

Cascading Style Sheets

❖ The Color Property

This property allows developer to specify the color of an element. The syntax is :

color: <color value>

A color value is a keyword or a numerical RGB specification. The 16 keywords are taken from the Windows VGA palette: **aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, purple, red, silver, teal, white, and yellow**. RGB colors are given in one of four ways:

- `#rrggbb` {e.g.. `#00cc00`)
- `#rgb(<?.g.,#0c0)`
- `rgb(x,x,x)` where x is an integer between 0 and 255 inclusive (e.g., `rgb(0,204,0)`)
- `rgb(y%,y%,y%)` where y is a number between 0.0 and 100.0 inclusive (e.g.. `rgb(0%,80%,0%)`)
- CSS 3 also introduces a new format of color specification, i.e. **Opacity , RGBA, HSL and HSLA**.

➤ The Opacity Property

The opacity property is used to produce transparency effect in an HTML element. When you use the opacity property for an HTML element, it is also applied to its child elements. The syntax to use the opacity property is as follows:

opacity: [number between 0-1];

Using the preceding syntax, if you define the opacity of an element as 0.5, it means the element will be 50% transparent. This property is supported by new versions of all major browsers. However, some older browsers require some custom code to use the opacity property. For instance, the older versions of Firefox browser use the `-moz-` prefix, the Chrome browser use the `-webkit-` prefix, and the Safari browser use either the `-khtml-` or the `-webkit-` prefix. The following code snippet shows the use of the opacity property for different browsers:

```
opacity: 0.5;
-moz-opacity: 0.5;
-webkit-opacity: 0.5;
-khtml-opacity: 0.5;
```

Internet Explorer does not support the opacity property. An alternate to use the opacity property on the Internet Explorer browser is given in the following code snippet:

filter:alpha(opacity=50);

➤ The RGBA Value Format

The RGBA format takes four arguments, in which first three are same as in the RGB format, while the fourth argument is the **alpha channel**. This argument specifies the transparency or opacity level of the specified color. It takes a number between 0 and 1 as

a value. The main advantage of using `rgba` over the `opacity` property is that using `RGBA` the transparency is not applied to child elements.

The following code snippet shows the use of `RGBA` format:

```
h1{background-color: rgba(153, 134, 117, 0.0);}
h2{background-color: rgba(153, 134, 117, 0.2);}
h3{background-color: rgba(153, 134, 117, 0.4);}
h4{background-color: rgba(153, 134, 117, 0.6);}
h5{background-color: rgba(153, 134, 117, 0.8);}
h6{background-color: rgba(153, 134, 117, 1.0);}
```

You should note that if the opacity or alpha value is set to 1.0, the respective element is completely visible (opaque); however, if the opacity or alpha value is set to 0.0, the element is completely invisible.

➤ HSL and HSLA Values Format

The `HSL` color format takes three parameters, **Hue**, **Saturation**, and **Lightness**. The **Hue** parameter specifies an angle of the color around the circular wheel, for instance 0° (means red color), 60° (means yellow color), 120° (means green color), and 180° (means cyan color). Hue values are either integer or floats in the range 0—360 or integer or float percentage values in the range 0-100%.

Saturation represents the mixing of white color with a base color. For instance, 0% means grayscale and 100% means full color. Lightness specifies the percentage of the brightness of the base color, where 0% means dark, 50% means average, and 100% means light.

The following code snippet shows the use of `HSL` format:

```
h1{background-color: hsl(320, 100%, 25%);}
h2{background-color: hsl(320, 100%, 50%);}
h3{background-color: hsl(320, 100%, 75%);}
```

you can also use the alpha channel with the `HSL` format, which together is called `HSLA` format.

The following code snippet shows the use of `HSLA` format:

```
h1 { background-color: hsla(165,35%, 50%, 0.0);}
h2{background-color: hsla(165, 35%, 50%, 0.2);}
h3{background-color: hsla(165, 35%, 50%, 0.4);}
h4{background-color: hsla(165, 35%, 50%, 0.6);}
h5{background-color: hsla(165, 35%, 50%, 0.8);}
h6{background-color: hsla(165, 35%, 50%, 1.0); }
```

In the preceding code snippet, the opacity or alpha value 1.0 shows the `H6` element of `HTML` completely, while the opacity value 0.0 hides the element completely.

```
<!DOCTYPE html>
<html><body>
<h1>CSS Text Color</h1>
<h3 style="color:Tomato;">Hello World</h3>
<p style="color:DodgerBlue;">Lorem ipsum dolor sit amet,
consectetur adipiscing elit, sed diam nonummy nibh
euismod tincidunt ut laoreet dolore magna aliquam erat
volutpat.</p>
<p style="color:MediumSeaGreen;">Ut wisi enim ad minim
veniam, quis nostrud exerci tation ullamcorper suscipit
lobortis nisl ut aliquip ex ea commodo consequat.</p>
</body></html>
```

CSS Text Color

Hello World

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

```
<!DOCTYPE html>
<html><body>
<h1>CSS Background Color</h1>
<h1 style="background-color:DodgerBlue;">Hello World</h1>
<p style="background-color:Tomato;">Lorem ipsum dolor sit
amet, consectetur adipiscing elit, sed diam nonummy nibh
euismod tincidunt ut laoreet dolore magna aliquam erat
volutpat.Ut wisi enim ad minim veniam, quis nostrud exerci
tation ullamcorper suscipit lobortis nisl ut aliquip ex ea
commodo consequat.</p>
</body></html>
```

CSS Background Color

Hello World

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

```
<!DOCTYPE html>
<html>
<body>
<h1>In HTML, you can specify colors using RGB values.</h1>

<h1 style="color:rgb(255, 0, 0);">rgb(255, 0, 0)</h1>

<h1 style="color:rgb(0, 0, 255);">rgb(0, 0, 255)</h1>

<h1 style="color:rgb(60, 179, 113);">rgb(60, 179, 113)</h1>

<h1 style="color:rgb(238, 130, 238);">rgb(238, 130, 238)</h1>

<h1 style="color:rgb(255, 165, 0);">rgb(255, 165, 0)</h1>

<h1 style="color:rgb(106, 90, 205);">rgb(106, 90, 205)</h1>
</body>
</html>
```

In HTML, you can specify colors using RGB values.

rgb(255, 0, 0)

rgb(0, 0, 255)

rgb(60, 179, 113)

rgb(238, 130, 238)

rgb(255, 165, 0)

rgb(106, 90, 205)

```
<!DOCTYPE html>
<html>
<body>
<h1>You can make transparent colors by using the RGBA color
value.</h1>

<h1 style="background-color:rgba(255, 99, 71, 0);">
rgba(255, 99, 71, 0)</h1>
|
<h1 style="background-color:rgba(255, 99, 71, 0.2);">
rgba(255, 99, 71, 0.2)</h1>

<h1 style="background-color:rgba(255, 99, 71, 0.4);">
rgba(255, 99, 71, 0.4)</h1>

<h1 style="background-color:rgba(255, 99, 71, 0.6);">
rgba(255, 99, 71, 0.6)</h1>

<h1 style="background-color:rgba(255, 99, 71, 0.8);">
rgba(255, 99, 71, 0.8)</h1>

<h1 style="background-color:rgba(255, 99, 71, 1);">
rgba(255, 99, 71, 1)</h1>
</body></html>
```

You can make transparent colors by using the RGBA color value.

rgba(255, 99, 71, 0)

rgba(255, 99, 71, 0.2)

rgba(255, 99, 71, 0.4)

rgba(255, 99, 71, 0.6)

rgba(255, 99, 71, 0.8)

rgba(255, 99, 71, 1)

```
<!DOCTYPE html>
<html>
<body>
<h1>In HTML, you can specify colors using HSL values.</h1>

<h1 style="color:hsl(0, 100%, 50%);">hsl(0, 100%, 50%)</h1>

<h1 style="color:hsl(240, 100%, 50%);">hsl(240, 100%, 50%)</h1>

<h1 style="color:hsl(147, 50%, 47%);">hsl(147, 50%, 47%)</h1>

<h1 style="color:hsl(300, 76%, 72%);">hsl(300, 76%, 72%)</h1>

<h1 style="color:hsl(39, 100%, 50%);">hsl(39, 100%, 50%)</h1>

<h1 style="color:hsl(248, 53%, 58%);">hsl(248, 53%, 58%)</h1>
|
</body></html>
```

In HTML, you can specify colors using HSL values.

hsl(0, 100%, 50%)

hsl(240, 100%, 50%)

hsl(147, 50%, 47%)

hsl(300, 76%, 72%)

hsl(39, 100%, 50%)

hsl(248, 53%, 58%)

```
<!DOCTYPE html>
<html>
<body>
<h1>You can make transparent colors by using the HSLA color value.</h1>

<h1 style="background-color:hsla(9, 100%, 64%, 0);">
hsla(9, 100%, 64%, 0)</h1>

<h1 style="background-color:hsla(9, 100%, 64%, 0.2);">
hsla(9, 100%, 64%, 0.2)</h1>

<h1 style="background-color:hsla(9, 100%, 64%, 0.4);">
hsla(9, 100%, 64%, 0.4)</h1>

<h1 style="background-color:hsla(9, 100%, 64%, 0.6);">
hsla(9, 100%, 64%, 0.6)</h1>

<h1 style="background-color:hsla(9, 100%, 64%, 0.8);">
hsla(9, 100%, 64%, 0.8)</h1>

<h1 style="background-color:hsla(9, 100%, 64%, 1);">
hsla(9, 100%, 64%, 1)</h1>
</body></html>
```

You can make transparent colors by using the HSLA color value.

hsla(9, 100%, 64%, 0)

hsla(9, 100%, 64%, 0.2)

hsla(9, 100%, 64%, 0.4)

hsla(9, 100%, 64%, 0.6)

hsla(9, 100%, 64%, 0.8)

hsla(9, 100%, 64%, 1)

Exercise:

- 1: Write short note on CSS color property.
- 2: How many methods to set value of color? Give example.