* Example Explained
* The **DOCTYPE** declaration defines the document type to be HTML
* The text between **<html>** and **</html>** describes an HTML document
* The text between **<head>** and **</head>** provides information about the document
* The text between **<title>** and **</title>** provides a title for the document
* The text between **<body>** and **</body>** describes the visible page content
* The text between **<h1>** and **</h1>** describes a heading
* The text between **<p>** and **</p>** describes a paragraph
* Using this description, a web browser can display a document with a heading and a paragraph.
* **Paragraphs**
* HTML paragraphs are defined with the **<p>** to **</p>** tags
* **Headings**
* HTML headings are defined with the **<h1>** to **<h6>** tags:
* **Links**
* HTML links are defined with the **<a>** tag:
* <a href="http://www.w3schools.com">This is a link</a>
* **Images**
* HTML images are defined with the <img> tag.
* The source file (src), alternative text (alt), and size (width and height) are provided as attributes:
* <img src="w3schools.jpg" alt="W3Schools.com" width="104" height="142">
* **Elements**
* An element is anything that starts and ends with a tag (e.g. <p>…</p>, etc.)
* Elements can be nested
* Elements can be empty:
  + <br> is an empty element without a closing tag (the <br> tag defines a line break).
  + Empty elements can be "closed" in the opening tag like this: <br />
* **Attributes**
* HTML elements can have **attributes**
* Attributes provide **additional information** about an **element**
* Attributes are always specified in **the start tag**
* Attributes come in name/value pairs like: **name="value"**
* For example, you can specify the title of a paragraph element. I think you can then reference this paragraph specifically in the CSS sheet
* <p title="About W3Schools">  
  W3Schools is a web developer's site.  
  It provides tutorials and references covering  
  many aspects of web programming,  
  including HTML, CSS, JavaScript, XML, SQL, PHP, ASP, etc.  
  </p>
* **Other attributes-**
* **href**
* <a href="http://www.w3schools.com">This is a link</a>
* **size**
* <img src="w3schools.jpg" width="104" height="142">
* **alt**
* The **alt** attribute specifies an alternative text to be used, when an image cannot be displayed.
* The value of the attribute can be read by screen readers. This way, someone "listening" to the webpage, e.g. a blind person, can "hear" the element.
* **Horizontal line**
* The **<hr>** tag creates a horizontal line in an HTML page.
* The hr element can be used to separate content:
* **Head element**
* The HTML **<head>** element has nothing to do with HTML headings.
* The HTML <head> element contains **meta data**. Meta data are not displayed.
* The HTML <head> element is placed between the <html> tag and the <body> tag:
* **Metadata**
* In the chapter about HTML styles you discover more meta elements:
* The HTML **<meta>** element is used to define metadata.
* The HTML **<style>** element is used to define internal CSS style sheets.
* The HTML **<link>** element is used to define external CSS style sheets.
* **Paragraphs**
* Text inside paragraphs does not render with extra spaces or line breaks
* To add line breaks use <br> within your paragraph
* To use pre-formatted text ust <pre> instead of <p>
* The HTML <pre> element defines preformatted text.
* The text inside a <pre> element is displayed in a fixed-width font (usually Courier), and it preserves both spaces and line breaks:
* **Styles**
* Setting the style of an HTML element, can be done with the **style attribute**.
* The HTML style attribute has the following **syntax**:
* style="*property*:*value;*"
* The property and value are from CSS
* You can set the style as an attribute within the element if it is short
* Otherwise, you need to define a style element
* Options
  + background-color
  + color (text color)
  + font-family
  + font-size (specify percentage)
  + text-align:
* HTML uses elements like <b> and <i> for formatting output, like **bold** or *italic* text.
* Formatting elements were designed to display special **types of text**:

|  |  |
| --- | --- |
| * [<b>](http://www.w3schools.com/tags/tag_b.asp) | * Defines bold text |
| * [<em>](http://www.w3schools.com/tags/tag_em.asp) | * Defines emphasized text |
| * [<i>](http://www.w3schools.com/tags/tag_i.asp) | * Defines italic text |
| * [<small>](http://www.w3schools.com/tags/tag_small.asp) | * Defines smaller text |
| * [<strong>](http://www.w3schools.com/tags/tag_strong.asp) | * Defines important text |
| * [<sub>](http://www.w3schools.com/tags/tag_sub.asp) | * Defines subscripted text |
| * [<sup>](http://www.w3schools.com/tags/tag_sup.asp) | * Defines superscripted text |
| * [<ins>](http://www.w3schools.com/tags/tag_ins.asp) | * Defines inserted text |
| * [<del>](http://www.w3schools.com/tags/tag_del.asp) | * Defines deleted text |
| * [<mark>](http://www.w3schools.com/tags/tag_mark.asp) | * Defines marked/highlighted text |

* **Quote and citation elements**

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| --- | --- |
| * [<abbr>](http://www.w3schools.com/tags/tag_abbr.asp) | * Defines an abbreviation or acronym |
| * [<address>](http://www.w3schools.com/tags/tag_address.asp) | * Defines contact information for the author/owner of a document |
| * [<bdo>](http://www.w3schools.com/tags/tag_bdo.asp) | * Defines the text direction |
| * [<blockquote>](http://www.w3schools.com/tags/tag_blockquote.asp) | * Defines a section that is quoted from another source |
| * [<cite>](http://www.w3schools.com/tags/tag_cite.asp) | * Defines the title of a work |
| * [<q>](http://www.w3schools.com/tags/tag_q.asp) | * Defines a short inline quotation |

* **Use special code elements to preserve spacing in computer code**

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| * **Tag** | * **Description** |
| * [<code>](http://www.w3schools.com/tags/tag_code.asp) | * Defines programming code |
| * [<kbd>](http://www.w3schools.com/tags/tag_kbd.asp) | * Defines keyboard input |
| * [<samp>](http://www.w3schools.com/tags/tag_samp.asp) | * Defines computer output |
| * [<var>](http://www.w3schools.com/tags/tag_var.asp) | * Defines a variable |
| * [<pre>](http://www.w3schools.com/tags/tag_pre.asp) | * Defines preformatted text |

* **CSS**
* Styling can be added to HTML elements in 3 ways:
* Inline - using a **style attribute** in HTML elements
* Internal - using a **<style> element** in the HTML <head> section
* External - using one or more **external CSS files**
* **e.x. Internal styling**
* <!DOCTYPE html>  
  <html>  
  <head>  
  <style>  
  body {background-color:lightgrey;}  
  h1   {color:blue;}  
  p    {color:green;}  
  </style>  
  </head>  
  <body>  
    
  <h1>This is a heading</h1>  
  <p>This is a paragraph.</p>  
    
  </body>  
  </html>
* e.x. External style sheet
* Add a link to the <head> element of the html document
* <!DOCTYPE html>  
  <html>  
  <head>  
    <link rel="stylesheet" href="styles.css">  
  </head>  
  <body>
* …
* **Boxes**
* Every HTML element has a box around it, even if you cannot see it.
* The CSS **border** property defines a visible border around an HTML element:
* border: draws a border around the element’s box
* padding: defines the amount of space inside the border
* margin: defines the amount of space outside the border
* **ID attribute**
* Defines a style for just one element
* All the examples above use CSS to style HTML elements in a general way.
* To define a special style for one special element, first add an id attribute to the element:
* in the html doc:
* <p id="p01">I am different</p>
* in the css doc:
* #p01 {  
      color: blue;  
  }
* **Class attribute**
* Like the ID attribute, classes allow you to define a style for a bunch of elements of different classes.
* Define the class as an attribute of the element you want.
* <p class="error">I am different</p>
* p.error {  
      color: red;  
  }
* **Links:**
* Change colors based on hover
* <style>  
  a:link    {color:green; background-color:transparent; text-decoration:none}  
  a:visited {color:pink; background-color:transparent; text-decoration:none}  
  a:hover   {color:red; background-color:transparent; text-decoration:underline}  
  a:active  {color:yellow; background-color:transparent; text-decoration:underline}  
  </style>
* **Where to open the new link**

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| * **Target Value** | * **Description** |
| * \_blank | * Opens the linked document in a new window or tab |
| * \_self | * Opens the linked document in the same frame 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 |

* **Images are often used as links**
* <a href="default.asp">  
    <img src="smiley.gif" alt="HTML tutorial" style="width:42px;height:42px;border:0">  
  </a>
* **Bookmarks**
* You can link to points in your page if you have a long web page
* Frist create an element with a uniquie ID
* Then link to the ID later
* See.. <http://www.w3schools.com/html/html_links.asp>
* **Images**
* Always specify the width and height of an image. If width and height are not specified, the page will flicker while the image loads.
* Insert images using the **<img>** tag, which is always empty and has no closing tag.
* Specify an alternate title for the image with the **alt** attribute
* Use the style attribute to specify image size
* style="width:128px;height:128px;
* You can also specify width and height as separate attributes, but style won’t be overridden by the style sheet
* If you use an image as a link, use border:0 to prevent a border from showing in some old browsers style="width:42px;height:42px;border:0;"
* **Image maps**
* Define clickable areas within an image as links
* see http://www.w3schools.com/html/html\_images.asp
* **Tables**
* Define using the <**table**> tag
* Nest <**tr**> table row tags and <**td**> table data or <**th**> table heading tags between row tags to define cells
* **Borders can be specified in CSS:**
* table, th, td {  
      border: 1px solid black;  
      border-collapse: collapse;  
  }
* Borders and cells can have **padding**, etc.
* Cells can be defined to **span multiple rows or columns:**
* <th rowspan="2">Telephone:</th>
* **Captions** can be added as follows:
* <table style="width:100%">  
    <caption>Monthly savings</caption>
* **Lists**
* **Unordered lists** start with the **<ul>** tag
* Nest <li> tags within for each item
* Can specify style attribute within the **<ul>** tag to specify bullet style

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| * **Style** | * **Description** |
| * list-style-type:disc | * The list items will be marked with bullets (default) |
| * list-style-type:circle | * The list items will be marked with circles |
| * list-style-type:square | * The list items will be marked with squares |
| * list-style-type:none | * The list items will not be marked |

* **Ordered lists**
* These follow the same conventions as ordered lists, except starts with an **<ol>** tag
* Specify type of ordering as style

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| * **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 |

* **Description lists:**
* The **<dl>** tag defines the description list, the **<dt>** tag defines the term (name), and the **<dd>** tag describes each term:
* <dl>  
    <dt>Coffee</dt>  
    <dd>- black hot drink</dd>  
    <dt>Milk</dt>  
    <dd>- white cold drink</dd>  
  </dl>
* **Horizontal lists**
* You can use CSS to style “inline” or horizontal lists, and with padding you
* <head>  
  <style>  
  ul#menu li {  
      display:inline;  
  }  
  </style>  
  </head>
* can make these horizontal lists look like **menus**
* **Blocks**
* Always start on new lines and take up the whole width
* e.g.
  + <div>
  + <h#>
  + <p>
  + <form>
* **<div>**
* Div is a block-level element that has no particular attributes, but can be styled
* It makes a good container for other elements
* **Inline elements**
* These don’t necessarily start on new lines and only take up the amount of width necessary
* e.g.
  + <span>
  + <img>
  + <a>
* **<Span>**
* <Span> is like <div> except it is an inline element
* **Layout**
* You can use <div> sections and padding to create layout
* Avoid using tables when possible
* **Entities**
* Reserved characters that have special codes