

# Cascading Style Sheets/Color

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Colors can be specified for various objects. These include text ("color: white"), background ("background-color: white"), and borders ("border-color: gray").

An example CSS rule that sets all `h1` elements to have white text on a red background:

```
h1 { color: white; background-color: red; }
```

Methods of specification of colors, an overview:

- English name, such as `color: white`
- Hexadecimal RGB value, such as `color: #ff0000`
- Decimal RGB value, such as `color: rgb(255, 0, 0)`
- Decimal RGBA value, such as `color: rgba(255, 0, 0, 0.2)`
- HSL value, such as `color: hsl(120, 100%, 50%)`
- HSLA value, such as `color: hsl(0, 100%, 50%, 0.5)`

Specification of colors is detailed in the following sections.

If you set any colors in your web page, you should set both the background and text color for the body element of the page. Imagine if you set the text color to black and did not set the background color. A user has their preferred colors set to yellow text on a black background, a fairly common combination for users with low vision. The page is rendered with your black text on their black background and is unusable.

## Using English names

The following 16 values are defined:

- aqua
- black
- blue
- fuchsia
- gray
- green
- lime
- maroon
- navy
- olive
- purple
- red
- silver
- teal
- yellow
- white

CSS does not define the exact shade that should be used for the named colours. Use RGB-values if the exact shade is important.

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## Hexadecimal RGB value

Hex	Bin	Dec
0	0000	0
1	0001	1
2	0010	2
3	0011	3
4	0100	4
5	0101	5
6	0110	6
7	0111	7
8	1000	8
9	1001	9
A	1010	10
B	1011	11
C	1100	12
D	1101	13
E	1110	14
F	1111	15

The mixture ratio of a color to be displayed is specified in hexadecimal notation. That is, they are written in base-16 as opposed to the more familiar base 10. A reference table is included, courtesy Wikipedia.

The two first hexadecimal digits specify the amount of red in the color, the third and fourth specify the amount of green and the last two figures specify the amount of blue.

```
h1 { color: #ff0000; } /* All h1 headings are printed in bright red. */
```

A short-hand notation is permitted: `#rgb` is equivalent to `#rrggbb`, e.g. `#3cf` is equivalent to `#33ccff`.

Note that the range of values possible is hexadecimal 00 (= decimal 0) to hexadecimal ff (= decimal 255). This is the same range that is available using the `rgb` notation from the next section.

## RGB value

RGB is a abbreviation for red, green and blue – the three colors that are mixed to create all the other colors on a computer screen.

The basic syntax is `rgb(red-value, green-value, blue-value)`.

The different values can be set using two different approaches.

A number from 0 to 255

```
h1 { color: rgb(255, 0, 0); } /* All h1 headings are printed in bright red. */
```

A decimal figure from 0% to 100%

```
h1 { color: rgb(100%, 0, 0); } /* All h1 headings are printed in bright red. */
```

Note that you can use either integer (0-255) **or** percentage (0-100%) values, you **cannot mix them**.

## RGBA value

RGBA is RGB with an added alpha channel as its 4th argument. The alpha channel is a value between 0 (fully transparent) and 1 (opaque). RGBA is part of CSS3.

```
div { background-color: rgba(255, 0, 0, 0.5); } /* All divs are in  
bright red with 50% opacity. */
```

background-color: rgba(255, 0, 0, 0);

background-color: rgba(255, 0, 0, 0.1);

background-color: rgba(255, 0, 0, 0.2);

background-color: rgba(255, 0, 0, 0.3);

background-color: rgba(255, 0, 0, 0.4);

background-color: rgba(255, 0, 0, 0.5);

background-color: rgba(255, 0, 0, 0.6);

background-color: rgba(255, 0, 0, 0.7);

background-color: rgba(255, 0, 0, 0.8);

background-color: rgba(255, 0, 0, 0.9);

background-color: rgba(255, 0, 0, 1);

Please note that MediaWiki blocks the use of the background-image property, so you must copy the code used below a file or your snippet editor to see the full effect.

```
<div style="background: url('http://upload.wikimedia.org/wikipedia/commons/1/1f/Wallpaper.FALA-S.gif');">  
  <div style="background-color: rgba(255, 0, 0, 0); padding: .25em;">background-color: rgba(255, 0, 0, 0);</div>  
  <div style="background-color: rgba(255, 0, 0, 0.1); padding: .25em;">background-color: rgba(255, 0, 0, 0.1);</div>  
  <div style="background-color: rgba(255, 0, 0, 0.2); padding: .25em;">background-color: rgba(255, 0, 0, 0.2);</div>  
  <div style="background-color: rgba(255, 0, 0, 0.3); padding: .25em;">background-color: rgba(255, 0, 0, 0.3);</div>  
  <div style="background-color: rgba(255, 0, 0, 0.4); padding: .25em;">background-color: rgba(255, 0, 0, 0.4);</div>  
  <div style="background-color: rgba(255, 0, 0, 0.5); padding: .25em;">background-color: rgba(255, 0, 0, 0.5);</div>  
  <div style="background-color: rgba(255, 0, 0, 0.6); padding: .25em;">background-color: rgba(255, 0, 0, 0.6);</div>  
  <div style="background-color: rgba(255, 0, 0, 0.7); padding: .25em;">background-color: rgba(255, 0, 0, 0.7);</div>  
  <div style="background-color: rgba(255, 0, 0, 0.8); padding: .25em;">background-color: rgba(255, 0, 0, 0.8);</div>  
  <div style="background-color: rgba(255, 0, 0, 0.9); padding: .25em;">background-color: rgba(255, 0, 0, 0.9);</div>  
  <div style="background-color: rgba(255, 0, 0, 1); padding: .25em;">background-color: rgba(255, 0, 0, 1);</div>  
</div>
```

Here is the example again, with a silver background:

background-color: rgba(255, 0, 0, 0);

background-color: rgba(255, 0, 0, 0.1);

background-color: rgba(255, 0, 0, 0.2);

background-color: rgba(255, 0, 0, 0.3);

background-color: rgba(255, 0, 0, 0.4);

background-color: rgba(255, 0, 0, 0.5);

background-color: rgba(255, 0, 0, 0.6);

```
background-color: rgba(255, 0, 0, 0.7);
background-color: rgba(255, 0, 0, 0.8);
background-color: rgba(255, 0, 0, 0.9);
background-color: rgba(255, 0, 0, 1);, which is the: rgb(255, 0, 0)
```

## HSL value

HSL stands for hue, saturation and lightness. It is the color value system used by many cathode-ray tube devices. HSL is part of CSS3.

- `hsl(color-angle, saturation%, lightness%);`

```
div.red { background-color: hsl(0, 100%, 50%); } /* red in HSL */
div.green { background-color: hsl(120, 100%, 50%); } /* green in HSL */
div.blue { background-color: hsl(240, 100%, 50%); } /* blue in HSL */
```

- Red:
- Green:
- Blue:

## HSLA value

HSLA is the HSL color with an alpha channel. Like RGBA, the 4th argument is a value between 0 and 1. HSLA is part of CSS3.

```
div.red { background-color: hsl(0, 100%, 50%, 0.5); } /* red in HSL
with 50% opacity*/

div { background-color: hsla(0, 100%, 50%, 0.5); } /* All divs are in
bright red with 50% opacity. */
```

```
background-color: hsla(0, 100%, 50%, 0);
background-color: hsla(0, 100%, 50%, 0.1);
background-color: hsla(0, 100%, 50%, 0.2);
background-color: hsla(0, 100%, 50%, 0.3);
background-color: hsla(0, 100%, 50%, 0.4);
background-color: hsla(0, 100%, 50%, 0.5);
background-color: hsla(0, 100%, 50%, 0.6);
background-color: hsla(0, 100%, 50%, 0.7);
background-color: hsla(0, 100%, 50%, 0.8);
background-color: hsla(0, 100%, 50%, 0.9);
background-color: hsla(0, 100%, 50%, 1);
```

Please note that MediaWiki blocks the use of the `background-image` property, so you must copy the code used below a file or your snippet editor to see the full effect.

```
<div style="background: url('http://upload.wikimedia.org/wikipedia/commons/1/1f/Wallpaper.FALA-S.gif');">

  <div style="background-color: hsla(0, 100%, 50%, 0); padding: .25em;">background-color: hsla(0, 100%, 50%, 0);</div>

  <div style="background-color: hsla(0, 100%, 50%, 0.1); padding: .25em;">background-color: hsla(0, 100%, 50%, 0.1);</div>

  <div style="background-color: hsla(0, 100%, 50%, 0.2); padding: .25em;">background-color: hsla(0, 100%, 50%, 0.2);</div>
```

```
<div style="background-color: hsla(0, 100%, 50%, 0.3); padding: .25em;">background-color: hsla(0, 100%, 50%, 0.3);</div>  
<div style="background-color: hsla(0, 100%, 50%, 0.4); padding: .25em;">background-color: hsla(0, 100%, 50%, 0.4);</div>  
<div style="background-color: hsla(0, 100%, 50%, 0.5); padding: .25em;">background-color: hsla(0, 100%, 50%, 0.5);</div>  
<div style="background-color: hsla(0, 100%, 50%, 0.6); padding: .25em;">background-color: hsla(0, 100%, 50%, 0.6);</div>  
<div style="background-color: hsla(0, 100%, 50%, 0.7); padding: .25em;">background-color: hsla(0, 100%, 50%, 0.7);</div>  
<div style="background-color: hsla(0, 100%, 50%, 0.8); padding: .25em;">background-color: hsla(0, 100%, 50%, 0.8);</div>  
<div style="background-color: hsla(0, 100%, 50%, 0.9); padding: .25em;">background-color: hsla(0, 100%, 50%, 0.9);</div>  
<div style="background-color: hsla(0, 100%, 50%, 1); padding: .25em;">background-color: hsla(0, 100%, 50%, 1);</div>  
</div>
```

Here is the example again, with a silver background:

background-color: hsla(0, 100%, 50%, 0);

background-color: hsla(0, 100%, 50%, 0.1);

background-color: hsla(0, 100%, 50%, 0.2);

background-color: hsla(0, 100%, 50%, 0.3);

background-color: hsla(0, 100%, 50%, 0.4);

background-color: hsla(0, 100%, 50%, 0.5);

background-color: hsla(0, 100%, 50%, 0.6);

background-color: hsla(0, 100%, 50%, 0.7);

background-color: hsla(0, 100%, 50%, 0.8);

background-color: hsla(0, 100%, 50%, 0.9);

background-color: hsla(0, 100%, 50%, 1);, which is the: hsl(0, 100%, 50%)

# Article Sources and Contributors

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