

Lesson: CSS

CSS Lessons: [Learn](#)

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Lesson Criteria:

- ✓ Introduction.
- ✓ Syntax.
- ✓ Selectors.
- ✓ Margin Property.
- ✓ Border Property.
- ✓ Padding Property.
- ✓ Height Property.
- ✓ Width Property.
- ✓ Position Property.
- ✓ Responsive Web Design.

CSS Introduction:

- ✓ CSS stands for Cascading Style Sheet.
- ✓ CSS defines that how actually HTML elements are to be displayed in a web browser.
- ✓ CSS can control the layout of all web pages all at once with one file.
- ✓ External style sheets are stored in an external CSS file.
- ✓ HTML was never intended to contain tags for formatting a web page.
- ✓ HTML was created to describe the content of a web page.
- ✓ tag and color attribute were added to HTML 3.2 specifications.
- ✓ World Wide Web Consortium (W3C) created the CSS.

CSS Uses:

- ✓ CSS is basically used to define the styles for your web pages, including the design, layout and variations in display for different devices and screen sizes.
- ✓ CSS removes the style formatting from the HTML page.
- ✓ The style definitions are normally saved in an external CSS file.

CSS Syntax:

- ✓ A CSS rule-set consists of a selector and a declaration block.
- ✓ The selector points to the HTML element you want to style.
- ✓ The declaration block contains one or more declarations separated by semicolons.
- ✓ Each declaration includes a CSS property name and its value, separated by a colon.
- ✓ Multiple declarations are separated by semi-colons and declaration blocks are surrounded by curly braces.

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CSS Selectors:

- ✓ CSS selectors are used to find the HTML elements you want to style.
CSS selectors have five categories.
 - Simple Selectors.
 - Combination Selectors.
 - Pseudo-class selectors.
 - Attribute selectors.
- ✓ The element selector selects HTML element based on the element name.

CSS id Selector:

- ✓ The id selector uses the id attribute of an HTML element to select a specific element.
- ✓ The id of the element is unique within the page, so the id selector is used to select one unique element.
- ✓ To select an element with an specific id, write a hash (#) character, followed by the id of the element.
- ✓ An id name cannot start with a number.

CSS class Selector:

- ✓ The class selector selects HTML elements with a specific class attribute.
- ✓ To select elements, with a specific class, write a period (.) character, followed by the class name.
- ✓ Only specific HTML elements should be affected by a class.
- ✓ HTML element can also refer to more than one class.
- ✓ A class name cannot start with a number.

CSS Universal Selector:

- ✓ The CSS universal selector (*) selects all HTML elements on the page.

Grouping of CSS selectors:

- ✓ The grouping selector selects all the HTML elements with the same style definitions.
- ✓ It will be better to group the selectors with same property and values to minimize the code.
- ✓ To group selectors, separate each selector with a comma.

Including CSS:

- ✓ When a browser reads a style sheet, it will format the HTML document according to the information in the style sheet.
- ✓ There are three ways of including CSS in an HTML document.
 - External CSS.
 - Internal CSS.
 - Inline CSS.

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External CSS:

- ✓ With an external style sheet, you can change the look of an entire website by changing just one file.
- ✓ Each HTML page must include a reference to an external style sheet file inside the <link> element, of the <head> section.
- ✓ An external style sheet can be written in any text editor, and must be saved with a (.css) extension.
- ✓ The external (.css) file should not contain any HTML tags.

Internal CSS:

- ✓ An internal style sheet may be used if one single HTML page has a unique style.
- ✓ The internal style is defined inside the <style> element, inside the <head> section.

Inline CSS:

- ✓ An inline style may be used to apply a unique style for a single element.
- ✓ To use inline styles, add the style attribute to the relevant element.
- ✓ The style attribute can contain any CSS property.

Multiple Style Sheet:

- ✓ if some properties have been defined for the same selector in different style sheet, the value from the last style sheet will be read and then used.
- ✓ When multiple styles are used in an HTML page, then all the styles will be cascade into a new virtual style sheet.

CSS Comments:

- ✓ Comments are used to explain the code and may help the developer later, when editing the style at later time.
- ✓ Comments are ignored by the web browser.
- ✓ A CSS comment is placed inside the <style> element and starts with (/*) and end with (/).
- ✓ you can add comments anywhere you want.
- ✓ Comments can also spend multiple lines.

CSS Colors:

- ✓ Colors are specified using predefined color names, RGB, HEX, HSL, RGBA HSLA values.
- ✓ CSS and HTML supports 140 standard color names.
- ✓ You can set the background color for the HTML element.
- ✓ You can set the color of text.
- ✓ You can set the color of borders.
- ✓ The (a) in RGBA and HSLA is the color opacity.
- ✓ In rgb(red,green,blue) each parameter defines the intensity of the color between 0 and 255.
- ✓ to display black color, set all parameters to 0, like in rgb(0,0,0).
- ✓ To display white color, set all parameter to 255, like in rgb(255,255,255).
- ✓ Shades of Grey color are often defined using equal values for all three light sources.
- ✓ RGBA color values are an extension of RGB color values with an alpha channel which basically specifies the opacity for a color.
- ✓ A RGBA color values are specified with (RGBA(red, green, blue, alpha)).

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- ✓ The alpha parameter is the value between 0.0 fully transparent and 1.0 not transparent at all.
- ✓ In CSS, a color can be specified in the form of using a hexadecimal value.
- ✓ Where rr (red color), gg (green color), bb (blue color) are hexadecimal values between 00 and ff.
- ✓ FF is the highest value in hexadecimal code.
- ✓ 00 is the lowest value in hexadecimal code.
- ✓ In CSS, color can be specified using hue, saturation, and lightness (HSL).
- ✓ HSLA color values are an extension of HSL color values with an Alpha channel, which specifies the opacity for a color.
- ✓

Hue:

- ✓ HUE is a degree on the color wheel from 0 to 360. 0 is red, 120 is green and 240 is blue.
- ✓ Shades of Grey color are often defined by setting the Hue and Saturation to 0, and adjusting the lightness from 0% to 100% to get darker or lighter shades.

Saturation:

- ✓ Saturation can be described as the intensity of a color.
- ✓ 100% is pure color. No shades of Grey color.
- ✓ 50% is Grey color. You can still see the original color.
- ✓ 0% is completely Grey color. You can no longer see the real actual color.
- ✓ Saturation is the percentage value 0% means shade of Grey color and 100% is the full color.
- ✓ Shades of Grey color are often defined by setting the Hue and Saturation to 0, and adjusting the lightness from 0% to 100% to get darker or lighter shades.

Lightness:

- ✓ Lightness of the color can be described as how much light you want to give to the specified color. 0% means not light to the color, all black. 50% means 50% light nor dark or neither light. 100% means full lightness.
- ✓ Lightness is also the percentage. 0% is black color. 50% is neither light or dark. 100% is white color.

CSS Background:

- ✓ The CSS background properties are used to define the background effect for elements.
- ✓ The background-color property specifies the background-color of an element.
- ✓ With CSS a color is most often specified by: a valid color name, a HEX value and RGB value.
- ✓ You can set the background color of any HTML element.
- ✓ To shorten the code it is also possible to specify all the background properties in one single property.
- ✓ This is called short hand property.
- ✓ It does not matter if one of the property value is missing as long as the other ones are present

Opacity or Transparency:

- ✓ The opacity property specifies the opacity or transparency of an element.
- ✓ It can accept the value from 0.0 – 1.0.

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- ✓ The lower value the more transparent.
- ✓ When using the opacity property to add transparency to the background of an element. All of its child elements will inherit the same transparency.
- ✓ This can make the text inside the full transparent element hard to read.
- ✓ If you do not want to apply the opacity to the child elements, use RGBA color values.

CSS Background Image:

- ✓ The background-image property specifies an image to use as the background of an element.
- ✓ By default, the image is repeated so it covers the entire page.
- ✓ When using a background image use an image that does not disturb the text.
- ✓ The background image can also be set for specified element.

CSS Background Repeat:

- ✓ By default, the background image property repeats an image both horizontally and vertically.
- ✓ Some images should only be repeated only horizontally or vertically, or they will look strange.
- ✓ To repeat the image only horizontally use the property value (repeat-x).
- ✓ To repeat an image vertically use value (repeat-y) with background repeat property.
- ✓ To display an image only once use the value (no-repeat) with background repeat.
- ✓ The background-position property is used to specify the position of the background image.

CSS Background Attachment:

- ✓ The background-attachment property specifies whether the background image should scroll or be fixed.

CSS Border:

- ✓ The CSS border property allows you to specify the style, width and color of an elements border.
- ✓ To shorten the code it is also possible to specify all the individual borders properties in one property.
- ✓ The border property is a shorthand property for the following individual border properties:
 - Border-width.
 - Border-style.
 - Border-color
- ✓ You can also specify all the individual border properties for just one side.
 - Border-bottom: 1px solid Grey.
- ✓ In CSS there are also properties for specifying each of the borders (top,right, bottom and left) individually.
- ✓ You can specify individual borders like:
 - border-top-style: dotted.

CSS Border Style:

- ✓ The border-style property specifies what kind of border to display.
- ✓ The following values are allowed.
 - Double.

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- Dotted.
- Solid.
- Dashed.
- Ridge.
- Groove.
- Inset.
- Outset.
- Hidden.
- None.
- ✓ The border-style property can have one to four values (top border, right border, bottom border and left border).
- ✓ None of the other CSS border properties will have no effect unless border-style property is set.

CSS Border Width:

- ✓ The border-width property specifies the width of the four borders.
- ✓ The border-width can be set as a specific size in px, pt, cm, em, or by using one of three pre-defined values: thin, medium or thick.
- ✓ The border-width property can have one to four values (top border, right border, bottom border and left border).

CSS Border Color:

- ✓ The border-color is used to set the color of the four borders.
- ✓ The border-color can be set by:
 - Color Name.
 - Color Code in HEX.
 - Color Code in RGB.
 - Color Code in HSL
 - Color can be transparent.
- ✓ If border-color is not set it inherit the color of the element.
- ✓ The border-width property can have one to four values (top border, right border, bottom border and left border).

CSS Border Radius:

- ✓ The border-radius property is used to add rounded borders to an element.

CSS Margin:

- ✓ The CSS margin property is used to create space around element outside of any defined border.
- ✓ With CSS, you have full control over margins.
- ✓ There are properties for setting the margins of each side of an element (top, right, bottom, left).
- ✓ The margin property is a shorthand property for the following individual margin properties.
- ✓ You can set the margin property to auto to horizontally center the element within its container.

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- ✓ The element then can take up the specified width, and the remaining space will split equally between left and right margins.

CSS Margin Individual Sides:

- ✓ CSS has properties for specifying the margins of each side of an element.
 - Margin-top.
 - Margin-right.
 - Margin-bottom.
 - Margin-left.
- ✓ All the margin properties can have the following values:
 - Auto.
 - Specified length in (px, pt cm).
 - Specified length in Percentage.
 - Inherit length of the parent element.
- ✓ Negative values are allowed in CSS margins.

CSS References:

- ✓ CSS Color Values: [URL](#).
- ✓ CSS Reference: [URL](#).

Margin Collapse:

- ✓ Top and bottom margins of an element are sometimes collapsed into a single margin that is equal to the largest of the two margins.
- ✓ This does not happened on the right and left margins. Only top and bottom margins.

CSS Padding:

- ✓ The CSS padding properties are used to generate space around element's content, inside of any defined borders.
- ✓ With CSS, you have full control over the padding.
- ✓ There are properties for setting the padding of an each side of an element.
- ✓ The padding property is a short hand property for the following individual padding properties.
 - Padding-top;
 - Paddign-right;
 - Paddign-bottom;
 - Padding-left;

CSS Padding Individual Sides:

- ✓ CSS has properties for specifying the padding for each side of an element.
 - Padding-top.
 - Padding-right.
 - Padding-bottom.
 - Padding-left.
- ✓ All the padding properties can have the following values:
 - Specified Length in (px, pt and cm).
 - Specified Length in Percentage.

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- Inherit length of the parent element.
- ✓ Negative values are not allowed.

Padding and Element Width:

- ✓ The CSS width property specifies the width of an element's content area.
- ✓ The content area is the portion inside the padding, border and margin of an element.
- ✓ If an element has a specified width, the padding added to that element, it will be added to the total width of the element.
- ✓ You can use the box-sizing property which causes the element to maintain its width. If you increase the padding, the available content space will be decreased.

Height and Width:

- ✓ Height and Width properties are used to set the height and width of an element.
- ✓ The Height and Width properties do not include padding, border and margin.
- ✓ It set the Height and Width of the area inside padding, border and margin of the element.
- ✓ The Height and Width properties may have the following values:
 - auto.
 - Length.
 - Percent (%).
 - Initial.
 - Inherit.
- ✓ The max-width property is used to set the maximum width of an element.
- ✓ Using max-width improves the browser handling of small window.
- ✓ The value of the max-width property overrides width property.

CSS Box Model:

- ✓ All HTML element can be considered as boxes.
- ✓ In CSS, the term "Box Model" is used when talking about design and layout.
- ✓ The CSS box model is essentially a box that wraps around every HTML element.
- ✓ It consists of:
 - Margins.
 - Borders.
 - Padding.
 - The actual content.
- ✓ The box model allows us to add a border around an element, and to define space between elements.
- ✓ With CSS, you just set the width and height of the content area.
- ✓ To set the full size of an element, you must also add padding, border and margins.
- ✓ The total width of an element should be calculated like this:
 - Total Element Width: (width+left padding+right padding+left border+right border+left margin+right margin).
- ✓ The total height of an element should be calculated like this:
 - Total Element Height: (height+top padding+bottom padding+top border+bottom border+left margin+right margin).

Content:

The content of the box, where text and images appear.

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Padding:

Clears an area around the content. The padding is transparent.

Border:

A border that goes around the padding and content.

Margin:

Clears the area around the border. The margin is transparent.

CSS Outline:

- ✓ An outline is a line which is drawn around elements, outside the border to make the element stand out.
- ✓ CSS has the following properties:
 - Outline-style.
 - Outline-color.
 - Outline-width.
 - Outline-offset.
 - Outline.
- ✓ Outline differs from the borders.
- ✓ The outline is drawn outside of the border, and may overlap other content.
- ✓ The outline is not a part of the element's dimension.
- ✓ The element total height and width does not effected by the width of the outline.

CSS Outline-Style:

- ✓ The outline-style property specify the style of the outline, and can have any one value from the following.
 - Dotted.
 - Dashed.
 - Solid.
 - Double.
 - Groove.
 - Ridge.
 - Inset.
 - Outset.
 - None.
 - Hidden.
- ✓ None of the other properties will have any effect unless the outline-style property is set.

CSS Outline-Width:

- ✓ The outline-width property specifies, the width of the outline, and can have one of the following values:
 - Thick.
 - Medium.
 - Thin.
 - A specific size.

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CSS Outline Color:

- ✓ The outline-color property is used to set the color of the outline.
- ✓ The color can be set by:
 - Color Name.
 - Color Hex Code.
 - Color RGB values.
 - Color HSL values.
 - Color Invert.

CSS Outline:

- ✓ The outline property is a shorthand property for setting the following properties:
 - Outline-Width.
 - Outline-Style.
 - Outline-Color.
- ✓ The Outline property specifies as one, two or three values from the list.
- ✓ The order of the values does not matter.

CSS Outline Offset:

- ✓ The outline-offset property adds space between an outline and the border of an element.
- ✓ The space between an element and its outline is transparent.

Text Color:

- ✓ The color property is used to set the text color.
- ✓ The color is specified by:
 - A color name.
 - A color Hex value.
 - An color rgb() value.
- ✓ The default text color for a page is defined by the body selector.
- ✓ If you define the color property, you must also define the background-color.

Text Alignment:

- ✓ The text-align property is used to set the horizontal alignment of a text.
- ✓ A text can be left or right align, center or justified.
- ✓ When a text-align property is set to “justify”, each line is stretched so that every line has equal width, and the left and right margins are straight like in magazine and newspapers.

Text Direction:

- ✓ The direction and unicode-bidi can be used to change the text direction of an element.

Vertical Alignment:

- ✓ The vertical-align property set the vertical alignment of an element.

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Text Decorations:

- ✓ The text-decoration property is used to set or remove decorations from text.
- ✓ The value text-decoration: none is used to remove underlines from links.
- ✓ The values for text-decoration are:
 - Underline.
 - Overline.
 - Line-through.
- ✓ It is recommended that do not use underline property with text, as it confuses the used/reader with links.

Text Transformation:

- ✓ The text-transform property is used to specify uppercase and lowercase letters in a text.
- ✓ It can be used to turn everything into uppercase and lowercase letters, or capitalize the first letter of each word.

Text-Indentation:

- ✓ The text-indent property is used to specify the indentation of the first line of a text.

Letter Spacing:

- ✓ The letter-spacing property is used to specify the space between the characters in a text.

Line Height:

- ✓ The line-height property is used to specify the space between lines.

Word Spacing:

- ✓ The word-spacing property is used to specify the space between the word in a text.

White Space:

- ✓ The white-space property specify how white space inside an element is handled.

Text Shadow:

- ✓ The text-shadow property adds shadow to the text.
- ✓ In its simplest form you can only add a horizontal and vertical shadow.

Lesson Continue: [CSS Fonts](#).