

4.4 Common properties

Color property

The **color** CSS property changes the text color to a specified color value. A color value can be specified in several ways:

- CSS defines 140 color names. Ex: `white, blue, black, gray, forestgreen, magenta.`
- An **RGB color value** specifies a color using the **`rgb(red, green, blue)`** function by indicating the red, green, and blue intensities. Each intensity for red, green, and blue is between 0 and 255, where 0 is the lowest intensity and 255 is the highest.
Ex: `rgb(0, 0, 0)` is black, `rgb(0, 0, 255)` is blue, `rgb(255, 255, 0)` is yellow, and `rgb(255, 255, 255)` is white.
- A **hexadecimal color** specifies a color using the `#RRGGBB` format by indicating the red, green, and blue intensities. Each intensity for red, green, and blue is between 00 and FF hexadecimal numbers, where 00 is the lowest intensity and FF is the highest.
Ex: `#000000` is black, `#0000FF` is blue, `#FFFF00` is yellow, and `#FFFFFF` is white.
- An **HSL color value** specifies a color using the **`hsl(hue, saturation, lightness)`** function by indicating the hue, saturation, and lightness values. The hue value ranges between 0 and 360, and the saturation and lightness values range between 0% and 100%. Ex:
`hsl(0, 0%, 0%)` is black, `hsl(120, 100%, 50%)` is green, and
`hsl(0, 100%, 25%)` is dark red.

The HSL color specification method is harder to understand and is not used as frequently as the RGB and hexadecimal color specification methods.

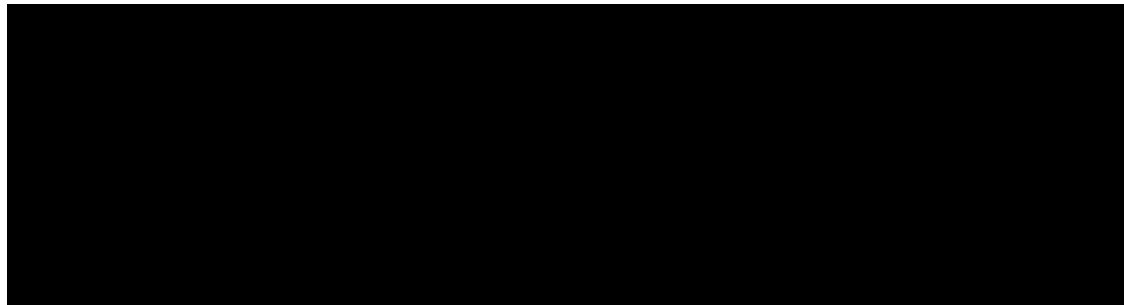
- The RGB and HSL color values can add an alpha value to allow for transparency. The **RGBA color value** specifies a color using the **`rgba(red, green, blue, alpha)`** function by indicating the red, green, blue, and alpha intensities. The **HSLA color value** specifies a color using the **`hsla(hue, saturation, lightness, alpha)`** function by indicating the hue, saturation, lightness, and alpha intensities. The intensities have the same ranges as for RGB or HSL color values, but the alpha intensity is between 0 and 1. An alpha of 0 means fully transparent, 1 means fully opaque, and 0.5 means half transparent.

Color picker.

`rgb(0 , 0 , 0)`
Each value ranges 0 to 255

`#000000`
Value ranges 000000 to FFFFFF

Red

Green**Blue**[Feedback?](#)**PARTICIPATION ACTIVITY**

4.4.1: Color values and names.



Use the color picker above to help match each color value to the color name.

If unable to drag and drop, refresh the page.

#0000FF**Blue****Correct**

The first two hexadecimal digits represent the red value, the second two digits the green value, and the last two digits the blue value. In #0000FF, the red (00) and green (00) values are both set to zero, and the blue value is set to the highest possible value (FF).

rgb(0, 0, 0)**Black****Correct**

Light composed of no red, green, or blue appears black. Full strength red, green and blue light appears white.

#FFFFFF**White****Correct**

Full strength red, green, and blue light appears white. Light

	composed of no red, green, or blue appears black.	
#006400	DarkGreen	Correct
rgb(144, 238, 144)	LightGreen	Correct
rgb(80, 80, 80)	Gray	Correct
#FFD700	Gold	Correct
Reset		
Feedback?		

PARTICIPATION ACTIVITY**4.4.2: CSS text color.**

Modify or add one CSS rule for each requirement below to change the text **color** property as specified.

1. By color name: change the text color for **byname** class elements from **black** to **blue**.
2. By RGB values: change the text color for **byrgb** class elements from black (**rgb(0, 0, 0)**) to green by modifying the second number to be 255.

3. By HSL values: change the text color for `byhsl` class elements from black (`hsl(0, 0%, 0%)`) to cyan by modifying the first number to be 200, the second number to 100%, and the third number to 50%.

HTML CSS

```
1 /* Write your rules below */
2 .byname {
3     color: blue;
4 }
5 .byrgb {
6     color: rgb(0, 255, 0);
7 }
8 .byhsl {
9     color: hsl(200, 100%, 50%);
10 }
```

Render webpage

Reset code

Your webpage

The text is blue
The text is green
The text is cyan

Expected webpage

The text is blue
The text is green
The text is cyan

▼ View solution

Explain

--- START FILE: HTML ---

```
<p class="byname">The text is blue</p>
```

```
<p class="byrgb">The text is green</p>
```

```
<p class="byhsl">The text is cyan</p>
```

--- END FILE: HTML ---

--- START FILE: CSS ---

```
.byname {  
    color: blue;  
}  
.byrgb {  
    color: rgb(0, 255, 0);  
}  
.byhsl {  
    color: hsl(200, 100%, 50%);  
}
```

--- END FILE: CSS ---

[Feedback?](#)

Background properties

Every element in a webpage has a set of background properties. The web browser first draws the element's background and then draws the element's content. If the element's background is not fully opaque, the element's parent is visible under the element's content. Common background properties include:

- The **background-color** property specifies the background color.
- The **background-image** property specifies a background image.
- The **background** property is shorthand for setting several of the element's background properties at the same time.

Background colors are specified using color names, a color function (RGB, RGBA, HSL, HSLA), or one of the values such as `transparent`. Background images are specified with the `none` value or the `url('URL')` function, where URL indicates the location of the image. By default, the initial background color is `transparent` and background image is `none`, which means the element's parent's background will display underneath the element's content. When a background color and image are both specified, the background image is rendered on top of the color.

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4.4.3: Styling background color and image.



Start 2x speed

```
<style>
p {
    background-color: LightSkyBlue;
}
.clouds {
    background-image: url('clouds.png');
}
</style>

<p>
    The sky is light blue.
</p>
<p class="clouds">
    Fluffy, soft, and white are the clouds.
</p>
<p>
    Without the sun, black.
</p>
```

The sky is light blue.

Fluffy, soft, and white are the clouds.

Without the sun, black.

Captions ^

1. The elements display with transparent backgrounds.
2. The p element has a LightSkyBlue background color.
3. The clouds class uses a background image that displays over the p element's background.

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4.4.4: Determining background properties.



Given the HTML below, indicate the background properties used for the elements. Assume that the smiley.gif image has a transparent background.

```
<p>Below is the word "Hello" in different languages.</p>
<ul id="americas" style="background-color: #ffff00">
    <li id="hola" style="background-image: url('smiley.gif')">Hola</li>
    <li id="olá" style="background: green url('smiley.gif')">Olá</li>
</ul>
<ul id="europe" style="background-image: url('clouds.png');">
    <li id="salut" style="background: blue">Salut</li>
    <li id="hej" style="background: red url('smiley.gif')">Hej</li>
    <li id="bog" style="background: transparent url('smiley.gif')">Bog</li>
</ul>
```

If unable to drag and drop, refresh the page.

Correct**smiley face on yellow****Hola**

The yellow background of the americas ul element shows through the transparent parts of the smiley background image of the child hola li element.

Correct**smiley face on green****Olá**

The olá li element overrides the yellow background color of the americas ul element with a green color under the smiley face image.

Correct**blue****Salut**

The clouds background image of the europe ul element does not show through the blue background color of the salut li element.

Correct**smiley face on red****Hej**

The clouds background image does not show through the smiley background image and red background color.

Correct**smiley face on clouds****Bog**

The clouds background image shows through the transparent background of smiley image.

Reset**Feedback?**

Float property

CSS properties **float** and **clear** control how text flows around HTML elements, making webpages look like a magazine or newspaper article where the article's text wraps around the images in the page.

The **float** property specifies whether the element will float to the right or left of the element's parent container, allowing text to flow around the element. Values for the **float** property include:

- **left** - Element floats to parent container's left side
- **right** - Element floats to parent container's right side
- **none** - Element does not float (default value)

The **clear** property can stop elements from floating. Values for the **clear** property include:

- **both** - No elements allowed to float
- **left** - No element allowed to float on parent container's left side
- **right** - No element allowed to float on parent container's right side
- **none** - Elements allowed to float (default value)

Table 4.4.1: Float examples.

HTML and CSS	Render
<p>No floating</p> <pre data-bbox="199 687 731 956"> <p> The Ducati Streetfighter 848 is the bike you've been looking for! </p></pre>	 <p>The Ducati Streetfighter 848 is the bike you've been looking for!</p>
<p>Float left</p> <pre data-bbox="199 1091 731 1383"> <p> The Ducati Streetfighter 848 is the bike you've been looking for! </p></pre>	 <p>The Ducati Streetfighter 848 is the bike you've been looking for!</p>
<p>Float right</p> <pre data-bbox="199 1518 731 1810"> <p> The Ducati Streetfighter 848 is the bike you've been looking for! </p></pre>	<p>The Ducati </p> <p>Streetfighter 848 is the bike you've been looking for!</p>

[Feedback?](#)

Modify the CSS below to float to the right the first image with `floatright` class, to float to the left the second image with `floatleft` class, and to clear floating elements on both sides of the p element with `nofloats` class.

HTML CSS

```
1 body {  
2   font: 10pt monospace;  
3 }  
4 img {  
5   width: 160px;  
6   padding: 2px;  
7   border: 1px solid gray;  
8   margin: 5px 10px;  
9 }  
10  
11 img.floatright {  
12   float: right;  
13 }  
14  
15 img.floatleft {  
16   float: left;
```

Render webpage

Reset code

Your webpage

Classifieds



Adorable female cat available for adoption. We found Fluffy during a thunderstorm. She is house-trained and very cuddly. Call 555-1234.

 Looking for new home

Expected webpage

Classifieds



Adorable female cat available for adoption. We found Fluffy during a thunderstorm. She is house-trained and very cuddly. Call 555-1234.

 Looking for new home

▼ View solution

 Explain

--- START FILE: HTML ---

```
<h1>Classifieds</h1>

<p>
  
    Adorable female cat available for adoption. We found
    Fluffy during a thunderstorm.
    She is house-trained and very cuddly. Call 555-1234.
</p>

<p class="nofloats">
  
    Looking for new home for puppy. Goes by the name
    "Bowser".
</p>

<p>
  Call 555-4321 for more information.
</p>
```

--- END FILE: HTML ---

--- START FILE: CSS ---

```
body {
  font: 10pt monospace;
}

img {
  width: 160px;
  padding: 2px;
  border: 1px solid gray;
  margin: 5px 10px;
}

img.floatright {
  float: right;
}

img.floatleft {
  float: left;
}
```

```
.nofloats {  
    clear: both;  
}
```

--- END FILE: CSS ---

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4.4.6: Float property values.



Specify the correct CSS values.

- 1) What CSS value floats an element to the right?

float:
right ;

[Check](#)

[Show answer](#)

Correct

right



The `right` value causes the element to float to the right side of the parent element.

- 2) What CSS value stops elements from floating left?

clear:
left ;

[Check](#)

[Show answer](#)

Correct

left



The `left` value prevents previously left-floating elements from floating.

[Feedback?](#)

Display property

The **display** property controls the layout of the element on a webpage. Values for the display property include:

- **inline** - Displays the element as an inline element, like `span` or `a` elements.
- **block** - Displays the element as a block element, like `p`, `h1`, or `div` elements.
- **none** - Hides the element from being displayed, like `style` elements.
- **inline-block** - Displays the contents of the element as a block element, but formats the element as an inline element.
- **list-item** - Displays the contents of the element as a list item element.

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4.4.7: Using the display property.



Start 2x speed

```
.display1 {  
    background-color: aliceblue;  
    display: inline;  
}  
  
.display2 {  
    background-color: lemonchiffon;  
    display: block;  
}  
  
.display3 {  
    background-color: mintcream;  
    display: none;  
}
```

```
<p class="display1">  
    Actions speak louder than words.  
</p>  
  
<p>  
    The <span class="display2">pen</span>  
    is mightier than the sword.  
</p>  
  
<p>  
    All good things come to those who  
    <span class="display3">wait</span>.  
</p>
```

Actions speak louder than words.

The
pen
is mightier than the sword.

All good things come to those who .

Captions 

1. The p element is a block element, and a block element fills the width of the element's container.
2. Adding display:inline to the display1 class makes the p element be treated as an inline element. The blue background now is only as wide as the paragraph contents.
3. The span element is an inline element, so the span's content is shown on the same line as the surrounding text.
4. Adding display:block to the display2 class makes the span be treated as a block element. The span's content now displays on a separate line.
5. The span's content displays by default, but adding display:none to the display3 class hides the span's contents.

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4.4.8: Display CSS values.



Provide the CSS display value that correctly styles the following HTML as displayed.

```
<style>
.animal {
    background: yellow;
    display: ____;
}

<p>
    My favorite breed of
    <span class="animal">cat</span>
    is Russian Blue.
</p>
```

1)

My favorite breed of **cat**
is Russian Blue.

display:

inline

Correct

inline



The **inline** display value is the default for inline elements like span. An inline element displays on the same line as the surrounding text.

Check**Show answer**

2)

My favorite breed of is
Russian Blue.

display:

none

Correct

none



The **none** display value causes the element to not display at all. Many webpages hide and reveal content by adding and removing **display:none** to an element's CSS.

Check**Show answer**

3)

My favorite breed of
cat
is Russian Blue.

display:

block

Correct

block



The **block** display value changes the inline span element into a block element, which is displayed on a separate line.

Check**Show answer**

4)

My favorite breed of
• **cat**
is Russian Blue.

display:

list-item

Correct

list-item



The **list-item** display value is the default for list item elements.

Check**Show answer**

CSS variables

Many websites have complex stylesheets with repeated values. Ex: The same background color may be used in numerous places, and changing the background color requires searching and replacing throughout the stylesheet. CSS variables simplify the process of creating CSS values that are used repeatedly in a stylesheet.

A **CSS variable** is a custom CSS property that defines a value. A CSS variable is declared in a CSS selector that defines the variable's scope. A CSS variable can have global scope by declaring the variable in the `:root` selector, which targets the highest DOM element: the `<html>` element.

A CSS variable is defined with two dashes preceding the variable name. Ex:

`--my-variable: red;` A CSS variable is accessed with the `var()` function. Ex:
`var(--my-variable);`

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4.4.9: Using CSS variables.



[Start](#)



2x speed

```
<style>
:root {
    --main-color: red;
    --main-bg-color: yellow;
}

p {
    color: var(--main-color);
    background-color: var(--main-bg-color);
}

</style>


The sun rises and sets.</p>


```

The sun rises and sets.

Captions 

1. A CSS variable defined in the `:root` selector has global scope.
2. The CSS variables `main-color` and `main-bg-color` are initialized with the color values red and yellow, respectively.
3. The `p` selector uses the CSS variables `main-color` and `main-bg-color` to set the paragraph's text and background colors.

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4.4.10: CSS variables.

- 1) What selector must a CSS variable be declared in to have global scope?

- :root
- p
- div

Correct

:root refers to the <html> element. Declaring a CSS variable in an html or body selector also gives the variable global scope.



- 2) What is the proper syntax to declare a CSS variable set to black?

- section-
- color: black;
- section-
- color: black;
- section-
- color black;

Correct

A CSS variable must have a double dash prefix (--).



- 3) What is the proper syntax to use a CSS variable called --section-color?

- color: --
- section-
- color;
- color:
- var(--
- Section-
- color);
- color:
- var(--
- section-
- color);

Correct

The var() function specifies the CSS variable to use. var() has a second optional parameter that specifies a default value if the CSS variable is not declared. Ex:
color: var(--section-color, green);



- 4) Suppose --main-color from the animation above is used in 200 different

Correct

No changes are required except to the place where --main-color is assigned a color. Using a CSS variable



CSS rules. Besides the `:root` rule, how many CSS rules would need to be modified if --
`main-color` is changed to blue?

- 0
- 1
- 200

[Feedback?](#)**CHALLENGE ACTIVITY****4.4.1: Common properties.**

530096.4000608.qx3zqy7

[Jump to level 1](#)

- 1
- 2
- 3

Using the classes defined in the CSS, add the appropriate class to each `` tag so the first image floats left, the second image floats left, and the third image floats left. [SHOW EXPECTED](#)

[HTML](#) [CSS](#)

```
1 <p>
2   
9 <p>
10  
<p>
  
```

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Exploring further:

- [HTML Color Names](#) from W3Schools.
- [CSS Legal Color Values](#) from W3Schools.
- [Color HSL](#) from W3Schools.
- [CSS Background Property](#) from W3Schools.

- [CSS Display Property](#) from W3Schools.

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this
section?



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