

# Web Authoring

## 1. HTML Introduction

### What is HTML?

- a. HTML stands for Hyper Text Markup Language
- b. HTML is the standard markup language for creating Web pages
- c. HTML describes the structure of a Web page
- d. HTML consists of a series of elements
- e. HTML elements tell the browser how to display the content
- f. 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>
```

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 tag
<code>&lt;h1&gt;</code>	My First Heading	<code>&lt;/h1&gt;</code>
<code>&lt;p&gt;</code>	My first paragraph.	<code>&lt;/p&gt;</code>
<code>&lt;br&gt;</code>	<i>none</i>	<i>none</i>

## 2. 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 below to create your first web page with Notepad or TextEdit.

#### 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**

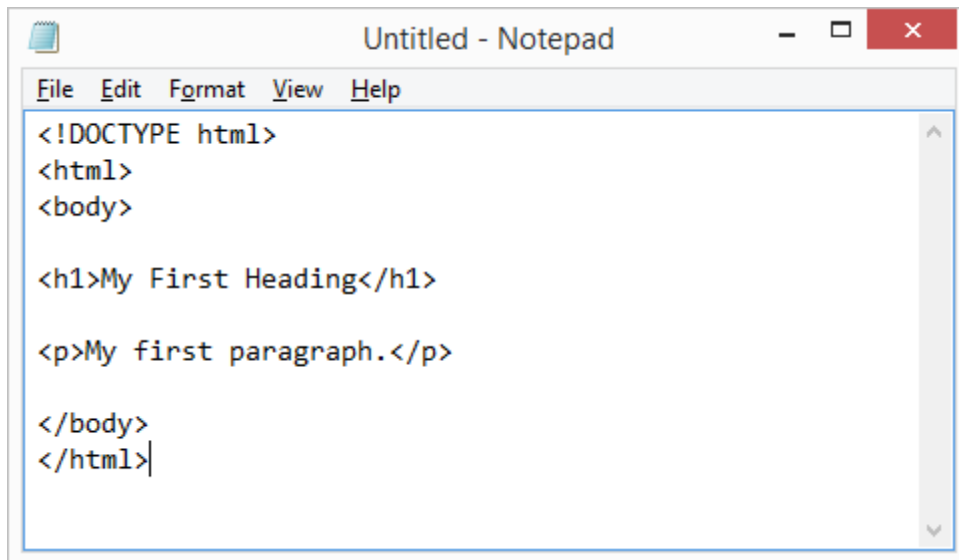
Write or copy the following HTML code into Notepad:

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

<h1>My First Heading</h1>

<p>My first paragraph.</p>

</body>
</html>
```



## **Step 3: Save the HTML Page**

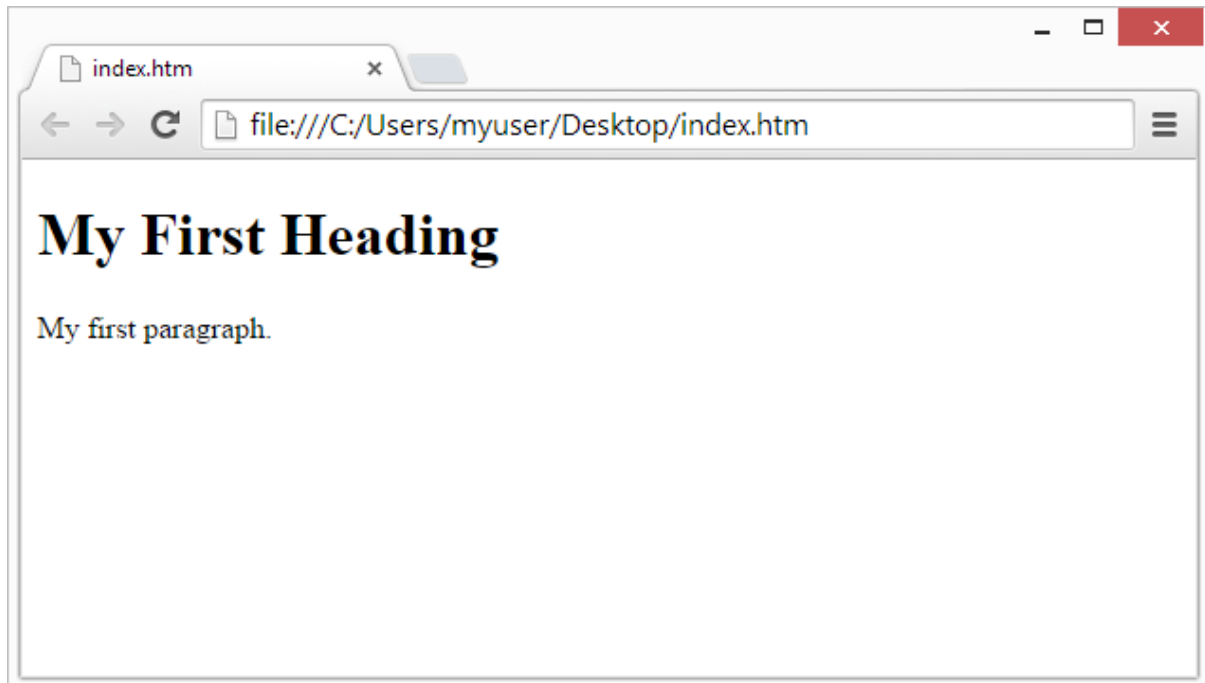
Save the file on your computer. Select **File > Save as** in the Notepad menu.

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

## **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:



## 3. HTML Elements

### **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.google.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

```

```

## HTML Tables

HTML tables allow web developers to arrange data into rows and columns.

Example

Company	Contact	Country
Alfreds Futterkiste	Maria Anders	Germany
Centro comercial Moctezuma	Francisco Chang	Mexico
Ernst Handel	Roland Mendel	Austria
Island Trading	Helen Bennett	UK
Laughing Bacchus Winecellars	Yoshi Tannamuri	Canada
Magazzini Alimentari Riuniti	Giovanni Rovelli	Italy

## Table Cells

Each table cell is defined by a `<td>` and a `</td>` tag.

`td` stands for table data.

Everything between `<td>` and `</td>` are the content of the table cell.

Example

```
<table>
  <tr>
    <td>Emil</td>
    <td>Tobias</td>
    <td>Linus</td>
  </tr>
</table>
```

## Table Rows

Each table row starts with a `<tr>` and ends with a `</tr>` tag.

`tr` stands for table row.

Example

```
<table>
  <tr>
    <td>Emil</td>
    <td>Tobias</td>
    <td>Linus</td>
  </tr>
  <tr>
    <td>16</td>
    <td>14</td>
    <td>10</td>
  </tr>
</table>
```

## Table Headers

Sometimes you want your cells to be table header cells. In those cases, use the `<th>` tag instead of the `<td>` tag:

`th` stands for table header.

Example

Let the first row be table header cells:

```
<table>
<tr>
  <th>Person 1</th>
  <th>Person 2</th>
  <th>Person 3</th>
</tr>
<tr>
  <td>Emil</td>
  <td>Tobias</td>
  <td>Linus</td>
</tr>
<tr>
  <td>16</td>
  <td>14</td>
  <td>10</td>
</tr>
</table>
```

## HTML Formatting Elements

Formatting elements were designed to display special types of text:

Tags	What it does	Code	Preview
<b>	Bold text	<b>This is a bold text</b>	<b>This is a bold text</b>
<strong>	Important text ( <i>makes it bold</i> )	<strong>This is a strong text</strong>	<b>This is a strong text</b>
<i>	Italic text	<i> This text is italic </i>	<i>This text is italic</i>
<em>	Emphasized text	<em> This text is Emphasized </em>	<i>This text is Emphasized</i>
<mark>	Marked text	Do not forget to buy <mark>milk</mark> today	Do not forget to buy <b>milk</b> today.
<small>	Smaller text	This is some <small>smaller text.</small>	This is some smaller text.
<del>	Deleted text	My favorite color is <del>blue</del> red.	My favorite color is <del>blue</del> red.
<ins>	Inserted text	My favorite color is <del>blue</del> <ins>red</ins>.	My favorite color is <del>blue</del> <u>red</u> .
<sub>	Subscript text	This is <sub>subscripted</sub> text.	This is <sub>subscripted</sub> text.
<sup>	Superscript text	This is <sup>subscripted</sup> text.	This is <sup>subscripted</sup> text.

## 4. HTML RGB and RGBA Colors

### RGB Color Values

In HTML, a color can be specified as an RGB value, using this formula:

**`rgb(red, green, blue)`**

Each parameter (red, green, and blue) defines the intensity of the color with a value between 0 and 255.

This means that there are  $256 \times 256 \times 256 = 16777216$  possible colors!



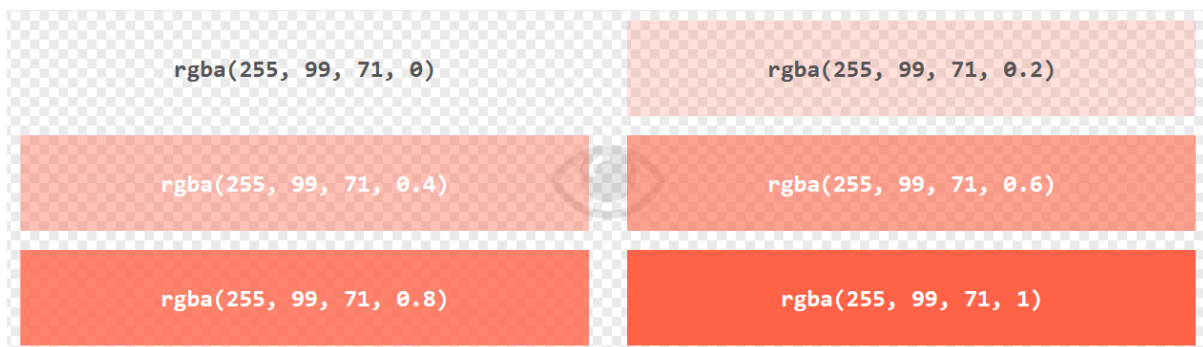
### RGBA Color Values

RGBA color values are an extension of RGB color values with an Alpha channel - which specifies the opacity for a color.

An RGBA color value is specified with:

**`rgba(red, green, blue, alpha)`**

The alpha parameter is a number between 0.0 (fully transparent) and 1.0 (not transparent at all):





## 5. HTML Styles – CSS

### What is CSS?

Cascading Style Sheets (CSS) is used to format the layout of a webpage.

With CSS, you can control the color, font, the size of text, the spacing between elements, how elements are positioned and laid out, what background images or background colors are to be used, different displays for different devices and screen sizes, and much more!

### Using CSS

CSS can be added to HTML documents in 3 ways:

- **Inline** - by using the `style` attribute inside HTML elements
- **Internal** - by using a `<style>` element in the `<head>` section
- **External** - by using a `<link>` element to link to an external CSS file

### Inline CSS

An inline CSS is used to apply a unique style to a single HTML element.

An inline CSS uses the `style` attribute of an HTML element.

The following example sets the text color of the `<h1>` element to blue, and the text color of the `<p>` element to red:

Example

```
<h1 style="color:blue;">A Blue Heading</h1>
```

```
<p style="color:red;">A red paragraph.</p>
```

### Internal CSS

An internal CSS is used to define a style for a single HTML page.

An internal CSS is defined in the `<head>` section of an HTML page, within a `<style>` element.

The following example sets the text color of ALL the `<h1>` elements (on that page) to blue, and the text color of ALL the `<p>` elements to red. In addition, the page will be displayed with a "powderblue" background color:

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
body {background-color: powderblue;}
h1 {color: blue;}
p {color: red;}
</style>
</head>
<body>

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

</body>
</html>
```

## External CSS

An external style sheet is used to define the style for many HTML pages.

To use an external style sheet, add a link to it in the <head> section of each HTML page:

Example (named index.html)

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" href="styles.css">
</head>
<body>

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

</body>
</html>
```

**Now open notepad and paste the below code and then save it at styles.css. Note that you should save the file in the same folder as your index file.**

Code to be pasted in notepad:

```
body {
  background-color: powderblue;
}
h1 {
  color: blue;
}
p {
  color: red;
}
```