CHAPTER 2

Introduction to HTML and XHTML

Pralhad Kumar Shrestha

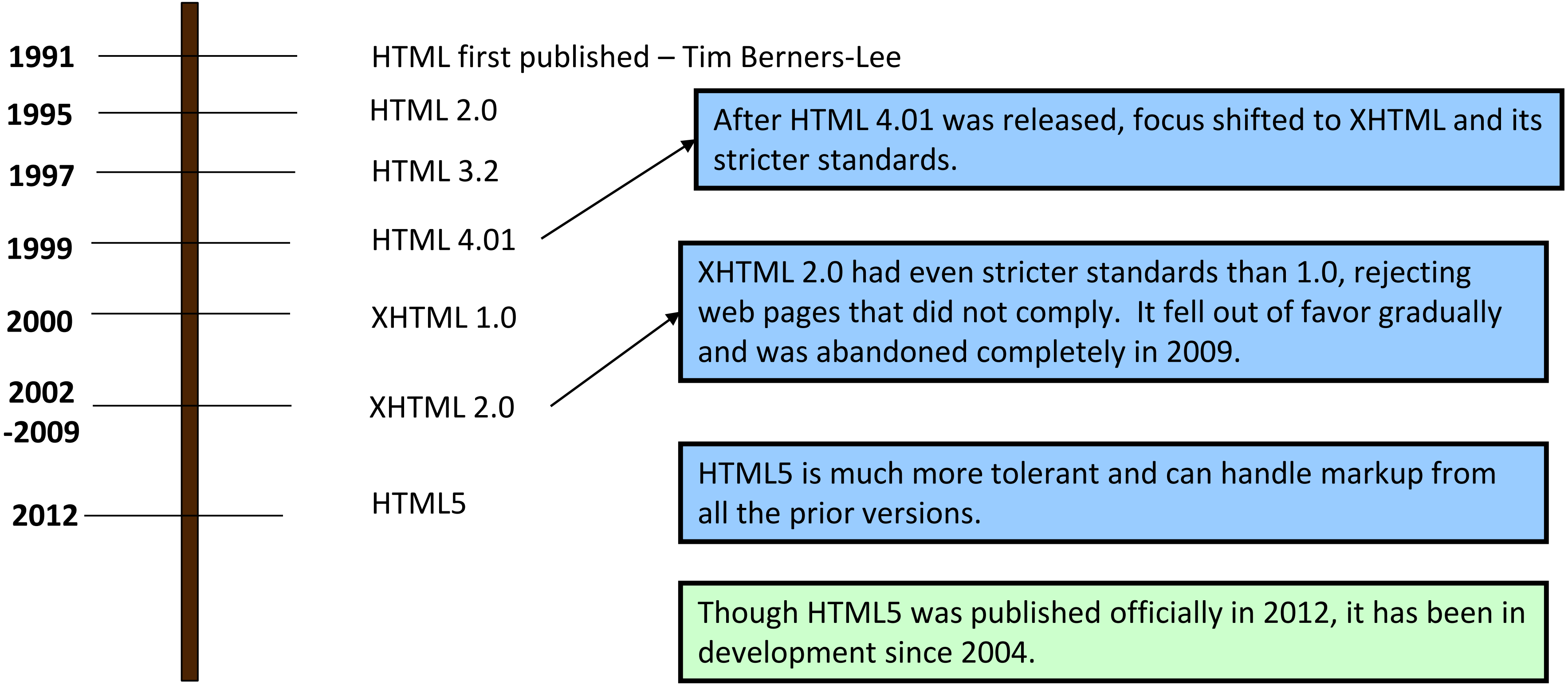
Contents:

1. Origins and evaluation of HTML
2. Basic Syntax
3. Standard HTML Document Structure
4. Basic Text Formatting
5. Images
6. Hypertext Links
7. Lists
8. Tables
9. Frames
10. Forms
11. Multimedia in HTML

1. Origins and evaluation of HTML

- Tim Berners-Lee in 1980, came up with an idea of a system in which documents could be stored and shared with the researchers at CERN.
- Use of the web rose rapidly after release of Mosaic, the first graphical browser in 1993.
- After release of Internet Explorer (IE) in 1995, four year of competition between Microsoft and Netscape started.
- This created incompatible version of HTML between developers and different release from same company.

1. Origins and evaluation of HTML



1991	HTML first published – Tim Berners-Lee
1995	HTML 2.0
1997	HTML 3.2
1999	HTML 4.01
2000	XHTML 1.0
2002 -2009	XHTML 2.0
2012	HTML5

After HTML 4.01 was released, focus shifted to XHTML and its stricter standards.

XHTML 2.0 had even stricter standards than 1.0, rejecting web pages that did not comply. It fell out of favor gradually and was abandoned completely in 2009.

HTML5 is much more tolerant and can handle markup from all the prior versions.

Though HTML5 was published officially in 2012, it has been in development since 2004.

Hypertext Markup Language (HTML)

- The standard markup language for creating web pages and web applications.
- HTML elements are building blocks of HTML pages.
- HTML elements are represented by HTML tags.
- Elements name surrounded by angle brackets (<tag>).
- Elements are not case sensitive.
- Example:
  - <tagname> Contents…. </tagname>
  - <p> This is a simple stuff. </p>

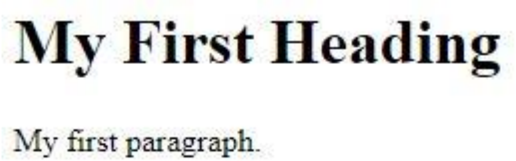
Hypertext Markup Language (HTML)

- Tags are normally in a pair.
  - <p> </p>
  - <html> </html>
- Starting Tag / Opening Tag => <p>
- Ending Tag / Closing Tag => </p>
- Empty tags (Non container tags) does not have any contents.

Tags	Uses
<br /> or 	Line break / New Line
<hr>	Horizontal line
<img>	Embed Image into the document

Hypertext Markup Language (HTML)

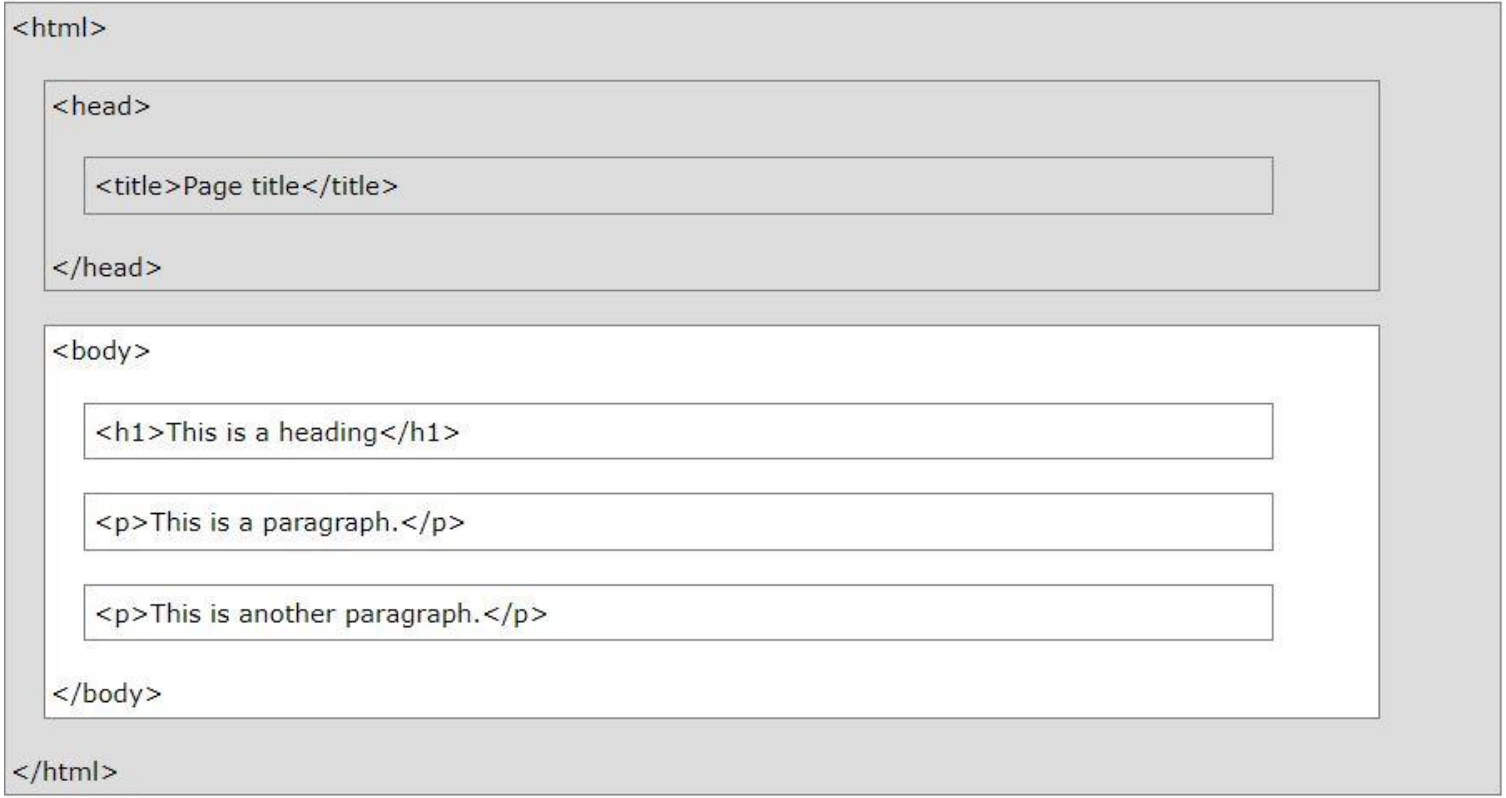
```
<!DOCTYPE html>
<html lang=“en”>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```



My First Heading

My first paragraph.

Hypertext Markup Language (HTML)



```
<html>

  <head>

    <title>Page title</title>

  </head>

  <body>

    <h1>This is a heading</h1>

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

    <p>This is another paragraph.</p>

  </body>

</html>
```

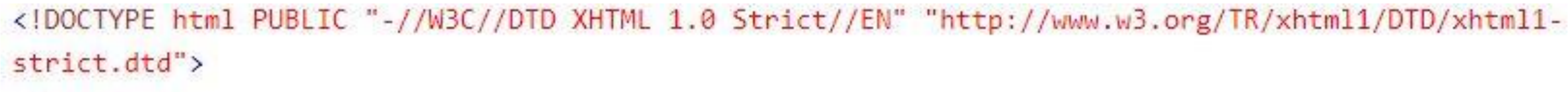
Extensible Hypertext Markup Language (XHTML)

- XHTML is almost identical to HTML.
- Connection between HTML and Extensible Markup Language (XML).
- Considered superior than HTML.
- Compatible with most browser being stricter than HTML.
- Code standard is maintained.
- XML was designed to describe data and HTML was designed to display data.
- XHTML is a combination of HTML and XML.

Extensible Hypertext Markup Language (XHTML)

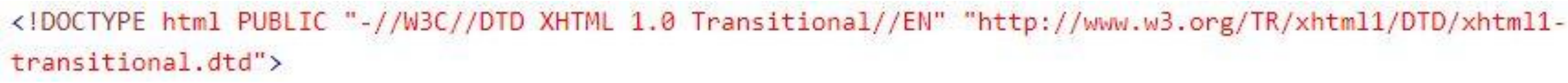
- The Document Type Definition (DTD) specifies the rules for the markup language, so that the browsers render the content correctly.
- There are currently 3 XHTML document types:

1. STRICT
   - Use this when you want really clean markup, free of presentational clutter.
   - Use this together with Cascading Style Sheets (CSS).



```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-
strict.dtd">
```

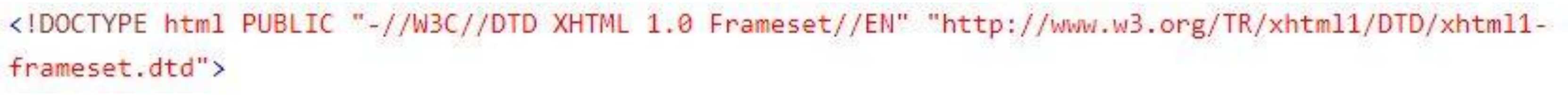
2. TRANSITIONAL
   - Use this when you need to take advantage of HTML's presentational features and when you want to support browsers that don't understand CSS.



```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-
transitional.dtd">
```

Extensible Hypertext Markup Language (XHTML)

3. FRAMESET
   - Use this when you want to use HTML Frames to partition the browser window into two or more frames.

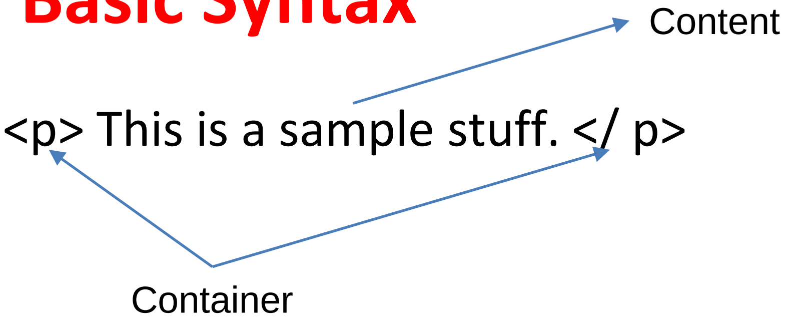


```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Frameset//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-
frameset.dtd">
```

Extensible Hypertext Markup Language (XHTML)

-
```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
  <title>Title of document</title>
</head>
<body>
  <p>Paragraph of XHTML</p>
some content here...

</body>
</html>
```

2. Basic Syntax



Content

- <p> This is a sample stuff. </ p>

Container

- Container + Content = HTML Element
- <!-- Comment in HTML is written in between double dashes. -->
- Comment increase readability to the program.
- <!-- This is a multi

  line comment.

  -->

2. Basic Syntax

- Unrecognized HTML tags are ignored by the browser.
- HTML tags are treated as suggestions to the browser.
- Reserved words if misspelled are ignored by the browser.
- Misspelled reserved words returns error in other language.

HTML Tags (Elements)

-
  ```
  <body>

  <h1>My First Heading</h1> <br/>
  <p>My first paragraph.</p>

  </body>
  ```

- Learn More at: https://www.w3schools.com/html/html_elements.asp
- Lists of all HTML elements (tags): https://www.w3schools.com/tags/ref_byfunc.asp

HTML Attributes

- HTML elements can have **attributes**.

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

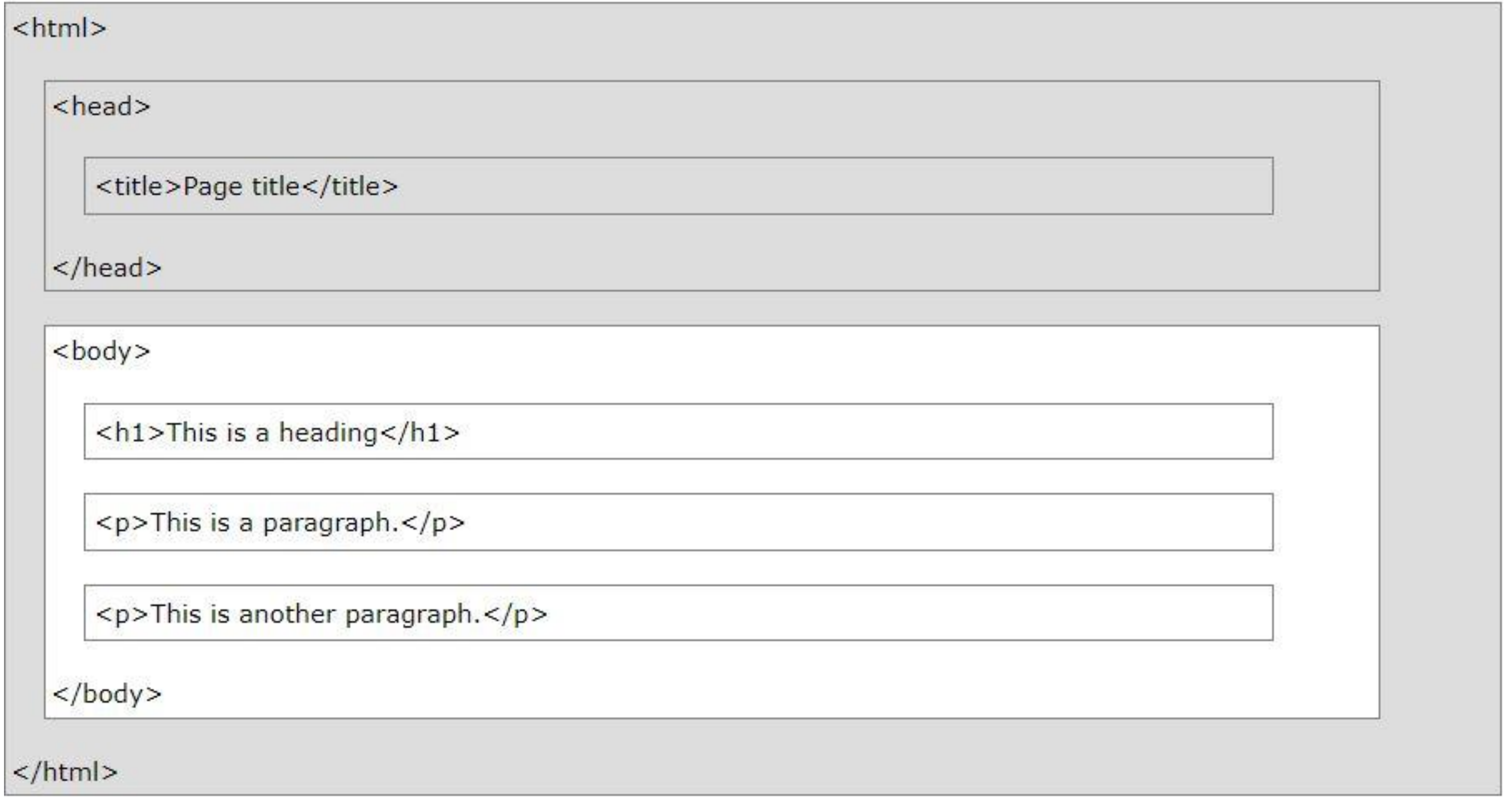
- Attributes can provide additional information about the HTML elements on your page.
- Attributes always come in name/value pairs like this: name="value".
- Attributes are always added to the start tag of an HTML element.
- Attribute values should always be enclosed in quotes.

HTML Attributes

- Common HTML attributes of tags:
  - ***id***: specifies a unique id for an HTML element. The id value can be used by CSS and JavaScript to perform certain tasks for a unique element with the specified id value.
  - ***class***: class attribute is used to define same styles for elements with the same class name.
  - ***name***: specifies the name of html tag

- Learn More at: https://www.w3schools.com/htmL/html_attributes.asp

3. Standard HTML Document Structure



```
<html>

  <head>

    <title>Page title</title>

  </head>

  <body>

    <h1>This is a heading</h1>

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

    <p>This is another paragraph.</p>

  </body>

</html>
```

3. Standard HTML Document Structure

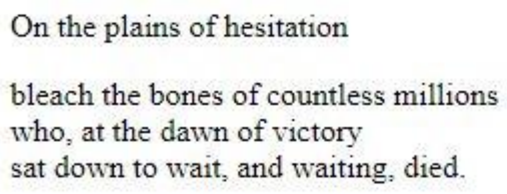
- The whole document must have <html> as its root.
- A document consists of a head and a body or frameset.
- The <title> tag is used to give the document a title, which is normally displayed in the browser's window title bar (at the top of the display)

4. Basic Text Formatting

- W3C HTML Validation Service
  - Validator Link: http://validator.w3.org/file-upload.html
- Paragraph Elements
  - The <p> tag breaks the current line and inserts a blank line
  - The new line gets the beginning of the content of the paragraph
- Line breaks
  - The effect of the <br /> tag is the same as that of <p>, except for the blank line, No closing tag!

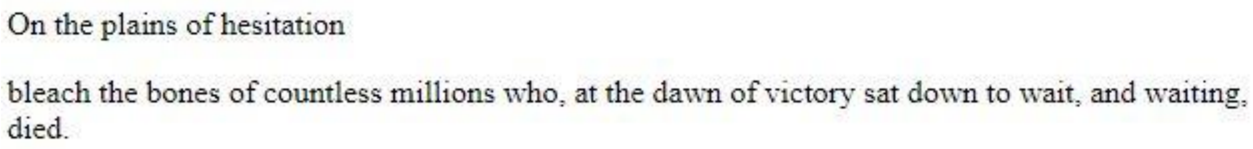
4. Basic Text Formatting

- Example of paragraphs and line breaks
  - On the plains of hesitation <p> bleach the bones of countless millions <br /> who, at the dawn of victory <br /> sat down to wait, and waiting, died.
  - What is the typical display of this text?



On the plains of hesitation

bleach the bones of countless millions
who, at the dawn of victory
sat down to wait, and waiting, died.



On the plains of hesitation

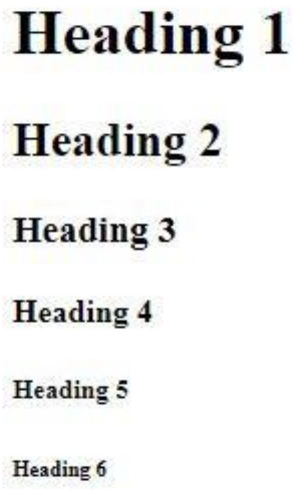
bleach the bones of countless millions who, at the dawn of victory sat down to wait, and waiting,
died.

4. Basic Text Formatting

- Headings
  - Six sizes, 1 - 6, specified with <h1> to <h6>
  - 1, 2, and 3 use font sizes that are larger than the default font size
  - 4 uses the default size
  - 5 and 6 use smaller font sizes

4. Basic Text Formatting

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

<h1>Heading 1</h1>
<h2>Heading 2</h2>
<h3>Heading 3</h3>
<h4>Heading 4</h4>
<h5>Heading 5</h5>
<h6>Heading 6</h6>

</body>
</html>
```



Heading 1

Heading 2

Heading 3

Heading 4

Heading 5

Heading 6

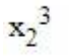
4. Basic Text Formatting

- Font styles and sizes (can be nested)
  - Boldface - <b>
  - Italics - <i>
  - Larger - <big>
  - Smaller - <small>
  - Monospace - <tt>
- All of this font size and font style stuff can be done with style sheets, but these tags are useful when we do not want to use *css* for available stylings.

4. Basic Text Formatting

- Superscripts and subscripts
  - Subscripts with <sub>
  - Superscripts with <sup>

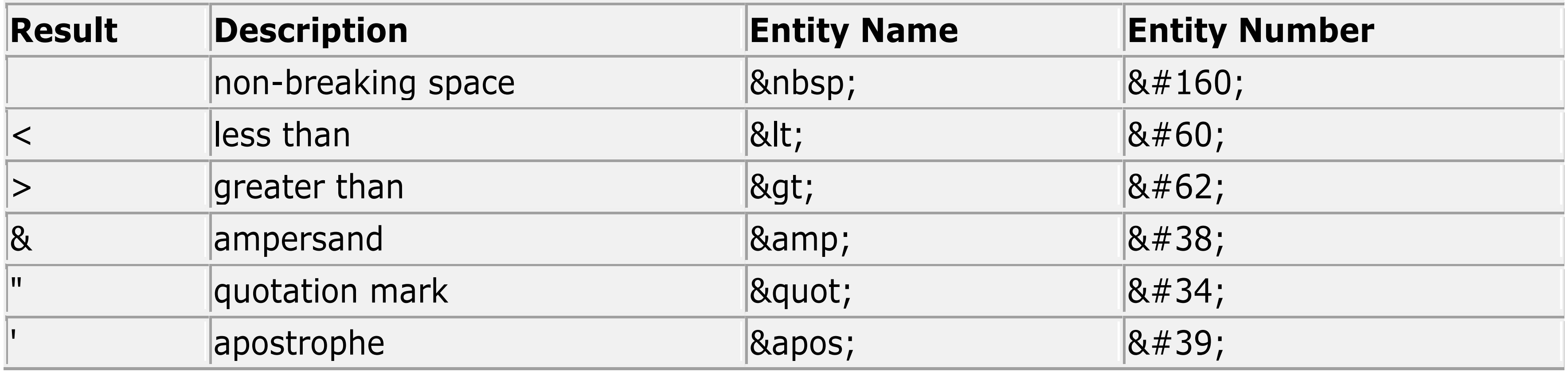
```
<!DOCTYPE html>
<html>
<body>

x<sub>2</sub><sup>3</sup>


</body>
</html>
```



x_2^3

4. Basic Text Formatting

- Character Entities
- There are some characters that HTML treats as special characters, so if you want one in a document, it must be coded
- The Most Common Character Entities:

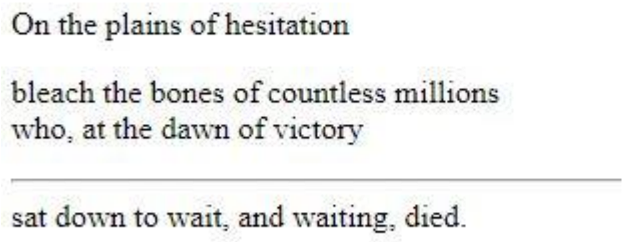


Result	Description	Entity Name	Entity Number
	non-breaking space	&nbsp;	&#160;
<	less than	&lt;	&#60;
>	greater than	&gt;	&#62;
&	ampersand	&amp;	&#38;
"	quotation mark	&quot;	&#34;
'	apostrophe	&apos;	&#39;

4. Basic Text Formatting

- Horizontal rules
- <hr /> draws a line across the display, after a line break

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

On the plains of hesitation <p> bleach the bones of
countless millions <br /> who, at the dawn of victory
<hr /> sat down to wait, and waiting, died.

</body>
</html>
```



On the plains of hesitation

bleach the bones of countless millions
who, at the dawn of victory

sat down to wait, and waiting, died.

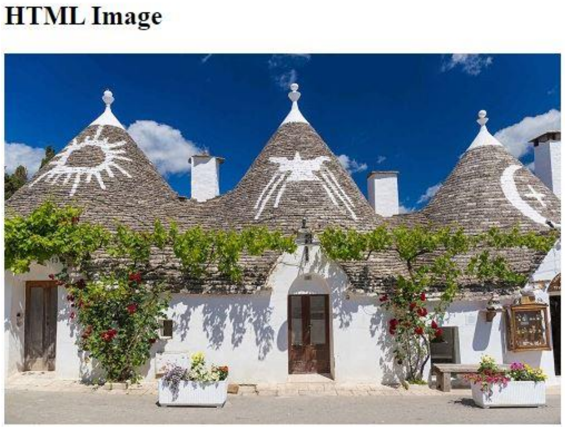
5. Images

- Images are inserted into a document with the <img /> tag with the src attribute
- The <img> tag is empty, which means that it contains attributes only and it has no closing tag.
- src stands for "source". The value of the src attribute is the URL of the image you want to display on your page.
- The syntax of defining an image:
  - <img src="url">
  - Example:
  - <img src=“https://www.w3schools.com/html/img_girl.jpg”>
  - <img src=“logo.jpg”>

5. Images

- The Alt attribute is used to define an "alternate text" for an image. The value of the alt attribute is an author-defined text:
  - <img src="https://www.w3schools.com/html/img_girl.jpg" alt="Girl in a jacket">
- In which cases, the ALT attribute will be useful?

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

<h2>HTML Image</h2>
<img src="pic_trulli.jpg" alt="Trulli“
Height=“500” width=“333”>

</body>
</html>
```



HTML Image

6. Links (Hypertext Links)

- A link is specified with the href (hypertext reference) attribute of <a> (anchor) tag
- The content of <a> is the visual link in the document.
- The syntax of creating an anchor:
  - <a href="url">Text to be displayed</a>
- This anchor defines a link to W3Schools:
  - <a href="http://www.w3schools.com/">Visit W3Schools!</a>
- How the line above will look like this in a browser??
- Links can have images:
  - <a href = “http://www.w3schools.com“><img src = "smallplane.jpg" alt = "Small picture of an airplane " />Aeroplane</a>

6. Links (Hypertext Links)

- The Anchor Tag and the Name Attribute
  - The name attribute is used to create a named anchor. When using named anchors we can create links that can jump directly into a specific section on a page.
  - The line below defines a named anchor:
    - <a name="tips">Useful Tips Section</a>
  - To link directly to the "tips" section, add a # sign and the name of the anchor to the end of a URL, like this:
    - <a href="https://laravel.com/docs/9.x/collections#extending-collections"> Jump to Extending Collection Section</a>
  - A hyperlink to the Useful Tips Section from WITHIN the file "links.html" will look like this:
    - <a href="#tips">Jump to the Useful Tips Section</a>
  - Or ***id*** tag can also be used to perform same operation.

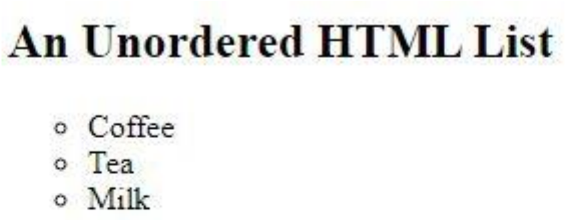
6. Links (Hypertext Links)

  - Example:
    - <h6 id=“tips”> Tips of the lesson </h6>
- The Target Attribute
  - With the target attribute, you can define where the linked document will be opened.
  - <a href=“http://www.angular.io” target="_blank">Link</a>
  - This above anchor tag will open the link in a new page.

7. Lists

- Unordered Lists
  - The list items are marked with bullets (typically small black circles).
  - An unordered list starts with the <ul> tag.
  - Each list item starts with the <li> tag

```
<!DOCTYPE html>
<html>
<body>
<h2>An Unordered HTML List</h2>
<ul style="list-style-type:circle;">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
</body>
</html>
```



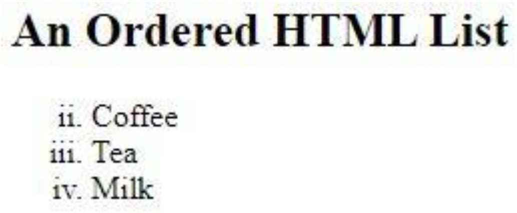
An Unordered HTML List

- ○ Coffee
- ○ Tea
- ○ Milk

7. Lists

- Ordered Lists
  - The list items are marked with numbers.
  - An ordered list starts with the <ol> tag.
  - Each list item starts with the <li> tag.

```
<!DOCTYPE html>
<html>
<body>
<h2>An Ordered HTML List</h2>
<ol type="i" start="2">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
</body>
</html>
```



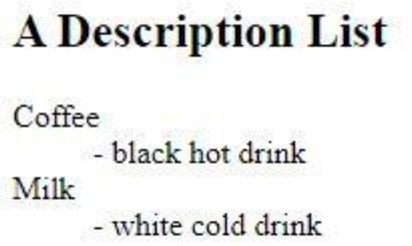
An Ordered HTML List

ii. Coffee
iii. Tea
iv. Milk

7. Lists

- Description Lists
  - List of terms, with a description of each term.
  - Description list starts with the <dl> tag.
  - <dt> tag defines the term (name) and <dd> tag describes each term.

```
<!DOCTYPE html>
<html>
<body>
<h2>A Description List</h2>
<dl>
  <dt>Coffee</dt>
  <dd>- black hot drink</dd>
  <dt>Milk</dt>
  <dd>- white cold drink</dd>
</dl>
</body>
</html>
```

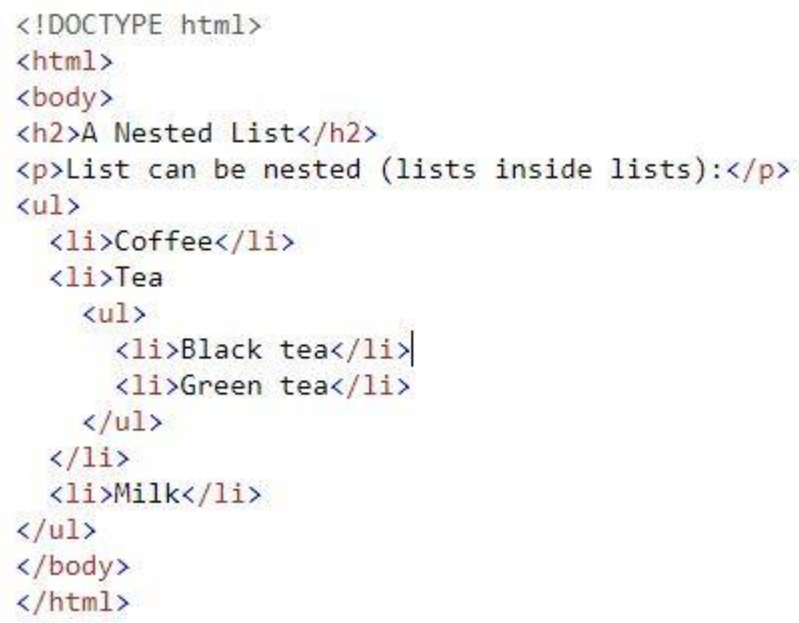


A Description List

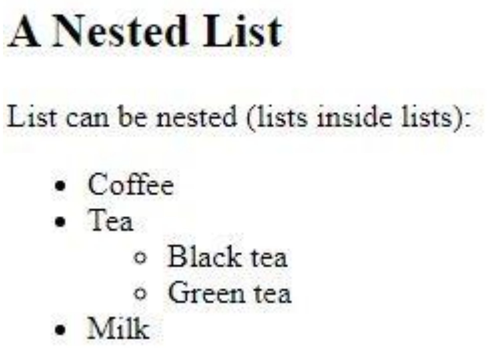
Coffee
    - black hot drink
Milk
    - white cold drink

7. Lists

- Nested Lists
  - List can be nested (i.e lists inside lists)



```
<!DOCTYPE html>
<html>
<body>
<h2>A Nested List</h2>
<p>List can be nested (lists inside lists):</p>
<ul>
  <li>Coffee</li>
  <li>Tea
    <ul>
      <li>Black tea</li>
      <li>Green tea</li>
    </ul>
  </li>
  <li>Milk</li>
</ul>
</body>
</html>
```



A Nested List

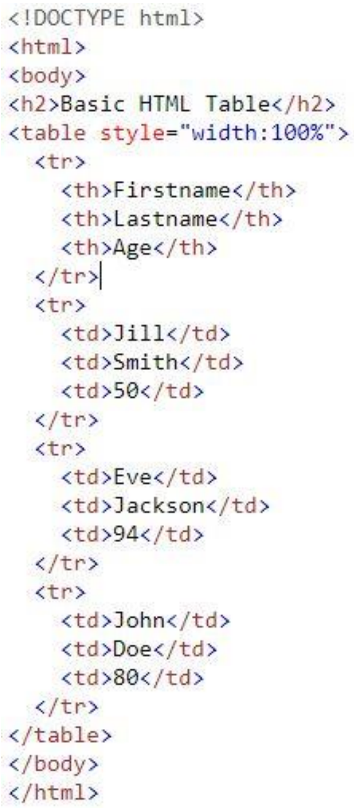
List can be nested (lists inside lists):

- Coffee
- Tea
  - Black tea
  - Green tea
- Milk

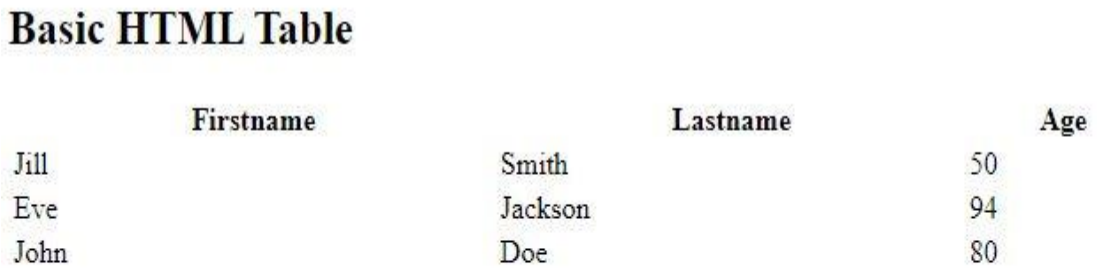
8. Tables

- A table is a matrix of cells, each possibly having content
  - The cells can include almost any element
- A table is specified as the content of a <table> tag
- A border attribute in the <table> tag specifies a border between the cells.
- Tables are given titles with the <caption> tag, which can immediately follow <table>
- Each row of a table is specified as the content of a <tr> tag
- The row headings are specified as the content of a <th> tag
- The contents of a data cell is specified as the content of a <td> tag

8. Tables



```
<!DOCTYPE html>
<html>
<body>
<h2>Basic HTML Table</h2>
<table style="width:100%">
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
    <th>Age</th>
  </tr>
  <tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>50</td>
  </tr>
  <tr>
    <td>Eve</td>
    <td>Jackson</td>
    <td>94</td>
  </tr>
  <tr>
    <td>John</td>
    <td>Doe</td>
    <td>80</td>
  </tr>
</table>
</body>
</html>
```



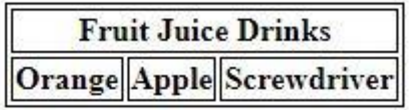
Basic HTML Table

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80

8. Tables

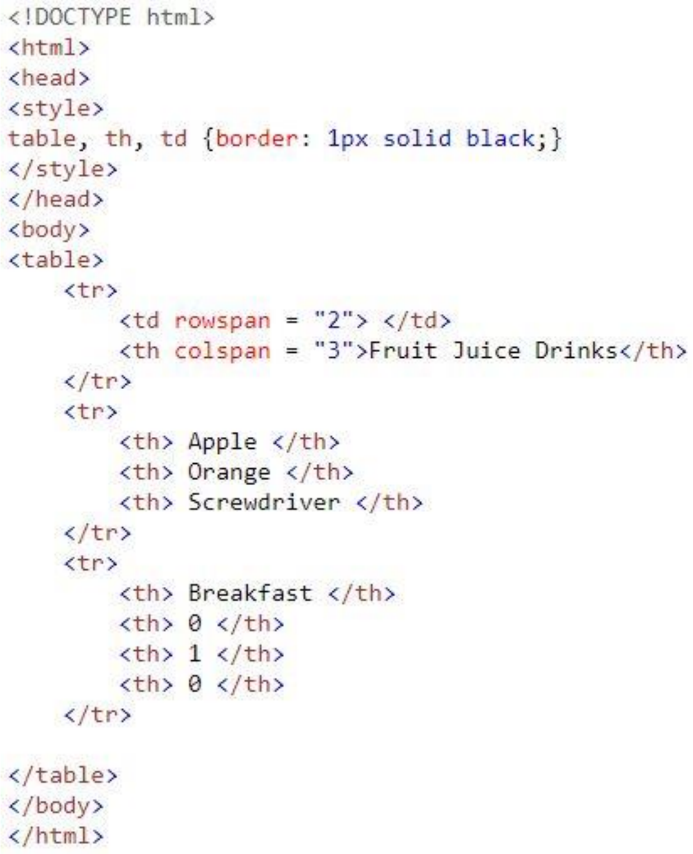
- A table can have two levels of column labels
  - The colspan attribute must be set in the <th> tag to specify that the label must span some number of columns

```
<tr>
    <th colspan = "3"> Fruit Juice Drinks </th>
</tr>
<tr>
    <th> Orange </th>
    <th> Apple </th>
    <th> Screwdriver </th>
</tr>
```

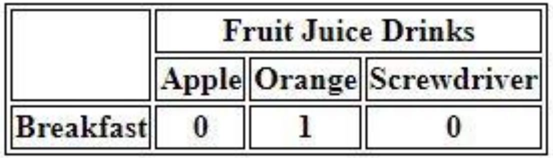


Fruit Juice Drinks		
Orange	Apple	Screwdriver

8. Tables



```
<!DOCTYPE html>
<html>
<head>
<style>
table, th, td {border: 1px solid black;}
</style>
</head>
<body>
<table>
    <tr>
        <td rowspan = "2"> </td>
        <th colspan = "3">Fruit Juice Drinks</th>
    </tr>
    <tr>
        <th> Apple </th>
        <th> Orange </th>
        <th> Screwdriver </th>
    </tr>
    <tr>
        <th> Breakfast </th>
        <th> 0 </th>
        <th> 1 </th>
        <th> 0 </th>
    </tr>

</table>
</body>
</html>
```



	Fruit Juice Drinks		
	Apple	Orange	Screwdriver
Breakfast	0	1	0

9. Frames

- Frames are rectangular sections of the display window, each of which can display a different document.
  - One common use of frames is to have a list of links in a left frame and use the right frame to display the destination document of the chosen link
- The <frameset> tag specifies the number of frames and their layout in the window.
  - <frameset> takes the place of <body> (Cannot have both)
  - <frameset> must have either a rows attribute or a cols attribute, or both (usually the case)
  - The possible values for rows and cols are numbers, percentages, and asterisks
  - A number value specifies the row height in pixels (Not terribly useful)
  - A percentage specifies the percentage of total window height for the row (Very useful)

9. Frames

- An asterisk after some other specification gives the remainder of the height of the window.

  ```
  <frameset rows = "150, 200, 300">
  <frameset rows = "25%, 50%, 25%">
  <frameset rows = "50%, 20%, *" >
  <frameset rows = "50%, 25%, 25%“ cols = "40%, *">
  ```

- The <frame> tag specifies the content of a frame
- The first <frame> tag in a <frameset> specifies the content of the first frame, etc.
  - Row-major order is used
  - Frame content is specified with the src attribute
  - Without a src attribute, the frame will be empty (such a frame can’t filled later)

9. Frames

- <iframe> tag specifies an inline frame.
- An inline frame is used to embed another document within the current HTML document.
    - <iframe src="https://www.google.com"></iframe>
- Attributes used:
    - src: Specifies the address of the document to embed in the <iframe>
    - height & width : specifies height and width of iframe in pixels.
- <frameset> tag is deprecated in HTML5

10. Forms

- A form is the usual way information is transferred from a browser to a server.
- HTML has tags to create a collection of objects that implement this information gathering.
  - The objects are called widgets/controls/components/elements (e.g., radio buttons and checkboxes)
  - When the Submit button of a form is clicked, the form's values are sent to the server.
  - All of the HTML elements of a form are defined in the content of a <form> tag.

10. Forms

- The attributes of <form> tag are:
  - ***action***: specifies the URL of the application on the Web server that is to be called when the user clicks the Submit button.
  - ***target***: Specifies the target window or frame where the result of the script will be displayed. It takes values like _blank, _self etc.
  - ***method***: specifies one of the two techniques, get (default value) or post, used to pass the form data to the server.
  - ***enctype***: to specify how the browser encodes the data before it sends it to the server.

  enctype=” mutipart/form-data” –> used when you want to upload binary data in the form of files like image, word file etc.

10. Forms

- The only required attribute of <form> is action, which specifies the URL of the application that is to be called when the Submit button is clicked
  - Example:
  - action =https://www.w3schools.com/action_page.php
- If the form has no action, the value of action is the empty string.
- The method attribute of <form> specifies one of the two possible techniques of transferring the form data to the server, get and post.

Learn More about Forms at:

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

Learn More about Forms Elements at:

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

Input Element

- Many components are created with the <input> tag.
- The type attribute of <input> specifies the kind of component being created.

1. Text
    - Creates a horizontal box for text input
    - Default size is 20; it can be changed with the size attribute.
    - If more characters are entered than will fit, the box is scrolled (shifted) left
    - If you don’t want to allow the user to type more characters than will fit, set “maxlength”, which causes excess input to be ignored

- Example:

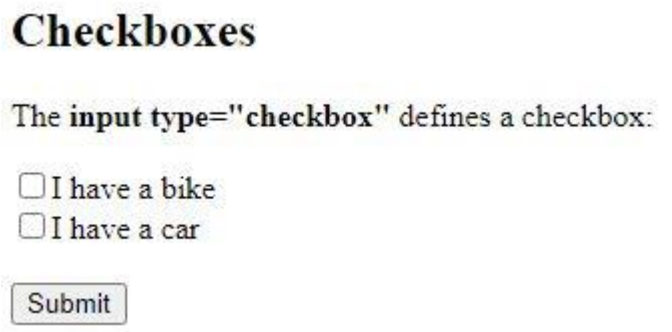
<input type = “text” name = “Name" size = “10” >

Input Element

2. Checkbox - collects multiple choice input
   - Every checkbox requires a value attribute, which is the widget’s value in the form data when the checkbox is ‘checked’.
   - A checkbox that is not ‘checked’ contributes no value to the query string.
   - By default, no checkbox is initially ‘checked’.
   - To initialize a checkbox to ‘checked’, the checked attribute must be set to “checked”.

Input Element

```
<!DOCTYPE html>
<html>
<body>
<h2>Checkboxes</h2>
<p>The <strong>input type="checkbox"</strong> defines a checkbox:</p>
<form action="https://www.w3schools.com/action_page.php">
<input type="checkbox" name="vehicle1" value="Bike">I have a bike
<br>
<input type="checkbox" name="vehicle2" value="Car">I have a car
<br><br>
<input type="submit">
</form>
</body>
</html>
```



Checkboxes

The **input type="checkbox"** defines a checkbox:

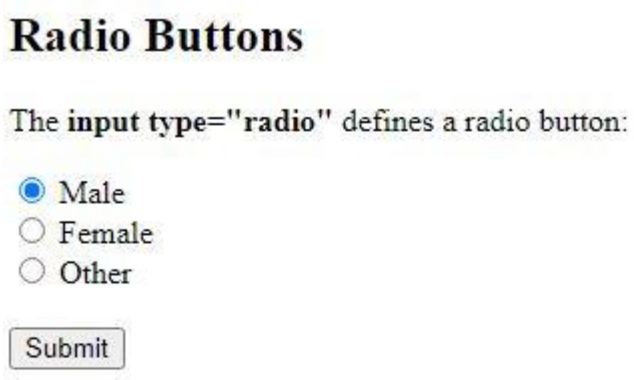
□ I have a bike
□ I have a car

Input Element

3. Radio - collections of checkboxes in which only one button can be ‘checked’ at a time
   - ✓ Every button in a radio button group MUST have the same name.
   - ✓ If no button in a radio button group is ‘pressed’, the browser often ‘presses’ the first button.

Input Element

```
<!DOCTYPE html>
<html>
<body>
<h2>Radio Buttons</h2>
<p>The <strong>input type="radio"</strong> defines a
radio button:</p>
<form
action="https://www.w3schools.com/action_page.php">
  <input type="radio" name="gender" value="male"
checked> Male<br>
  <input type="radio" name="gender" value="female">
Female<br>
  <input type="radio" name="gender" value="other">
Other<br><br>
  <input type="submit">
</form>
</body>
</html>
```



Radio Buttons

The **input type="radio"** defines a radio button:

● Male
○ Female
○ Other

Input Element

4. Password
5. Email
6. Submit
7. Reset
8. Button

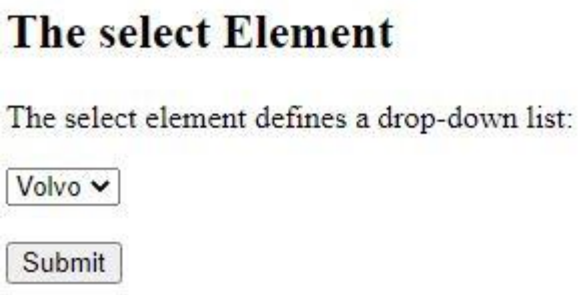
Learn More about Input Elements at:
https://www.w3schools.com/html/html_form_attributes.asp

Select Element

- The <select> element is used to create a drop-down list/menu.
- Each of the items in a menu is specified with an <option> tag, nested in the select element.
- The content of an <option> tag is the value of the menu item.
- The <option> tag can include the selected attribute, which specifies that the item is preselected. (selected=“selected”).
- Other attributes:
  - multiple :to select multiple values from dropdown
  - size=“integer value” : Defines the number of visible options in a drop-down list. (<select size=”2”>)

Select Element

```
<!DOCTYPE html>
<html>
<body>
<h2>The select Element</h2>
<p>The select element defines a drop-down list:</p>
<form
action="https://www.w3schools.com/action_page.php">
  <select name="cars">
    <option value="volvo">Volvo</option>
    <option value="saab">Saab</option>
    <option value="fiat">Fiat</option>
    <option value="audi">Audi</option>
  </select>
  <br><br>
  <input type="submit">
</form>
</body>
</html>
```



The select Element

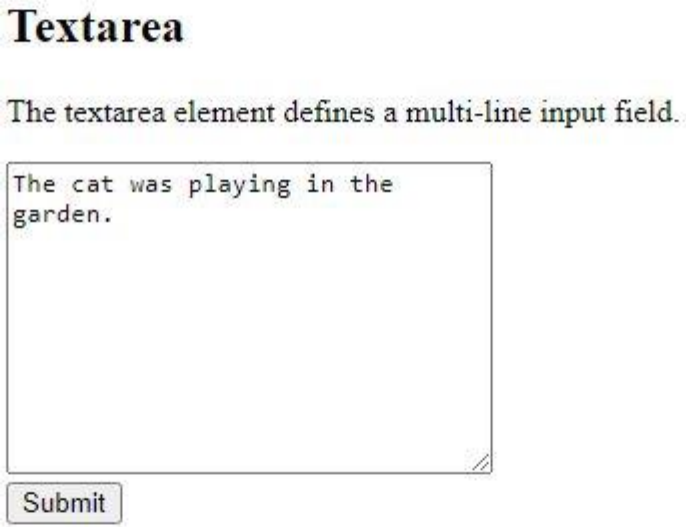
The select element defines a drop-down list:

Textarea Element

- Created with `<textarea>`
- Usually include the rows and cols attributes to specify the size of the text area
- Default text can be included as the content of `<textarea>`
- Scrolling is implicit if the area is overfilled.

Textarea Element

```
<!DOCTYPE html>
<html>
<body>
<h2>Textarea</h2>
<p>The textarea element defines a multi-line input
field.</p>
<form
action="https://www.w3schools.com/action_page.php">
  <textarea name="message" rows="10" cols="30">
                  The cat was playing in the garden.
  </textarea>
  <br>
  <input type="submit">
</form>
</body>
</html>
```



Textarea

The textarea element defines a multi-line input field.

```
The cat was playing in the
garden.
```

Action Buttons

- Reset and Submit buttons
  - Both are created with <input>

<input type = "reset" value = "Reset Form">

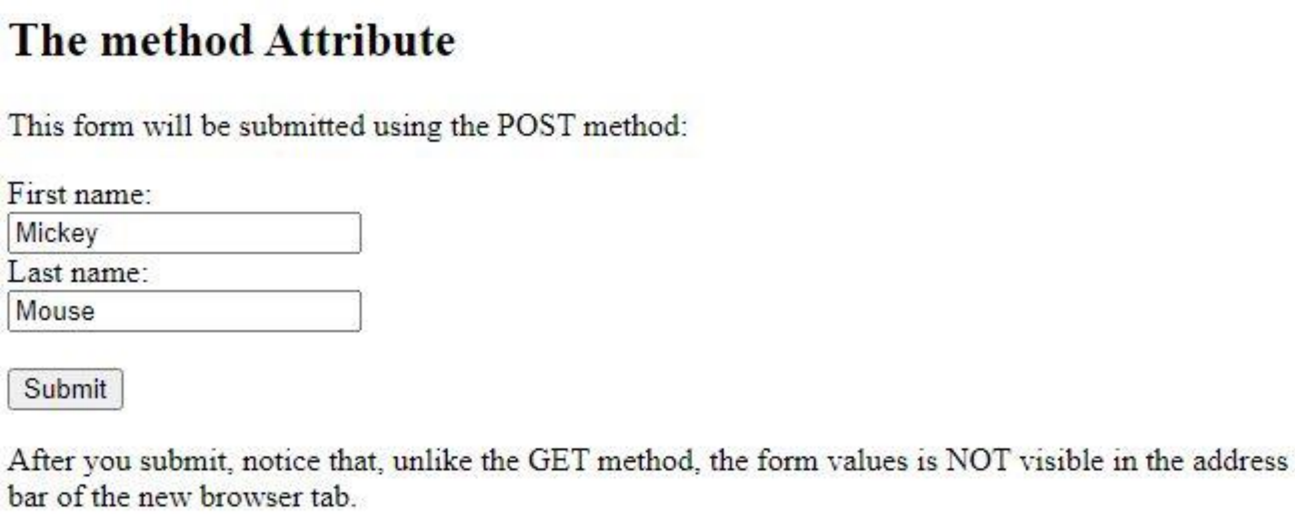
<input type = "submit” value = "Submit Form">

- Submit has two actions:
  - Encode the data of the form
  - Request that the server execute the server-side program specified as the value of the action attribute of <form>
- A Submit button is required in every form
- Value is visible in URL when GET is used.
- Value is invisible in URL when POST is used.

Action Buttons

```
<!DOCTYPE html>
<html>
<body>
<h2>The method Attribute</h2>
<p>This form will be submitted using the POST method:</p>
<form action="https://www.w3schools.com/action_page.php" target="_blank" method="POST">
  First name:<br>
  <input type="text" name="firstname" value="Mickey">
  <br>
  Last name:<br>
  <input type="text" name="lastname" value="Mouse">
  <br><br>
  <input type="submit" value="Submit">
</form>
<p>After you submit, notice that, unlike the GET method, the form values is NOT visible in the
address bar of the new browser tab.</p>
</body>
</html>
```

Action Buttons



The method Attribute

This form will be submitted using the POST method:

First name:
Mickey
Last name:
Mouse

After you submit, notice that, unlike the GET method, the form values is NOT visible in the address bar of the new browser tab.

Assignment 2

1. Difference between HTML and XHTML.
2. Write about “image maps” and “mailto” attributes?
3. Difference between Block element and Inline element.
4. Write about div and span tags.
5. What are Logical tags and Physical tags?

11. Multimedia in HTML

- No standard way of rendering multimedia before HTML5.
- Used plug-ins like: Flash and Microsoft’s media player to run multimedia’s.

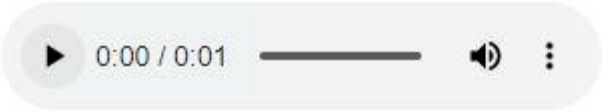
1. Audio Element:
   - Audio information is coded into digital streams with encoding algorithms called audio codecs.
   - The controls attribute adds audio controls, like play, pause, and volume.
   - The <source> element allows you to specify alternative audio files which the browser may choose from. The browser will use the first recognized format.
   - The text between the <audio> and </audio> tags will only be displayed in browsers that do not support the <audio> element.
   - Most commonly used audio formats:

11. Multimedia in HTML

- Most commonly used audio formats:
  - MPEG-3 (MP3)
  - Vorbis
  - Wav
- Controls attribute adds audio controls, like play, pause, and volume.
- <source> element allows you to specify alternative audio files which the browser may choose from. The browser will use the first recognized format.
- Text between the <audio> and </audio> tags will only be displayed in browsers that do not support the <audio> element.

11. Multimedia in HTML

```
<!DOCTYPE html>
<html>
<body>
<audio controls>
  <source src="horse.ogg" type="audio/ogg">
  <source src="horse.mp3" type="audio/mpeg">
Your browser does not support the audio element.
</audio>
</body>
</html>
```



11. Multimedia in HTML

2. Video Element:
   - Before HTML5, there was no standard approach to include video clips in web.
   - Most common approach before HTML5 was to use Flash plug-ins.
   - Video information must be digitized into data files before it can be played by the browser, using the algorithm called video codecs.
   - Audio and video are stored into a containers and many different video codecs.
   - Most commonly used containers on the web are:
     - MPEG-4 (.mp4)
     - Flash Video (.flv)
     - Ogg (.ogv)
     - WebM (.webm)
     - Audio Video Interleave (.avi)

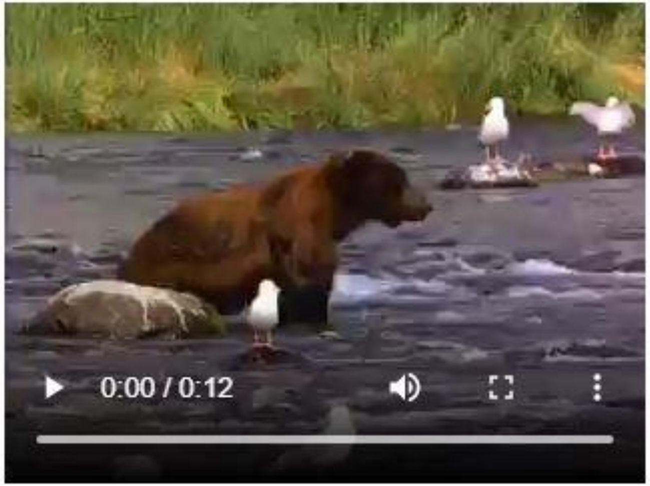
11. Multimedia in HTML

- Most commonly used video codecs on the web are:
  - H.264 (MPEG-4 Advanced Video Coding or MPEG-4 AVC)
  - VP8
- Examples:
  - MPEG-4 container = H.264 video codec + AAC audio codec
  - WebM container = VP8 video codec + Vorbis audio codec
- <video> tag contains multiple attributes like:
  - Controls
  - Width
  - Height
- The controls attribute adds video 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.

11. Multimedia in HTML

- The <source> element allows you to specify alternative video files which the browser may choose from. The browser will use the first recognized format.
- The text between the <video> and </video> tags will only be displayed in browsers that do not support the <video> element.

```
<!DOCTYPE html>
<html>
<body>
<video width="320" height="240" controls>
  <source src="movie.mp4" type="video/mp4">
  <source src="movie.ogg" type="video/ogg">
  Your browser does not support the video tag.
</video>
</body>
</html>
```



End of chapter 2