details>
- <figcaption>
- <figure>
- <footer>
- <header>
- <main>
- <nav>
- <mark>
- <section>
- <summary>
- <time>



Semantic Tags

- The tags whose values does not have meaning for SEO

div

span



Elements by Display types

- Block Elements: When used on a line, it occupies the entire line. When a new element is added on the same line, that element goes to the next line
- Inline Elements: Elements that only occupies required amount.

Block Elements

div
p
h1-6
ol, ul, li
hr
blockquote
form

header
aside
main
table
footer
nav
section

Inline Elements

a
b, strong
i, em
br
img
sup, sub
code
span

button
input
textarea
select
label



Div tag

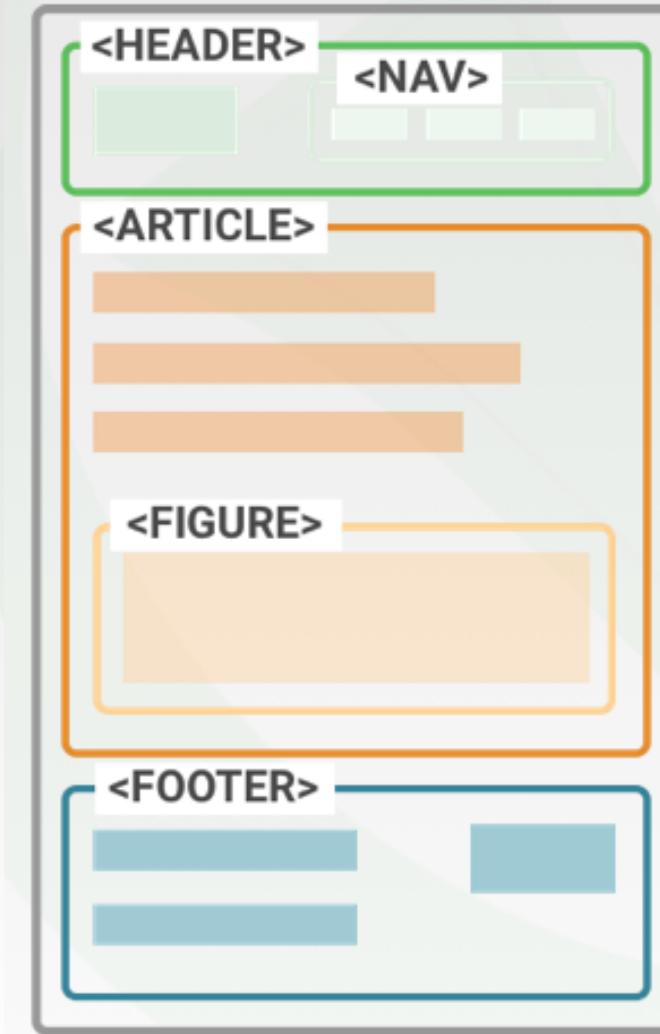
- Div means division
- Div is used to divide contents into specific logical section
 - Links, images, paragraphs, forms, lists
- Div will not have any direct visual effect on the UI, but it will help:
 - Logical divisions to find codes
 - Easier to style with css.
 - For examples we can sue id for each div for uniquely style those parts





Section tag

- Section tag is very similar to div tag
- Section should be used for more specific contents or themes:
 - Dialogs
 - Lists
 - Headings
 - Paragraphs
 - ...
- There are more specific tags that can be used for wrapping the logical contents
 - Header
 - Article
 - Figure
 - footer





Footer

- We can use footer tag to create a footer
- We must style footer to keep it at the bottom of the page

```
<footer>
  <p class="footer-class"> Copyright 2022 </p>
</footer>
```

```
.footer-class{
  color: white;
  background-color: darkgrey;
  text-align: center;
  width: 100%;
  height: 100%;
  position: relative;
  margin-top: auto;
}
```

© Copyright 2022



Using external links

- There are many external link we can use in our projects
- Font awesome is one of the popular library
- <https://fontawesome.com/>
- As always we must link them in the project head section
- <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.0.0/css/all.min.css">

```
<footer>
  <div class="footer-class">
    <a target="_blank" href="https://twitter.com/tweeter?lang=en"><i class="fa-brands fa-twitter"></i></a>
    <a target="_blank" href="https://www.facebook.com/"><i class="fa-brands fa-facebook"></i></a>
    <a target="_blank" href="https://www.linkedin.com/"><i class="fa-brands fa-linkedin"></i></a>
    <a target="_blank" href="https://www.whatsapp.com/"><i class="fa-brands fa-whatsapp"></i></a>
    <span class="copyright">
      © Copyright <span id = "current-year" ></span>
    </span>
  </div>
</footer>
```



© Copyright 2022

```
.footer-class{
  color: white;
  background-color: darkgrey;
  width: 100%;
  height: 100%;
  position: relative;
  margin-top: auto;
  padding: 10px;
}

.copyright{
  margin-left: 33.33%;;
  position: relative;
}
```



Javascript intro



- JS is one of the most popular language in the world
- JS is the language of the browser that makes page elements **interactive**
- JS can be used manipulate page elements and css properties using js
- JS can be used for full stack applications



Javascript usage

There are three ways to use js in pages

- **Inline**

```
<button onclick="javascript: /* js code */>Click Me</button>
```

- **Internal**

```
<script> /* js code */ </script>
```

- **External**

```
<script src="js-file.js" />
```



External js is most common using js for web pages



Javascript usage

```
<html>
  <body>
    <h1>My Title</h1>
    <script>
      var title = document.querySelector("h1");
      title.innerHTML = "Overriding the original title";
    </script>
  </body>
</html>
```



Using internal JS in this example using script tag



Javascript data declaration

Very similar to Java, apex, c++ but a little easier to start

```
var my_number = 10; //NUMBER  
var my_string = "hello"; //STRING  
var my_array = [10,20,"name",true]; //ARRAY  
var my_object = { name: "javi", city: "Barcelona" }; //OBJECT  
function say( str ) //FUNCTION  
{  
    for(var i = 0; i < 10; ++i)  
        console.log(" say: " + str );  
}
```



JS is loosely type language unlike JAVA



Html,css,js on a web page

index.html

```
<link href="style.css" rel="stylesheet"/>  
  
<h1>Welcome!</h1>  
  
<button>Click me</button>  
<script src="js-file.js"/>
```

style.css

```
h1 { color: red; }  
  
button {  
    border: 2px solid black;  
    background-color: yellow;  
}
```

js-file.js

```
//get the button from the DOM  
var button = document.querySelector("button");  
  
//listen the button using click event handler  
button.addEventListener("click", alertButton);  
  
//create alertButton and write the code for what to do  
function alertButton()  
{  
    //popup will show up after button click  
    alert("Button clicked!");  
}
```



Using external JS in this example using external file



JS-Getting the date dynamically using javascript

- Use script tag to add javascript code in html file
- We can use external javascript code
- Js will be though in JS classes

```
<footer>
  <div class="footer-class">
    <a target="_blank" href="https://twitter.com/tweeter?lang=en"><i class="fa-brands fa-twitter"></i></a>
    <a target="_blank" href="https://www.facebook.com/"><i class="fa-brands fa-facebook"></i></a>
    <a target="_blank" href="https://www.linkedin.com/"><i class="fa-brands fa-linkedin"></i></a>
    <a target="_blank" href="https://www.whatsapp.com/"><i class="fa-brands fa-whatsapp"></i></a>
    <span class="copyright">
      © Copyright <span id = "current-year" ></span>
    </span>
  </div>
</footer>

</body>
<script>
  var currentYear = new Date().getFullYear();
  document.getElementById('current-year').innerHTML=currentYear;
</script>
```





JS-Alert

- Select class is used to create dropdown
- https://www.w3schools.com/html/html_form_elements.asp

```
<H6 id="hf">Alert</H6>
<button type="button" onclick="alert('Warning ! You cannot click!')" style="font-size: 40px">
    Click here!
</button>
```

Click here!

