Team Bits and Bytes GitHub: <https://github.com/nomsayn/CS-3300-Bits-And-Bytes.git>

**HTML Basics**

HTML is the standard markup language for Web pages. With HTML you can create your own website.

**Element**

The HTML **element** is everything from the start tag to the end tag:

<tagname>Content goes here...</tagname>

Example: <h1>My First Heading</h1>

**Nested** **Elements**

HTML elements can be nested (this means that elements can contain other elements).

Example:

<!DOCTYPE html>  
<html>  
<body>  
<h1>My First Heading</h1>  
<p>My first paragraph.</p>  
</body>  
</html>

The <html> element is the root element, and it defines the whole HTML document.

It has a start tag <html> and an end tag </html>.

Then, inside the <html> element there is a <body> element.

The <body> element defines the document's body.

It has a start tag <body> and an end tag </body>.

Then, inside the <body> element there are two other elements: <h1> and <p>

HTML is **Not** Case Sensitive

***Never Skip the End Tag!***

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***Never Skip the End Tag!***

**Empty** **Elements**

HTML elements with no content are called empty elements.

The <br> tag defines a line break, and is an empty element without a closing tag:

Example: <p>This is a <br> paragraph with a line break.</p>

**Unordered** **List**

An unordered list starts with the <ul> tag. Each list item starts with the <li> tag.

Example:

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

**Ordered** **List**

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

Example:

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

**Description** **Lists**

The <dl> tag defines the description list, the <dt> tag defines the term (name), and the <dd> tag describes each term:

Example:

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

**Links – Hyperlinks**

HTML links are hyperlinks.

You can click on a link and jump to another document.

When you move the mouse over a link, the mouse arrow will turn into a little hand.

Example: <a href="https://www.w3schools.com/">Visit W3Schools.com!</a>

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

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

A **visited** link is underlined and purple.

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

More for [HTML Links](https://www.w3schools.com/html/html_links.asp).

**Images**

The <img> tag has two required attributes:

* src - Specifies the path to the image
* alt - Specifies an alternate text for the image

Example: <img src="img\_girl.jpg" alt="Girl in a jacket">

More for [HTML Images](https://www.w3schools.com/html/html_images.asp).

**Table**

A table in HTML consists of table cells inside rows and columns.

td stands for table data.

tr stands for table row.

th stands for table header.

Example:

<table>  
  <tr>  
    <th>Company</th>  
    <th>Contact</th>  
    <th>Country</th>  
  </tr>  
  <tr>  
    <td>Alfreds Futterkiste</td>  
    <td>Maria Anders</td>  
    <td>Germany</td>  
  </tr>  
  <tr>  
    <td>Centro comercial Moctezuma</td>  
    <td>Francisco Chang</td>  
    <td>Mexico</td>  
  </tr>  
</table>

图形用户界面, 表格

中度可信度描述已自动生成

**Comments**

Examples for HTML:

<!-- Write your comments here -->

<!-- <p>This is another paragraph </p> -->

<!--  
<p>Look at this cool image:</p>  
<img border="0" src="pic\_trulli.jpg" alt="Trulli">  
-->

<p>This <!-- great text --> is a paragraph.</p>

**Forms**

The HTML <form> element is used to create an HTML form for user input.

|  |  |
| --- | --- |
| <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 |

More for [Input Types](https://www.w3schools.com/html/html_form_input_types.asp).

Example:

<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>

表格

描述已自动生成

More for [Forms](https://www.w3schools.com/html/html_forms.asp).

**<div>**

The **<div>** tag defines a division or a section in an HTML document.

The **<div>** tag is used as a container for HTML elements - which is then styled with CSS or manipulated with JavaScript.

The **<div>** tag is easily styled by using the class or id attribute.

Any sort of content can be put inside the **<div>** tag!

Note: By default, browsers always place a line break before and after the **<div>** element.

Example will be in the **Class Attribute**.

**Class Attribute**

The HTML class attribute is used to specify a class for an HTML element.

Multiple HTML elements can share the same class.

The **class** **attribute** is often used to point to a class name in a style sheet.

Example:

<!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>

All div has the **class attribute** of city, by modify the city’s style it changes all the div with that class attribute.

More for [HTML](https://www.w3schools.com/html/default.asp).

**CSS Basics**

CSS is the language we use to style a Web page.

CSS stands for Cascading Style Sheets

CSS describes how HTML elements are to be displayed on screen, paper, or in other media.

CSS saves a lot of work. It can control the layout of multiple web pages all at once.

External stylesheets are stored in CSS files.

**.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.

Select and style all elements with class="intro":

.intro {  
  background-color: yellow;  
}

[**CSS Buttons**](https://www.w3schools.com/css/tryit.asp?filename=trycss_buttons_basic)

**Comments**

Examples for CSS:

/\* This is a single-line comment \*/

/\* This is  
a multi-line  
comment \*/

p {  
  color: red;  /\* Set text color to red \*/  
}

**Bootstrap 5**

|  |
| --- |
| Containers  (From Matt M)  Used to contain and align blocks of content in a web page.  The .container class allows you to create responsive fixed width containers that can be customized for different screen sizes and adapting to web browser window resizes.  .container is the default layout element  .container-{breakpoint} specifies the width of the container up to a certain breakpoint, specified in the following bootstrap 5 specifications:  图形用户界面  低可信度描述已自动生成  Containers are required when using Bootstrap’s grid system  <https://getbootstrap.com/docs/5.0/layout/containers/> - Bootstrap Documentation  <https://www.geeksforgeeks.org/containers-in-bootstrap-with-examples/> - Contatiner Examples |
| Colors  (From Matt M)   * Bootstrap provides a number of default color schemes that allow you to easily contextualize content within your web page. * .text-primary, .text-success, .text-info, .text-warning, .text-danger, .text-secondary, .text-dark and .text-light * All map to default colors that can be used to provide context through color of your text and content.   图片包含 图表  描述已自动生成   * .text-color - Changes the Text color * .text-bg-color - Changes the background color of a section of text   The bootstrap color palette can be customized within bootstrap’s Sass variables file: scss/\_variables.scss  o Find the Default color palette in scss/\_variables.scss you want to change:  o $primary-color: $primary;  o Apply any color you chose:  o $primary-color: orange;  <https://getbootstrap.com/docs/5.0/customize/color/> - Bootstrap Documentation  <https://www.w3schools.com/bootstrap5/bootstrap_colors_bg.php> - Examples |
| Lists  (From Christopher R)  Bootstrap link and description:  <https://getbootstrap.com/docs/5.3/components/list-group/>   * Creates a list with options for various styles * Code for various types of lists, including numbered, basic, and lists with links and buttons   W3Schools link:  <https://www.w3schools.com/bootstrap/bootstrap_list_groups.asp>  Slightly different examples from the bootstrap examples  Basic List Format:  <ul class="list-group">  <li class="list-group-item">An item</li>  <li class="list-group-item">A second item</li>  <li class="list-group-item">A third item</li>  <li class="list-group-item">A fourth item</li>  <li class="list-group-item">And a fifth one</li>  </ul>  Youtube example:  <https://youtu.be/gwgeMole3gs?si=f7CXuu7Mw-GERQcG> |
| Dropdowns  (From Darion Badillo)  Getbootstrap official link and description:  <https://getbootstrap.com/docs/4.0/components/dropdowns/>   * Gives basic information and templates for several different drop down menus and styles based on your preference * Sizing, alignments, variations, etc all detailed within   Tutorial Republic  <https://www.tutorialrepublic.com/twitter-bootstrap-tutorial/bootstrap-dropdowns.php>  step by step guides detailing dropdowns for bootstrap 5  YouTube  <https://youtu.be/POeKjbV6TMI?si=GzTmzpGAcW5C-5Bg>  details customizability and capabilities of dropdowns |
| Navigation menu  (From Kenyou Teoh)  Source: [Bootstrap 5 Navs (w3schools.com)](https://www.w3schools.com/bootstrap5/bootstrap_navs.php)  This document talks about:   * **Bootstrap 5 Navs**: A tutorial on how to create different types of navigation menus using Bootstrap 5, a popular CSS framework. * **Nav Menus**: How to create a simple horizontal or vertical menu with the .nav, .nav-item, and .nav-link classes. * **Aligned Nav**: How to center or right-align the nav menu with the .justify-content-center and .justify-content-end classes. * **Tabs**: How to create navigation tabs with the .nav-tabs and .active classes. How to add dropdown menus to tabs with the .dropdown-toggle and .dropdown-menu classes. * **Pills**: How to create navigation pills with the .nav-pills and .active classes. How to add dropdown menus to pills with the same classes as tabs. * **Justified Tabs/Pills**: How to make the tabs/pills have equal width with the .nav-justified class. * **Toggleable/Dynamic Tabs/Pills**: How to make the tabs/pills switch between different content panes with the data-bs-toggle=“tab” or data-bs-toggle=“pill” attributes. How to add fade effect to the content panes with the .fade class. |
| Buttons  (From Emiliano C)  Bootstrap  Buttons · Bootstrap v5.2 (getbootstrap.com)  This is directly from bootstrap that helps choosing a desired style of button. It also provides the CSS and HTML needed to make the custom button.      W3 Schools CSS button styling:  - <https://www.w3schools.com/css/tryit.asp?filename=trycss_buttons_basic>  - This W3 school website gives basic template on buttons. They give you some CSS code to make a simple button.    MDN Docs for HTML Buttons:  <https://developer.mozilla.org/en-US/docs/Web/HTML/Element/button>    This MDN document gives us an idea on how to implement a physical button in a html document.    Simple Button:  <button>Default Button</button> |