101: HTML

Introduction & Basics

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For: Cornerstone International Community College Vancouver

Class Structure

Class Time: Four Hours

Teacher (20%)
- In Person - Start of Class
– Followed by Q&A
– Followed by 15 min Break

Student (80%)
- Practice
- Explore
- Understand
- Ask Questions
- Do Assignments

This slideshow is meant to be accompanied by an in class meeting with your Instructor.

However, a recording is also made available.

- **Video Content**
  - <Video Lecture>
- **Online Material**
  - <Github Classrooms>

What’s Coming Up

Summary Section

- What is HTML?
- What is NOT HTML

- Very Brief HTML History

- Basic Structure of HTML documents

- HTML tags and attributes

- HTML editors
- HTML vs. XHTML

What’s Coming Up

Introduction Section

- Less Brief history of HTML
- Role of HTML in web development
- HTML Versions (html vs html5)
- HTML5 and its features
- HTML resources and references

What’s Coming Up

Practical Sections that include

- Common HTML elements
- Block vs. inline elements
- Semantic HTML elements
- Creating nested elements and hierarchies

What’s Coming Up

Assignments

- Assignment
  - Begin Build Professional Resume
- Quiz
  - Content Review

HTML Summary

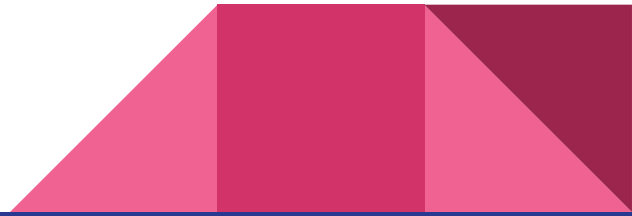
What is HTML

HTML is the standard markup language for creating Web pages.

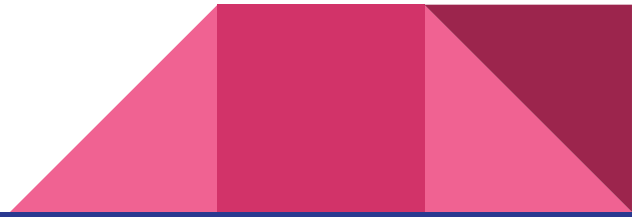
- HTML stands for Hyper Text Markup Language

HTML is the standard markup language for creating Web pages

- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements label pieces of content such as
  - "this is a heading", "this is a paragraph", "this is a link", etc.



What is NOT HTML



A Simple HTML Document

Example

```
<!DOCTYPE html>

<html>
	<head>
		<title>Page Title</title>
	</head>
	<body>
		<h1>My First Heading</h1>
		<p>My first paragraph.</p>
	</body>
</html>
```

- The <!DOCTYPE html> declaration defines that this document is an HTML5 document
- The <html> element is the root element of an HTML page
- The <head> element contains meta information about the HTML page
- The <title> element specifies a title for the HTML page (which is shown in the browser's title bar or in the page's tab)
- The <body> element defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.
- The <h1> element defines a large heading
- The <p> element defines a paragraph

A Simple HTML Document

Example

```
<!DOCTYPE html>

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A Simple HTML Document

Example

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	</head>
	<body>
		<h1>My First Heading</h1>
		<p>My first paragraph.</p>
	</body>
</html>
```

- The <html> element is the root element of an HTML page

A Simple HTML Document

Example

```
<!DOCTYPE html>

<html>
	<head>
		<title>Page Title</title>
	</head>
	<body>
		<h1>My First Heading</h1>
		<p>My first paragraph.</p>
	</body>
</html>
```

- The <head> element contains meta information about the HTML page

A Simple HTML Document

Example

```
<!DOCTYPE html>

<html>
	<head>
		<title>Page Title</title>
	</head>
	<body>
		<h1>My First Heading</h1>
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	</body>
</html>
```

- The <title> element specifies a title for the HTML page (which is shown in the browser's title bar or in the page's tab)

A Simple HTML Document

Example

```
<!DOCTYPE html>

<html>
	<head>
		<title>Page Title</title>
	</head>
	<body>
		<h1>My First Heading</h1>
		<p>My first paragraph.</p>
	</body>
</html>
```

- The <body> element defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.

- The <h1> element defines a large heading
- The <p> element defines a paragraph

A Simple HTML Document

Example

```
<!DOCTYPE html>

<html>
        <head>
                <title>Page Title</title>
        </head>
        <body>
                <h1>My First Heading</h1>
                <p>My first paragraph.</p>
        </body>
</html>
```

The Head is Typically for giving information to the Browser such as the Title of the page but also language information or search engine optimization information can be added also.

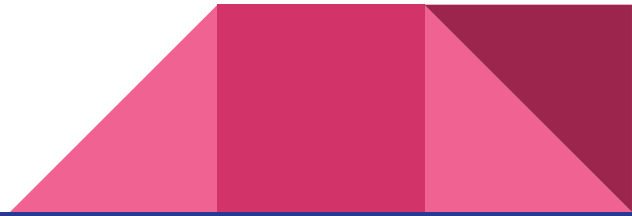
The Body section is usually what is displayed inside a web browser and represents the ‘content’ of the web page.

This is the basics, but there are more.

Quick History of HTML

Since the early days of the World Wide Web, there have been many versions of HTML:

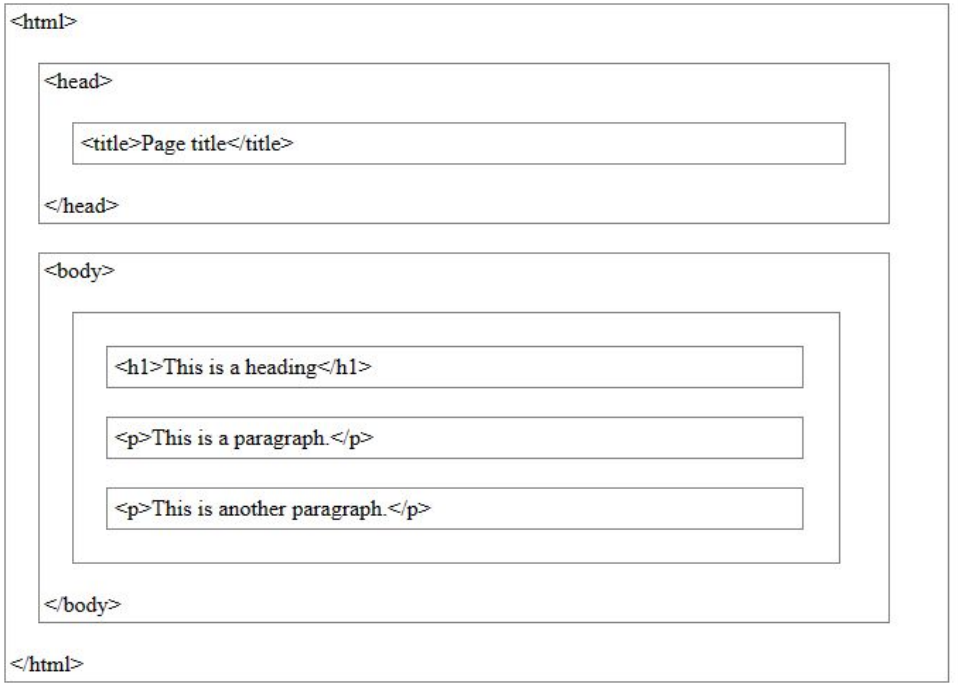
Year	Version
1989	Tim Berners-Lee invented www
1991	Tim Berners-Lee invented HTML
1993	Dave Raggett drafted HTML+
1995	HTML Working Group defined HTML 2.0
1997	W3C Recommendation: HTML 3.2
1999	W3C Recommendation: HTML 4.01
2000	W3C Recommendation: XHTML 1.0
2008	WHATWG HTML5 First Public Draft
2012	WHATWG HTML5 Living Standard
2014	W3C Recommendation: HTML5
2016	W3C Candidate Recommendation: HTML 5.1
2017	W3C Recommendation: HTML5.1 2nd Edition
2017	W3C Recommendation: HTML5.2



Basic Structure of HTML

A Web Page is layered like

- Outer Boxes
  - Inner Boxes
    - More Inner Boxes
      - Buttons, Lists
    - Even More
      - Games, Music
  - Inner Boxes
    - Advertisements
- Outer Boxes
  - More stuff



Basic Structure of HTML

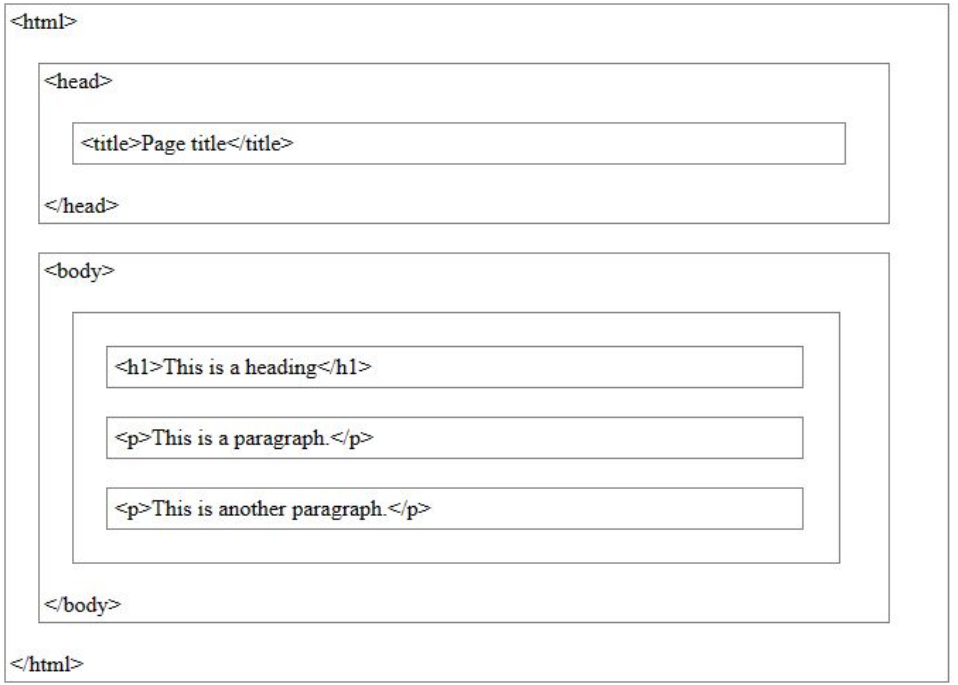
Note:

The content inside the <body> section

- (the white area) will be displayed in a browser.

The content inside the <title> element

- will be shown in the browser's title bar or in the page's tab.



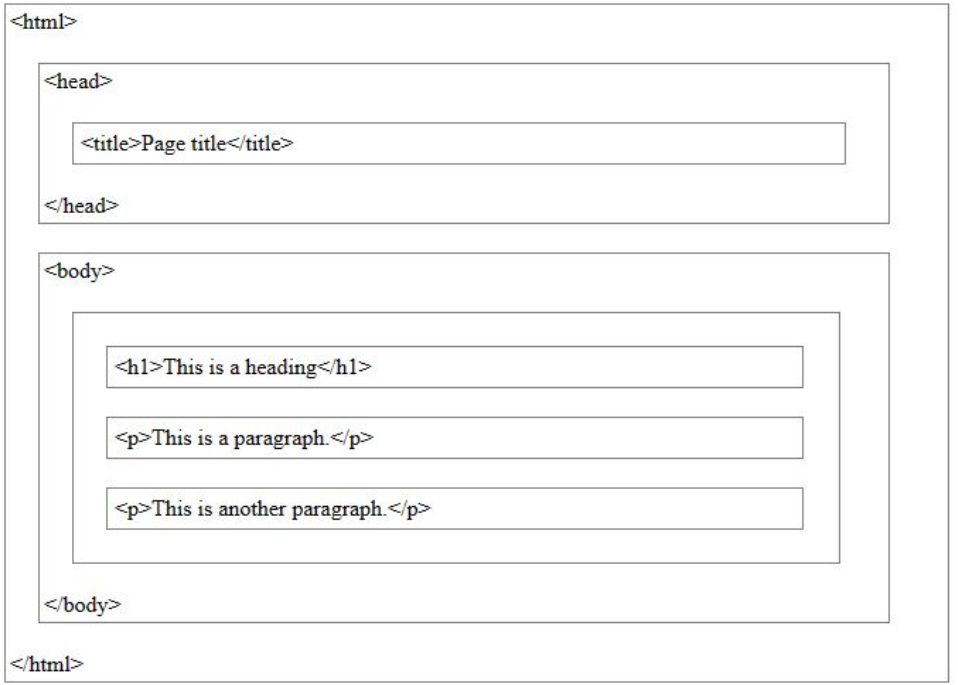
Basic Structure of HTML

Note:

HTML is NOT just for Websites.
It started that way but it is used in many areas.

- Not just Web Browsers
  - Google Robot & Web Crawlers:
    They need to know what your page
    Is about, it's structure and other data
  - Programs such as Document Editors:
    May use HTML to just lay out documents

    Remember. HTML is not a programming
    Language, it is a Markup Language and
    describes what's on a page.
  - Accessibility:
    Visually Impaired for example.



Basic Structure of HTML

Note:

Of course, the one me mostly think of

- For just Web Browsers
  - Page Title
  - Other information for the browser
    - Document Type
    - Media
    - Language
    - Encoding
    - Meta Tags

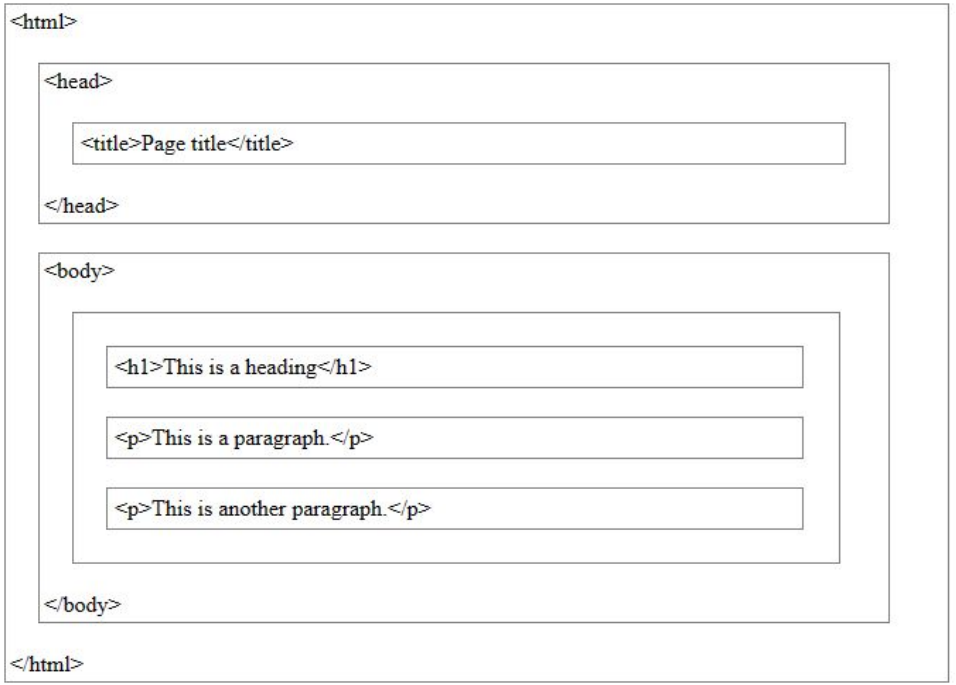
```
<html>
  <head>
    <title>Page title</title>
  </head>
  <body>
    <h1>This is a heading</h1>
    <p>This is a paragraph.</p>
    <p>This is another paragraph.</p>
  </body>
</html>
```

Basic Structure of HTML

Note:

Or things we don't

- For Cross Platform, Multi Device UI-UX
  - Android Phone/Tablet
  - Apple iPhone/Tablet
  - Xbox/Playstation/SteamBox
  - PC/Mac
  - Raspberry Pi Homebrew Projects
  - Router Applications
  - Enterprise Applications
  - Document Archival
  - Network Protocol



HTML Elements, Tags & Attributes

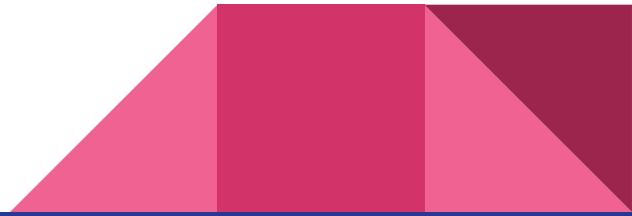
An HTML **element** is defined by a start tag, some content, and an end tag:

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

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

<**h1**>My First Heading</**h1**>

<**p**>My first paragraph.</**p**>

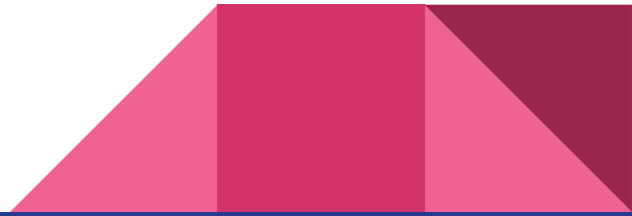


HTML Elements, Tags & Attributes

Start tag	Element content	End tag
<h1>	My First Heading	</h1>
	My first paragraph.	
 	none	none

Note: Some HTML elements have no content (like the
 element).

These elements are called empty elements.
Empty elements do not have an end tag!



HTML Elements, Tags & Attributes

Nested HTML Elements

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

- All HTML documents consist of nested HTML elements.

The following example contains four HTML elements (<html>, <body>, <h1> and <p>)

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

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

</body>
</html>
```

HTML Elements, Tags & Attributes

Nested HTML Elements

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

- All HTML documents consist of nested HTML elements.

The following example contains four HTML elements (<html>, <body>, <h1> and <p>)

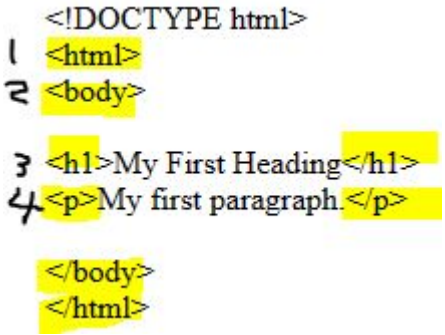
```
<!DOCTYPE html>
1 <html>
2 <body>

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

</body>
</html>
```

HTML Elements, Tags & Attributes

Example Explained

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>.



HTML Elements, Tags & Attributes

Example Explained

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

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

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

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

</body>
</html>
```

HTML Elements, Tags & Attributes

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

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

The <h1> element defines a heading. It has a start tag <h1> and an end tag </h1>:
The element defines a paragraph. It has a start tag and an end tag :

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

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

</body>
</html>
```

HTML Elements, Tags & Attributes

Never Skip the End Tag

Some HTML elements will display correctly, even if you forget the end tag: Some ““may”.

```
<html>
<body>

<p>This is a paragraph
<p>This is a paragraph

</body>
</html>
```

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

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

</body>
</html>
```

However, never rely on this! Unexpected results and errors may occur if you forget the end tag

HTML Elements, Tags & Attributes

Empty HTML Elements

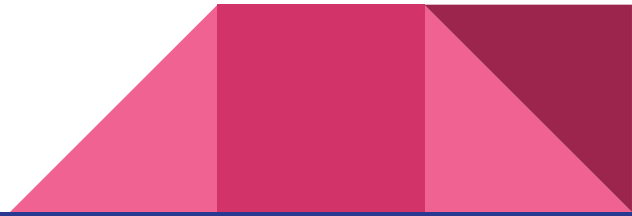
HTML elements with no content are called empty elements.

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

Example

This is a
 paragraph with a line break.

You will learn more about links in our HTML Links chapter.

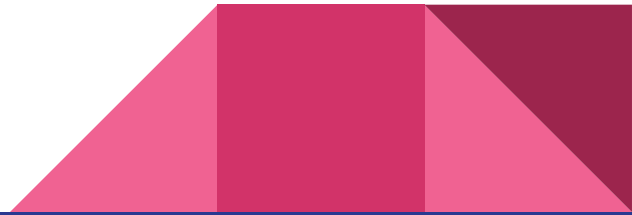


HTML Elements, Tags & Attributes

HTML attributes provide additional information about HTML elements.

HTML Attributes

- All HTML elements can have **attributes**
- Attributes provide **additional information** about elements
- Attributes are always specified in **the start tag**
- Attributes usually come in name/value pairs like: **name="value"**



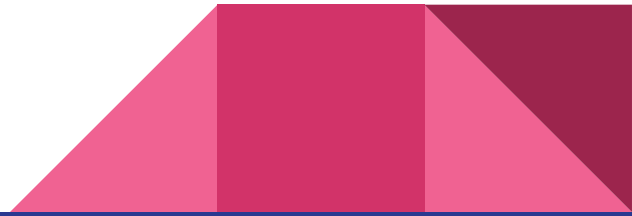
HTML Elements, Tags & Attributes

The href Attribute

- The <a> tag defines a hyperlink.

The href attribute specifies the URL of the page the link goes to:

- **Example**
- Visit W3Schools



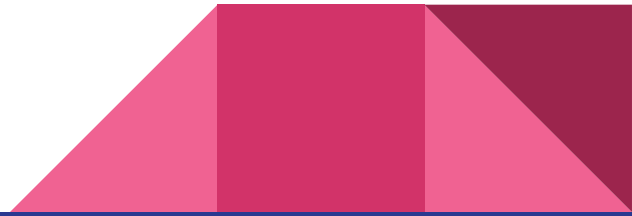
HTML Elements, Tags & Attributes

The src Attribute

- The <img> tag is used to embed an image in an HTML page. The src attribute specifies the path to the image to be displayed:

Example

```
<img src="img_girl.jpg">
```



HTML Elements, Tags & Attributes

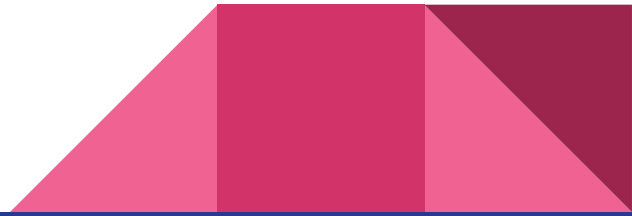
There are two ways to specify the URL in the src attribute:

1. **Absolute URL** - Links to an external image that is hosted on another website. Example: src="https://www.w3schools.com/images/img_girl.jpg".

Notes: External images might be under copyright. If you do not get permission to use it, you may be in violation of copyright laws. In addition, you cannot control external images; it can suddenly be removed or changed.

1. **Relative URL** - Links to an image that is hosted within the website. Here, the URL does not include the domain name. If the URL begins without a slash, it will be relative to the current page. Example: src="img_girl.jpg". If the URL begins with a slash, it will be relative to the domain. Example: src="/images/img_girl.jpg".

Tip: It is almost always best to use relative URLs. They will not break if you change domain.



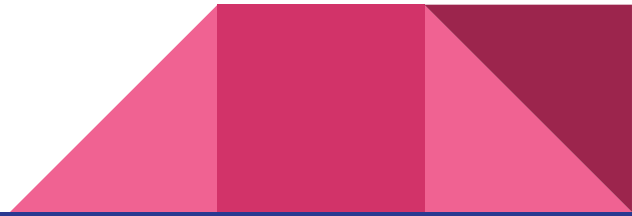
HTML Elements, Tags & Attributes

The width and height Attributes

The <img> tag should also contain the width and height attributes, which specify the width and height of the image (in pixels):

Example

```
<img src="img_girl.jpg" width="500" height="600">
```



HTML Elements, Tags & Attributes

The alt Attribute

The required alt attribute for the <img> tag specifies an alternate text for an image, if the image for some reason cannot be displayed. This can be due to a slow connection, or an error in the src attribute, or if the user uses a screen reader.

Example

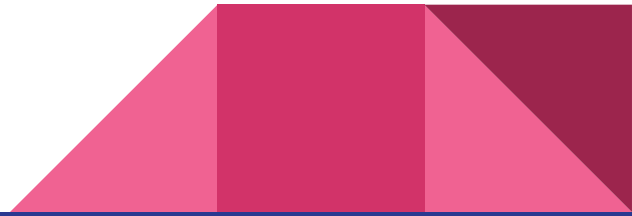
```
<img src="img_girl.jpg" alt="Girl with a jacket">
```

Example

See what happens if we try to display an image that does not exist:

```
<img src="img_typo.jpg" alt="Girl with a jacket">
```

You will learn more about images in our HTML Images chapter.



HTML Elements, Tags & Attributes

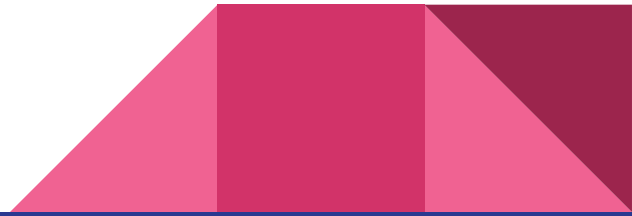
The style Attribute

The style attribute is used to add styles to an element, such as color, font, size, and more.

Example

```
<p style="color:red;">This is a red paragraph.</p>
```

You will learn more about styles in our HTML Styles chapter.



HTML Elements, Tags & Attributes

The lang Attribute

You should always include the lang attribute inside the <html> tag, to declare the language of the Web page. This is meant to assist search engines and browsers.

The following example specifies English as the language:

```
<!DOCTYPE html>
        <html lang="en">
                <body>
                </body>
        </html>
```

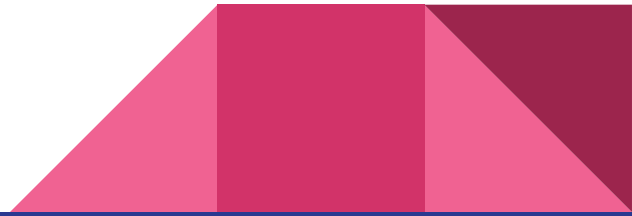
HTML Elements, Tags & Attributes

The lang Attribute

Country codes can also be added to the language code in the lang attribute. So, the first two characters define the language of the HTML page, and the last two characters define the country.

The following example specifies English as the language and United States as the country:

```
<!DOCTYPE html>
	<html lang="en-US">
		<body>
		</body>
	</html>
```



HTML Elements, Tags & Attributes

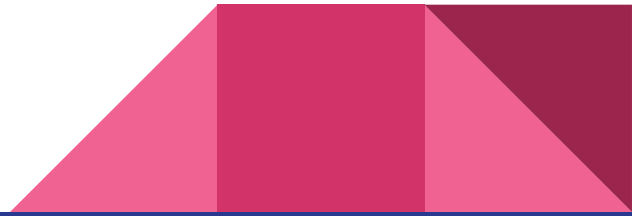
The title Attribute

The title attribute defines some extra information about an element.

The value of the title attribute will be displayed as a tooltip when you mouse over the element:

Example

```
<p title="I'm a tooltip">This is a paragraph.</p>
```



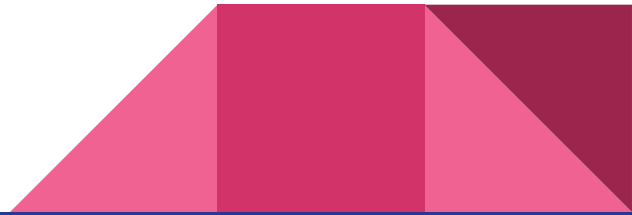
HTML Elements, Tags & Attributes

We Suggest: Always Use Lowercase Attributes

The HTML standard does not require lowercase attribute names.

The title attribute (and all other attributes) can be written with uppercase or lowercase like **title** or **TITLE**.

However, W3C **recommends** lowercase attributes in HTML, and **demands** lowercase attributes for stricter document types like XHTML.



HTML Elements, Tags & Attributes

We Suggest: Always Quote Attribute Values

The HTML standard does not require quotes around attribute values.

However, W3C **recommends** quotes in HTML, and **demands** quotes for stricter document types like XHTML.

Good:

```
<a href="https://www.w3schools.com/html/">Visit our HTML tutorial</a>
```

Bad:

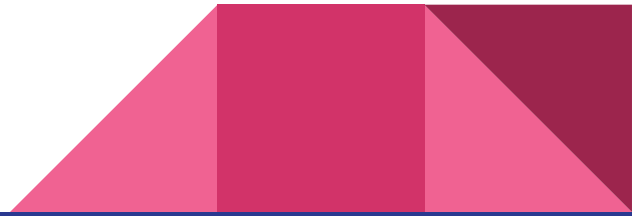
```
<a href=https://www.w3schools.com/html/>Visit our HTML tutorial</a>
```

Sometimes you have to use quotes. This example will not display the title attribute correctly, because it contains a space:

Example

```
<p title=About W3Schools>
```

Try always use quotes around attribute values.



HTML Elements, Tags & Attributes

Single or Double Quotes?

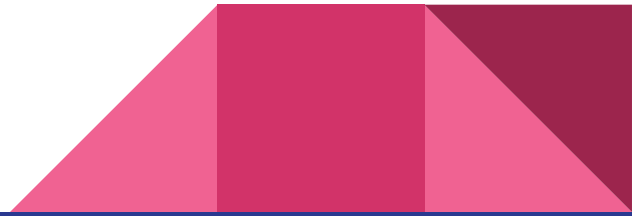
Double quotes around attribute values are the most common in HTML, but single quotes can also be used.

In some situations, when the attribute value itself contains double quotes, it is necessary to use single quotes:

```
<p title='John "ShotGun" Nelson'>
```

Or vice versa:

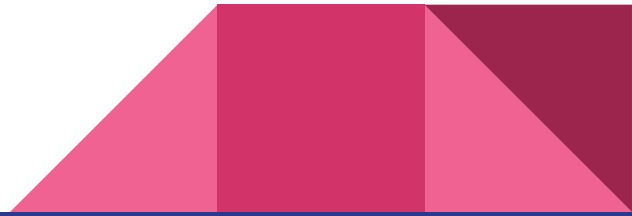
```
<p title="John 'ShotGun' Nelson">
```



HTML Elements, Tags & Attributes

Summary

- All HTML elements can have **attributes**
  a. The href attribute of <a> specifies the URL of the page the link goes to
  b. The src attribute of <img> specifies the path to the image to be displayed
  c. The width and height attributes of <img> provide size information for images
  d. The alt attribute of <img> provides an alternate text for an image
  e. The style attribute is used to add styles to an element, such as color, font, size, and more
  f. The lang attribute of the <html> tag declares the language of the Web page
  g. The title attribute defines some extra information about an element



HTML Editors

HTML is meant to me ‘mostly’ human readable, meaning, that you can

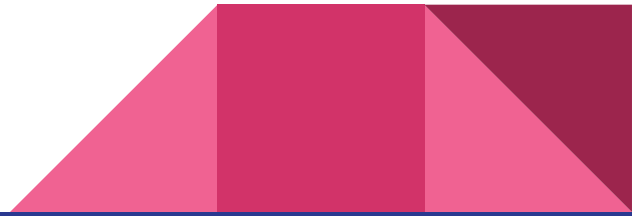
- Write it yourself, so it can be simple, a little complex, or very complex
  - Modern HTML is often quite complex
- Write it in an editor, notepad, Visual Studio, XCode or anything else.
  - Since it is just a Text File

More Advanced Editors

From Visual Studio Code to Visual Studio Professional, Sublime, XCode or dozens of others, there are almost to many to choose from.

For now, keep it simple.

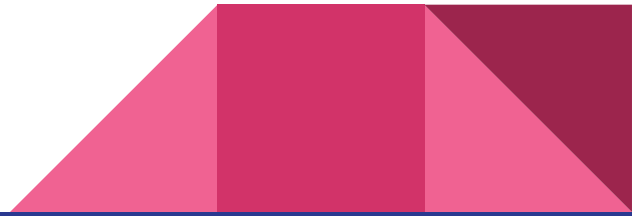
Later, you will then appreciate the extra features in more Editor programs



HTML Editors

Learn HTML Using Notepad or TextEdit

- Web pages can be created and modified by using professional HTML editors.
- However, for learning HTML we recommend a simple text editor like Notepad (PC) or TextEdit (Mac).
- We believe that using a simple text editor is a good way to learn HTML.
- Follow the steps to create your first web page with Notepad or TextEdit.



HTML Editors

Step 1: Open Notepad (PC)
Windows 8 or later:

Open the Start Screen
(the window symbol at the bottom left on your screen).

Type Notepad.

Windows 7 or earlier:

Open Start > Programs > Accessories > Notepad

Step 1: Open TextEdit (Mac)
Open Finder > Applications > TextEdit

Also change some preferences to get the application to save files correctly. In Preferences > Format > choose "Plain Text"

Then under "Open and Save", check the box that says "Display HTML files as HTML code instead of formatted text".

Then open a new document to place the code.

Step 2: Write Some HTML

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

<h1>My First Heading</h1>

<p>My first paragraph.</p>

</body>
</html>
```

Step 3: Save the HTML Page

- Make sure it has .html extension

HTML Editors

Step 1: Open Notepad (PC)
Windows 8 or later:

Open the Start Screen
(the window symbol at the bottom left on your screen).

Type Notepad.

Windows 7 or earlier:

Open Start > Programs > Accessories > Notepad

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Open Finder > Applications > TextEdit

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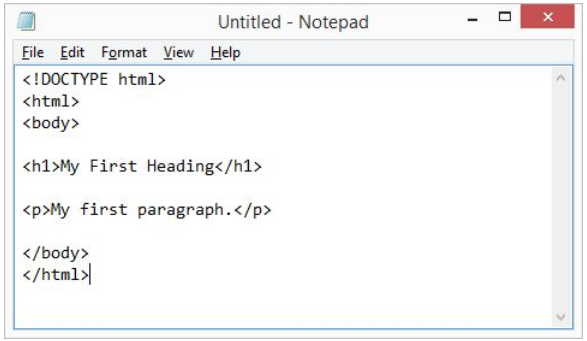
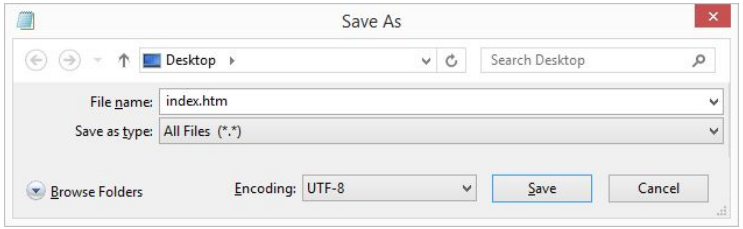
Then under "Open and Save", check the box that says "Display HTML files as HTML code instead of formatted text".

Then open a new document to place the code.

Step 2: Write Some HTML



Step 3: Save the HTML Page

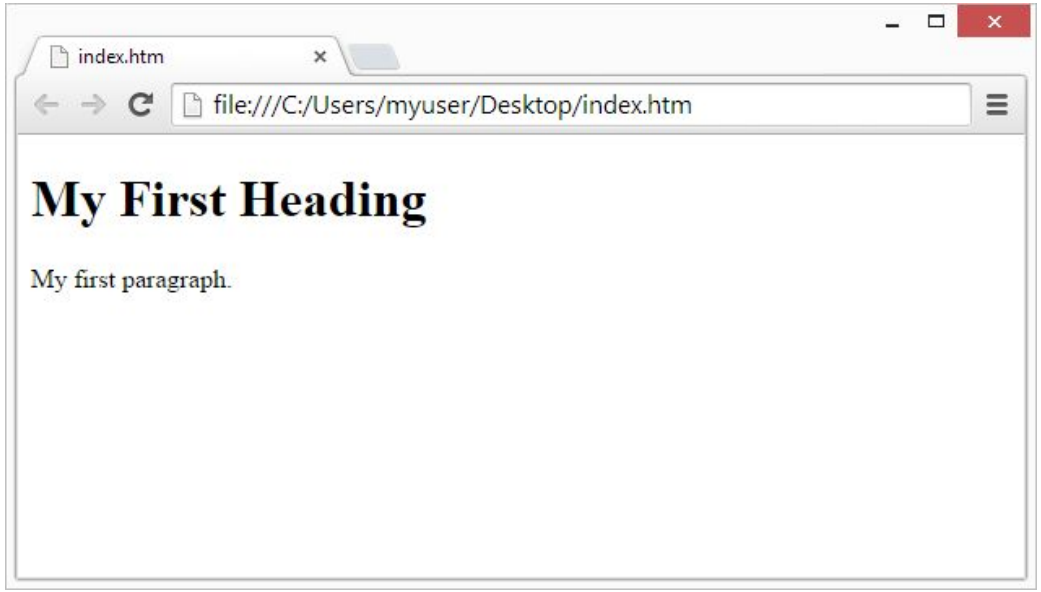


HTML Editors

Step 4: View the HTML Page in Your Browser

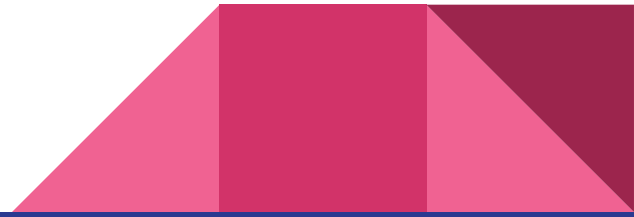
Open the saved HTML file in your favorite browser

(double click on the file, or right-click - and choose "Open with").



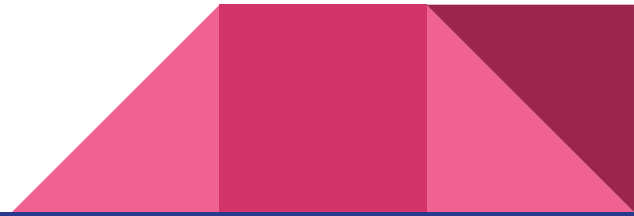
Try it Yourself on W3 Schools

HTML vs XHTML



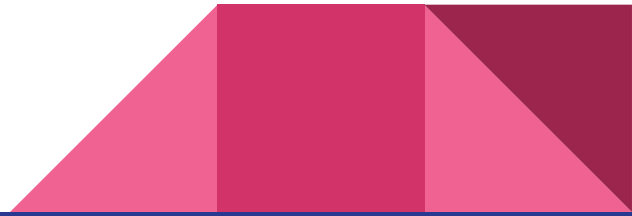
HTML Introduction

A Less Brief History of HTML



Role of HTML in Web Development

HTML Versions (html vs html5)



HTML Resources & References

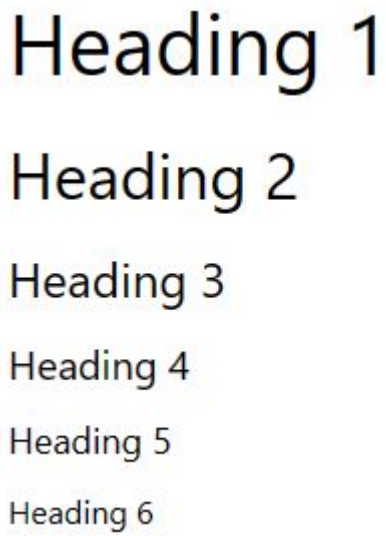
HTML Elements

Headings

HTML Headings

HTML headings are titles or subtitles that you want to display on a webpage.

```
<!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>
```



HTML Headings

HTML headings are titles or subtitles that you want to display on a webpage.

HTML headings are defined with the

`<h1>` to `<h6>` tags.

`<h1>`
defines the most important heading.

`<h6>`
defines the least important heading.

Remember, this is not just a ‘visual thing’.

Google Robot, Programs and other Systems take into account this relationship.

For example, if H2 appears under H1, it is considered a subsection or subheader of H1.

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

HTML Headings

Headings Are Important

Search engines use the headings to index the structure and content of your web pages.

Users often skim a page by its headings. It is important to use headings to show the document structure.

<h1> headings should be used for main headings, followed by <h2> headings, then the less important <h3>, and so on.

Note: Use HTML headings for headings only. Don't use headings to make text BIG or bold.

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

HTML Headings

Bigger Headings

Each HTML heading has a default size.

However, you can specify the size for any heading with the `style` attribute, using the CSS `font-size` property:

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

<h1 style="font-size:60px;">Heading 1</h1>

<p>You can change the size of a heading with the
style attribute, using the font-size property.</p>

</body>
</html>
```

HTML Headings

tag reference contains additional information about these tags and their attributes.

Tag	Description
<html>	Defines the root of an HTML document
<body>	Defines the document's body
<h1> to <h6>	Defines HTML headings

HTML Elements

Paragraphs

HTML Paragraphs

You cannot be sure how HTML will be displayed.

Large or small screens, and resized windows will create different results.

Different Browsers will give different results.

With HTML, you cannot change the display by adding extra spaces or extra lines in your HTML code. Its pointless.

The browser will automatically remove any extra spaces and lines when the page is displayed:

It is not always browsers reading your HTML.

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

<p>
This paragraph
contains a lot of lines
in the source code,
but the browser
ignores it.
</p>

<p>
This paragraph
contains      a lot of spaces
in the source     code,
but the    browser
ignores it.
</p>

<p>
The number of lines in a paragraph depends
on the size of the browser window. If you
resize the browser window, the number of
lines in this paragraph will change.
</p>

</body>
</html>
```

HTML Paragraphs

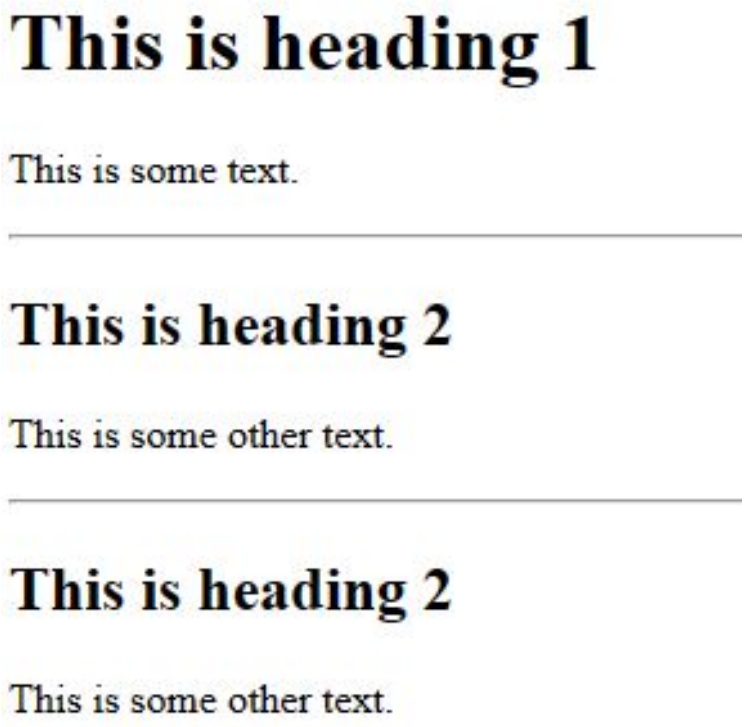
Horizontal Rules

The <hr> tag defines a thematic break in an HTML page, and is most often displayed as a horizontal rule.

The <hr> element is used to separate content (or define a change) in an HTML page:

The <hr> tag is an empty tag, which means that it has no end tag.

```
<h1>This is heading 1</h1>
<p>This is some text.</p>
<hr>
<h2>This is heading 2</h2>
<p>This is some other text.</p>
<hr>
```



HTML Paragraphs

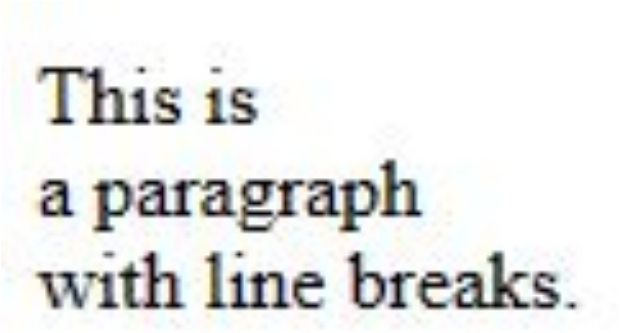
Line Breaks

The HTML
 element defines a line break.

Use
 if you want a line break (a new line) without starting a new paragraph:

The
 tag is an empty tag, which means that it has no end tag.

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

<p>This is<br>a paragraph<br>with line breaks.</p>

</body>
</html>
```



HTML Paragraphs

The Poem Problem

This poem will display on a single line:

```
<p>
  My Bonnie lies over the ocean.

  My Bonnie lies over the sea.

  My Bonnie lies over the ocean.

  Oh, bring back my Bonnie to me.
</p>
```

In HTML, spaces and new lines are ignored:

My Bonnie lies over the ocean. My Bonnie lies over the sea. My Bonnie lies over the ocean. Oh, bring back my Bonnie to me.

HTML Paragraphs

Solution - The HTML <pre> Element

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:

The pre tag preserves both spaces and line breaks:

```
My Bonnie lies over the ocean.

My Bonnie lies over the sea.

My Bonnie lies over the ocean.

Oh, bring back my Bonnie to me.
```

```
<pre>
  My Bonnie lies over the ocean.

  My Bonnie lies over the sea.

  My Bonnie lies over the ocean.

  Oh, bring back my Bonnie to me.
</pre>
```

HTML Paragraphs

Solution - The HTML <pre> Element

Tag	Description
<p>	Defines a paragraph
<hr>	Defines a thematic change in the content
 	Inserts a single line break
<pre>	Defines pre-formatted text

For a complete list of all available HTML tags, visit the HTML Tag Reference.

HTML Elements

Styles

HTML Styles

The HTML `style` attribute is used to add styles to an element, such as color, font, size, and more.

Setting the style of an HTML element, can be done with the `style` attribute.

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

<p>I am normal</p>
<p style="color:red;">I am red</p>
<p style="color:blue;">I am blue</p>
<p style="font-size:50px;">I am big</p>

</body>
</html>
```

I am normal

I am red

I am blue

I am big

HTML Styles

The HTML `style` attribute is used to add styles to an element, such as color, font, size, and more.

Setting the style of an HTML element, can be done with the `style` attribute.

The HTML `style` attribute has the following syntax:

```
<tagname style="property:value;">
```

The ***property*** is a CSS property.

The ***value*** is a CSS value

You will learn more about CSS later

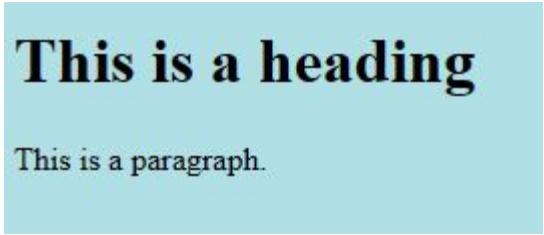
```
<!DOCTYPE html>
<html>
<body>

<p>I am normal</p>
<p style="color:red;">I am red</p>
<p style="color:blue;">I am blue</p>
<p style="font-size:50px;">I am big</p>

</body>
</html>
```

HTML Styles - Background Color

The CSS `background-color` property defines the background color for an HTML element.

Set the background color for a page to powderblue:

```
<!DOCTYPE html>
<html>
<body style="background-color:powderblue;">

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

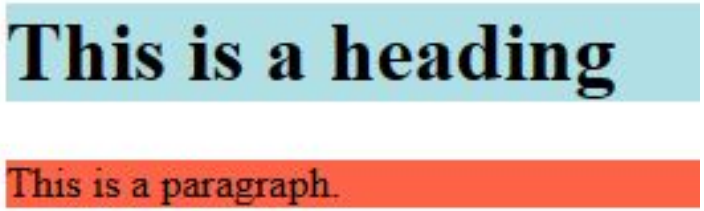


HTML Styles - Background Color

The CSS `background-color` property defines the background color for an HTML element.

Set the background color for a page to powderblue:

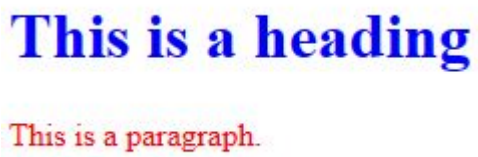
```
<!DOCTYPE html>
<html>
<body>

<h1 style="background-color:powderblue;">This is a heading</h1>
<p style="background-color:tomato;">This is a paragraph.</p>

</body>
</html>
```



HTML Styles - Text Color

The CSS `color` property defines the text color for an HTML element:

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

<h1 style="color:blue;">This is a heading</h1>
<p style="color:red;">This is a paragraph.</p>

</body>
</html>
```



HTML Styles - Fonts

The CSS `font-family` property defines the font to be used for an HTML element:

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

<h1 style="font-family:verdana;">This is a heading</h1>
<p style="font-family:courier;">This is a paragraph.</p>

</body>
</html>
```

HTML Styles - Text Size

The CSS `font-size` property defines the text size for an HTML element:

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

<h1 style="font-size:300%;">This is a heading</h1>
<p style="font-size:160%;">This is a paragraph.</p>

</body>
</html>
```

HTML Styles - Text Alignment

The CSS `text-align` property defines the horizontal text alignment for an HTML element:

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

<h1 style="text-align:center;">Centered Heading</h1>
<p style="text-align:center;">Centered paragraph.</p>

</body>
</html>
```

HTML Styles - Summary

The CSS `text-align` property defines the horizontal text alignment for an HTML element:

Styles Summary

- Use the `style` attribute for styling HTML elements
- Use `background-color` for background color
- Use `color` for text colors
- Use `font-family` for text fonts
- Use `font-size` for text sizes
- Use `text-align` for text alignment

HTML Elements

Formatting

HTML Formatting

HTML contains several elements for defining text with a special meaning.

Setting the style of an HTML element, can be done with the `style` attribute.

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

<p><b>This text is bold</b></p>
<p><i>This text is italic</i></p>
<p>This is<sub> subscript</sub> and
<sup>superscript</sup></p>

</body>
</html>
```

This text is bold

This text is italic

This is $_{\text{subscript}}$ and $^{\text{superscript}}$

HTML Formatting

Formatting elements were designed to display special types of text:

- <b> - Bold text
- - Important text
- <i> - Italic text
- - Emphasized text
- <mark> - Marked text
- <small> - Smaller text
- <del> - Deleted text
- <ins> - Inserted text
- <sub> - Subscript text
- <sup> - Superscript text

HTML <b> and Elements

The HTML <b> element defines bold text, without any extra importance.

```
<b>This text is bold</b>
```

The HTML element defines text with strong importance. The content inside is typically displayed in bold.

```
<strong>This text is important!</strong>
```

HTML Formatting

HTML <i> and Elements

The HTML <i> element defines a part of text in an alternate voice or mood. The content inside is typically displayed in italic.

Tip: The <i> tag is often used to indicate a technical term, a phrase from another language, a thought, a ship name, etc.

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

<p>This text is normal.</p>

<p><i>This text is italic.</i></p>

</body>
</html>
```

HTML Formatting

HTML <i> and Elements

The HTML element defines emphasized text.
The content inside is typically displayed in italic.

```
<em>This text is emphasized</em>
```

A Web Browser may Emphasize the Text

This text is normal.

This text is emphasized.

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

<p>This text is normal.</p>

<p><em>This text is emphasized.</em></p>

</body>
</html>
```

But a Screen Reader may '**EMPHASIZE**! The text when *reading it aloud!*

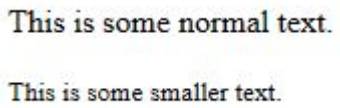
HTML Formatting

HTML <small> Element

The HTML <small> element defines smaller text:

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

<p>This is some normal text.</p>
<p><small>This is some smaller text.</small></p>

</body>
</html>
```

The text with <smaller> will be *smaller* that whatever came before or is contained in.



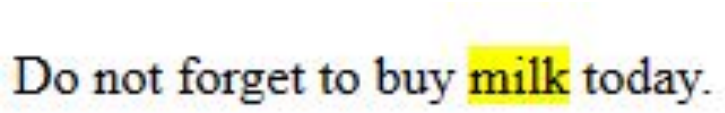
This is *RELATIVE* - it is smaller relative to something else. Not absolute, which would have a 'fixed size' like headings H1,H2,H3 etc.

HTML Formatting

HTML <mark> Element

The HTML <mark> element defines text that should be marked or highlighted:

```
<p>Do not forget to buy <mark>milk</mark>
today.</p>
```

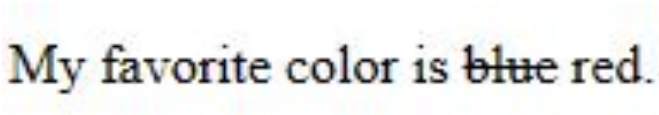


HTML Formatting

HTML <del> Element

The HTML <del> element defines text that has been deleted from a document. Browsers will usually strike a line through deleted text:

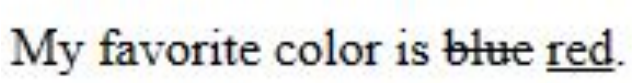
```
<p>My favorite color is <del>blue</del>
red.</p>
```



HTML Formatting

HTML <ins> Element

The HTML <ins> element defines a text that has been inserted into a document. Browsers will usually underline inserted text:




```
<p>My favorite color is <del>blue</del>
<ins>red</ins>.</p>
```

HTML Formatting

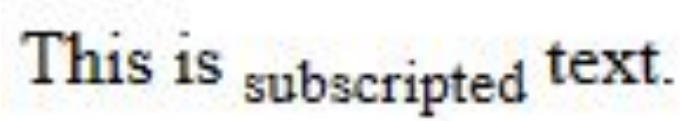
HTML <sub> Element

The HTML <sub> element defines subscript text.

Subscript text appears half a character below the normal line, and is sometimes rendered in a smaller font.

Subscript text can be used for chemical formulas, like H2O:

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

<p>This is <sub>subscripted</sub> text.</p>

</body>
</html>
```



HTML Formatting

This is subscripted text.

HTML <sup> Element

The HTML <sup> element defines superscript text. Superscript text appears half a character above the normal line, and is sometimes rendered in a smaller font. Superscript text can be used for footnotes, like WWW[1]:

This is superscripted text.

```
<p>This is <sup>superscripted</sup>
text.</p>
```

HTML Formatting

HTML <sup> Element

Tag	Description
<b>	Defines bold text
	Defines emphasized text
<i>	Defines a part of text in an alternate voice or mood
<small>	Defines smaller text
	Defines important text
<sub>	Defines subscripted text
<sup>	Defines superscripted text
<ins>	Defines inserted text
<del>	Defines deleted text
<mark>	Defines marked/highlighted text

For a complete list of all available HTML tags, visit the HTML Tag Reference.

HTML Elements

Quotation & Citation Elements

HTML Quotations

HTML <blockquote> for Quotations

In this chapter we will go through the

- `<blockquote>`,
- `<q>`,
- `<abbr>`,
- `<address>`,
- `<cite>`,
- and `<bdo>` HTML elements.

Here is a quote from WWF's website:

> For 60 years, WWF has worked to help people and nature thrive. As the world's leading conservation organization, WWF works in nearly 100 countries. At every level, we collaborate with people around the world to develop and deliver innovative solutions that protect communities, wildlife, and the places in which they live.

HTML Quotations

The HTML <blockquote> element defines a section that is quoted from another source.

Browsers usually indent <blockquote> elements.

Here is a quote from WWF's website:

> For 60 years, WWF has worked to help people and nature thrive. As the world's leading conservation organization, WWF works in nearly 100 countries. At every level, we collaborate with people around the world to develop and deliver innovative solutions that protect communities, wildlife, and the places in which they live.

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

<p>Here is a quote from WWF's website:</p>

<blockquote
cite="http://www.worldwildlife.org/who/index.html">
For 60 years, WWF has worked to help people and nature
thrive. As the world's leading conservation
organization, WWF works in nearly 100 countries. At
every level, we collaborate with people around the world
to develop and deliver innovative solutions that protect
communities, wildlife, and the places in which they
live.
</blockquote>

</body>
</html>
```

HTML Quotations

HTML <q> for Short Quotations

The HTML <q> tag defines a short quotation.

Browsers normally insert quotation marks around the quotation.

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

<p>Browsers usually insert quotation marks around the
q element.</p>

<p>WWF's goal is to: <q>Build a future where people
live in harmony with nature.</q></p>

</body>
</html>
```

Browsers usually insert quotation marks around the q element.

WWF's goal is to: “Build a future where people live in harmony with nature.”

HTML Quotations

HTML <abbr> for Abbreviations

The HTML <abbr> tag defines an abbreviation

or an acronym, like "HTML", "CSS", "Mr.", "Dr.", "ASAP", "ATM".

Marking abbreviations can give useful information to browsers, translation systems and search-engines.

Tip: Use the global title attribute to show the description for the abbreviation/acronym when you mouse over the element.

```
<p>The <abbr title="World Health Organization">WHO</abbr> was founded in 1948.</p>
```

The WHO was founded in 1948.

Marking up abbreviations can give useful information to browsers, translation systems and search-engines.

HTML Quotations

HTML <address> for Contact Information

The HTML <address> tag defines the contact information for the author/owner of a document or an article.

The contact information can be an email address, URL, physical address, phone number, social media handle, etc.

The text in the <address> element usually renders in *italic,* and browsers will always add a line break before and after the <address> element.

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

<p>The HTML address element defines
contact information (author/owner) of
a document or article.</p>

<address>
Written by John Doe.<br>
Visit us at:<br>
Example.com<br>
Box 564, Disneyland<br>
USA
</address>

</body>
</html>
```

The HTML address element defines contact information (author/owner) of a document or article.

Written by John Doe.
Visit us at:
Example.com
Box 564, Disneyland
USA

HTML Quotations

HTML <cite> for Work Title

The HTML <cite> tag defines the title of a creative work (e.g. a book, a poem, a song, a movie, a painting, a sculpture, etc.).

Note: A person's name is not the title of a work.

The text in the <cite> element usually renders in *italic*.

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

<p>The HTML cite element defines the
title of a work.</p>
<p>Browsers usually display cite
elements in italic.</p>

<img src="img_the_scream.jpg"
width="220" height="277" alt="The
Scream">
<p><cite>The Scream</cite> by Edvard
Munch. Painted in 1893.</p>

</body>
</html>
```

The HTML cite element defines the title of a work

Browsers usually display cite elements in italic.

The Scream by Edvard Munch. Painted in 1893.

HTML Quotations

HTML <bdo> for Bi-Directional Override

BDO stands for Bi-Directional Override.

The HTML <bdo> tag is used to override the current text direction:

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

<p>If your browser supports bi-directional override (bdo), the next line will be written from right to left (rtl):</p>

<bdo dir="rtl">This line will be written from right to left</bdo>

</body>
</html>
```

If your browser supports bi-directional override (bdo), the next line will be written from right to left (rtl):

tfel ot thgir morf nettirw eb lliw enil sihT

HTML Elements

Comments

HTML Comments

HTML comments are not displayed in the browser, but they can help document your HTML source code.

You can add comments to your HTML source by using the following syntax:

```
<!-- Write your comments here -->
```

Notice that there is an exclamation point (!) in the start tag, but not in the end tag.

Note: Comments are not displayed by the browser, but they can help document your HTML source code.

Add Comments

With comments you can place notifications and reminders in your HTML code:

```
<!-- This is a comment -->

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

<!-- Remember to add more information here
-->
```

This is a paragraph.

HTML Comments

Hide Content

Comments can be used to hide content.

This can be helpful if you hide content temporarily:

But, not really hide it, just, ignore it - so it is hidden from ‘rendering’ in the browser.

Add Comments

With comments you can place notifications and reminders in your HTML code:

```
<!-- This is a comment -->

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

<!-- Remember to add more information here
-->
```

This is a paragraph.

HTML Comments

Hide Content

Comments can be used to hide content.

This can be helpful if you hide content temporarily:

But, not really hide it, just, ignore it - so it is hidden from ‘rendering’ in the browser.

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

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

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

This is a paragraph.

This is a paragraph.

HTML Comments

Hide Content

You can also hide more than one line. Everything between the <!-- and the --> will be hidden from the display.

Hide a section of HTML code:

```
<p>This is a paragraph.</p>
<!--
<p>Look at this cool image:</p>
<img border="0" src="pic_trulli.jpg"
alt="Trulli">
-->
<p>This is a paragraph too.</p>
```

HTML Comments

Hide Inline Content

Comments can be used to hide parts in the middle of the HTML code.

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

Hide a section of HTML code:

```
<p>This is a paragraph.</p>
<!--
<p>Look at this cool image:</p>
<img border="0" src="pic_trulli.jpg"
alt="Trulli">
-->
<p>This is a paragraph too.</p>
```

HTML Elements

Colors

HTML Colors

HTML colors are specified with predefined color names, or with RGB, HEX, HSL, RGBA, or HSLA values.

Color Names

In HTML, a color can be specified by using a color name:

- Tomato
- Orange
- DodgerBlue
- MediumSeaGreen
- Gray
- SlateBlue
- Violet
- LightGray

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

<h1 style="background-color:Tomato;">Tomato</h1>
<h1 style="background-color:Orange;">Orange</h1>
<h1 style="background-color:DodgerBlue;">DodgerBlue</h1>
<h1 style="background-color:MediumSeaGreen;">MediumSeaGreen</h1>
<h1 style="background-color:Gray;">Gray</h1>
<h1 style="background-color:SlateBlue;">SlateBlue</h1>
<h1 style="background-color:Violet;">Violet</h1>
<h1 style="background-color:LightGray;">LightGray</h1>

</body>
</html>
```

HTML Colors

HTML colors are specified with predefined color names, or with RGB, HEX, HSL, RGBA, or HSLA values.

Color Names

HTML supports 140 standard color names.

Where there isn't a name though, there is a number.

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

<h1 style="background-color:Tomato;">Tomato</h1>
<h1 style="background-color:Orange;">Orange</h1>
<h1 style="background-color:DodgerBlue;">DodgerBlue</h1>
<h1 style="background-color:MediumSeaGreen;">MediumSeaGreen</h1>
<h1 style="background-color:Gray;">Gray</h1>
<h1 style="background-color:SlateBlue;">SlateBlue</h1>
<h1 style="background-color:Violet;">Violet</h1>
<h1 style="background-color:LightGray;">LightGray</h1>

</body>
</html>
```

HTML Colors

Background Color

You can set the background color for HTML elements:


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

<h1 style="background-
color:DodgerBlue;">Hello World</h1>

<p style="background-color:Tomato;">
Lorem ipsum dolor sit amet, consectetuer
adipiscing elit, sed diam nonummy nibh
euismod tincidunt ut laoreet dolore magna
aliquam erat volutpat.
Ut wisi enim ad minim veniam, quis nostrud
exerci tation ullamcorper suscipit lobortis
nisl ut aliquip ex ea commodo consequat.
</p>

</body>
</html>
```

HTML Colors

Text Color

You can set the color of text:

Hello World

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

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

<h3 style="color:Tomato;">Hello World</h3>

<p style="color:DodgerBlue;">Lorem ipsum dolor sit
amet, consectetuer adipiscing elit, sed diam nonummy
nibh euismod tincidunt ut laoreet dolore magna
aliquam erat volutpat.</p>

<p style="color:MediumSeaGreen;">Ut wisi enim ad
minim veniam, quis nostrud exerci tation ullamcorper
suscipit lobortis nisl ut aliquip ex ea commodo
consequat.</p>

</body>
</html>
```

HTML Colors

Border Color

You can set the color of borders:

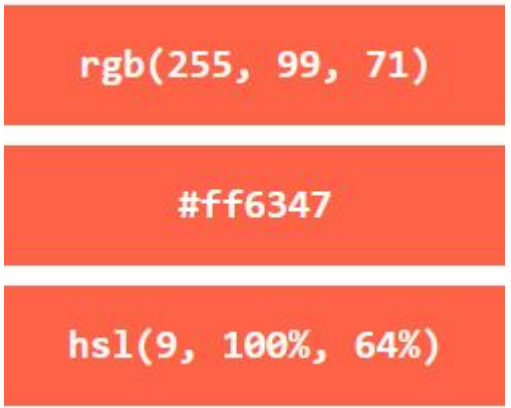
```
<!DOCTYPE html>
<html>
<body>

<h1 style="border: 2px solid Tomato;">Hello World</h1>

<h1 style="border: 2px solid DodgerBlue;">Hello World</h1>

<h1 style="border: 2px solid Violet;">Hello World</h1>

</body>
</html>
```

HTML Colors

Color Values

In HTML, colors can also be specified using RGB values, HEX values, HSL values, RGBA values, and HSLA values.

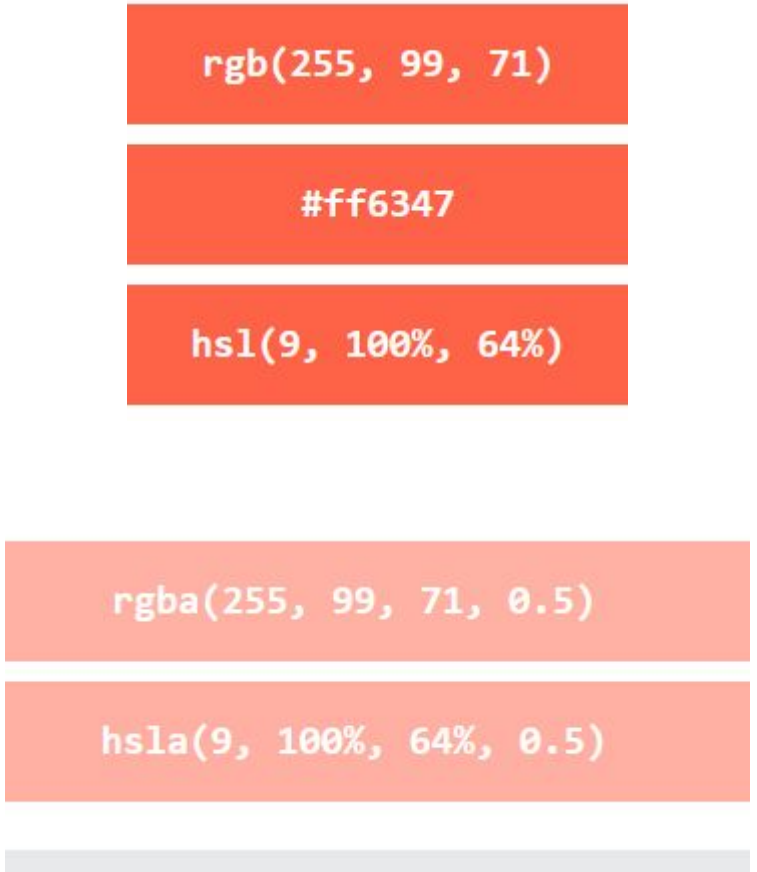
The following three elements have their background color set with RGB, HEX, and HSL values:



HTML Colors

Color Values

The following two elements have their background color set with RGBA and HSLA values, which add an Alpha channel to the color (here we have 50% transparency):



HTML Colors

Color Values

```
<h1 style="background-color:rgb(255, 99, 71);">...</h1>

<h1 style="background-color:#ff6347;">...</h1>

<h1 style="background-color:hsl(9, 100%, 64%);">...</h1>

<h1 style="background-color:rgba(255, 99, 71, 0.5);">...</h1>


<h1 style="background-color:hsla(9, 100%, 64%, 0.5);">...</h1>
```

rgb(255, 99, 71)

#ff6347

hsl(9, 100%, 64%)

rgba(255, 99, 71, 0.5)

hsla(9, 100%, 64%, 0.5)

HTML Colors

Color Values

Learn more about Color Values

You will learn more about RGB, HEX and HSL in the later chapters.

- An RGB color value represents RED, GREEN, and BLUE light sources.

  An RGBA color value is an extension of RGB with an Alpha channel (opacity).

- A hexadecimal color is specified with: #RRGGBB, where the RR (red), GG (green) and BB (blue) hexadecimal integers specify the components of the color.

- HSL stands for hue, saturation, and lightness. HSLA color values are an extension of HSL with an Alpha channel (opacity).

Further Reading about the Different Color Types within HTML

- HTML RGB and RGBA Colors (w3schools.com)
- HTML HEX Colors (w3schools.com)
- HTML HSL and HSLA Colors (w3schools.com)