CSS Course

CSS Lessons: Learn
Study Music: Live

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 **C**ascading **S**tyle **S**heet.
- ✔ 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 and 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.
- ✔ <font> 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 consist 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 ea 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.

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- Inline CSS.

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 <linlk> 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.

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- ✔ 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 prameters 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 specifices the opacity for a color.
- ✔ A RGBA color values are specified with (RGBA(red, green, blue, alpha)).
- ✔ 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 for of using a hexadecimal values.
- ✔ 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 us 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 define by setting the Hue and Saturation to 0, and adjust the lightness from 0% to 100% to get darker or lighter shades.

Saturation:

- ✔ Saturation can be describe 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 define by setting the Hue and Saturation to 0, and adjust the lightness from 0% to 100% to get darker or lighter shades.

Lightness:

- ✔ Lightness of the color can be described as how much light your 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.

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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.
- ✔ 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.

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- ✔ 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 king of border to display.
- ✔ The following values are allowed.
  - ➢ Double.
  - ➢ 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 per-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).

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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.
- ✔ 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.

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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.
  - ➢ 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 deceased.

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 to 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.

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.

Lesson Continue: CSS Outline.