

HTML



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Linear Media vs. Hypermedia



What is HTML?

- HTML developed by TIM BERNERS-LEE in 1990.
- Is short for HyperText Markup Language.
- Every web page on the internet is written using HTML.
- HTML provides the basic structure of the page.



What is HTML

HTML Code is composed of:

- **Tags:** keywords for writing HTML.
- **Attributes:** Properties for each Tag.
- **Values:** Values for each attribute.



What is HTML?

Syntax:

```
<tag>contents...</tag>
```



What is HTML?

Syntax:

```
<Tag Attribute =" Value">
```

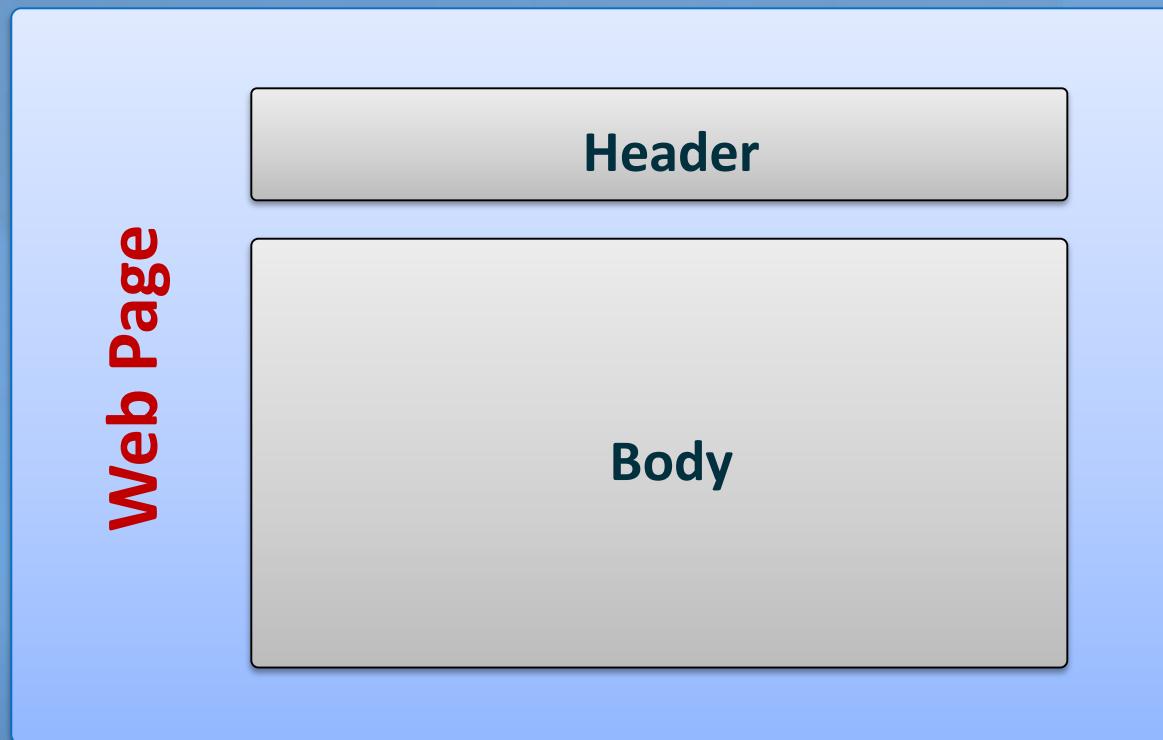
contents...

```
</Tag>
```



HTML Document Structure

HTML (web) Page Structure





HTML Document Structure

HTML (web) Page Structure

- An **HTML** tag surrounds the whole document.
- This **HTML** contains two sub-elements, **HEAD** and **BODY**.
- This Structure is required to create any **HTML** document.



HTML Document Structure

HTML (web) Page Structure

```
<html>  
  <head>  
    <title> Document title. </title>  
    <script> Contains either java script or vb script </script>  
  </head>  
  <body>  
    HTML Code  
  </body>  
</html>
```



HTML Document Properties

Setting Document Properties

Document properties are controlled by attributes of the **BODY** tag.

↓ For example

Background color → <body bgcolor="#009966">

Text color → <body text="#00FFFF">

Links color → <body link="#000000">



Colors in HTML



Colors in HTML

Colors in HTML

- HTML uses "**RGB**" color codes
- "RGB" codes represented as **hexadecimal values**.
- Each 2-digit of the code represents **red, green** and **blue** for the color.



Colors in HTML

Colors in HTML

RGB Color	Hexadecimal Value	RGB Color	Hexadecimal Value
White	#FFFFFF	Aquamarine	#70DB93
Black	#000000	Chocolate	#5C3317
Red	#FF0000	Violet	#9F5F9F
Green	#00FF00	Brass	#B5A642
Blue	#0000FF	Copper	#B87333
Magenta	#FF00FF	Pink	#FF6EC7
Cyan	#00FFFF	Orange	#FF7F00
Yellow	#FFFF00		



The BODY Tag Attributes

↓ The Page Background color

Attribute Name: bgcolor

Code: <body bgcolor="#ffffff"></body>

↓ The Text Color

Attribute Name: text

Code: <body text="#ff0000"></body>



The BODY Tag Attributes

↓ The Background Image

Attribute Name: background

Code: <body background="images/logo.gif"></body>

↓ The Links Color

Attribute Name: link

Code: <body link="#0000ff">



The BODY Tag Attributes

↓ The Visited Links Color

Attribute Name: vlink

Code: <body vlink="#0000ff">

↓ The Active Links Color

Attribute Name: alink

Code: <body alink="#0000ff">



The BODY Tag Attributes

↓ The Text Direction

Attribute Name: dir

Code: <body dir="ltr">

Values

"ltr" "rtl"

↓ The Element ID

Attribute Name: id

Code: <body id="b1">



Headings, <hx> </hx>

- HTML has **6 levels** of heading formats
- From **h1** through **h6**
- **h1** has the **greatest** size.
- **h6** has the **smallest** size.



Headings, <hx> </hx>

Example

```
<html>
<head>
<title>example page</title>
</head>
<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>
```

Output

Heading 1

Heading 2

Heading 3

Heading 4

Heading 5

Heading 6



The Heading Tag Attributes

↓ The Text alignment

Attribute Name: align

Code: <h1 align ="center">

↓ Values

Center | right | left | justify

↓ The Tool Tip

Attribute Name: title

Code: <h1 title ="welcome"> text in title </h1>



The Heading Tag Attributes

↓ Other Attributes

→ dir

→ id



Paragraph, <P> </P>

Paragraph tag allows adding text to a document in such a way that it will automatically adjust the end of line to suit the window size of the browser.



Paragraph, <P> </P>

Example

```
<html><head>
<title>example page</title></head>
<body>
<h1>Heading 1</h1>
<p>Paragraph 1, ... </p>
<h2>Heading 2</h2>
<p>Paragraph 2, ... </p>
<h3>Heading 3</h3>
<p>Paragraph 3, ... </p>
<h4>Heading 4</h4>
<p>Paragraph 4, ... </p>
</body>
</html>
```

Output

Heading 1

Paragraph 1, ...

Heading 2

Paragraph 2, ...

Heading 3

Paragraph 3, ...

Heading 4

Paragraph 4, ...



The Paragraph Tag Attributes



The Paragraph Tag Attributes

- align → left | right | center | justify
- dir → ltr | rtl
- id
- title



Break,

- Line breaks allow you to break the text on a new line.
- A
 is an Empty Tag.



Break,

Example

```
<html>
<head>
<title>test</title>
</head>
<body>
    <p>
        this is a test for the BR tag <br> this line is a new line within
        the same paragraph
    </p>
</body>
</html>
```

Output

```
this is a test for the BR tag
this line is a new line within the same paragraph
```



Horizontal Rule, <hr>

- The <HR> element causes the browser to display a horizontal line (rule).
- <HR> is an Empty Tag.



Horizontal Rule, <hr>

Example

```
<html>
<head>
<title>example page</title>
</head>
<body>
<h1>Heading 1</h1>
<p>Paragraph 1, <br>line 2 <br>
<hr>Line 3 <br>... </p>
</body>
</html>
```

Output

Heading 1

Paragraph 1,
Line 2

Line 3

...



Horizontal Rule, <hr>

↓ The <hr> Tag Attributes

size → Height in pixels. Default is 2 pixels.

width → Width in pixels or percentage. Default 100%.

Align → left | right | center

color → set a color for the rule.



Text Formatting



Text Formatting



The Bold Tag **** or ****

Code: **** this is the text to be bold ****

or: **** this is the text to be bold ****



The Italic Tag *<i>* or **

Code: **<i>** this is the text to be italic**</i>**

or: **** this is the text to be italic****



The Underline Tag <u>

Code: **<u>** this is the text to be underlined**</u>**



Text Formatting

↓ The Preformatted Text <pre>

→ **Description:**

This tag support blank spaces and line breaks as the user types in the code.

→ **Code**

```
<pre> text  
here      </pre>
```



Text Formatting



The Block Quotations <blockquote>

→ Description:

Creates indents from both sides in the document.

→ Code

```
<blockquote> Text </blockquote>
```



Text Formatting



Subscript Position Text <sub>

Code: _{subscript position}



Superscript Position Text <sup>

Code: ^{places text in superscript style position}



Text Formatting

Division Tag <div>.....</div>

→ Description:

Creates a division in the document (page division)
and can contain other tags.

→ Tag → <div>....</div>

→ Attributes → Align, dir, id, title.

→ Code → <div align="left">.....</div>



Text Formatting

↓ Span Tag

→ **Description:**

Creates a division in the tag data (tag division).

→ **Tag** →

→ **Attributes** → dir, id, title.

→ **Code** → <p>this is a a span in a paragraph
paragraph</p>



Text Formatting

Span Tag

→ Example:

```
<p title=" title1">  
this is <span title="title2"> a span in </span>  
a paragraph  
</p>
```



Special characters and Symbols



Special Characters and Symbols

Special Characters and Symbols **not found on the keyboard** can be inserted using special character entities.

These characters are recognized in HTML as they begin with an **ampersand “&”** and end with a **semi-colon “;”**.



Special Characters and Symbols

Symbols

Special Character	Entity Name
Copyright	© ©
Cent sign	¢ ¢
Greater-than sign	> >
Less-than sign	< <
Registration mark	® ®
Trademark sign	™ ™



Special Characters and Symbols

Symbols

Special Character	Entity Name
One half	$\frac{1}{2}$
One qtr	$\frac{1}{4}$
Quotation mark	"
Ampersand	&
Non-breaking space	



Lists



Lists

- HTML supplies several list tags.
- Most list are composed of list items
- Types of lists
 - Unordered List.
 - Ordered List.
 - Definition List.



Lists - Unordered List.

Unordered List

Items in this list start with a bullet.

Example

```
<ul>
    <li>List item...</li>
    <li>List item...</li>
    <li>List item...</li>
</ul>
```

Output

- List item...
- List item...
- List item...



Lists - Unordered List.

Types of list bullets

Html provides three types of list bullet:

- Disc (default).
- Circle.
- Square.

These are controlled by the "type" attribute for the tag.



Lists - Unordered List.

↓ Square example

```
<ul type="square">
  <li>List item...</li>
  <li>List item...</li>
  <li>List item...</li>
</ul>
```

↓ Circle example

```
<ul type="circle">
  <li>List item...</li>
  <li>List item...</li>
  <li>List item...</li>
</ul>
```

↓ Output

- List item...
- List item...
- List item...

↓ Output

- List item...
- List item...
- List item...



Lists - Ordered List.

Ordered List

Items in this list are numbered automatically.

Example

```
<ol>
    <li>List item...</li>
    <li>List item...</li>
    <li>List item...</li>
</ol>
```

Output

- 1. List item...
- 2. List item...
- 3. List item...



Lists - Ordered List.

Types of ordered Lists

- Html provides 5 types of ordered lists
- These list are controlled by the "type" attribute for the tag.



Lists - Ordered List.

↓ Ordered Lists types

TYPE = “...”	Numbering Style	
1	Arabic numbers	1, 2, 3, ...
a	Lower alpha	a, b, c, ...
A	Upper alpha	A, B, C, ...
i	Lower roman	i, ii, iii, ...
I	Upper roman	I, II, III, ...



Lists - Ordered List.

- Note that the default list type is the “**Arabic Numbers**” (1,2,3,4...).
- The starting number for the ordered list can be changed using the “**start**” attribute in the **** tag.



Lists - Ordered List.

Example

```
<ol type="i">
    <li>List item...</li>
    <li>List item...</li>
</ol>
    <p>Unrelated text ... </p>
<ol type="i" start="3">
    <li>List item...</li>
</ol>
```

Output

- i. List item...
- ii. List item...

- Unrelated text ...

- iii. List item...



Lists - Definition List. <dl>

Definition List

- This type of list is used for definitions or glossary of terms.
- It is composed of a Definition list tag **<dl>** followed by Definition term tag **<dt>** and Definition Description tag **<dd>**.



Lists - Definition List. <dl>

Example

```
<dl>
  <dt>HTML</dt>
    <dd>Hyper Text Markup Language</dd>
  <dt>JS</dt>
    <dd>JavaScript</dd>
</dl>
```

Output →

HTML	
	Hyper Text Markup Language
JS	
	JavaScript



Images



GIF (Graphic Interchange Format).

- GIF uses a maximum of 256 colors.
- Best for displaying logos, icons, and buttons.
- Have some extra functionality than other images types:
 - Interlacing
 - Transparency
 - Animation



Images - Supported Image Formats

- **Interlacing:** The browser will be able to display the image as it loads (gradually).
- **Transparency:** you can set colors to be transparent.
- **Animation:** A number of GIF images saved into a single file and looped.



Images - Supported Image Formats

JPG, JPEG (Joint Photographic Expert Group).

- JPG Image file can contains millions of colors.
- JPG allow you to specify the degree of file compression to create a balance between image quality and file size.
- JPEGs also support interlacing.



PNG (Portable Network Graphics).

- Good for combinations of text and graphics within one image.
- Permits true color images.
- Variable transparency.
- Interlacing.



Images - Non-Supported Image Formats.

BMP (MS Windows BitMaP).

- Is not supported by any browsers.

TIFF (Tagged Image File Format).

- Is not supported by any browsers.



Inserting Images



Images - Inserting Images

↓ Inserting Images

**Tag Name → **

Attributes →

- **src:** Image file source
- **alt:** Alternative Text (if image didn't load)
- **width:** Image width in px.
- **height:** Image height in px.
- **id:** adds an id to the image.
- **title:** adds a tool tip to image.
- **border:** a border surrounds the image (in px)



Images - Inserting Images

Example

```

```



Links



Links

Simply links can be added to the page using the following code

↓ Syntax

```
<a href="URL"> text to click</a>
```



Links

There are three major types of links:

 **Internal Links**

Links within the same document.

 **Local Links.**

Links to documents on the same web server.

 **External Links.**

Links to pages on other web servers.



Links

Creating Internal links

- Define a **location** with the **<A>** tag and the attribute **“name”**
- Then create a link to the location by another **<a>** tag and the attribute **“href”**

↓ Code

```
<a name="hi"> this is  
the location the link  
refers to</a>
```

↓ Code

```
<a href="#hi">nti</a>
```



Links

Creating local links

- Create a link to another page using the `<a>` tag and the attribute “`href`” and a **relative path** as a **value**

↓ Code

```
<a href="folder1/page1.html">nti</a>
```

or

```
<a href="page1.html">nti</a>
```



Links

Creating External links

- Create a link to a web page on another website using the **<a>** tag and the attribute “**href**” and the **url** of the page as a **value**

↓ Code

```
<a href="http://www.yahoo.com">yahoo</a>
```



Links

Creating links to Email address

- Similar to linking to an external website use the term “mailto:” followed by the email address as a value for the href attribute.

 Code

```
<a href="mailto:me@yahoo.com">contact me </a>
```



Tables





Tables

→ Main Tag → <table>.....</table>

→ Sub Tags

<tr></tr>: Table Row.

<th></th>: Table Header (bold centered).

<td></td>: Table Data (cell data)

<caption> </caption>: Table title



Tables - Example

Example

```
<table>

<tr><th>Col 1 Header</th><th>Col 2 Header</th></tr>

<tr><td>Row 1 - Col 1 </td><td>Row 1 - Col 2 </td></tr>

<tr><td>Row 2 - Col 1 </td><td>Row 2 - Col 2 </td></tr>

<tr><td>Row 3 - Col 1 </td><td>Row 3 - Col 2 </td></tr>

</table>
```



Tables - Example

↓ Output

Col 1 Header	Col 2 Header
Row 1 - Col 1	Row 1 - Col 2
Row 2 - Col 1	Row 2 - Col 2
Row 3 - Col 1	Row 3 - Col 2



Tables - Table Attributes

Table Attributes

Tag Name → <table>

Attributes →

- **bgcolor:** background color for the table.
- **width:** Table width in pixels or a percentage.
- **border:** border width in pixels.
- **bordercolor:** border color around the table.



Tables - Table Attributes

Table Attributes

- **cellspacing:** space between cells in px.
- **cellpadding:** space between cell border and cell contents in px.
- **align:** left | right | center
- **background:** Background Image.



Tables - Table Attributes

↓ Table Caption Attributes

Tag Name → <caption>

Attributes →

- **align:** top | bottom. (top is default)
- **id:** add an id for the caption.
- **dir:** changes the direction of the text.
- **title:** adds tool tip for the caption text.



Tables - Example

Example

```
<table border="1" cellpadding="2">  
  <caption align="bottom"> Table Label </caption>  
  <tr><th>Col1 Header</th><th>Col2 Header</th></tr>  
  <tr><td>Row 1 - Col 1</td><td>Row 1 - Col 2</td></tr>  
  <tr><td>Row 2 - Col 1</td><td>Row 2 - Col 2</td></tr>  
  <tr><td>Row 3 - Col 1</td><td>Row 3 - Col 2</td></tr>  
</table>
```



Tables - Example

Output

Col1 Header	Col2 Header
Row 1 - Col 1	Row 1 - Col 2
Row 2 - Col 1	Row 2 - Col 2
Row 3 - Col 1	Row 3 - Col 2

Table Label



Table Data <td> Attributes

↓ Table <td> Attributes

Tag Name → <td>

Attributes →

- **width:** Width in pixels or percentage.
- **height:** Height in pixels.
- **align:** left | right | center | justify.
- **valign:** top | middle | bottom.



Table Data <td> Attributes



Table <td> Attributes

- **background:** Background image, will be tiled.
- **bgcolor:** Background color.
- **colspan:** Merge columns cells. (number)
- **rowspan:** Merge rows cells. (number)



Tables - Example

Example

```
<table border="1" cellpadding="2">  
  <tr><th>Col1 Header</th><th>Col2 Header</th></tr>  
  <tr><td colspan="2">Row 1 - Col 1 </td></tr>  
  <tr><td rowspan="2">Row 2 - Col 1 </td><td>Row 2 - Col 2  
    </td></tr>  
  <tr><td>Row 3 - Col 2 </td></tr>  
</table>
```



Tables - Example

Output

Col1 Header	Col2 Header
Row 1 - Col 1	
Row 2 - Col 1	Row 2 - Col 2
	Row 3 - Col 2



Forms



Forms

Forms

Description → Used to insert a form on the page.

Tag name → <form> ...</form>



Forms

↓ <form> tag attributes

action → URL name for the form data to be sent.

method → HTTP method for sending data.

get: is default

post: is more secure



Forms - Form Sub Elements

There are 3 major types of form sub elements:

↓ **The Input element.**

```
<input>..</input>
```

↓ **The Select element.**

```
<select> </select>
```

↓ **The Text Area element.**

```
<textarea> </textarea>
```



Forms

↓ <Input> tag attributes

type → Type of INPUT entry field.

name → Variable name passed to the data page.

value → Initial value that appears to the user.

size → Specifies the width of an <input> element, in characters. Default value is 20.

maxlength → Maximum number of characters accepted.

checked → Used with the radio Button or the check box to be checked by default or not.

Forms - <INPUT>

Text boxes

Description → Adds a text field to the form.

Code → <input type="text">

Attributes → name

size

maxlength

value

Output

Forms - <INPUT>

↓ Text boxes “password”

Description → Adds a password field to the form.

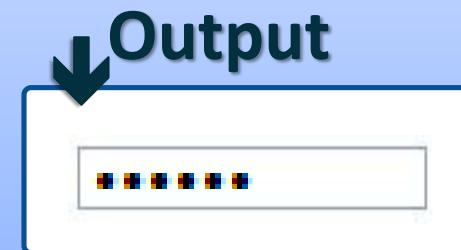
Code → <input type="password">

Attributes → name

size

maxlength

value





Forms - <INPUT>

↓ Hidden Field

Description → Used to send hidden data to the server page.

Code → <input type="hidden">

Attributes → name

value

↓ Output

Forms - <INPUT>

Check Box

Description → Adds a check box to the form.

Code → <input type="checkbox">

Attributes → name

value

checked

Output



Forms - <INPUT>

↓ Radio button

Description → Adds a radio button to the form.

Code → <input type="radio">

Attributes → name

value

checked

↓ Output



Forms - <INPUT>

File field

Description → Used to upload files to the web server.

Code → <input type="file">

Attributes → name

value

Output



A screenshot of a file input field. It consists of a text input box followed by a 'Browse...' button. A yellow arrow points from the word 'File field' to this input field.

Forms - <INPUT>

Button

Description → Used with scripts to cause an action.

Code → <input type="button">

Attributes → name

value

Output





Forms - <INPUT>

Submit Button

Description → The button that causes the browser to send the **NAMES** and **VALUES** of all the form tag to the server page defined by the **ACTION** attribute.

Code → `<input type="submit">`

Attributes → **name**

value





Forms - <INPUT>

Reset Button

Description → Clear all the inputs in the form.

Code → <input type="reset">

Attributes → name

value

Output



A white rectangular button with a black border and a dark blue arrow pointing to it from the text "Output". Inside the button, the word "Reset" is written in a dark blue, sans-serif font.



Forms - <select>

↓ Combo and List Boxes

Description → adding combo box
or list box to the form.

Code → <select></select>

Attributes → name
size: number of lines
multiple: allow more than
on selection

Sub Element → <option></option>

↓ Output

Size="1"

↓ Output

item 1
item 2
item 3

Size="3"



Forms - <select>

↓ Adding list items

Description → adding list items to the <SELECT> tag.

Code → <option>.....</option>

Attributes → value

selected: means that this is the default selected
option



Forms - <SELECT> Example

Example

```
<p>  
  <select name="x500" size="1">  
    <option value="1">item 1</option>  
    <option value="2" selected="selected">item 2</option>  
  </select>  
</p>
```

Output

item 2 ▾



Forms - <SELECT> Example

Example

```
<p>  
  <select name="x600" size="2">  
    <option value="1">item 1</option>  
    <option value="2" selected="selected">item 2</option>  
  </select>  
</p>
```

Output

item 1	
item 2	



Forms - Text Area

Text Area

Description Allows free text entry.

Code → <textarea> </textarea>

Attributes →

name

rows: Number of rows.

cols: Number of columns

Output

