University of Technology
الجامعة التكنولوجية
Computer Science Department
قسم علوم الحاسوب
Information System Branch
فرع نظم المعلومات
WEB INFORMATION SYSTEMS/LAB
أنظمة معلومات الويب/المختبر
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ASST.PROF. Suhiar Mohammed Zeki

cs.uotechnology.edu.iq

HTML

HTML or Hypertext Markup Language is used to create web pages and web applications on the internet. It is a computer language that defines the structure of a web page. If you are just starting with HTML, here are essential and *basic HTML tags* that you will need to know. Knowledge of these *HTML tags* will help you build a basic HTML page.

What are HTML tags?

HTML tags are special keywords that specify how a web browser must format and display the content. Tags are wrapped in brackets < and >. They start with an open angle bracket (<) and close with a closed angle bracket (>). The ending tag has a forward slash before the name of the element. HTML tags can nest (be placed) inside one another.

HTML Tag Syntax:

<Example>The first tag is the opening tag that indicates the start while the second tag is the closing tag that depicts the end </example>.

For Example –

** This is a paragraph **

In the above example, the opening tag indicates the start of a new paragraph. The is the closing tag that ends it.

Why do we need to open and close HTML tags?

It is very important to open and close tags. It tells the web browser when a piece of code begins and ends so that it can distinguish it from other sections of the page.

Missing a closing tag can result in browser incompatibilities. It can make your HTML web page content appear improper. When web developers troubleshoot problems in HTML code, typically, they look for missing closing tags as the first step.

However, not all HTML tags have an end tag. Some tags work without closing tags. For example, the <img> tag for showing images does not need an end tag.

*Also Read: **Difference Between HTML and XML***

Essential HTML Tags

Every HTML document must have some essential tags so that a web browser can understand and display it correctly. These tags help web browsers distinguish between simple text and HTML text. Let's understand how many HTML tags are there.

There are four essential HTML tags that form the basic structure for every HTML file:

- **<html></html>**
- **<head></head>**
- **<title></title>**
- **<body></body>**

Before we talk about the essential tags, let's learn about the HTML document declaration, i.e. <!DOCTYPE>.

<!DOCTYPE>

<!DOCTYPE> is not a tag but a declaration that tells the browser about the document type. It specifies the version of HTML that the document is using so that browsers can display web pages correctly. All HTML documents must start with this declaration. It is not case-sensitive.
<!DOCTYPE html>

Now, let us understand the essential tags in detail.

1. <html></html>

The <html> tag defines the document as a web page. It also specifies the beginning and end of the HTML document.

It contains all HTML elements except the <!DOCTYPE html> declaration. All other other tags are nested between the <html> and </html> tags.

Syntax:

<html>Content</html>

HTML is the standard markup language for creating Web pages.

What is HTML?

- **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.**

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>
```

Try it Yourself »

Example Explained

- **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

What is an HTML Element?

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:

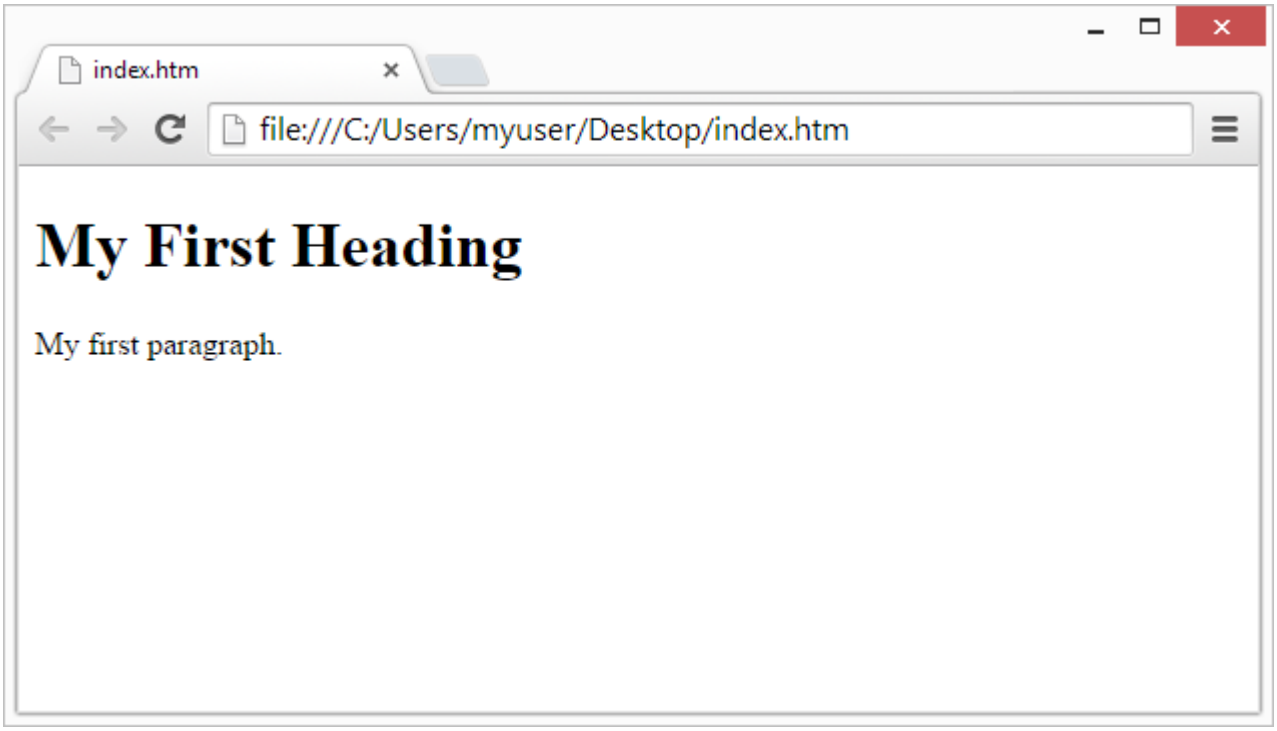
```
<h1>My First Heading</h1>
<p>My first paragraph.</p>
```

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

Web Browsers

The purpose of a web browser (Chrome, Edge, Firefox, Safari) is to read HTML documents and display them correctly.

A browser does not display the HTML tags, but uses them to determine how to display the document:



HTML Page Structure

Below is a visualization of an HTML page structure:

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

Note: The content inside the <body> section 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.

HTML History

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

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"

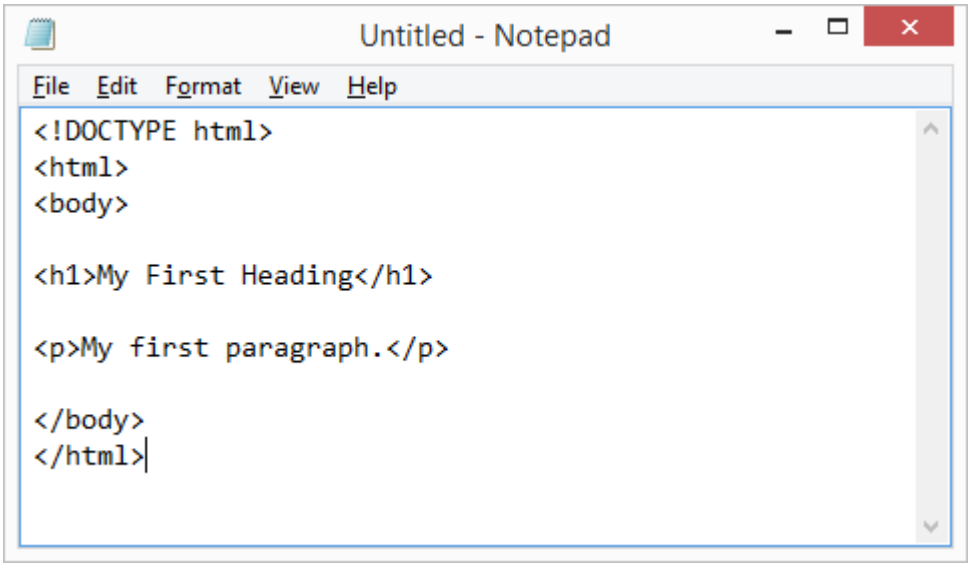
Then under "Open and Save", check the box that says "Display HTML files as HTML code instead of formatted text".

Then open a new document to place the code.

Step 2: Write Some HTML

Write or copy the following HTML code into Notepad:

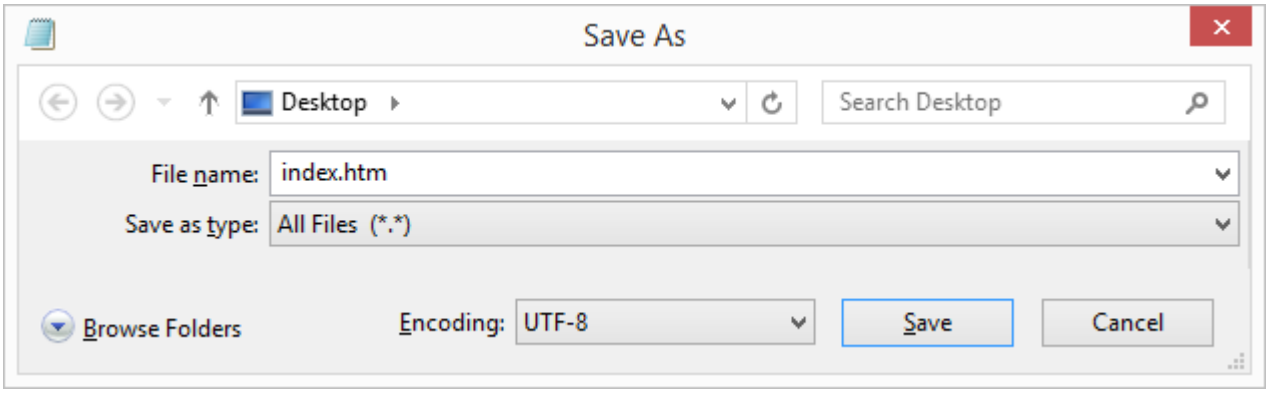
```
<!DOCTYPE html>
<html>
<body>

<h1>My First Heading</h1>

<p>My first paragraph.</p>

</body>
</html>
```



Save the HTML Page

Save the file on your computer. Select **File > Save as** in the Notepad menu.

Name the file **"index.htm"** and set the encoding to **UTF-8** (which is the preferred encoding for HTML files).

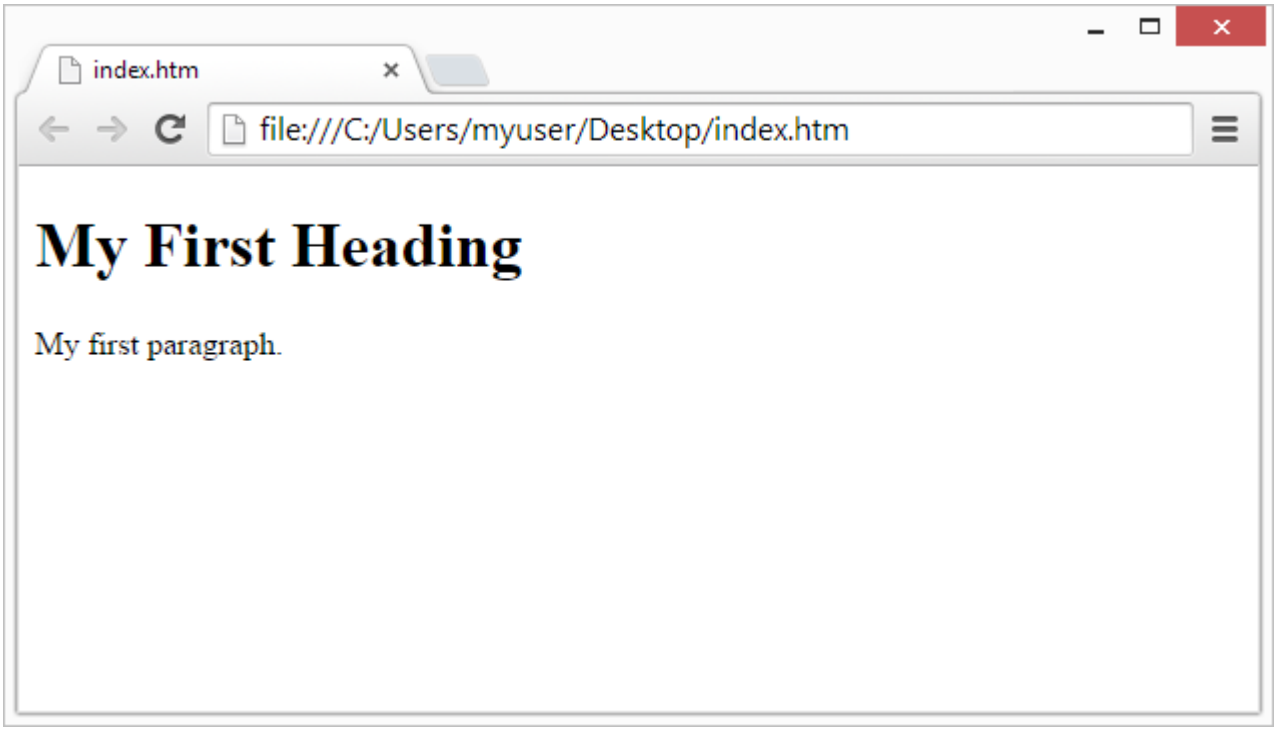


Tip: You can use either .htm or .html as file extension. There is no difference; it is up to you.

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").

The result will look much like this:



W3Schools Online Editor - "Try it Yourself"

With our free online editor, you can edit the HTML code and view the result in your browser.

It is the perfect tool when you want to test code fast. It also has color coding and the ability to save and share code with others:

Example

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

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

</body>
</html>
```

HTML Documents

All HTML documents must start with a document type declaration: <!DOCTYPE html>.

The HTML document itself begins with <html> and ends with </html>.

The visible part of the HTML document is between <body> and </body>.

Example

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

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

</body>
</html>
```

Try it Yourself »

The <!DOCTYPE> Declaration

The <!DOCTYPE> declaration represents the document type, and helps browsers to display web pages correctly.

It must only appear once, at the top of the page (before any HTML tags).

The <!DOCTYPE> declaration is not case sensitive.

The <!DOCTYPE> declaration for HTML5 is:

```
<!DOCTYPE html>
```

HTML Headings

HTML headings are defined with the <h1> to <h6> tags.

<h1> defines the most important heading. <h6> defines the least important heading:

Example

```
<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<h3>This is heading 3</h3>
```

HTML Paragraphs

HTML paragraphs are defined with the <p> tag:

Example

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

HTML Links

HTML links are defined with the <a> tag:

Example

```
<a href="https://www.w3schools.com">This is a link</a>
```

HTML Images

HTML images are defined with the <img> tag.

The source file (src), alternative text (alt), width, and height are provided as attributes:

Example

```
<img src="w3schools.jpg" alt="W3Schools.com" width="104" height="142">
```

How to View HTML Source

Have you ever seen a Web page and wondered "Hey! How did they do that?"

View HTML Source Code:

Click CTRL + U in an HTML page, or right-click on the page and select "View Page Source". This will open a new tab containing the HTML source code of the page.

Inspect an HTML Element:

Right-click on an element (or a blank area), and choose "Inspect" to see what elements are made up of (you will see both the HTML and the CSS). You can also edit the HTML or CSS on-the-fly in the Elements or Styles panel that opens.

HTML Elements

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

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

Examples of some HTML elements:

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

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

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):

Example

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

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

</body>
</html>
```

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>.

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

```
<body>

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

</body>
```

The <body> element defines the document's body.

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

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

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

The <h1> element defines a heading.

It has a start tag <h1> and an end tag </h1>:

```
<h1>My First Heading</h1>
```

The element defines a paragraph.

It has a start tag and an end tag :

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

Never Skip the End Tag

Some HTML elements will display correctly, even if you forget the end tag:

Example

```
<html>
<body>

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

</body>
</html>
```

Empty HTML Elements

HTML elements with no content are called empty elements.

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

Example

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

HTML is Not Case Sensitive

HTML tags are not case sensitive: <P> means the same as .

The HTML standard does not require lowercase tags, but W3C recommends lowercase in HTML, and demands lowercase for stricter document types like XHTML.

HTML Tag Reference

W3Schools' 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 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"**

The href Attribute

The <a> tag defines a hyperlink. The href attribute specifies the URL of the page the link goes to:

Example

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

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">
```

Try it Yourself »

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.

2. 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.

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">
```

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">
```

Try it Yourself »

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">
```

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>
```

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>
```

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>
```

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>
```

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>
```

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">
```

Chapter Summary

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

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

-

- **Example**

- **Heading 1**
- **Heading 2**
- **Heading 3**
- **Heading 4**
- **Heading 5**
- ***Heading 6***

- **Try it Yourself »**
-

- **HTML Headings**
- **HTML headings are defined with the <h1> to <h6> tags.**
- **<h1> defines the most important heading. <h6> defines the least important heading.**

- **Example**

- **<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 Tag Reference

W3Schools' 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 Paragraphs

The HTML <p> element defines a paragraph.

A paragraph always starts on a new line, and browsers automatically add some white space (a margin) before and after a paragraph.

Example

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

HTML Display

You cannot be sure how HTML will be displayed.

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

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

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

Example

```
<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

HTML 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:

Example

```
<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>
```

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

HTML Line Breaks

The HTML <br> element defines a line break.

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

Example

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

The Poem Problem

This poem will display on a single line:

Example

```
<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>

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:

Example

```
<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>
```