



Color and backgrounds



Specifying Color Values

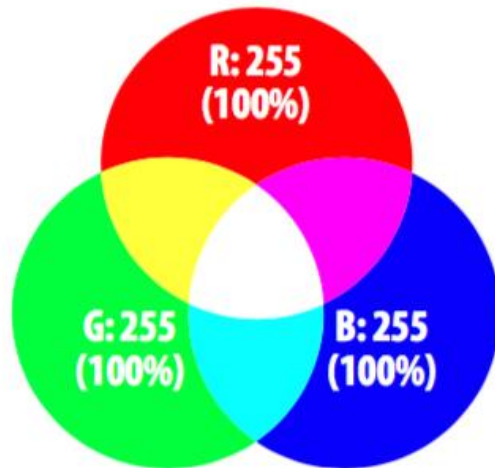
- There are two main ways to specify colors in style sheets:
 - with a predefined color name, as we have been doing so far
 - `color: red; color: olive; color: blue;`
 - more commonly, with a numeric value that describes a particular RGB color:
 - `color: #FF0000; color: #808000; color: #00F;`

Some colors name

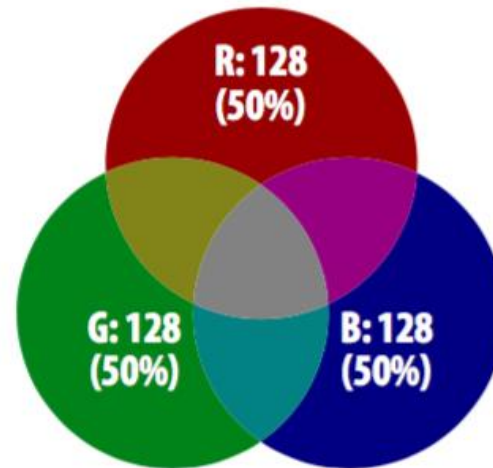
Color Name	Hex Value	Color	Show
aqua	#00ffff		Demo 
black	#000000		Demo 
blue	#0000ff		Demo 
fuchsia	#ff00ff		Demo 
green	#008000		Demo 
gray	#808080		Demo 
lime	#00ff00		Demo 
maroon	#800000		Demo 
navy	#000080		Demo 
olive	#808000		Demo 
purple	#800080		Demo 
red	#ff0000		Demo 
silver	#c0c0c0		Demo 
teal	#008080		Demo 
white	#ffffff		Demo 
yellow	#ffff00		Demo 

RGB color values

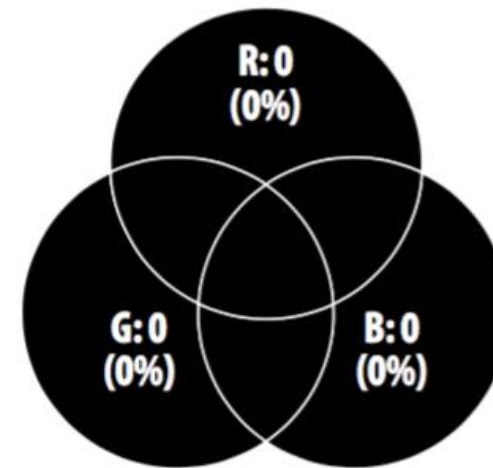
The RGB color model



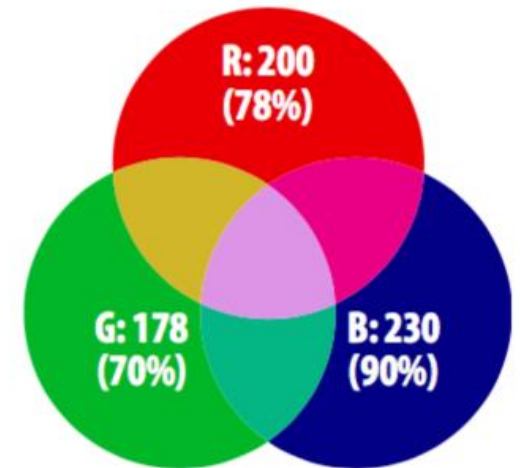
RGB: 255, 255, 255
White



RGB: 128, 128, 128
Gray



RGB: 0, 0, 0
Black



RGB: 200, 178, 230
Pleasant lavender



Writing RGB values in style sheets

- `color: rgb(200, 178, 230);`
- `color: rgb(78%, 70%, 90%);`
- `color: #C8B2E6;`

About hexadecimal values

Hexadecimal RGB values must be preceded by the # (octophorpe or hash) symbol.

#RRGGBB

hex RED value hex GREEN value hex BLUE value

Foreground Color

The style rule

```
blockquote {  
  border: 4px dashed;  
  color: #508C19;  
}
```

The markup

```
<blockquote>  
  <p>I'd recommend Honey Gold cereal to anyone who likes cereal. It's  
  the <em>only</em> way to start the day!</p>  
  <p>&mdash; Jennifer Robbins, happy consumer</p>  
</blockquote>
```

I'd recommend Honey Gold cereal to anyone who likes cereal. It's the *only* way
to start the day!

— Jennifer Robbins, happy consumer

Background Color

```
blockquote {  
  border: 4px dashed;  
  color: #508C19;  
  background-color: #B4DBE6;  
}
```

I'd recommend Honey Gold cereal to anyone who likes cereal. It's the *only* way to start the day!

— Jennifer Robbins, happy consumer

Playing with Opacity

```
h1 {color: green; background: white; opacity: .25;}
```

```
h1 {color: green; background: white; opacity: .5;}
```

```
h1 {color: green; background: white; opacity: 1;}
```

Playing with opacity

opacity: .25

Playing with opacity

opacity: .5

Playing with opacity

opacity: 1



Pseudo-classes

- CSS pseudo-classes are used to add special effects to some selectors
- A simple syntax of pseudo-classes is as follows
 - **selector:pseudo-class {property: value}**
- CSS classes can also be used with pseudo-classes
 - **selector.class:pseudo-class {property: value}**

Link pseudo-classes

- ➡ The most basic pseudo-classes selectors target links (**a** elements) based on whether they have been clicked.
 - ➡ **:link** Applies a style to unclicked (unvisited) links
 - ➡ **:visited** Applies a style to links that have already been clicked

```
a:link {  
    color: maroon;  
}  
a:visited {  
    color: gray;  
}
```

User action pseudo-classes

- **:focus** :Applies when the element is selected and ready for input
 - `input:focus { background-color: yellow; }`
- **:hover** :Applies when the mouse pointer is over the element
 - `a:hover {
color: maroon;
background-color: #ffd9d9;
}`
- **:active** :Applies when the element (such a link or button) is in the process of being clicked or tapped
 - `a:active {
color: red;
background-color: #ffd9d9; }`

pseudo-classes examples

Samples of my work:

- Pen and Ink Illustrations
- Paintings
- Collage

a:link

Links are maroon and not underlined.

Samples of my work:

- Pen and Ink Illustrations
- Paintings
- Collage

a:focus

a:hover

While the mouse is over the link or when the link has focus, the pink background color appears.

Samples of my work:

- Pen and Ink Illustrations
- Paintings
- Collage

a:active

As the mouse button is being pressed, the link turns bright red.

Samples of my work:

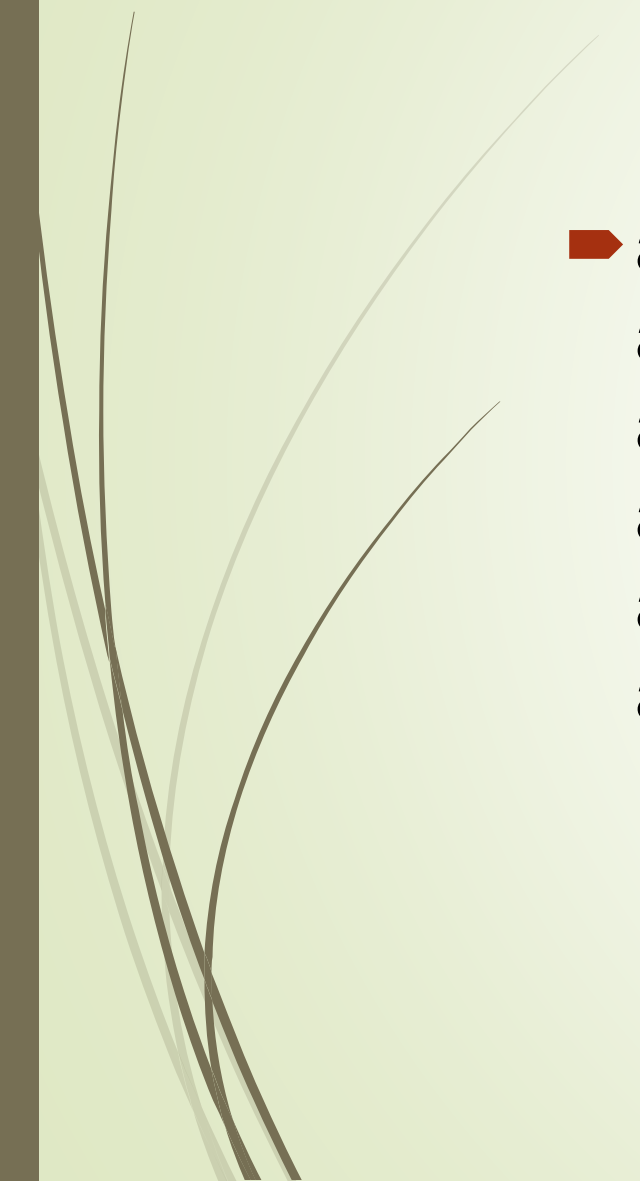
- Pen and Ink Illustrations
- Paintings
- Collage

a:visited

After that page has been visited, the link is gray.



CSS examples



- `a { text-decoration: none; }`
`a:link { color: maroon; }`
`a:visited { color: gray; }`
`a:focus { color: maroon; background-color: #ffd9d9; }`
`a:hover { color: maroon; background-color: #ffd9d9; }`
`a:active { color: red; background-color: #ffd9d9; }`



Other pseudo-class selectors - 1

- The `:first-line` pseudo-element
- The `:first-letter` pseudo-element
- The `:before` pseudo-element
- The `:after` pseudo-element

The :first-line pseudo-element

```
<html>
  <head>
    <style type="text/css">
      p:first-line { text-decoration: underline; }
      p.noline:first-line { text-decoration: none; }
    </style>
  </head>
  <body>
    <p class="noline"> This line would not have any underline because this belongs to nline
class.</p>

    <p>The first line of this paragraph will be underlined as defined in the CSS rule above. Rest of
the lines in this paragraph will remain normal. This example shows how to use :first-line pseduo
element to give effect to the first line of any HTML element.</p>

  </body>
</html>
```

The :first-letter pseudo-element

```
<html>
  <head>
    <style type="text/css">
      p:first-letter { font-size: 5em; }
      p.normal:first-letter { font-size: 10px; }
    </style>
  </head>
  <body>
    <p class="normal"> First character of this paragraph will be normal and will have
font size 10 px;</p>

    <p>The first character of this paragraph will be 5em big as defined in the CSS
rule above. Rest of the characters in this paragraph will remain normal. This
example shows how to use :first-letter pseduo element to give effect to the first
characters of any HTML element.</p>

  </body>
</html>
```



The :before pseudo-element

```
<html>
  <head>
    <style type="text/css">
      p:before
      {
        content: url(/images/bullet.gif)
      }
    </style>
  </head>
  <body>
    <p> This line will be preceded by a bullet.</p>
    <p> This line will be preceded by a bullet.</p>
    <p> This line will be preceded by a bullet.</p>
  </body>
</html>
```



The :after pseudo-element

```
<html>
  <head>
    <style type="text/css">
      p:after
      {
        content: url(/images/bullet.gif)
      }
    </style>
  </head>
  <body>
    <p> This line will be preceded by a bullet.</p>
    <p> This line will be preceded by a bullet.</p>
    <p> This line will be preceded by a bullet.</p>
  </body>
</html>
```



CSS [attribute] Selector

- The [attribute] selector is used to select elements with a specified attribute.


```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<style>
```

```
a[target] {
```

```
    background-color: yellow;
```

```
}
```

```
</style>
```

```
</head>
```

```
<body>
```

```
<p>The links with a target attribute gets a yellow background:</p>
```

```
<a href="http://www.w3schools.com">w3schools.com</a>
```

```
<a href="http://www.disney.com" target="_blank">disney.com</a>
```

```
<a href="http://www.wikipedia.org" target="_top">wikipedia.org</a>
```

```
<p><b>Note:</b> For [attribute] to work in IE8 and earlier, a DOCTYPE must be  
declared.</p>
```

```
</body>
```

```
</html>
```

The links with a target attribute gets a yellow background:

[w3schools.com](http://www.w3schools.com) [disney.com](http://www.disney.com) [wikipedia.org](http://www.wikipedia.org)

Note: For [*attribute*] to work in IE8 and earlier, a DOCTYPE must be declared.



CSS [attribute="value"] Selector

- The [attribute="value"] selector is used to select elements with a specified attribute and value.

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<style>
```

```
a[target=_blank] {
```

```
    background-color: yellow;
```

```
}
```

```
</style>
```

```
</head>
```

```
<body>
```

```
<p>The link with target="_blank" gets a yellow background:</p>
```

```
<a href="http://www.w3schools.com">w3schools.com</a>
```

```
<a href="http://www.disney.com" target="_blank">disney.com</a>
```

```
<a href="http://www.wikipedia.org" target="_top">wikipedia.org</a>
```

```
<p><b>Note:</b> For [attribute] to work in IE8 and earlier, a DOCTYPE must be declared.</p>
```


```
</body>
```

```
</html>
```

The link with target="_blank" gets a yellow background:

[w3schools.com](http://www.w3schools.com) [disney.com](http://www.disney.com) [wikipedia.org](http://www.wikipedia.org)

Note: For [*attribute*] to work in IE8 and earlier, a DOCTYPE must be declared.



CSS [attribute~="value"] Selector

- The [attribute~="value"] selector is used to select elements with an attribute value containing a specified word.

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<style>
```

```
[title~=flower] {
```

```
    border: 5px solid yellow;
```

```
}
```

```
</style>
```

```
</head>
```

```
<body>
```

```
<p>All images with the title attribute containing the word "flower" get a yellow border.</p>
```

```

```

```

```

```

```

```
<p><b>Note:</b> For [attribute~=value] to work in IE8 and earlier, a DOCTYPE must be declared.</p>
```


```
</body>
```

```
</html>
```

All images with the title attribute containing the word "flower" get a yellow border.



Note: For `[attribute~=value]` to work in IE8 and earlier, a DOCTYPE must be declared.



CSS [attribute | ="value"] Selector

- The [attribute | ="value"] selector is used to select elements with the specified attribute starting with the specified value.

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<style>
```

```
[class |=top] {
```

```
    background: yellow;
```

```
}
```

```
</style>
```

```
</head>
```

```
<body>
```

```
<h1 class="top-header">Welcome</h1>
```

```
<p class="top-text">Hello world!</p>
```

```
<p class="topcontent">Are you learning CSS?</p>
```

```
<p><b>Note:</b> For [attribute | =value] to work in IE8 and  
earlier, a DOCTYPE must be declared.</p>
```

```
</body>
```


```
</html>
```

Welcome

Hello world!

Are you learning CSS?

Note: For [*attribute* | =*value*] to work in IE8 and earlier, a DOCTYPE must be declared.



CSS [attribute^="value"] Selector

- The [attribute^="value"] selector is used to select elements whose attribute value begins with a specified value.

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<style>
```

```
[class^="top"] {  
    background: yellow;  
}
```

```
</style>
```

```
</head>
```

```
<body>
```

```
<h1 class="top-header">Welcome</h1>
```

```
<p class="top-text">Hello world!</p>
```

```
<p class="topcontent">Are you learning CSS?</p>
```

```
<p><b>Note:</b> For [attribute^=value] to work in IE8 and  
earlier, a DOCTYPE must be declared.</p>
```

```
</body>
```


```
</html>
```

Welcome

Hello world!

Are you learning CSS?

Note: For [*attribute*^=*value*] to work in IE8 and earlier, a DOCTYPE must be declared.



CSS [attribute\$="value"] Selector

- The [attribute\$="value"] selector is used to select elements whose attribute value ends with a specified value.



```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<style>
```

```
[class$="test"] {
```

```
    background: yellow;
```

```
}
```

```
</style>
```

```
</head>
```

```
<body>
```

```
<div class="first_test">The first div element.</div>
```

```
<div class="second">The second div element.</div>
```

```
<div class="my-test">The third div element.</div>
```

```
<p class="mytest">This is some text in a paragraph.</p>
```

```
</body>
```


```
</html>
```

The first div element.

The second div element.

The third div element.

This is some text in a paragraph.



CSS [attribute*="value"] Selector

- The [attribute*="value"] selector is used to select elements whose attribute value contains a specified value.



```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<style>
```

```
[class*="te"] {
```

```
    background: yellow;
```

```
}
```

```
</style>
```

```
</head>
```

```
<body>
```

```
<div class="first_test">The first div element.</div>
```

```
<div class="second">The second div element.</div>
```

```
<div class="my-test">The third div element.</div>
```

```
<p class="mytest">This is some text in a paragraph.</p>
```

```
</body>
```

```
</html>
```

The first div element.

The second div element.

The third div element.

This is some text in a paragraph.

```
<!DOCTYPE html>
<html>
<head>
<style>
input[type=text] {
    width: 150px;
    display: block;
    margin-bottom: 10px;
    background-color: yellow;
}
input[type=button] {
    width: 120px;
    margin-left: 35px;
    display: block;
}
</style>
</head>
<body>
<form name="input" action="" method="get">
    Firstname:<input type="text" name="Name" value="Peter" size="20">
    Lastname:<input type="text" name="Name" value="Griffin" size="20">
    <input type="button" value="Example Button">
</form>
</body>
</html>
```

Firstname:

Peter

Lastname:

Griffin

Example Button

Background Images

AT A GLANCE

The properties related to background images are:

`background-image`

`background-repeat`

`background-position`

`background-attachment`

`background-clip` (CSS3)

`background-size` (CSS3)

`background`

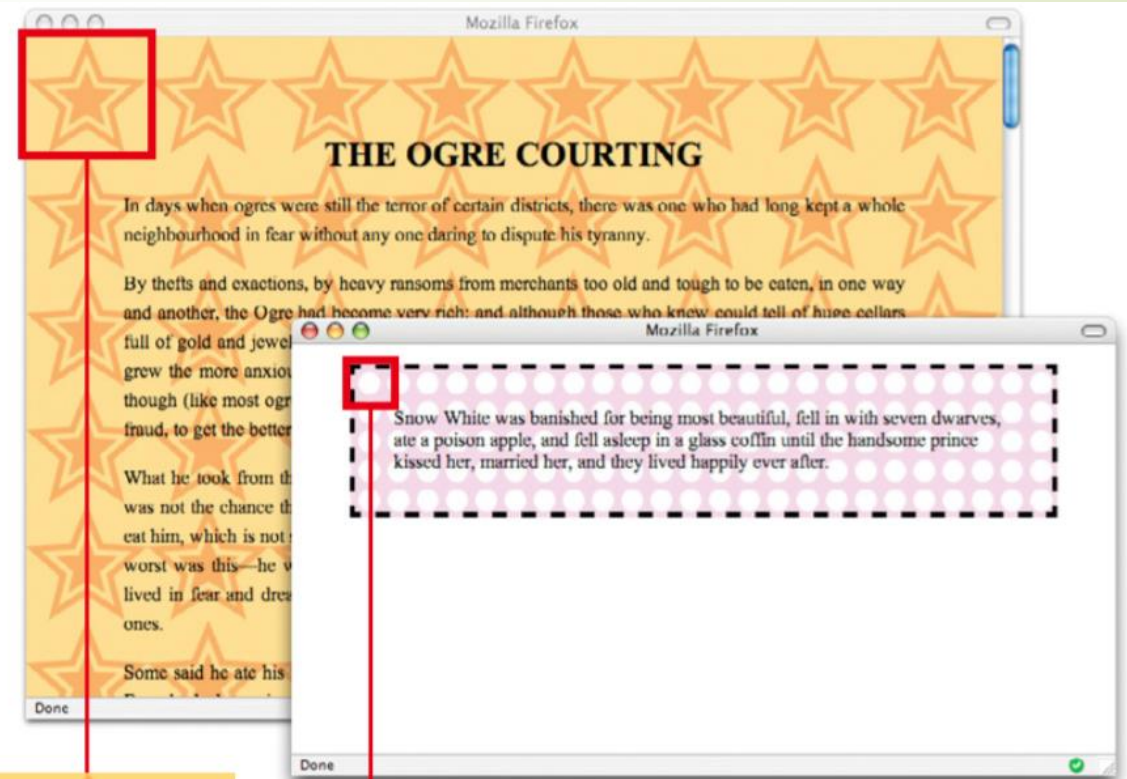


Background Images - 2

- The background-color property is used to set the background color of an element.
- The background-image property is used to set the background image of an element.
- The background-repeat property is used to control the repetition of an image in the background.
- The background-position property is used to control the position of an image in the background.
- The background-attachment property is used to control the scrolling of an image in the background.
- The background property is used as a shorthand to specify a number of other background properties.

Background Images example

```
body {  
    background-image: url(star.gif);  
}  
  
blockquote {  
    background-image: url(dot.gif);  
    padding: 2em;  
    border: 4px dashed;  
}
```



star.gif (100 x 96 pixels)

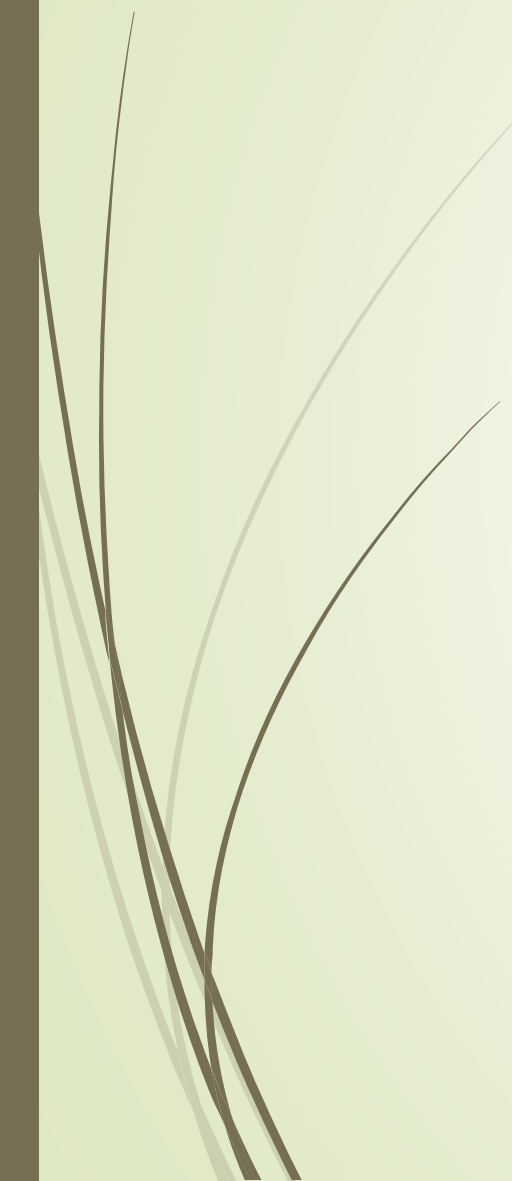


dot.gif (24 x 24 pixels)



Set the Background Image

```
<html>
  <head>
    <style>
      body {
        background-image: url("/css/images/css.jpg");
        background-color: #cccccc;
      }
    </style>
    <body>
      <h1>Hello World!</h1>
    </body>
  </head>
</html>
```



Repeat the Background Image

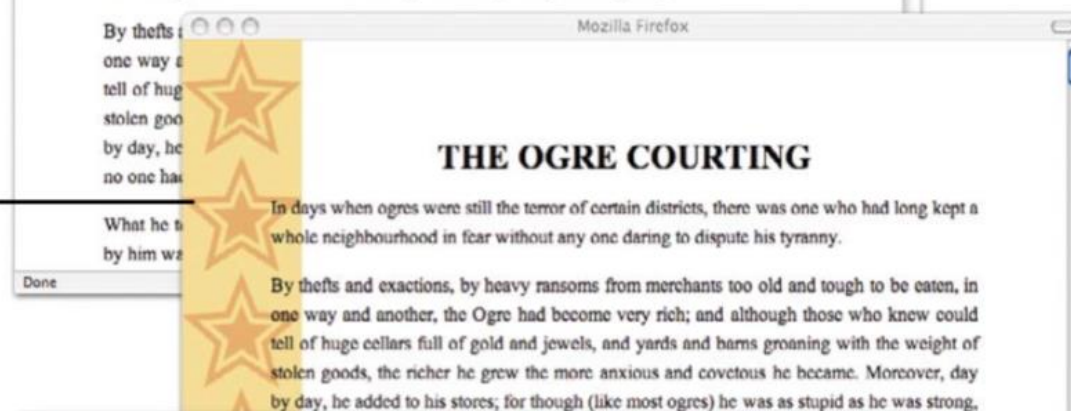
```
<html>
  <head>
    <style>
      body {
        background-image: url("/css/images/css.jpg");
        background-repeat: repeat;
      }
    </style>
  </head>
  <body>
    <p>Tutorials point</p>
  </body>
</html>
```

Controlling tiling direction

No-repeat



Repeat-y



Repeat-x



Background position

Snow White was banished for being most beautiful, fell in with seven dwarves, ate a poison apple, and fell asleep in a glass coffin until the handsome prince kissed her, married her, and they lived happily ever after.

`background-position: left bottom;`

Snow White was banished for being most beautiful, fell in with seven dwarves, ate a poison apple, and fell asleep in a glass coffin until the handsome prince kissed her, married her, and they lived happily ever after.

`background-position: right center;`

Snow White was banished for being most beautiful, fell in with seven dwarves, ate a poison apple, and fell asleep in a glass coffin until the handsome prince kissed her, married her, and they lived happily ever after.

`background-position: 200px 50px;`

Snow White was banished for being most beautiful, fell in with seven dwarves, ate a poison apple, and fell asleep in a glass coffin until the handsome prince kissed her, married her, and they lived happily ever after.

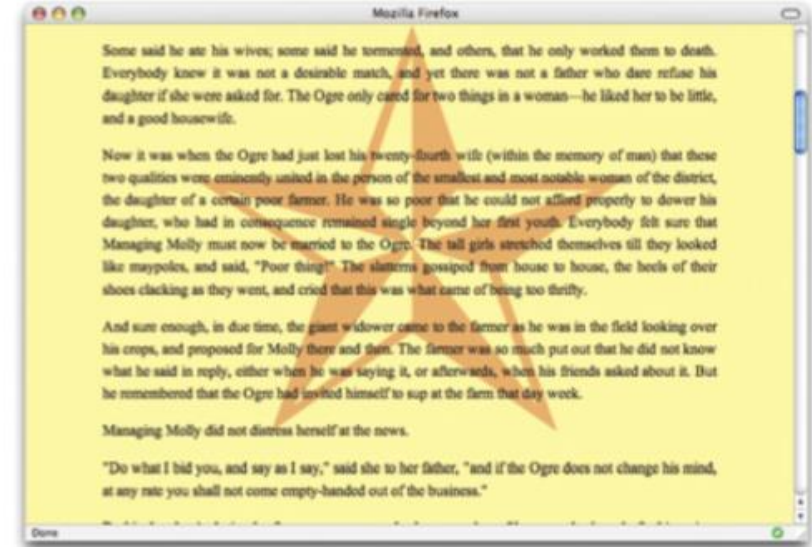
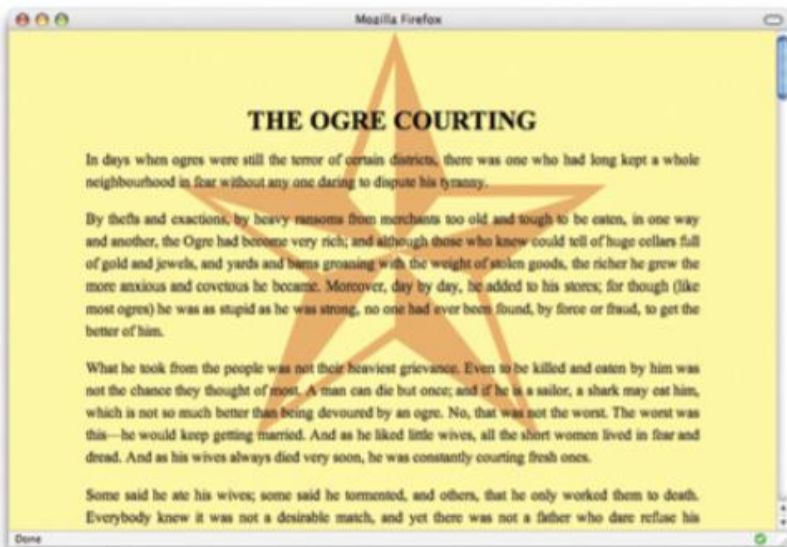
`background-position: 15% 100%;`

Set the Background Image Position

```
<html>
  <head>
    <style>
      body {
        background-image: url("/css/images/css.jpg");
        background-position: 100px 200px;
      }
    </style>
  </head>
  <body>
    <p>Tutorials point</p>
  </body>
</html>
```


Background attachment

- With the **background-attachment** property, you have the choice of whether the background image scrolls with the content or stays in a fixed position



[illegible]

Multiple backgrounds

```
body {  
  background:  
    url(image1.png) left top no-repeat,  
    url(image2.png) center center no-repeat,  
    url(image3.png) right bottom no-repeat;  
  ...  
}
```

Cabbage Recipes

From *The Whitehouse Cookbook* (1887)

CABBAGE WITH CREAM.

Remove the outer leaves from a solid, small-sized head of cabbage, and cut the remainder as fine as for slaw. Have on the fire a spider [Pg 201] or deep skillet, and when it is hot put in the cut cabbage, pouring over it right away a pint of boiling water. Cover closely and allow it to cook rapidly for ten minutes. Drain off the water and add half a pint of new milk, or part milk and cream; when it boils, stir in a large teaspoonful of either wheat or rice flour moistened with milk; add salt and pepper, and as soon as it comes to a boil, serve. Those who find slaw and other dishes prepared from cabbage indigestible will not complain of this.

LADIES' CABBAGE.

Boil a firm white cabbage fifteen minutes, changing the water then for more from the boiling tea-kettle. When tender, drain and set aside until perfectly cold. Chop fine and add two beaten eggs, a tablespoonful of butter, pepper, salt, three tablespoonfuls of rich milk or cream. Stir all well together, and bake in a buttered pudding-dish until brown. Serve very hot. This dish resembles cauliflower and is very digestible and palatable.

FRIED CABBAGE.

Place in a frying pan an ounce of butter and heat it boiling hot. Then take cold boiled cabbage chopped fine, or cabbage hot, cooked the same as steamed cabbage, put it into the hot butter and fry a light brown, adding two tablespoonfuls of vinegar. Very good.

FRENCH WAY OF COOKING CABBAGE.

Chop cold boiled white cabbage and let it drain till perfectly dry; stir in some melted butter to taste; pepper, salt and four tablespoonfuls of cream; after it is heated through add two well-beaten eggs; then turn the mixture into a buttered frying pan, stirring until it is very hot and becomes a delicate brown on the under side. Place a [Pg 202] hot dish over the pan, which must be reversed when turned out to be served.

SOURCROUT.

Barrels having held wine or vinegar are used to prepare sourcroust in. It is better, however, to have a special barrel for the purpose. Strasburg, as well as all Alsace, has a well-acquired fame for preparing the cabbages. They slice very white and firm cabbages in fine shreds with a machine made for the purpose. At the bottom of a small barrel they place a layer of coarse salt and alternately layers of cabbage and salt, being careful to have one of salt on the top. As each layer of cabbage is added, it must be pressed down by a large and heavy pestle and fresh layers are added as soon as the juice floats on the surface. The cabbage must be seasoned with a few grains of coriander, juniper berries, etc. When the barrel is full it must be put in a dry cellar, covered with a cloth, under a plank, and on this heavy weights are placed. At the end of a few days it will begin to ferment, during which time the pickle must be drawn off and replaced by fresh, until the liquor becomes clear. This should be done every day. Renew the cloth and wash the cover, put the weights back and let stand for a month. By that time the sourcroust will be ready for use. Care must be taken to let the least possible air enter the sourcroust and to have the cover perfectly clean. Each time the barrel has to be opened it must be properly closed again. These precautions must not be neglected.



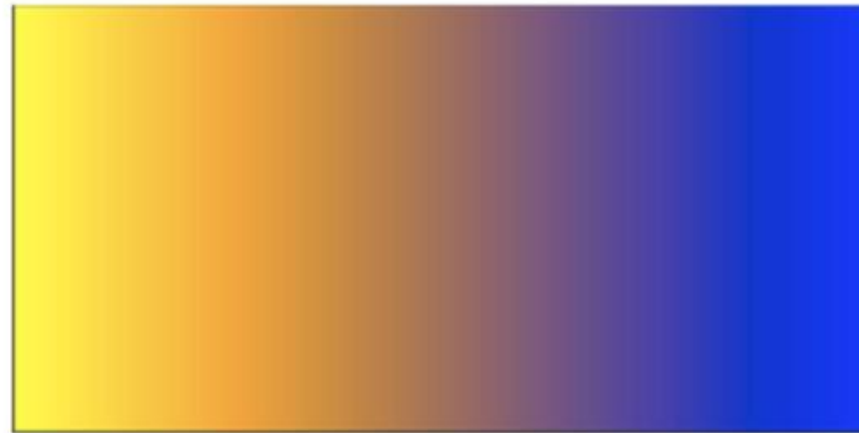
Gradients

- There are two types of gradients
 - Linear gradients change colors along a line, from one edge of the element to the other.
 - Radial gradients start at a point and spread outward in a circular or elliptical shape

Linear gradients



```
linear-gradient(to bottom, yellow, green);
```



```
linear-gradient(90deg, yellow, orange 25%, blue);
```

Top to Bottom

```
<html>
  <head>
    <style>
      #grad1 {
        height: 100px;
        background: -webkit-linear-gradient(pink,green);
        background: -o-linear-gradient(pink,green);
        background: -moz-linear-gradient(pink,green);
        background: linear-gradient(pink,green);
      }
    </style>
  </head>
  <body>
    <div id="grad1"></div>
  </body>
</html>
```


Left to Right

```
<html>
  <head>
    <style>
      #grad1 {
        height: 100px;
        background: -webkit-linear-gradient(left, red , blue);
        background: -o-linear-gradient(right, red, blue);
        background: -moz-linear-gradient(right, red, blue);
        background: linear-gradient(to right, red , blue);
      }
    </style>
  </head>
  <body>
    <div id="grad1"></div>
  </body>
</html>
```


Diagonal

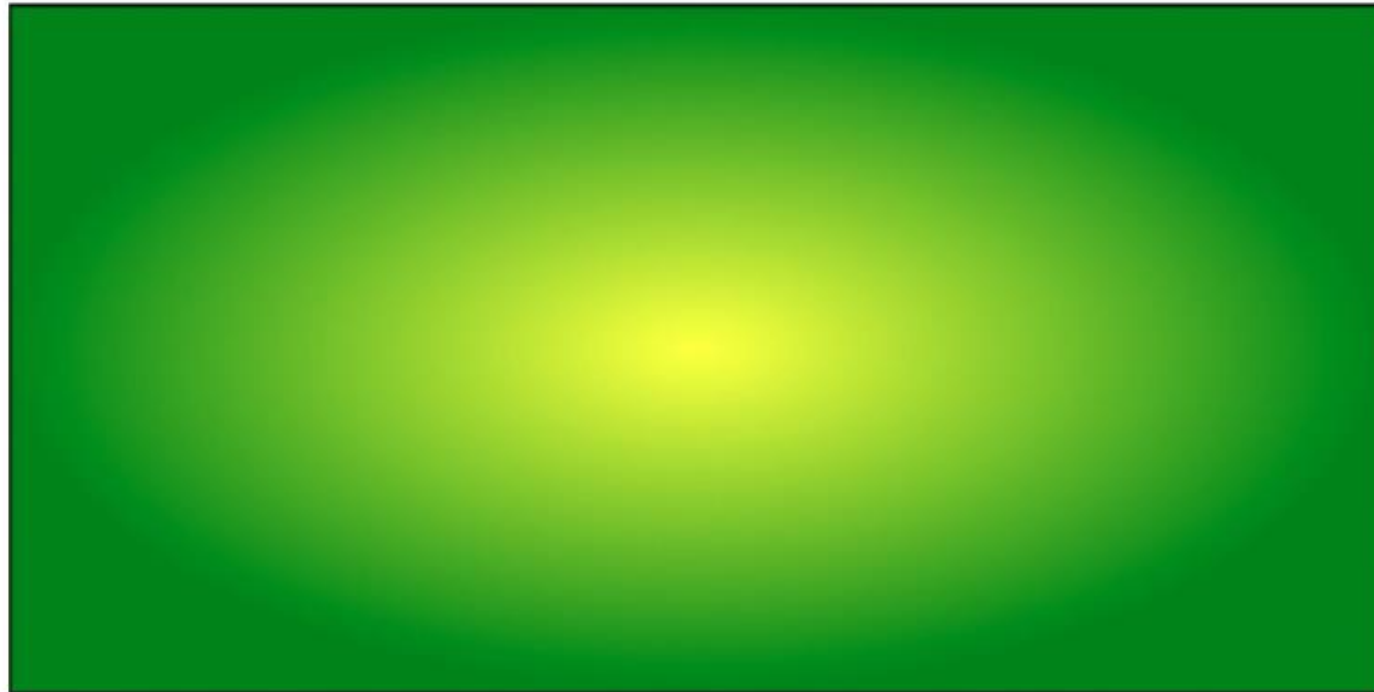
```
<html>
  <head>
    <style>
      #grad1 {
        height: 100px;
        background: -webkit-linear-gradient(left top, red , blue);
        background: -o-linear-gradient(bottom right, red, blue);
        background: -moz-linear-gradient(bottom right, red, blue);
        background: linear-gradient(to bottom right, red , blue);
      }
    </style>
  </head>
  <body>
    <div id="grad1"></div>
  </body>
</html>
```

Multi Color

```
<html>
  <head>
    <style>
      #grad2 {
        height: 100px;
        background: -webkit-linear-gradient(red, orange, yellow, red, blue, green,pink);
        background: -o-linear-gradient(red, orange, yellow, red, blue, green,pink);
        background: -moz-linear-gradient(red, orange, yellow, red, blue, green,pink);
        background: linear-gradient(red, orange, yellow, red, blue, green,pink);
      }
    </style>
  </head>
  <body>
    <div id="grad2"></div>
  </body>
</html>
```

Radial gradients

```
#banner {  
  background-image: radial-gradient(center contain yellow green);  
}
```



CSS3 Radial Gradients

```
<html>
  <head>
    <style>
      #grad1 {
        height: 100px;
        width: 550px;
        background: -webkit-radial-gradient(red 5%, green 15%, pink 60%);
        background: -o-radial-gradient(red 5%, green 15%, pink 60%);
        background: -moz-radial-gradient(red 5%, green 15%, pink 60%);
        background: radial-gradient(red 5%, green 15%, pink 60%);
      }
    </style>
  </head>
  <body>
    <div id="grad1"></div>
  </body>
</html>
```

CSS3 Repeat Radial Gradients

```
<html>
  <head>
    <style>
      #grad1 {
        height: 100px;
        width: 550px;
        background: -webkit-repeating-radial-gradient(blue, yellow 10%, green 15%);
        background: -o-repeating-radial-gradient(blue, yellow 10%, green 15%);
        background: -moz-repeating-radial-gradient(blue, yellow 10%, green 15%);
        background: repeating-radial-gradient(blue, yellow 10%, green 15%);
      }
    </style>
  </head>
  <body>
    <div id="grad1"></div>
  </body>
</html>
```



Summary

- Specifying Color values
 - Foreground color
 - Background color
 - Opacity
 - Pseudo elements Selectors
 - Attribute selectors
 - Background images
 - Gradients
- 