HTML

HTML INTRODUCTION

- HTML-HyperText Markup Language.
- It is a standard markup language for Web pages.
- Created by TIM Benners Lee.
- Consists of a Series of Elements.
- HTML elements tell the browser how to display the content.
- HTML Elements are represented in tags(<>).
- HTML Elements are building blocks of HTML Page

- syntax:

For opening a simple element with a start tag

1) it starts with <

2) then a list of characters without space, the tag name (or element)

3) ends usually with a >.

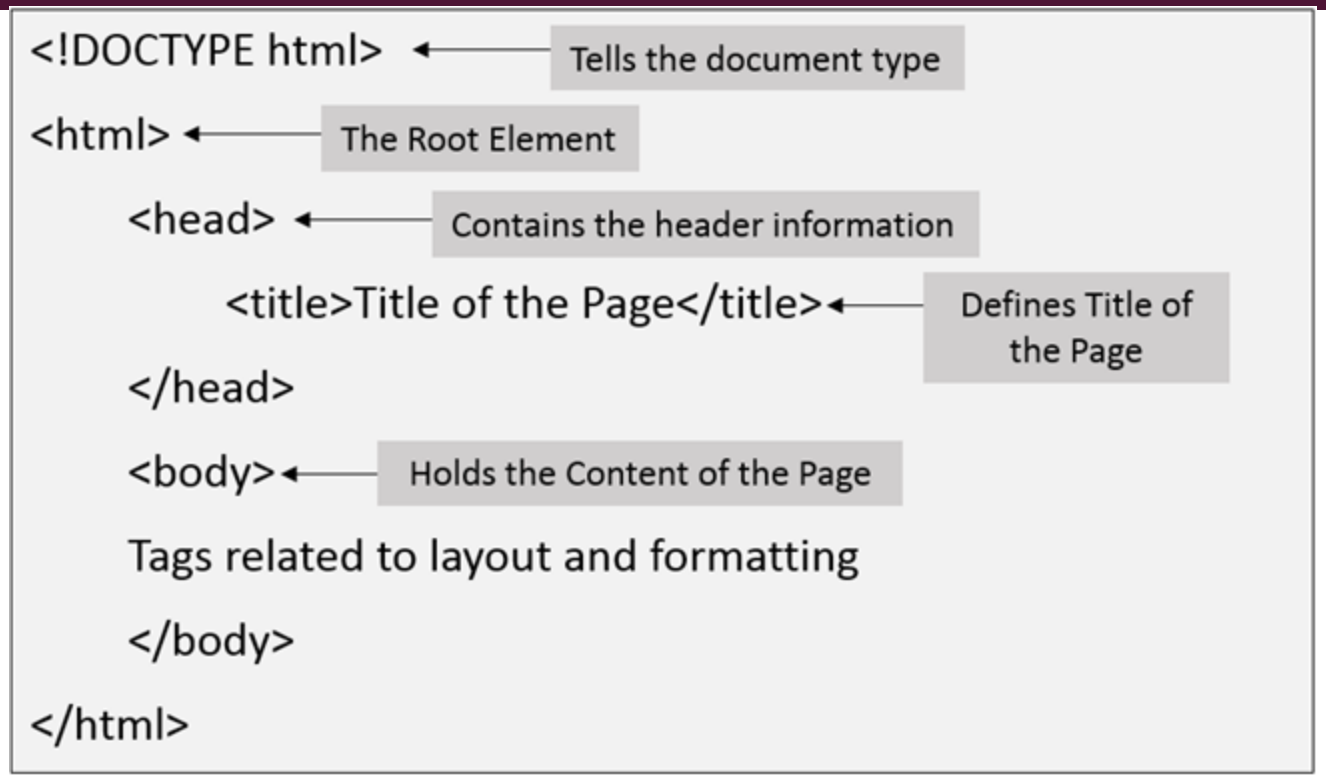
Then closing the simple element with an end tag

1) it starts with </

2) then the same list of characters without space, the tag name (or element)

3)ends usually with a >.

THE BASIC STRUCTURE OF HTML

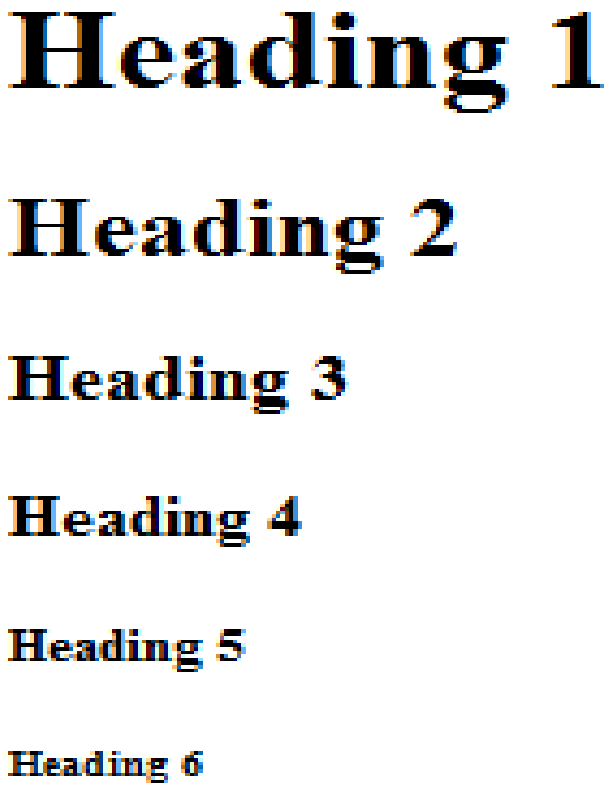


- **The purpose of a web browser (Chrome, Edge, Firefox, Safari) is to read HTML documents and display them correctly.**
- **A browser does not display the HTML tags but uses them to determine how to display the document.**

HTML HEADING:

- HTML headings are defined with the <h1> to <h6> tags.
- <h1> defines the most important heading. <h6> defines the least important heading:

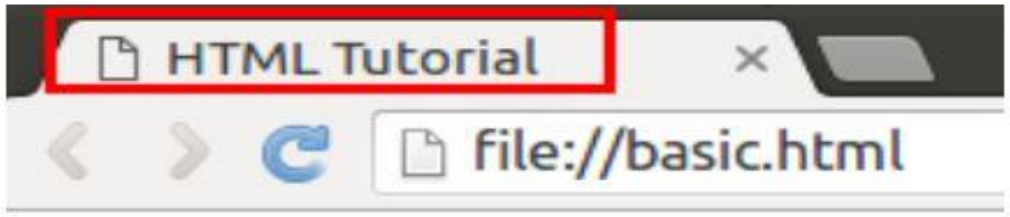
```
<!DOCTYPE html>
<html>
<head>
<title>Sample Document</title>
</head>
<body>
<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<h3>This is heading 3</h3>
<h4>This is heading 4</h4>
<h5>This is heading 5</h5>
<h6>This is heading 6</h6>
</body>
</html>
```

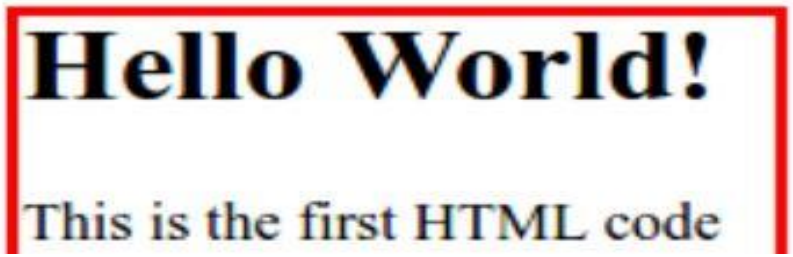


HTML PARAGRAPH:

- HTML paragraphs are defined with the <p> tag:

```
<head>
    <title>HTML Tutorial</title>
</head>
<body>
    <h1> Hello World! </h1>
    <p> This is the first HTML code </p>
</body>
</html>
```





HTML IMAGE TAG:

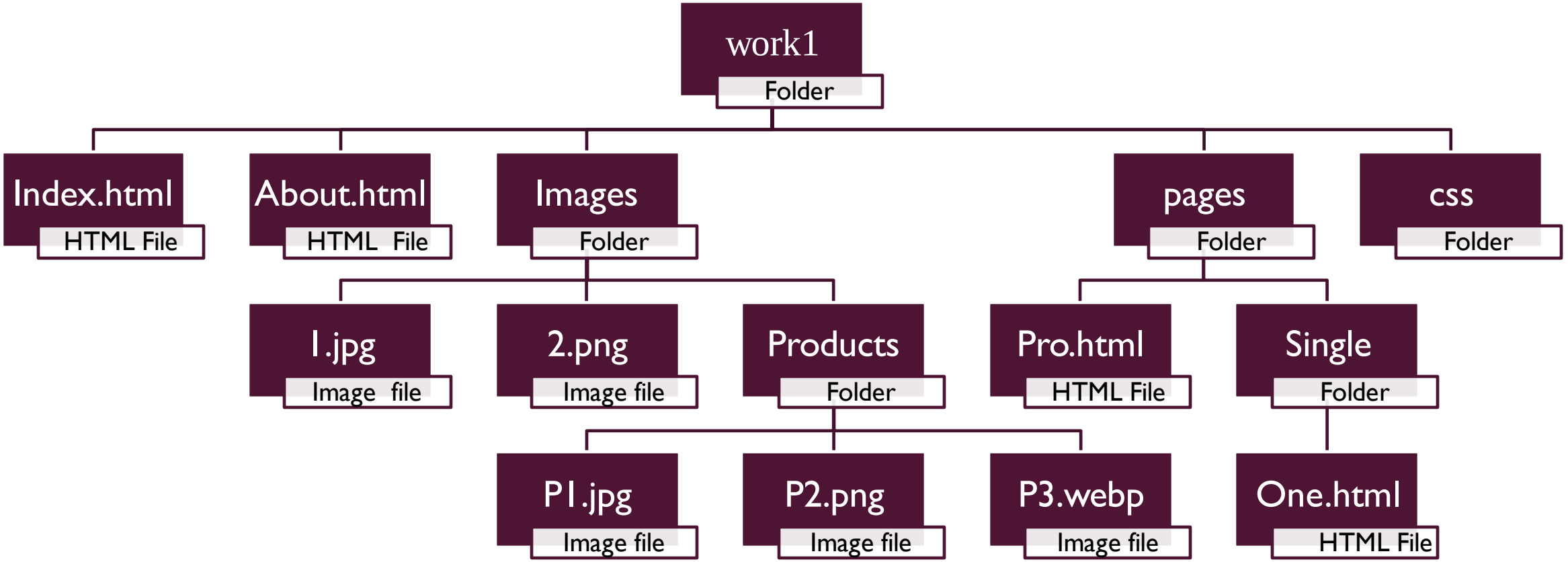
1. Create an image tag using the abbreviation img. This is considered a self-closing tag, this tag doesn't need a closing tag.
2. The src attribute is short for source,the page will look for an image with the filename dog.jpg in Image file names include Common extensions are .jpg, .jpeg, and .png.

3. The alt attribute is short for alternative text. While you won't see this text on your web page, it provides a backup in case your image doesn't download properly or for visually impaired users. if your browser failed to load the image you would see

- A relative file path points to a file relative to the current page. In the following example, the file path points to a file in the images folder located at the root of the current web:

  <img src="/images/picture.jpg" alt="Mountain">
- In the following example, the file path points to a file in the images folder located in the current folder: **<img src="images/picture.jpg" alt="Mountain">**
- In the following example, the file path points to a file in the images folder located in the folder one level up from the current folder:

  <img src="../images/picture.jpg" alt="Mountain">


work1
Folder
Index.html
HTML File
About.html
HTML File
Images
Folder
pages
Folder
css
Folder
1.jpg
Image file
2.png
Image file
Products
Folder
Pro.html
HTML File
Single
Folder
P1.jpg
Image file
P2.png
Image file
P3.webp
Image file
One.html
HTML File

- Index.html
  - <img src="images/1.jpg" alt="image1">
  - <img src="images/Products/P3.webp" alt="image1">
  - About
  - Pro page
  - One page
- About.html
  - <img src="images/1.jpg" alt="image1">
  - <img src="images/products/P3.webp" alt="image3">
  - Index
  - About
  - About

- One.html
  - <img src="../../images/1.jpg" alt="image1">
  - <img src="../images/Product/P3.jpg" alt="image1">
  - About
  - Apout

- Pro.html
  - About
  - About
  - <img src="../images/1.jpg" alt="image1">
  - <img src="../images/Product/P3.jpg" alt="image1">

HTML LINK TAG…

- HTML LINK Tags..
- The HTML <a> tag defines a hyperlink. It has the following syntax:
  - **link name**
  - The most important attribute of the <a> element is the hre attribute, which indicates the link's destination.
  - The link text is the part that will be visible to the reader.
  - Clicking on the link text, will send the reader to the specified URL address

HTML LINK TAG CONTINUE…

- Button as a link:
  - To use an HTML button as a link, you have to add some JavaScript code.
  - JavaScript allows you to specify what happens at certain events, such as a click of a button:
  - <button onclick="document.location='default.asp' ">HTML Tutorial</button>
  - Link to a page located in the same folder as the current page:
  - HTML tutorial
  - Link to a page located in the HTML folder on the current website:
  - HTML tutorial

HTML COMMENTS

- HTML comments are not displayed in the browser, but they can help document your HTML source code.
- HTML Comment Tag
- You can add comments to your HTML source by using the following syntax:
  - <!-- Write your comments here -->

HTML LIST TAGS…

- HTML lists allow web developers to group a set of related items in lists.

Example

An unordered HTML list:

- Item
- Item
- Item
- Item

An ordered HTML list:

1. First item
2. Second item
3. Third item
4. Fourth item

HTML UNORDERED LIST TAG

- An ordered list starts with the <ol> tag .Each list items starts with the <li> tag.

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

UNORDERED HTML LIST -TYPE

- The CSS list-style-type property is used to define the style of the list item marker. It can have one of the following values:

Value	Description
disc	Sets the list item marker to a bullet (default)
circle	Sets the list item marker to a circle
square	Sets the list item marker to a square
none	The list items will not be marked

```
<!DOCTYPE html>
<html>
<head>
<title>Document</title>
</head>
<body>
<h2>Unordered List with Circle Bullets</h2>
<ul style="list-style-type:circle;">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
<h2>Unordered List with Square Bullets</h2>
<ul style="list-style-type:square;">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
</body>
</html>
```

Unordered List with Circle Bullets

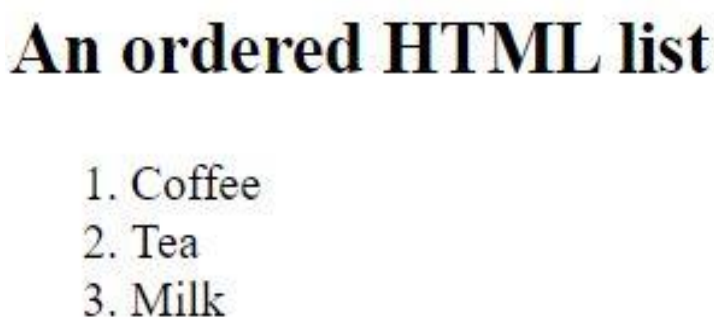
- Coffee
- Tea
- Milk

Unordered List with Square Bullets

- Coffee
- Tea
- Milk

HTML ORDERED LIST TAG

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

<h2>An ordered HTML list</h2>

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

</body>
</html>
```



ORDERED LIST- TYPE

- The type attribute of <ol> tag, defines the type of the list item marker:

Type	Description
type="1"	The list items will be numbered with numbers (default)
type="A"	The list items will be numbered with uppercase letters
type="a"	The list items will be numbered with lowercase letters
type="I"	The list items will be numbered with uppercase roman numbers
type="i"	The list items will be numbered with lowercase roman numbers

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

<h2>Ordered List with Numbers</h2>

<ol type="1">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
<ol type="A">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
</body>
</html>
```

Ordered List with Numbers

1. Coffee
2. Tea
3. Milk

A. Coffee
B. Tea
C. Milk

```
<ol type="a">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
<ol type="I">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
<ol type="i">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```

a. Coffee
b. Tea
c. Milk

I. Coffee
II. Tea
III. Milk

i. Coffee
ii. Tea
iii. Milk

HTML BLOCK AND INLINE ELEMENTS …

- Every HTML element has a default display value, depending on what type of element it is.
- There are two display values: block and inline.
- A block-level element always starts on a new line, and the browsers automatically add some space (a margin) before and after the element.
- A block-level element always takes up the full width available (stretches out to the left and right as far as it can).
- The two commonly used block elements are tag and <p> tag.
- The <p> element defines a paragraph in an HTML document.
- The element defines a division or a section in an HTML document

```
<p>Hello World</p>

<div>Hello World</div>
```

HTML STYLES

- The HTML `style` attribute is used to add styles to an element, such as color, font, size, and more.
- Setting the style of an HTML element, can be done with the style attribute.
- The HTML style attribute has the following syntax:
  - `<tagname style="property:value;">`
  - The property is a CSS property. The value is a CSS value.
  - The CSS background-color property defines the background color for an HTML element.
  - The CSS color property defines the text color for an HTML element.
  - The CSS font-family property defines the font to be used for an HTML element.
  - The CSS font-size property defines the text size for an HTML element.
  - The CSS text-align property defines the horizontal text alignment for an HTML element.

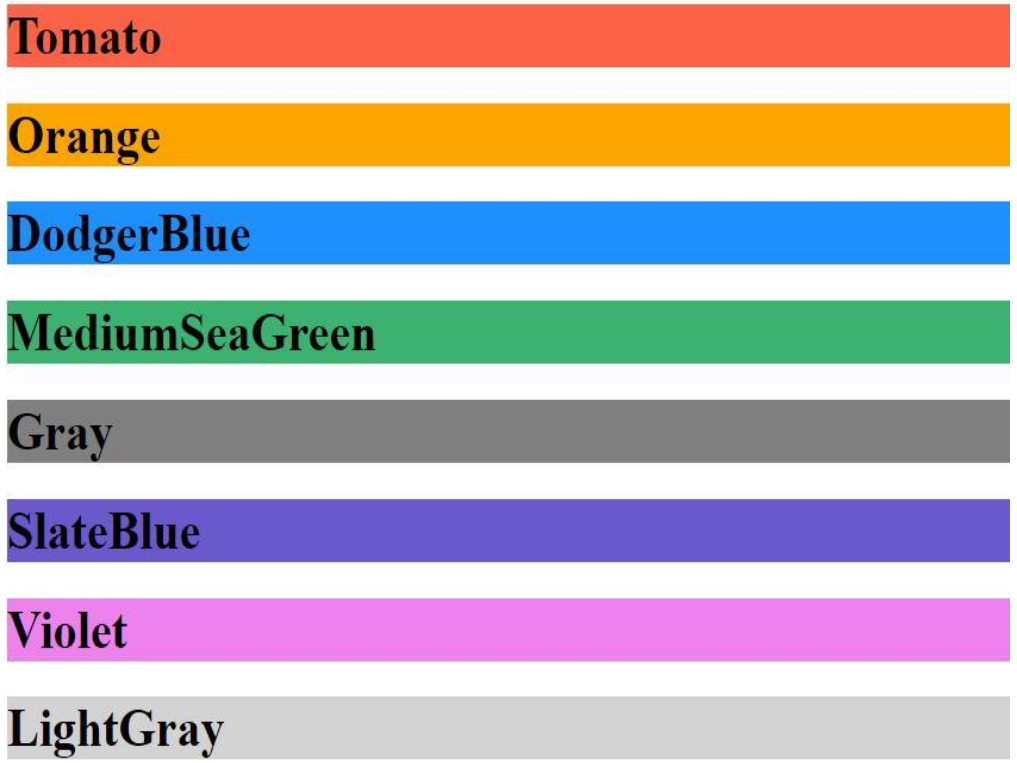
HTML FORMATTING ELEMENTS

- Formatting elements were designed to display special types of text:
  - <b> - Bold text
  - - Important text
  - <i> - Italic text
  - - Emphasized text
  - <mark> - Marked text
  - <small> - Smaller text
  - <del> - Deleted text
  - <ins> - Inserted text
  - <sub> - Subscript text
  - <sup> - Superscript text

HTML COLORS

- HTML colors are specified with predefined color names, or with RGB, HEX, HSL, RGBA, or HSLA values.
- In HTML, a color can be specified by using a color name: Tomato, Orange, DodgerBlue, MediumSeaGreen, Gray, SlateBlue, Violet, LightGray.

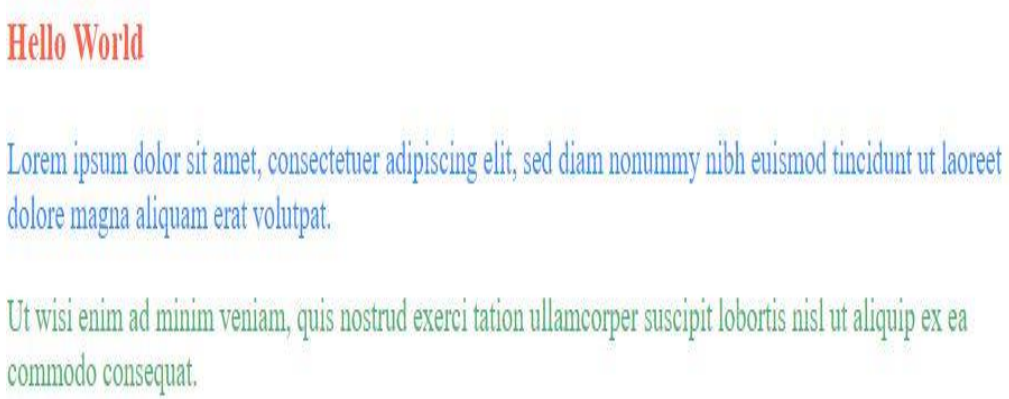
```
<!DOCTYPE html>
<html>
<body>
<h1 style="background-color:Tomato;">Tomato</h1>
<h1 style="background-color:Orange;">Orange</h1>
<h1 style="background-color:DodgerBlue;">DodgerBlue</h1>
<h1 style="background-color:MediumSeaGreen;">MediumSeaGreen</h1>
<h1 style="background-color:Gray;">Gray</h1>
<h1 style="background-color:SlateBlue;">SlateBlue</h1>
<h1 style="background-color:Violet;">Violet</h1>
<h1 style="background-color:LightGray;">LightGray</h1>
</body>
</html>
```



TEXT COLOR

- You can set the color of text:

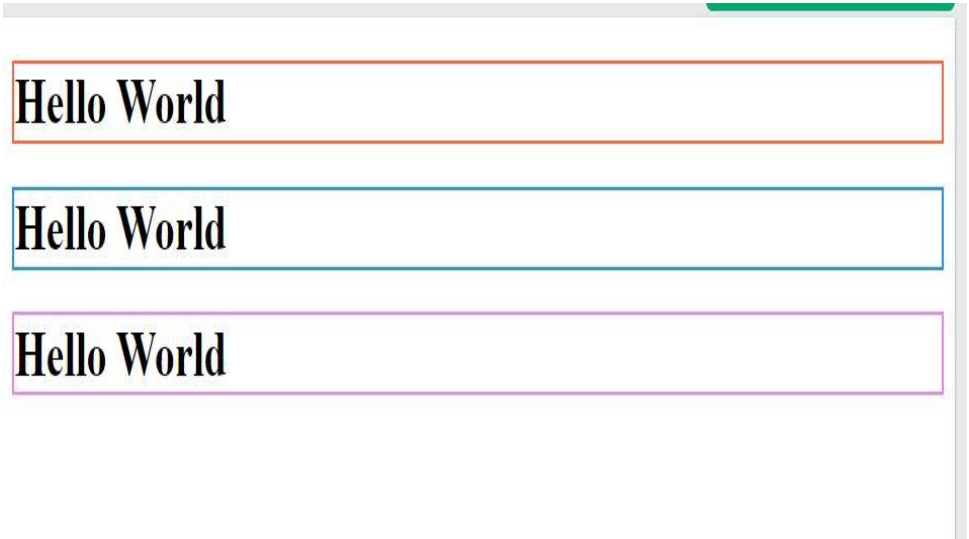
```
<!DOCTYPE html>
<html>
<body>
<h3 style="color:Tomato;">Hello World</h3>
<p style="color:DodgerBlue;">Lorem ipsum dolor sit
amet, consectetuer adipiscing elit,
sed diam nonummy nibh euismod tincidunt ut laoreet dolore
magna aliquam erat volutpat.</p>
<p style="color:MediumSeaGreen;">Ut wisi enim ad minim veniam,
quis nostrud exerci tation
ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.</p>
</body>
</html>
```



BORDER COLOR:

- You can set the color of borders:

```
<!DOCTYPE html>
<html>
<body>
<h1 style="border: 2px solid Tomato;">Hello World</h1>
<h1 style="border: 2px solid DodgerBlue;">Hello World</h1>
<h1 style="border: 2px solid Violet;">Hello World</h1>
</body>
</html>
```



HTML STYLES - CSS

- CSS stands for Cascading Style Sheets.
- CSS saves a lot of work. It can control the layout of multiple web pages all at once.
- What is CSS?
  - Cascading Style Sheets (CSS) are used to format the layout of a webpage.
  - With CSS, you can control the color, font, text size, spacing between elements, how elements are positioned and laid out, what background images or colors are to be used, different displays for different devices and screen sizes, and much more!
- Using CSS
  - CSS can be added to HTML documents in 3 ways:
    - **Inline** - by using the style attribute inside HTML elements
    - **Internal** - by using a <style> element in the <head> section
    - **External** - by using a <link> element to link to an external CSS file

INLINE CSS

- An inline CSS is used to apply a unique style to a single HTML element.
- An inline CSS uses the `style` attribute of an HTML element.
- The following example sets the text color of the `<h1>` element to blue, and the text color of the `<p>` element to red:
- Example:

```
<!DOCTYPE html>
<html>
<head>
<title> Document</title>
</head>
<body>
<h1 style="color:blue;">A Blue Heading</h1>
<p style="color:red;">A red paragraph.</p>
</body>
</html>
```

INTERNAL CSS

- Internal CSS is used to define a style for a single HTML page.
- An internal CSS is defined in the <head> section of an HTML page, within a <style> element.
- The following example sets the text color of ALL the <h1> elements (on that page) to blue, and the text color of ALL the <p> elements to red. In addition, the page will be displayed with a "powderblue" background color:
- Example:

```
<!DOCTYPE html>
<html>
<head>
<style>
body{background-color: powderblue;}
h1{color: blue;}
p{color: red;}
</style>
</head>
<body>
<h1>This is a heading</h1>
<p>This is a paragraph.</p>
</body>
</html>
```

EXTERNAL CSS

- An external style sheet is used to define the style for many HTML pages.
- To use an external style sheet, add a link to it in the `<head>` section of each HTML page:
- Example:
-

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" href="styles.css">
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

"styles.css":

```
body {
  background-color: powderblue;
}
h1 {
  color: blue;
}
p {
  color: red;
}
```

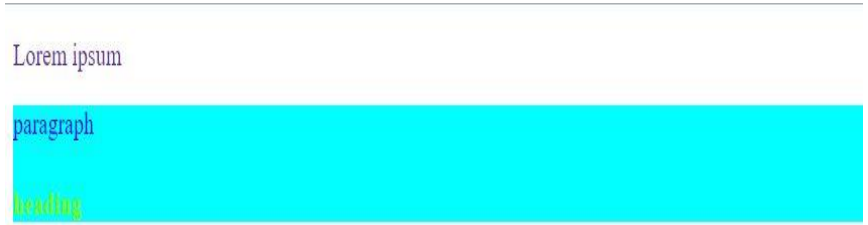
HTML CLASS ATTRIBUTE

- The HTML class attribute is used to specify a class for an HTML element.
- Multiple HTML elements can share the same class.
- Using The class Attribute
  - The class attribute is often used to point to a class name in a style sheet. It can also be used by JavaScript to access and manipulate elements with a specific class name.
  - In the following example we have three elements with a class attribute with the value of "city". All of the three elements will be styled equally according to the .city style definition in the head section:

HTML CLASS ATTRIBUTE CONTINUE…

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Document</title>
    <style>
div .p1{ color:rebeccapurple}
.div1{ background-color: aqua;}
.div1 .para1{ color: blue;}
.div1 .h1{ color: chartreuse;}
    </style>
</head>
<body>
    <div>
        <p class="p1">Lorem ipsum.</p>
    </div>
    <div class="div1">
        <p class="para1">paragraph</p>
        <h4 class="h1"> heading</h4>
    </div>

</body>
</html>
```

Output:



```
<!DOCTYPE html>
<html>
<head>
<style>
.city {
  background-color: tomato;
  color: white;
  border: 2px solid black;
  margin: 20px;
  padding: 20px;
}
</style>
</head>
<body>
```

```
<div class="city">
<h2>London</h2>
<p>London is the capital of
England.</p>
</div>
<div class="city">
<h2>Paris</h2>
<p>Paris is the capital of France.</p>
</div>
<div class="city">
<h2>Tokyo</h2>
<p>Tokyo is the capital of Japan.</p>
</div>
</body>
</html>
```

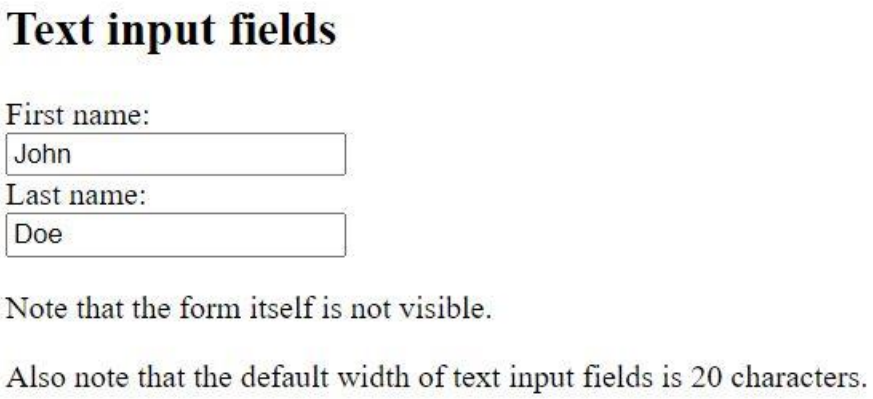
(P.T.O)

HTML ID ATTRIBUTE

- The HTML id attribute is used to specify a unique id for an HTML element.
- You cannot have more than one element with the same id in an HTML document.
- Using The id Attribute
  - The id attribute specifies a unique id for an HTML element. The value of the id attribute must be unique within the HTML document.
  - The id attribute is used to point to a specific style declaration in a style sheet. It is also used by JavaScript to access and manipulate the element with the specific id.
  - The syntax for id is: write a hash character (#), followed by an id name. Then, define the CSS properties within curly braces {}.
  - In the following example we have an <h1> element that points to the id name "myHeader". This <h1> element will be styled according to the #myHeader style definition in the head section:

```
<!DOCTYPE html>
<html>
<head>
<style>
#myHeader {
  background-color: light blue;
  color: black;
  padding: 40px;
  text-align: center;
}
</style>
</head>
<body>

<h2>The id Attribute</h2>
<p>Use CSS to style an element with the id "myHeader":</p>

<h1 id="myHeader">My Header</h1>

</body>
</html>
```

HTML FORMS

- An HTML form is used to collect user input. The user input is most often sent to a server for processing.
- The HTML <form> element is used to create an HTML form for user input:
- ```
  <form>
  .
  form elements
  .
  </form>
  ```
- The <form> element is a container for different types of input elements, such as: text fields, checkboxes, radio buttons, submit buttons, etc.
- All the different form elements are covered in this chapter: HTML Form Elements.
  ```

THE <INPUT> ELEMENT

- The HTML <input> element is the most used form element.
- An <input> element can be displayed in many ways, depending on the type attribute.
- Here are some examples:

Type	Description
<input type="text">	Displays a single-line text input field
<input type="radio">	Displays a radio button (for selecting one of many choices)
<input type="checkbox">	Displays a checkbox (for selecting zero or more of many choices)
<input type="submit">	Displays a submit button (for submitting the form)
<input type="button">	Displays a clickable button

TEXT FIELDS

- The <input type="text"> defines a single-line input field for text input.
- Example:
- A form with input fields for text:
  - ```
    <form>
      <label for="fname">First name:</label><br>
      <input type="text" id="fname" name="fname"><br>
      <label for="lname">Last name:</label><br>
      <input type="text" id="lname" name="lname">
    </form>
    ```


    ```

THE <LABEL> ELEMENT

- Notice the use of the <label> element in the example above.
- The <label> tag defines a label for many form elements.
- The <label> element is useful for screen-reader users, because the screen-reader will read out loud the label when the user focus on the input element.
- The <label> element also help users who have difficulty clicking on very small regions (such as radio buttons or checkboxes) - because when the user clicks the text within the <label> element, it toggles the radio button/checkbox.
- The for attribute of the <label> tag should be equal to the id attribute of the <input> element to bind them together.

RADIO BUTTONS

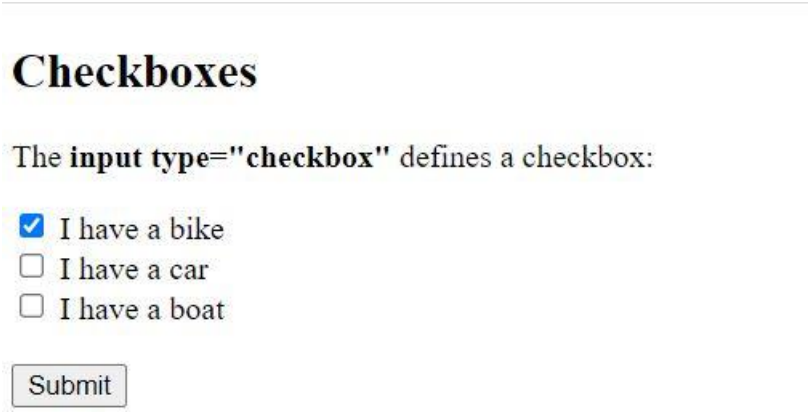
- The <input type="radio"> defines a radio button.
- Radio buttons let a user select ONE of a limited number of choices.
- Example
- A form with radio buttons:
- Choose your favorite Web language:


```
<form>
  <input type="radio" id="html" name="fav_language" value="HTML">
  <label for="html">HTML</label><br>
  <input type="radio" id="css" name="fav_language" value="CSS">
  <label for="css">CSS</label><br>
  <input type="radio" id="javascript" name="fav_language" value="JavaScript">
  <label for="javascript">JavaScript</label>
</form>
```

CHECKBOXES

- The <input type="checkbox"> defines a checkbox.
- Checkboxes let a user select ZERO or MORE options of a limited number of choices.
- Example: A form with checkboxes:
-

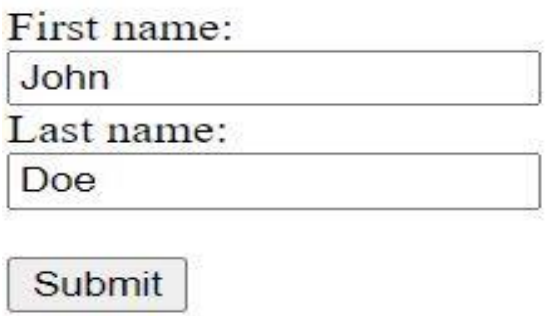
```
<form>
  <input type="checkbox" id="vehicle1" name="vehicle1" value="Bike">
  <label for="vehicle1"> I have a bike</label><br>
  <input type="checkbox" id="vehicle2" name="vehicle2" value="Car">
  <label for="vehicle2"> I have a car</label><br>
  <input type="checkbox" id="vehicle3" name="vehicle3" value="Boat">
  <label for="vehicle3"> I have a boat</label>
</form>
```



THE SUBMIT BUTTON

- The <input type="submit"> defines a button for submitting the form data to a form-handler.
- The form-handler is typically a file on the server with a script for processing input data.
- The form-handler is specified in the form's action attribute.
- Syntax:

```
<form action="/action_page.php">
  <label for="fname">First name:</label><br>
  <input type="text" id="fname" name="fname" value="John"><br>
  <label for="lname">Last name:</label><br>
  <input type="text" id="lname" name="lname" value="Doe"><br><br>
  <input type="submit" value="Submit">
</form>
```



THE NAME ATTRIBUTE FOR <INPUT>

- Notice that each input field must have a name attribute to be submitted.
- If the name attribute is omitted, the value of the input field will not be sent at all.

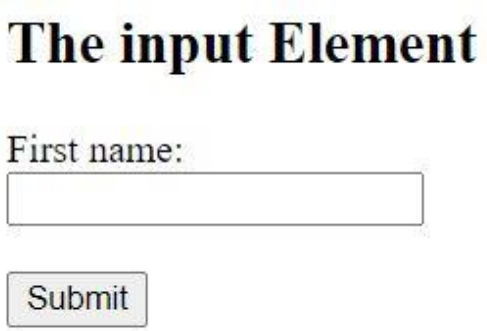
THE HTML <FORM> ELEMENTS

- The HTML <form> element can contain one or more of the following form elements:
  - <input>
  - <label>
  - <select>
  - <textarea>
  - <button>

THE <INPUT> ELEMENT

- One of the most used form element is the <input> element.
- The <input> element can be displayed in several ways, depending on the type attribute.
- Example:<!DOCTYPE html>

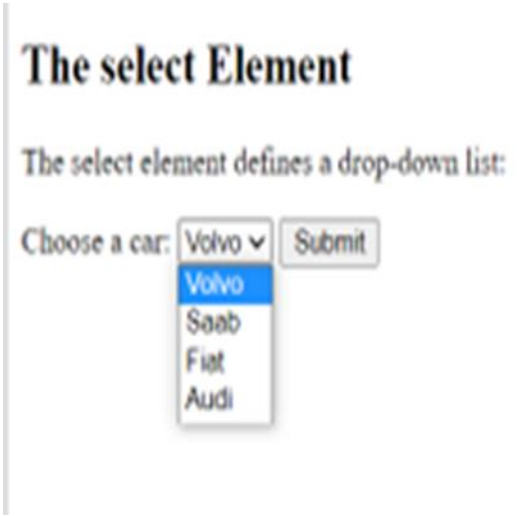
```
<html>
<body>
<h2>The input Element</h2>
<form action="/action_page.php">
 <label for="fname">First name:</label><br>
<input type="text" id="fname" name="fname"><br><br>
 <input type="submit" value="Submit">
</form>

</body>
</html>
```



THE <SELECT> ELEMENT

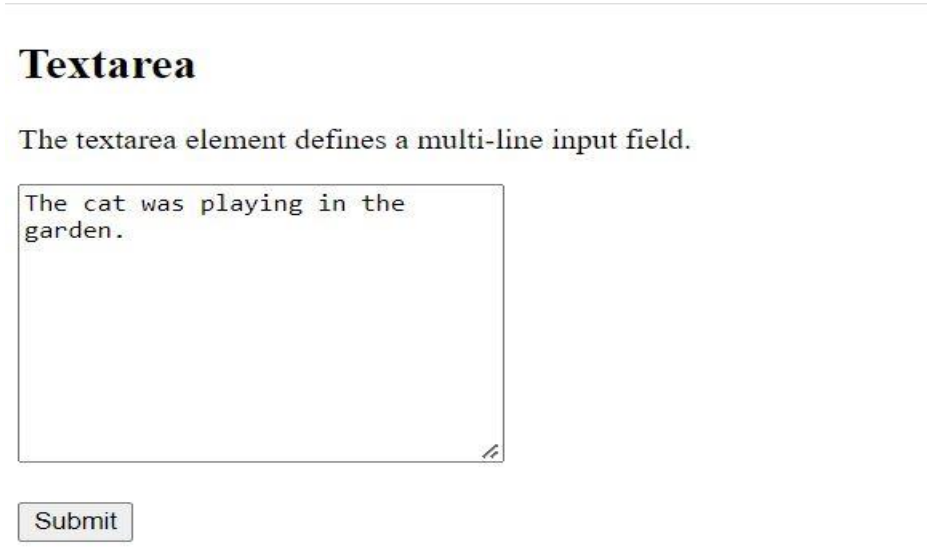
- The <select> element defines a drop-down list:
- The <option> elements defines an option that can be selected.
- By default, the first item in the drop-down list is selected.
- To define a pre-selected option, add the selected attribute to the option
- Allow Multiple Selections, Use the multiple attribute to allow the user to select more than one value:

```
<!DOCTYPE html>
<html>
<body>
<h2>The select Element</h2>
<p>The select element defines a drop-down list:</p>
<form >
<label for="cars">Choose a car:</label>
<select id="cars" name="cars">
    <option value="volvo">Volvo</option>
    <option value="saab">Saab</option>
    <option value="fiat">Fiat</option>
    <option value="audi">Audi</option>
</select>
 <input type="submit">
</form>
</body>
</html>
```



THE <TEXTAREA> ELEMENT

- The <textarea> element defines a multi-line input field (a text area):
- The rows attribute specifies the visible number of lines in a text area.
- The cols attribute specifies the visible width of a text area.




```
<!DOCTYPE html>
<html>
<body>
<h2>Textarea</h2>
<p>The textarea element defines a multi-line input field.</p>
<form action="/action_page.php">
<textarea name="message" rows="10" cols="30">The cat was playing in the garden.</textarea>
<br><br>
 <input type="submit">
</form>
</body>
</html>
```

THE <BUTTON> ELEMENT

- The <button> element defines a clickable button:
- Example:

```
<!DOCTYPE html>
<html>
<body>
<h2>The button Element</h2>
<button type="button" onclick="alert('Hello World!')">Click Me!</button>
</body>
</html>
```