



The Hypertext Markup Language (HTML)

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Web Programming

OUTLINE

- HTML Document Structure
 - Document Header
 - Document Body
- HTML Tags
- Summary

HTMLVERSIONS

HTML	1991
HTML+	1993
HTML 2.0	1995
HTML 3.2	1997
HTML 4.01	1999
XHTML 1.0	2000
HTML5	2012

HTML EXAMPLE

- Minimal HTML5 document

```
<!DOCTYPE html>
<html>
<head>
  <title>My Page Title</title>
</head>

<body>
  <p>Hello World!</p>
</body>
</html>
```

HTML BASICS

- HTML Tags
 - HTML markup tags (keywords), like `<p>` and `</p>`
- HTML Element
 - Anything between a start and end tag, including the tags:
`<p>Hello World!</p>`
 - Void elements (single tags): `
`
- HTML Attributes
 - Provide additional information about an element
`Link`
 - Come in name/value pairs: `name="value"`

DOCTYPE

- HTML5
 - `<!DOCTYPE html>`
- HTML 4.01
 - `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">`
- XHTML 1.0
 - `<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">`

DOCUMENT HEAD

- The HEAD section contains information about the document as opposed to the contents of the document
- Minimally, it should include a title
 - `<title>My Page Title</title>`
- The HEAD may also include metadata such as character encoding and information about how to format the document

DOCUMENT BODY

- The BODY contains the document itself, i.e., what the user sees
- Any text (also called character data or cdata) within the body must be contained within some other tag

DOCUMENT STRUCTURE

- `<h1> . . . <h6>` (headings)
- `<p>` (paragraph)
- `<div>` (page section)
- `` (inline section)
- `
` (line break)
- `<hr />` (horizontal rule)
- `<!-- This is a comment -->`

```
<p>My mother has <span style="color:blue;font-weight:bold">blue</span> eyes  
and my father has <span style="color:darkolivegreen;font-weight:bold">dark  
green</span> eyes. </p>
```

TEXT FORMATTING

- `Bold text`
- `<i>Italic text</i>`
- `Important text`
- `Emphasized text`
- `<small>Smaller text</small>`
- `<code>Computer code</code>`
- `<pre>Preformatted text</pre>`

TEXT FORMATTING (CONT'D)

- `` (deleted text)
- `<ins>` (inserted text)
- `<sub>` (subscripted text)
- `<sup>` (superscripted text)
- `<q>` (short quotation)
- `<blockquote>` (long quotation)
- `<cite>` (title of a work)
- `<abbr>` (abbreviation)
- `<address>` (contact information)
- `<bdo>` (text direction)

LINKS

- `` (page link)
 - Absolute vs. relative address
- `` (email link)
- `` (anchor)
- `` (link to anchor)

LINK EXAMPLES

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

```
<a href="#top">Go to top</a>
```

```
<a href="mailto:someone@example.com?Subject=Hello%20again">Send mail!</a>
```

```
<a href="mailto:someone@example.com?cc=someoneelse@example.com&bcc=an  
dsomeoneelse@example.com  
&subject=Summer%20Party&body=You%20are%20invited%20to%20a%20big%20su  
mmer%20party!">Send mail!</a>
```

HTML LINKS - THE TARGET ATTRIBUTE

- The **target** attribute specifies where to open the linked document.
- The target attribute can have one of the following values:
 - `_blank` - Opens the linked document in a new window or tab
 - `_self` - Opens the linked document in the same window/tab as it was clicked (this is default)
 - `_parent` - Opens the linked document in the parent frame
 - `_top` - Opens the linked document in the full body of the window
 - `framename` - Opens the linked document in a named frame

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

HTML LINKS - CREATE A BOOKMARK

- HTML bookmarks are used to allow readers to jump to specific parts of a Web page.
- When the link is clicked, the page will scroll to the location with the bookmark.

First, create a bookmark with the id attribute:

```
<h2 id="C4">Chapter 4</h2>
```

Then, add a link to the bookmark ("Jump to Chapter 4"), from within the same page:

```
<a href="#C4">Jump to Chapter 4</a>
```

IMAGES

- Image: ``

```

```

- Image Link: ``

- Images in Another Folder

```

```

- Images in Another Server

```

```


IMAGE AS LINK

```
<a href="default.asp">  
    
</a>
```

BACKGROUND IMAGE

- To add a background image on an HTML element, use the CSS property **background-image**
 - To add a background image on a web page, specify the background-image property on the BODY element:

```
<body style="background-image:url('clouds.jpg')">  
  
<h2>Background Image</h2>  
  
</body>
```

IMAGE MAPS

- Use the `<map>` tag to define an image-map. An image-map is an image with clickable areas.

```
  
  
<map name="workmap">  
  <area shape="rect" coords="34,44,270,350" alt="Computer" href="computer.htm">  
  <area shape="rect" coords="290,172,333,250" alt="Phone" href="phone.htm">  
  <area shape="circle" coords="337,300,44" alt="Coffee" href="coffee.htm">  
</map>
```



LISTS

- Ordered Lists (numbered): ``
- Unordered Lists (bulleted): ``

```
<ul>  
  <li>Cat</li>  
  <li>Dog</li>  
  <li>Mouse</li>  
</ul>
```

HTML LIST EXAMPLE

An Unordered List:

- Item
- Item
- Item
- Item

An Ordered List:

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

UNORDERED HTML LIST - CHOOSE LIST ITEM MARKER

- The CSS **list-style-type** property is used to define the style of the list item marker:

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

<ul style="list-style-type:disc">

ORDERED HTML LIST - THE TYPE ATTRIBUTE

- The **type** attribute of the `` 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

`<ol type="1">`

DEFINITION LISTS

- Definition Lists (dictionary like): `<dl>`
- Each item has a *term* `<dt>` and a *definition* `<dd>`

```
<dl>
  <dt>Item 1</dt>
  <dd>Describe item 1</dd>

  <dt>Item 2</dt>
  <dd>Describe item 2</dd>
</dl>
```


HTML ENTITIES

- HTML entities are used to display special characters in HTML
- Examples:
 - ` ` (non-breaking space)
 - `<` (less than: <)
- Entities general format:
 - `&name;`
 - `&#number;`

USEFUL ENTITIES

Character	Description	Entity Name	Entity Number
	non-breaking space	 	
<	less than	<	<
>	greater than	>	>
&	ampersand	&	&
€	euro	€	€
§	section	§	§
©	copyright	©	©

SUMMARY

- HTML is universal markup language of the web
- There are various types of HTML
 - Use DOCTYPE to specify the document type
- Basic HTML elements include:
 - Paragraphs and Headings
 - Text Formatting
 - Links, Images, and Lists

REFERENCES

- W3Schools
 - <http://www.w3schools.com/html>
- HTML Cheat Sheet
 - http://www.cril.univ-artois.fr/~lecoutre/teaching/_web/sheets/HTML.pdf