



CSS

Cascading Style Sheets

Mr. K's Technology



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CSS
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CSS

<http://www.tizag.com>

<http://www.w3schools.com/css/>

Introduction - Free CSS Tutorial



CSS is a style language that defines layout of HTML documents Cascading Style Sheets (CSS) is a fantastic tool to add layout to your websites. It can save you a lot of time and it enables you to design websites in a completely new way. CSS is a must for anyone working with web design.

This tutorial will get you started with CSS in just a few hours. It is easy to understand and it will teach you all the sophisticated techniques.

Learning CSS is fun. As you go along through the tutorial, remember to take enough time to properly experiment with what you learn in each lesson.

Using CSS requires basic experience with HTML. If you are not familiar with HTML, please start with our HTML tutorial before moving on to CSS. Which software do I need?

Please avoid using software such as FrontPage, DreamWeaver or Word with this tutorial. Advanced software will not help you learn CSS. Instead, it will limit you and slow down your learning curve significantly.

All you need is a free and simple text editor.

For example, Microsoft Windows comes with a program called Notepad. It is usually located in Accessories in the start menu under Programs. Alternatively, you can use a similar text editor e.g. Pico for Linux or Simple Text for Macintosh.

A simple text editor is ideal for learning HTML and CSS because it doesn't affect or change the codes you type. That way, your successes and errors can only be attributed to yourself - not the software.

You can use any browser with this tutorial. We encourage you to always keep your browser updated and use the latest version.

A browser and a simple text editor is all you need.

Let's get started!



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What is CSS?

- CSS stands for Cascading Style Sheets**
- Styles define how to display HTML elements**
- Styles are normally stored in Style Sheets**
- Styles were added to HTML 4.0 to solve a problem**
- External Style Sheets can save you a lot of work**
- External Style Sheets are stored in CSS files**
- Multiple style definitions will cascade into one**

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<http://www.w3schools.com/css/>

Positioning of elements

With CSS positioning, you can place an element exactly where you want it on your page. Together with floats, positioning gives you many possibilities to create an advanced and precise layout.

The following will be discussed in this lesson:

- * The principle behind CSS positioning
- * Absolute positioning
- * Relative positioning

CSS Positioning Properties

The CSS positioning properties allow you to specify the left, right, top, and bottom position of an element. It also allows you to set the shape of an element, place an element behind another, and to specify what should happen when an element's content is too big to fit in a specified area.



Property	Description	Values	IE	F	N	W3C
<u>bottom</u>	Sets how far the bottom edge of an element is above/below the bottom edge of the parent element	auto % <i>length</i>	5	1	6	2
<u>clip</u>	Sets the shape of an element. The element is clipped into this shape, and displayed	<i>shape</i> auto	4	1	6	2
<u>left</u>	Sets how far the left edge of an element is to the right/left of the left edge of the parent element	auto % <i>length</i>	4	1	4	2
<u>overflow</u>	Sets what happens if the content of an element overflow its area	visible hidden scroll auto	4	1	6	2
<u>position</u>	Places an element in a static, relative, absolute or fixed position	static relative absolute fixed	4	1	4	2
<u>right</u>	Sets how far the right edge of an element is to the left/right of the right edge of the parent element	auto % <i>length</i>	5	1	6	2
<u>top</u>	Sets how far the top edge of an element is above/below the top edge of the parent element	auto % <i>length</i>	4	1	4	2
<u>vertical-align</u>	Sets the vertical alignment of an element	baseline sub super top text-top middle bottom text-bottom <i>length</i> %	4	1	4	1
<u>z-index</u>	Sets the stack order of an element	auto <i>number</i>	4	1	6	2

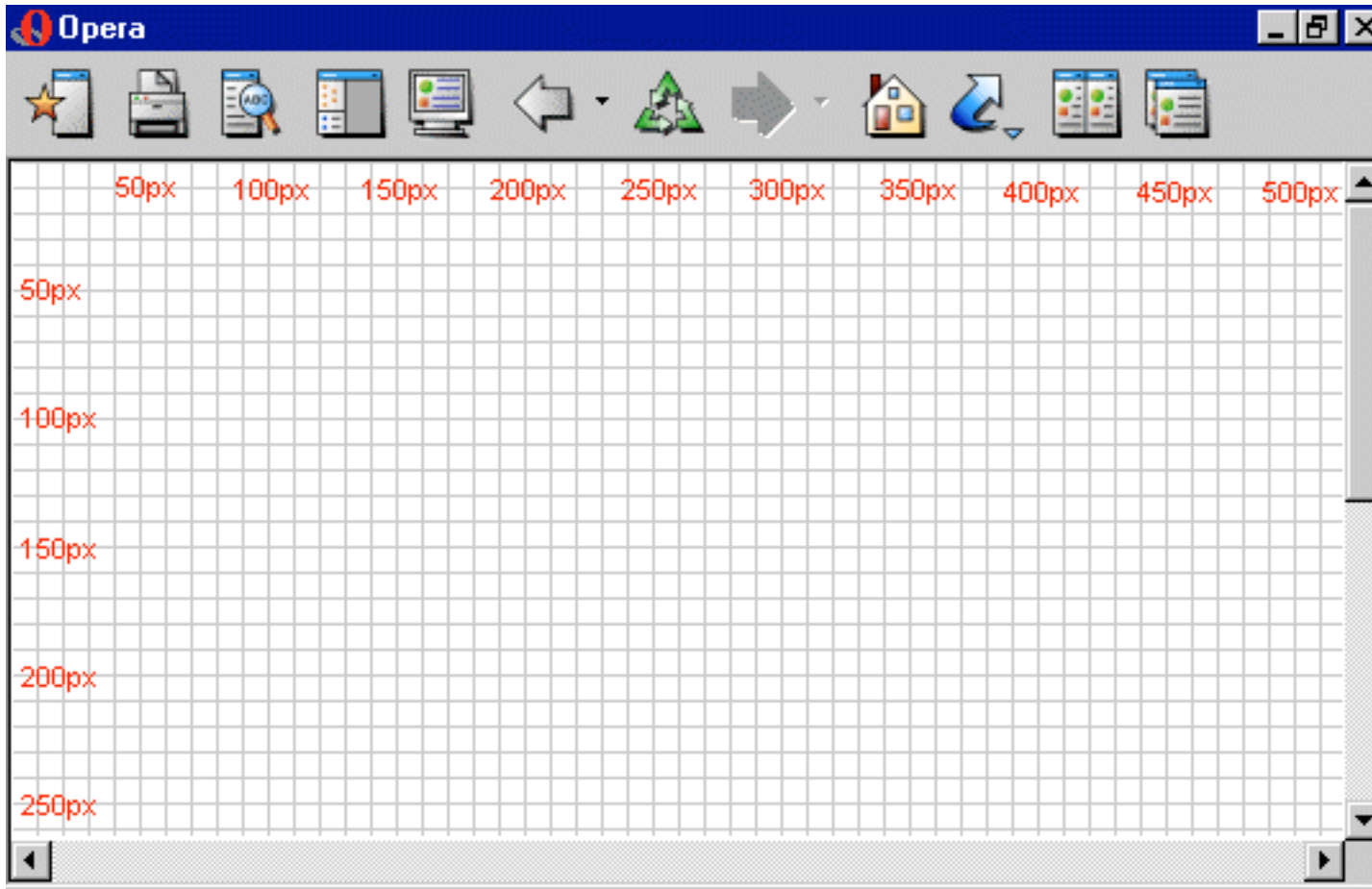


Browser support: IE: Internet Explorer, F: Firefox, N: Netscape, W3C: The number in the "W3C" column indicates in which CSS recommendation the property is defined (CSS1 or CSS2).

The principle behind CSS positioning

Imagine a browser window as a system of coordinates:

The principle behind CSS positioning is that you can position any box anywhere in the system of coordinates.



Let's say we want to position a headline. By using the box model the headline will appear as follows:

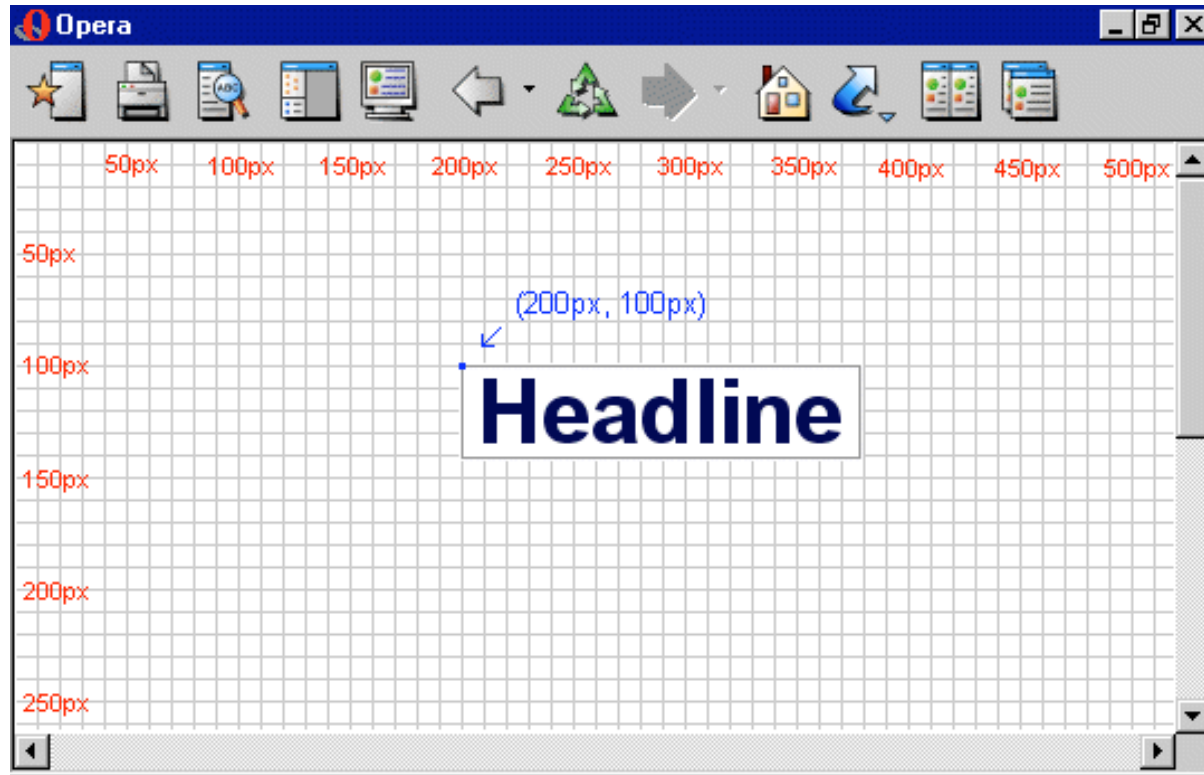
Headline

If we want this headline positioned 100px from the top of the document and 200px from the left of the document, we could type the following in our CSS:

```
h1 {  
    position: absolute;  
    top: 100px;  
    left: 200px;  
}
```

The result will be as follows:

As you can see, positioning with CSS is a very precise technique to place elements.



It is much easier than trying to use tables, transparent images or anything else.

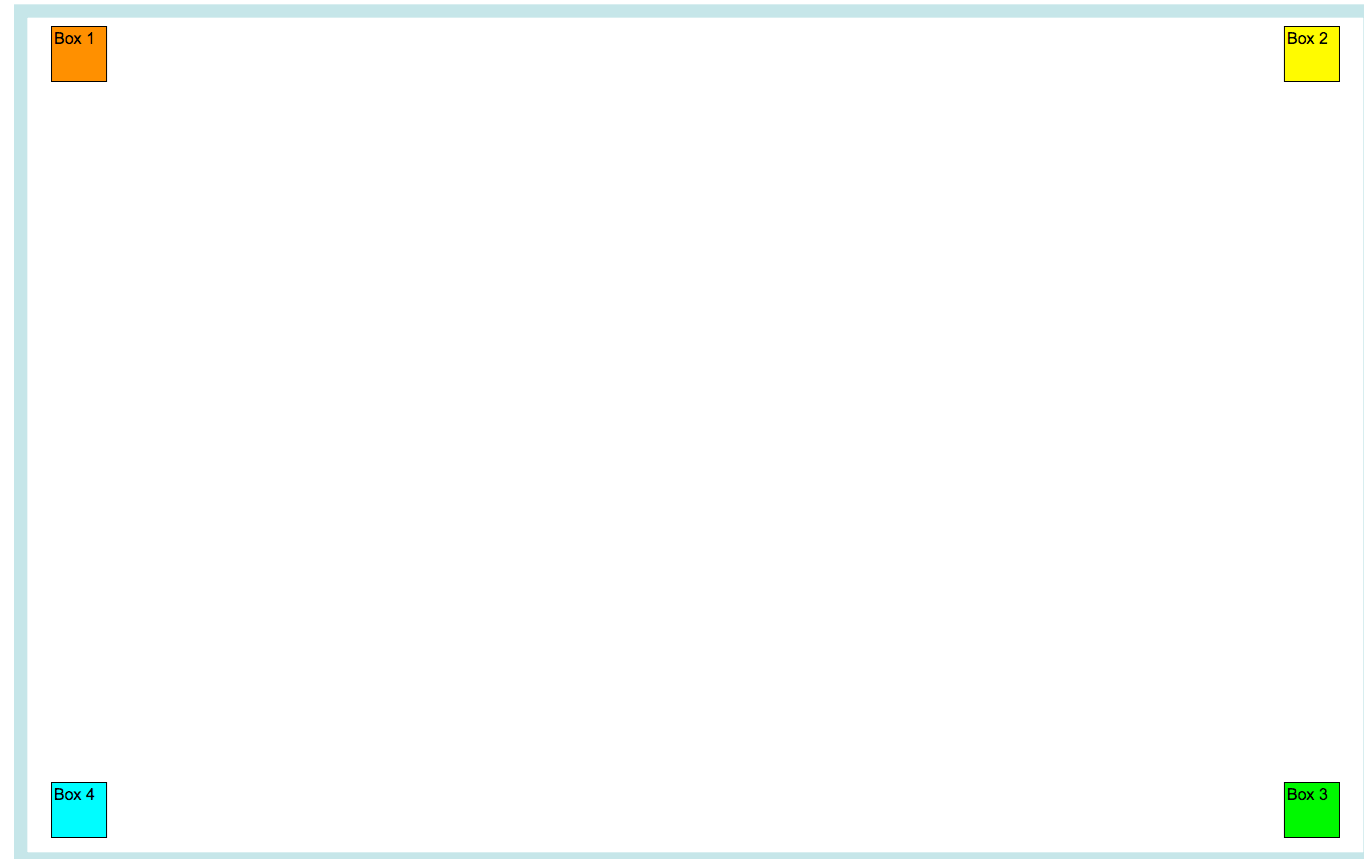
Absolute positioning

An element which is positioned absolute does not obtain any space in the document. This means that it does not leave an empty space after being positioned.

To position an element absolutely, the position property is set as absolute. You can subsequently use the properties left, right, top, and bottom to place the box.

As an example of absolute positioning, we choose to place 4 boxes in each corner of the document:

```
#box1 {  
    position: absolute;  
    top: 50px;  
    left: 50px;  
}  
#box2 {  
    position: absolute;  
    top: 50px;  
    right: 50px;  
}  
#box3 {  
    position: absolute;  
    bottom: 50px;  
    right: 50px;  
}  
#box4 {  
    position: absolute;  
    bottom: 50px;  
    left: 50px;  
}
```



Example

```
<html>
<head>
<style type="text/css">
h2.pos_abs
{
position:absolute;
left:100px;
top:150px
}
</style>
</head>
<body>
<h2 class="pos_abs">This is a heading with an absolute position</h2>
<p>With absolute positioning, an element can be placed anywhere on a page. The heading below is placed
100px from the left of the page and 150px from the top of the page.</p>
</body>
</html>
```

With absolute positioning, an element can be placed anywhere on a page. The heading below is placed 100px from the left of the page and 150px from the top of the page.

This is a heading with an absolute position



In the following examples, you will only use <div> and on very simple things such as text and background colors. Both elements have the potential to do much more advanced things

Grouping of elements (span and div)

The elements and <div> are used to group and structure a document and will often be used together with the attributes class and id.

In this lesson, we will take a closer look at the use of and <div> as exactly these two HTML elements are of central importance with regards to CSS.

- * Grouping with
- * Grouping with <div>

Grouping with

The element is what you could call a neutral element which does not add anything to the document itself. But with CSS, can be used to add visual features to specific parts of text in your documents.





An example of this could be this Benjamin Franklin quotation:

`<p>Early to bed and early to rise
makes a man healthy, wealthy and wise.</p>`

Let us say we want what Mr. Franklin sees as the benefits of not sleeping your day away emphasized in red. For that purpose, we can mark the benefits with `<span>`. Each span is then added a class, which we can define in our style sheet:

`<p>Early to bed and early to rise
makes a man healthy,
wealthy
and wise.</p>`

The CSS belonging to it:

```
span.benefit {  
    color:red;  
}
```

Benjamin Franklin quotation - emphasized benefits

Early to bed and early to risemakes a man healthy, wealthy and wise.



Grouping with <div>

Whereas is used within a block-level element as seen in the previous example, <div> is used to group one or more block-level elements.

Aside from this difference, the grouping with <div> works in more or less the same way. Let us take a look at an example with two lists of U.S. presidents divided into their political affiliations:

```
<div id="democrats">
<ul>
<li>Franklin D. Roosevelt</li>
<li>Harry S. Truman</li>
<li>John F. Kennedy</li>
<li>Lyndon B. Johnson</li>
<li>Jimmy Carter</li>
<li>Bill Clinton</li>
</ul>
</div>
```

```
<div id="republicans">
<ul>
<li>Dwight D. Eisenhower</li>
<li>Richard Nixon</li>
<li>Gerald Ford</li>
<li>Ronald Reagan</li>
<li>George Bush</li>
<li>George W. Bush</li>
</ul>
</div>
```

U.S. presidents

- Franklin D. Roosevelt
- Harry S. Truman
- John F. Kennedy
- Lyndon B. Johnson
- Jimmy Carter
- Bill Clinton

- Dwight D. Eisenhower
- Richard Nixon
- Gerald Ford
- Ronald Reagan
- George Bush
- George W. Bush

And in our style sheet, we can utilize the grouping in the exact same way as previously:

```
#democrats {
    background:blue;
}

#republicans {
    background:red;
}
```

```
<link rel="stylesheet" href="YourCSSpage.css" type="text/css" media="all" />
```





Pointer Shapes			
Normal Select		Vertical Resize	
Help Select		Horizontal Resize	
Working In Background		Diagonal Resize 1	
Busy		Diagonal Resize 2	
Precision Select		Move	
Text Select		Alternate Select	
Handwriting		Drag - make copy	
Unavailable		Drag - make shortcut	



CSS Mouse Cursor

When using Windows, Linux, or a Macintosh you will have undoubtedly seen many different mouse cursor icons. There is the normal mouse cursor icon that looks like a skewed arrow; the "I" looking icon when selecting text, and some sort of animated logo when the computer is thinking (usually an hourglass).

With CSS you can make it so different mouse icons appear when people visit your site. NOTE: You should know that some people find web pages that change mouse cursor icons annoying, so consider that when playing around with this CSS property!

CSS Cursor Icons

Now you will learn how to change the mouse cursor icon for a few different HTML elements. Below is a list of the most commonly accepted cursors:

- * default - Display the normal mouse cursor icon
- * wait - The mouse icon to represent the computer "thinking"
- * crosshair - A cross hair reticle
- * text - An "I" shaped icon that is displayed when selecting text
- * pointer - A hand icon that you see when you hover over an HTML link
- * help - A question mark (usually)

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Sometimes you can add a little bit of excitement to a web page with a well-placed cursor icon change. However, if you make the icons confusing, or change them too often, people will probably leave your site with a poor impression of your web design talent!

CSS Selector

CSS selectors are the heart and soul of CSS. They define which HTML elements you can be manipulating with CSS code and you should have a solid understanding of them when you are finished with this Unit. Luckily for you, they are pretty simple to comprehend!

CSS Selector: Where It Fits In

In a typical CSS statement you have the following:

```
* SELECTOR { PROPERTY: VALUE }
```

"Property" is the CSS element you wish to manipulate and "VALUE" represents the value of the specified property.
CSS Selector Name

The selector name creates a direct relationship with the HTML tag you want to edit. If you wanted to change the way a paragraph tag behaved, the CSS code would look like:

```
* p { PROPERTY: VALUE }
```

The above example is a template that you can use whenever you are manipulating the paragraph HTML element.



Review



Internal CSS

Cascading Style Sheets come in three flavors: internal, external, and inline. We will cover internal and external, as they are the only flavors a designer should utilize. In this lesson, we cover the basics of the easier type, internal. When using internal CSS, you must add a new tag, `<style>`, inside the `<head>` tag. The following HTML code contains an example of `<style>`'s usage.





Creating Internal CSS Code

CSS code is not written the same way as HTML code is. This makes sense because CSS is not HTML, but rather a way of manipulating existing HTML. Below is an example of some simple, yet fully functional, CSS code. CSS Code:

```
<html>
<head>
<style type="text/css">
p {color: white; }
body {background-color: black; }
</style>
</head>
<body>
<p>White text on a black background!</p>
</body>
</html>
```

Display:

White text on a black background!

You probably noticed that in our CSS code we were altering the <body> and <p> HTML tags. The great thing about CSS is that it is an intuitive language. Once you understand the general format for CSS code, you are pretty much set.

General CSS Format:

```
* "HTML tag" { "CSS Property" : "Value" ; }
```

Review



External CSS

When using CSS it is preferable to keep the CSS separate from your HTML. Placing CSS in a separate file allows the web designer to completely differentiate between content (HTML) and design (CSS). External CSS is a file that contains only CSS code and is saved with a ".css" file extension. This CSS file is then referenced in your HTML using the <link> instead of <style>. If you're confused, don't worry. We are going to walk you through the whole process.

Review



File Creation

Let us get started by making that external CSS file.
Open up notepad.exe, or any other plain text editor and type the following CSS code.
CSS Code:

```
body{ background-color: gray;}  
p { color: blue; }  
h3{ color: white; }
```

Now save the file as a CSS (.css) file. Make sure that you are not saving it as a text (.txt) file, as notepad likes to do by default.
Name the file "test.css" (without the quotes). Now create a new HTML file and fill it with the following code.

HTML Code:

```
<html>  
<head>  
<link rel="stylesheet" type="text/css" href="test.css" />  
</head>  
<body>  
<h3> A White Header </h3>  
<p> This paragraph has a blue font.  
The background color of this page is gray  
because we changed it with CSS! </p>  
</body>  
</html>
```

Display:

A White Header

This paragraph has a blue font. The background color of this page is gray
because we changed it with CSS!

Then save this file as "index.html" (without the quotes) in the same directory (folder) as your CSS file.



CSS Inline

Thus far, we have only shown you how to use CSS the way it was meant to be used -- separated from the HTML. However, it is possible to place CSS right in the thick of your HTML code, and this method of CSS usage is referred to as inline css.

Inline CSS has the highest priority out of external, internal, and inline CSS. This means that you can override styles that are defined in external or internal by using inline CSS. However, inline CSS detracts from the true purpose of CSS, so use it sparingly.





CSS Inline - An HTML Attribute

Believe it or not, CSS is built in to every HTML tag. If you want to add a style inside an HTML element all you have to do is specify the desired CSS properties with the style HTML attribute. Let's add some style to a paragraph tag.

CSS Code:

```
<p style="background: blue; color: white;">A new background and  
font color with inline CSS</p>
```

Display:

A new background and font color with inline CSS

CSS Classes

You may be wondering if it is possible to give an HTML element multiple looks with CSS. Say for example that sometimes you want the font to be large and white, while other times you would prefer the font to be small and black. CSS would not be very useful if it did not allow you to have many different types of formats for a single HTML tag. Well, you are in luck! CSS allows you to do just that with the use of classes.

The Format of Classes

Using classes is simple. You just need to add an extension to the typical CSS code and make sure you specify this extension in your HTML. Let's try this with an example of making two paragraphs that behave differently. First, we begin with the CSS code, note the red text.

CSS Code:

```
p.first{ color: blue; }
p.second{ color: red; }
```

HTML Code:

```
<html>
<body>
<p>This is a normal paragraph.</p>
```

```
<p class="first">This is a paragraph that uses the p.first CSS code!</p>
<p class="second">This is a paragraph that uses the p.second CSS code!</p>
```

...

Display:

This is a normal paragraph.

This is a paragraph that uses the p.first CSS code!

This is a paragraph that uses the p.second CSS code!



You can use CSS classes with any HTML element! However, what happens if we had already defined a value for the default <p> tag, would this cause any problems for classes of the paragraph tag?

Well, when this happens the CSS class for any <p> tag will override the default <p> CSS. If the CSS class uses a CSS attribute already defined by the default CSS, then the formatting defined by the class will be the value that is used.

It may be easier to imagine that the CSS for a generic HTML element is the starting point and the only way to change that look is to overwrite the attributes using CSS classes. Please see the example below for a visual of this tricky topic.

CSS Code:

```
p{ color: red; font-size: 20px; }  
p.test1{ color: blue; }  
p.test2{ font-size: 12px; }
```

HTML Code:

```
<html>  
<body>  
<p>This is a normal paragraph.</p>  
<p class="test1">This is a paragraph that uses the p.test1 CSS code!</p>  
<p class="test2">This is a paragraph that uses the p.test2 CSS code!</p>
```

Display:

This is a normal paragraph.

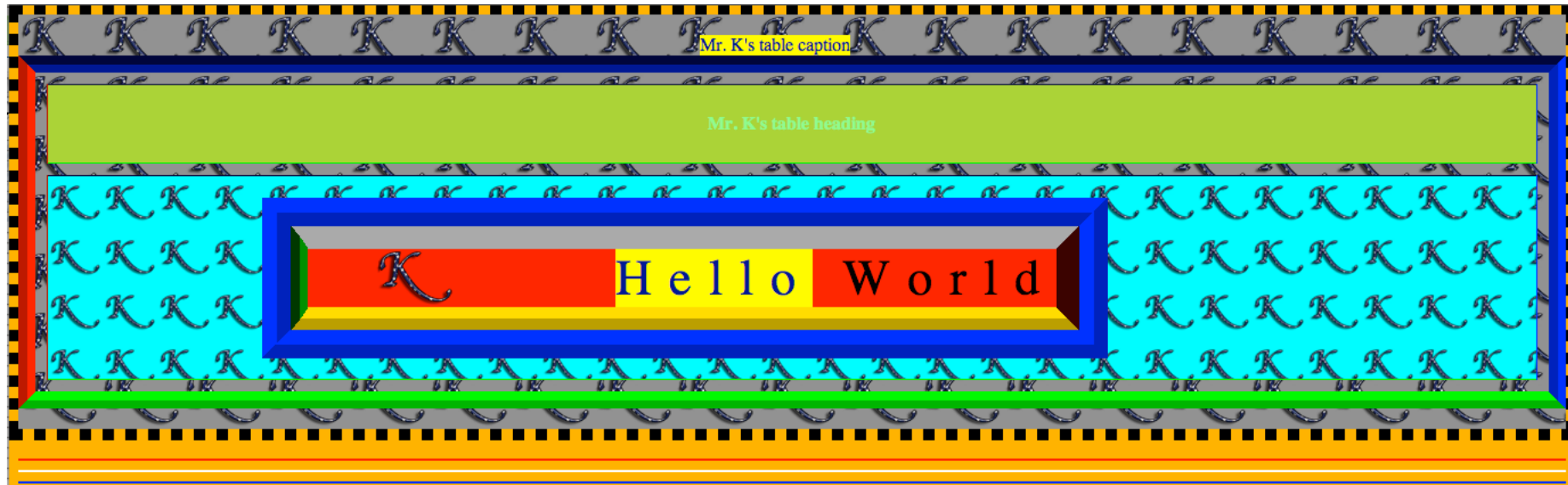
This is a paragraph that uses the p.test1 CSS code! The p.test1 paragraph remained the same size, but it's color changed.

This is a paragraph that uses the p.test2 CSS code! The p.test2 paragraph remained the same color, but it's size changed.

Your Project

Your project/practical test is broken down into 5 parts plus an extra credit piece. You will be given class time, and since this is open book, you can also work on this project in other locations and at other times. The first part looks like the image below when completed. Your images may vary.

The 5 part project may be turned in when completed in a folder with all your data enclosed. Each part is worth approximately 20% of the total. Your Instructor may provide some coding. If you have images/text/graphics similar to another student's project, you will be asked to find different data before the due date, or take a zero. Since this is both a project and a practical test, it worth about 50% of your grade.



```

<html>
<head>
<title>Mr. K's CSS</title>
<style type="text/css">
span.highlight
{
background-color:yellow; color:navy;
}
table { cursor:wait; border-style:groove; border-top-color:navy;
border-bottom-style:ridge; border-bottom-color:lime;
border-right-color:blue; border-left-color:red;}
p.on { background-image:url(http://tk0.us/k.png); font-size:44px;
background-color:rgb(255,0,0); background-attachment:scroll;
background-repeat:no-repeat; background-position:10%;
margin:1px 30% 0px 15%; border-width:20px; border-style:inset;
border-right-style:outset; border-right-color:maroon;
border-bottom-color:gold; border-bottom-style:ridge;
border-left-style: groove; border-left-color: green; border-left-width: 15px;
outline:blue ridge 25px; text-align:right; letter-spacing:15px;
text-transform:capitalize; cursor:url(k.png), crosshair;
}

p.one{background-color:rgb(0,0,0); color:yellow; width:220px;
background-image:url(Picture2.png);background-repeat:repeat; font-size:24px;
outline:green ridge 70px; cursor:hand; margin-left:75px;
}
p.two{background-image: url(gradient01.png);padding:10px;
background-repeat: repeat-x; width:700px; text-align:center;
font-family: "Times New Roman", serif; cursor:move;
border-color: rgb(255,0,0);
border-style: solid; border-bottom:none;
}

```



All the
code

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```

p.three{width:700px; background-color:rgb(148,148,148);
padding:5px 10px 5px 10px; font-family: "Times New Roman", serif;
background-image:url(usflag1.jpg); border-color: rgb(255,0,0);
border-style: solid; border-top:none;
background-repeat:no-repeat;
}
div {outline:black dotted 10px;}

```

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```
img {
opacity:0.2;
filter:alpha(opacity=20);
/*position:relative; left:500px; bottom:75px;*/
cursor:help;
}
#picture { background-image:url(w1.png);
float:left; opacity:1.0; filter:alpha(opacity=100);
width:125px; height:95px; outline:none;
}
#picture2 { background-image:url(Picture 2.png);
width:516px; height:256px;
float:none; opacity:1.0; filter:alpha(opacity=100);
}
#picture3 {background-image:url(football01a.png); width:316px;
float:left; opacity:1.0; filter:alpha(opacity=100); height:400px;
outline:none; margin:0px 0px 0px 5px; cursor:move;
}
th {color: rgb(128,255,128);}
#box1 {
position:absolute;
top: 50px;
left: 50px;
}
#box2 {
position:absolute;
top: 50px;
right: 50px;
}
```

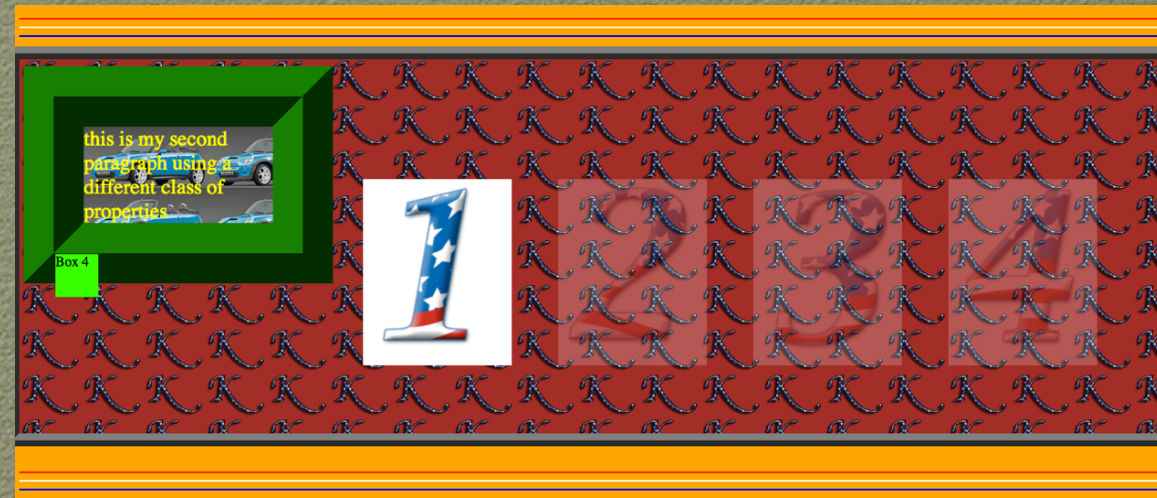
```
#box3 {
position:absolute; background-color:rgb(128,255,128);
bottom: 50px; width:50px;height:50px;
right: 50px;
}
#box4 {
position:absolute; background-color:rgb(0,255,0);
bottom: 50px; width:50px;height:50px;
left: 50px;
}
h1 {
color: #990000; background-color: #FC9804; width:220;
}
h2 {
font-size:400%;
color:#000000;
font-weight:thick;
letter-spacing:-.05em;
margin:.6em 0;
position:relative;
}
h2 span{
position:absolute;
display:block;
top:0;
left:0;
height:100%;
width:100%;
background:url(gradient01.png) repeat-x;
}
</style>
</head>
```

```

<body bgcolor="orange">
<div style="background-image:url(k.png); background-color:grey">
<br>
<table border="15", cellpadding="25", width="100%", cellspacing="10">
<th bgcolor="yellowgreen">Mr. K's table heading</th>
<tr>
<td bgcolor="aqua", background="k.ico"><br>
<p class="on"><span class="highlight"> hello</span> world</p><br>
</td>
<caption><span class="highlight">Mr. K's table caption</caption></span>
</tr>
</table>
<br>
</div>
<br>
<hr color="red">
<hr color="white">
<hr color="blue">
<br>
<div style="background-image:url(k.png); background-color:brown; outline: grey ridge 15px">

<br><br><br>
<p class="one">this is my second paragraph using a different class of properties
</p>

```



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```





</div>
<br>
<br>
<hr color="red">
<hr color="white">
<hr color="blue">
<br>
<br>
<p class="on"; style="font-variant:small-caps; background-repeat:repeat-y">
third paragraph may be quite different while being very similar<br>

</p>
<br><br>
<br>
<hr color="red">
<hr color="white">
<hr color="blue">
<br>

```

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THIRD PARAGRAPH MAY
BE QUITE DIFFERENT
WHILE BEING VERY
SIMILAR



<p class="two">IN CONGRESS, JULY 4, 1776

The unanimous Declaration of the thirteen united States of America</p>

<div id="picture"></div>

<p class="three">

hen in the Course of human events it becomes necessary for one people to dissolve the political bands which have connected them with another and to assume among the powers of the earth, the separate and equal station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.

</p>

<hr color="red">

<hr color="white">

<hr color="blue">

<div style="background-image:url(us_flag.jpg); outline:navy solid thick">

<table cellpadding="5">

<th>Cell 1</th>

<th>Cell 2</th>

<th>Cell 3</th>



IN CONGRESS, JULY 4, 1776

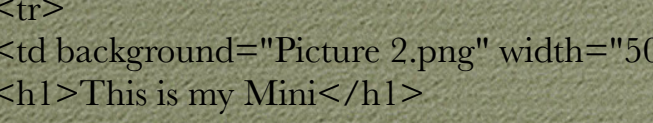
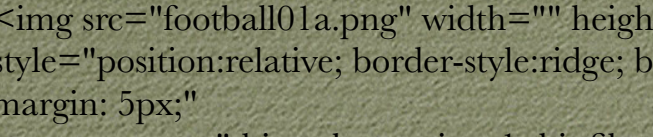
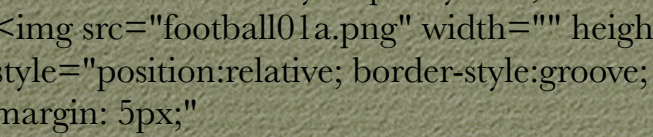
The unanimous **Declaration** of the thirteen united **States of America**

W

hen in the Course of human events it becomes necessary for one people to dissolve the political bands which have connected them with another and to assume among the powers of the earth, the separate and equal station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.



	
This is my Mini	
2	3
Cell 4	
Cell 5	
4	
	
	
5	



```
<br>
<br>
<div id="box3" style="outline:none">This is<br>Box 3
</div>
<div id="box4" style="outline:none">Box 4
</div>
<p></p>
```

```
</div>
<br>
<br>
<br>
<hr color="red">
<hr color="white">
<hr color="blue">
```

```
<center>
<div style="background-color:00a651; outline:green groove 5px;">
```

```
<h2>Mr. K's Technology<span></span></h2>
```

```
thanks for stopping by...
<br>
</div></center>
</body>
</html>
```



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