

CSS Basics

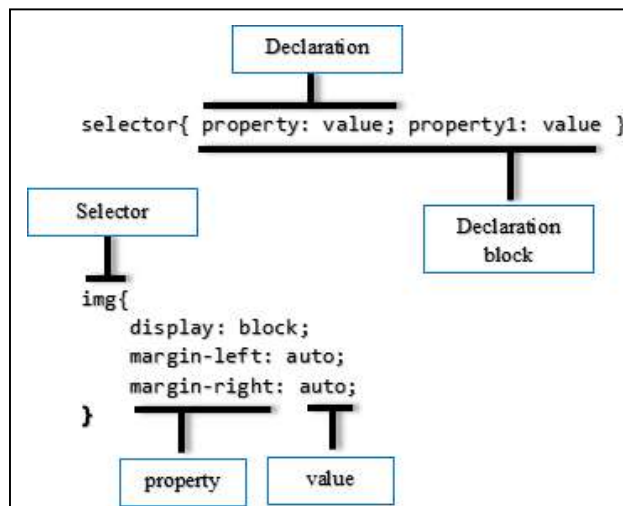
CSS

- stands for Cascading Style Sheets
- CSS is used to describe the appearance of HTML Elements or the presentation of HTML Documents.
- In CSS, there are three (3) locations to add the styles:
 - **Inline Styles**
 - The style attribute is used to add the CSS directly within the element.
 - Inline styles affect the element it is defined within and override any other style definitions for properties used in the inline style.
 - **Embedded Styles (Internal)**
 - It is also known as Internal Styles.
 - The `<style>` element is used to place the style rules.
 - **External Styles**
 - The style rules are placed within an external text file with the `.css` extension.

CSS Syntax

CSS Syntax

- A CSS document or syntax consists of one or more style rules.
- This CSS syntax has three (3) parts. These are the following:
 - **Selector**
 - In a CSS rule, it always begins with a selector.
 - It identifies which HTML element will be affected by the declarations in the rule.
 - **Property**
 - Each individual CSS declaration must contain a property.
 - It is also a type of attribute in HTML Tag. All HTML attributes are converted into CSS property.
 - **Value**
 - Each CSS declaration contains a value for a property.
 - Any given value is dependent upon the property. Some property values are from a predefined list of keywords



Common CSS Selectors

- **Id Selector**
 - This selector allows you to select a specific element by its `id` attribute.
 - An ID selector is defined in hash/number (#) character.
- **Class Selector**
 - It allows you to select different HTML elements regardless of their position in the document tree.
 - This class selector is defined in a dot (.) character.

- **Element Selector**
 - This selector selects all the instances on a given HTML element.
- **Attribute Selector**
 - The attribute selector is used to select HTML elements. It's either an element attribute or the value of an attribute.

Examples of CSS Properties

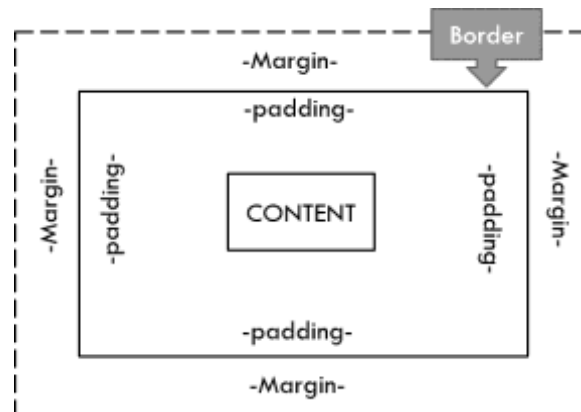
- **Fonts** – A type of property used to change the font-family, size, or style of a text.
 - Syntax:
 - **font: italic 20px Consolas;**
 - It is a property used to set the font-style, size, and font family in one (1) property.
 - **font-family: "Bauhaus 93";**
 - It is used to set only the font of a text.
 - **font-size: 30px;**
 - This property is used to set the size of a text.
 - **font-style: italic;**
 - This font style is used to set the text in italic or oblique.
- **Text** – A type of property used to add a line on a text, spacing, and text alignment.
 - Syntax:
 - **text-decoration** – A property that is used to add a line on a text. Its either it will have a line below, line-through, or over it.
 - Syntax:
 - **text-decoration: underline;**
 - This syntax is used to add a line below the text.
 - **text-decoration: overline;**
 - It is used to add a line above the text.
 - **text-decoration: line-through;**
 - It is used to add a line through the text.
 - **text-decoration: none;**
 - It is used to remove the line in the link.
 - **text-decoration: overline underline line-through;**
 - This syntax allows you to combine the three (3) values for the text-decoration.
 - **text-align** – A property that aligns the text horizontally. It is similar to the word processor in aligning the text.
 - Syntax:
 - **text-align: left;**
 - Aligns the text to the left side of the container.
 - **text-align: right;**
 - Aligns the text to the right side of the container.
 - **text-align: center;**
 - Aligns the text to the center.
 - **text-align: justify;**
 - It stretches the text to have an equal width of each sentence.
 - **letter-spacing** – A property that is used to add a space between letters. For its measurement, pixels (px) is commonly used. This property also accepts a negative value.
 - Syntax:
 - **letter-spacing: 6px;**
 - **Background Property** – A type of property used to add a background image or a color in the background.
 - The background image can be set horizontally or vertically.
 - Syntax:
 - **background: DodgerBlue url(htmlcss.png) no-repeat;**
 - This syntax provides multiple values in one property for the background.

- `background-color: green;`
 - It is used to set the background color.
- `background-image: url(htmlcss.png);`
 - It is used to set the background image and repeat the images in the background.
- `background-repeat: no-repeat;`
 - This property is used to set the background image in no-repeat.
- `background-repeat: repeat-x;`
 - The background image will be repeated horizontally.
- `background-repeat: repeat-y;`
 - The background image will be repeated vertically.
- **Sizing** – A type of property that is used for setting the size of the width and height.
 - Syntax:
 - `width` – A property that is used to set the width of an element.
 - `min-width` – Sets the minimum width of an element.
 - `max-width` – Sets the maximum width of an element.
 - `height` – A property that is used to set the height of an element.
 - `min-height` – Sets the minimum height of an element.
 - `max-height` – Sets the maximum height of an element.

Box Model

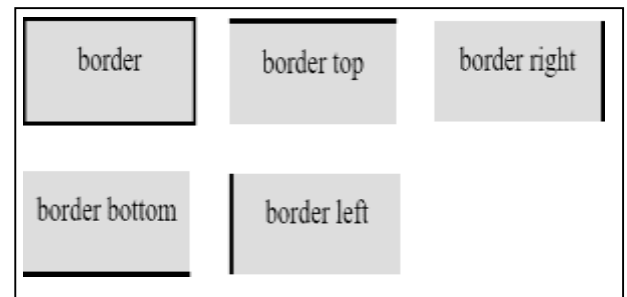
Box Model – it describes the rectangular boxes that contain content.

- It consists of border, padding, margin, and content
- HTML elements exist within an element box in CSS.



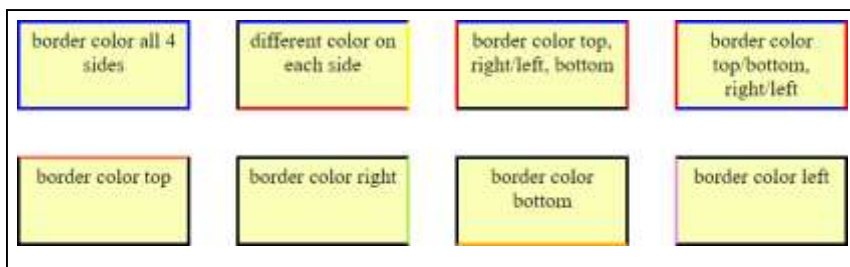
Border - In an element, we can put borders around all four sides or individually add a border on the top, right, bottom, or left side.

- The following syntaxes are the different ways to add a border:
 - **`border: 5px solid black;`**
 - This syntax creates a border around all four (4) sides. 5px is the border's **width**, **solid** specifies the line type, and **black** specifies the color.
 - **`border-top: 5px solid black;`**
 - Adds a border at the top of an element.
 - **`border-right: 5px solid black;`**
 - Adds a border on the right side of an element.
 - **`border-bottom: 5px solid black;`**
 - Adds a border at bottom of an element
 - **`border-left: 5px solid black;`**
 - Adds a border at the left side of an element



Border color – It is used to set the color of a border.

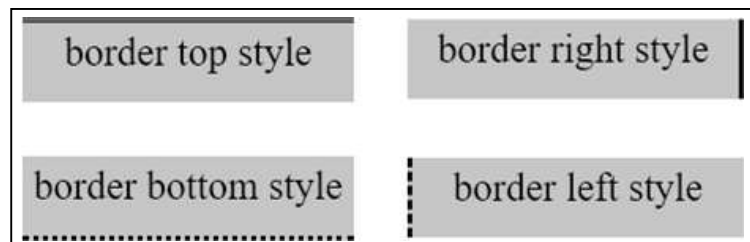
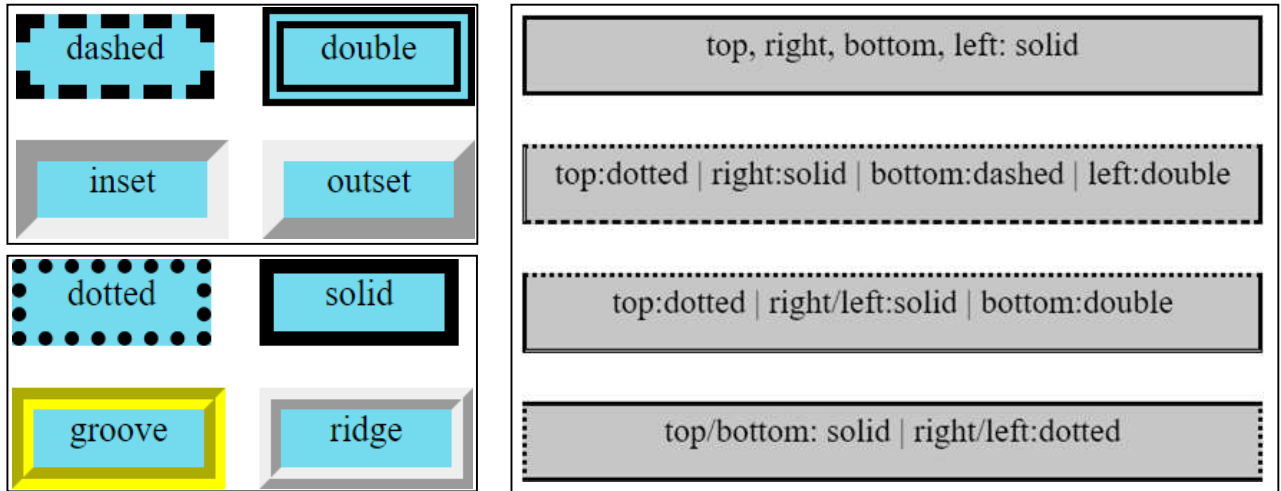
- The following syntaxes are the different ways to change the color of a border:
 - **border-color: blue;**
 - This syntax adds color around all four sides of a border.
 - **border-color: blue yellow red black;**
 - This syntax specifies different colors around all four (4) sides of a border. For the border, the color **blue** will be on the **top** of the border, **yellow** on its **right**, **red** on the **bottom**, and **black** for the **left** side.
 - **border-color: blue red black;**
 - This syntax specifies the color for the top, bottom, right, and left border. The color **blue** will be on the **top** of the border, while **red** will be on the **right and left** side of the border, and **black** will be on the **bottom** side of the border.
 - **border-color: blue red;**
 - This syntax specifies the color for the top and bottom, left and right border. The color **blue** will display on the **top and bottom** of the border while **red** will be on the **border's right and left side**.
 - **border-top-color: red;**
 - This sets the color of a border at the top of an element.
 - **border-right-color: yellow;**
 - This sets the color of a border on the right side of an element.
 - **border-bottom-color: orange;**
 - This sets the color of a border at the bottom of an element.
 - **border-left-color: violet;**
 - This sets the color of a border on the left side of an element.



Border style – It specifies the type of line or border that will be displayed.

- The following are the possible values to display different types of line in a border:
 - **Dotted** – It consists of rounded dots that are displayed in a border.
 - **Solid** – It has a single, straight, and solid border.
 - **Dashed** – This style displays short dashes or line segments.
 - **Double** – This style displays a two-line solid border.
 - **Groove** – It is a three-dimensional border that looks like a carved into the page.
 - **Ridge** – It is a three-dimensional border that is opposite of the groove.
 - **Inset** – The content in the border looks like coming in of the canvas.
 - **Outset** – The content in the border looks like coming out of the canvas.
- The following syntaxes are the different ways to change the border-style:
 - **border-style: solid;**
 - This style displays a border around all four sides.
 - **border-style: dotted solid dashed double;**
 - This syntax specifies different border styles around all four (4) sides. The **dotted** style will be on the **top** of the border, **solid** on the **right** side, **dashed** is on the **bottom** of the border, and **double** will be on its **left** side.
 - **border-style: dotted solid double;**
 - This syntax specifies the border style for the top, bottom, right, and left borders. The **dotted** style will be on the **top** of the border, while **solid** will be on the **border's right and left side**, and **double** will be on the border's **bottom** side.

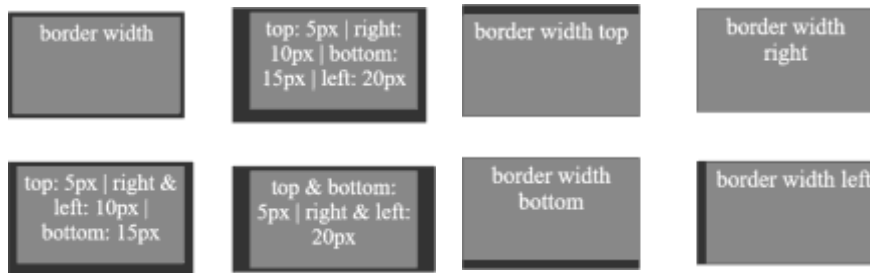
- **border-style: solid dotted;**
 - This syntax specifies the border style for the top and bottom, left and right border. The solid will display on the **top and bottom** of the border while **red** will be on the **border's right and left side**.
- **border-top-style: double;**
 - This sets the border style at the top of the element.
- **border-right-style: solid;**
 - This sets the border style on the right side of the element.
- **border-bottom-style: dotted;**
 - This sets the border style at the bottom of the element.
- **border-left-style: dashed;**
 - This sets the border style on the left side of the element.



Border width – This property is used to set the width of the border.

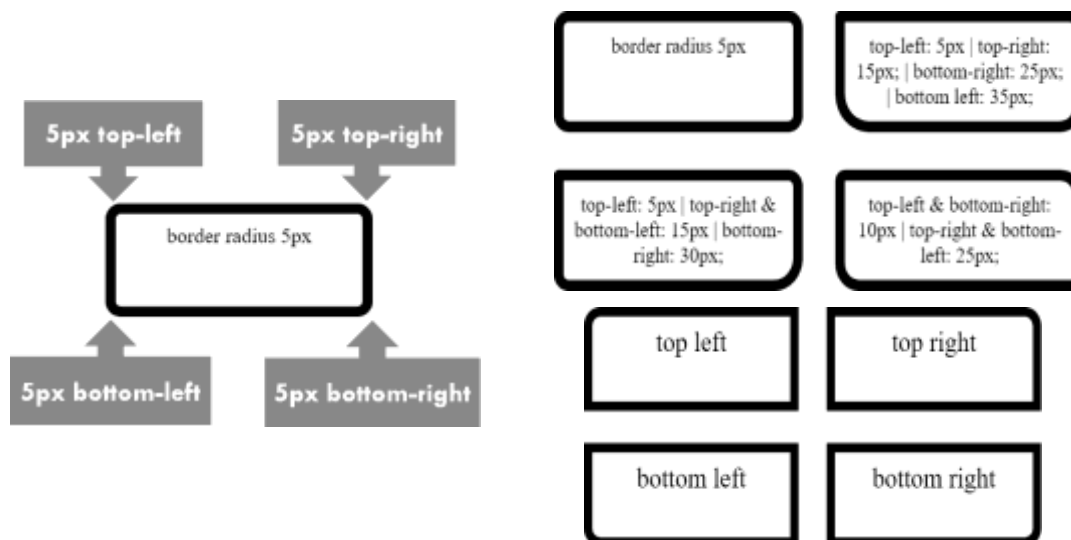
- The following syntax are the different ways to change the width of the border:
 - **border-width: 5px;**
 - A border that contains a single value is set equally in each sides.
 - **border-width: 2px 5px 3px 8px;**
 - This syntax contains 4 values for the border-width the **2px**, **5px**, **3px** and **8px**. **2px** will be the top border, **5px** for the **right** side of the border, **3px** in the **bottom**, and **8px** for the **left** side of the border.
 - **border-width: 2px 3px 5px;**
 - This syntax specifies the top, right and left border, and bottom. The top border will have a width of 2px, 3px for right and left border, and 5px at the bottom border.
 - **border-width: 4px 5px;**
 - This syntax specifies the top-bottom and right left of the border. **4px** for the **top and bottom** while **5px** is for the **right and left** border.
 - **border-top-width: 10px;**
 - This syntax changes the width of top border.
 - **border-right-width: 3px;**
 - This syntax changes the width of right border.
 - **border-bottom-width: 4px;**
 - This syntax changes the width of bottom border.

- **bottom-left-width: 6px;**
 - This syntax changes the width of left border.



Border radius – It is used to have rounded corners in a border.

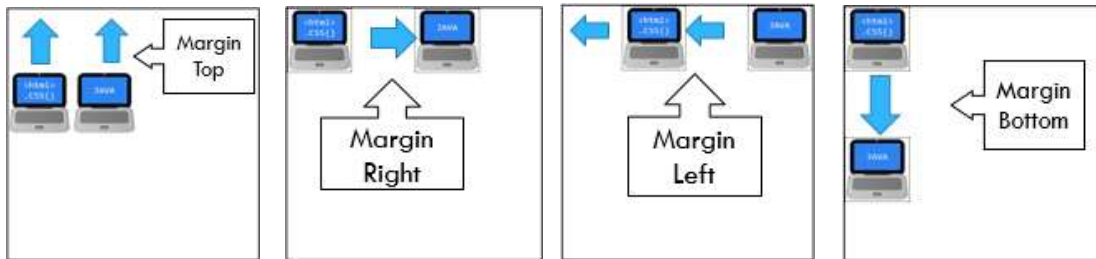
- The following syntax are the different ways to change the radius of the border:
 - **border-radius: 15px;**
 - This syntax is used to set equally the border radius in each corner.
 - **border-radius: 5px 15px 25px 35px;**
 - This syntax is used to have a different sizes of border radius. **2px** for the **top-left corner**, **5px** for the **top-right corner**, **3px** for **bottom-right corner** and **8px** for the **bottom-left corner** of a border.
 - **border-radius: 5px 15px 30px;**
 - This syntax set the same top-right and bottom-left border and the two remaining will have different values. The **top-left corner** of the border is the **5px**, **top-right** and **bottom-left** will be the **15px** and **30px** for the **bottom-right** of the border.
 - **border-radius: 10px 25px;**
 - This syntax set the same **top-left and bottom-right** corner of border which is the **10px** and a **top-right and bottom-left** corner of border which is the **25px**.
 - **border-top-left-radius: 20px;**
 - It is used to change the top-left corner of the border.
 - **border-top-right-radius: 20px;**
 - It is used to change the top-right corner of the border.
 - **border-bottom-right-radius: 20px;**
 - It is used to change the bottom-right corner of the border.
 - **border-bottom-left-radius: 20px;**
 - It is used to change the bottom-left corner of the border.



Margin – It is a property that adds spacing around the content.

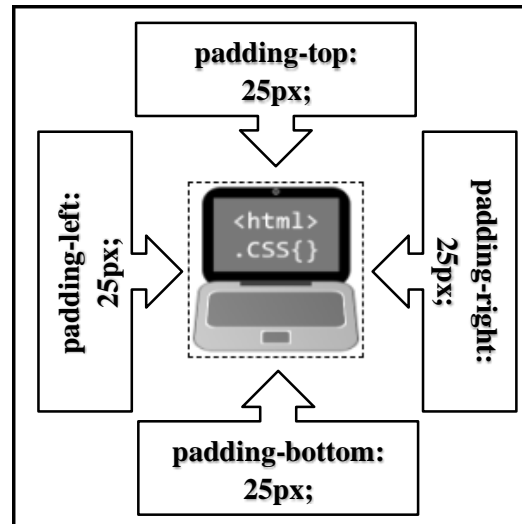
- It is used to differentiate the elements on a web page.
- The following syntaxes are the different ways to use the margin property:
 - **margin: 5px;**
 - A margin that has a single value will set equally on each side.

- **margin: auto;**
 - This syntax is used to center the content horizontally to its container.
- **margin: 10px 5px 4px 15px;**
 - This syntax will have different values of a margin. **10px** will be the **top margin**, **5px** for the **right margin**, **4px** for **bottom margin**, and **15px** for **left margin**.
- **margin: 5px 10px 15px;**
 - This syntax may contain the same values for the two margins and different values for the remaining. **5px** is for the **top margin**, while **10px** is for the **right and left margin**, and **15px** will be the **bottom margin**.
- **margin: 10px 20px;**
 - The **10px** is for the **top and bottom margin** while the **20px** is for the **right and left margin**.
- **margin-top: 10px;**
 - This syntax is used to add a margin at the top of the content.
- **margin-right: 15px;**
 - This syntax is used to add a margin at the right side of the content.
- **margin-bottom: 5px;**
 - This syntax is used to add a margin at the bottom of the content.
- **margin-left: 20px;**
 - This syntax is used to add a margin at the left side of the content.



Padding – This property adds spacing within elements or white space inside the container.

- The following syntax are the different ways to change padding of an HTML element or container:
 - **padding: 5px;**
 - A padding that has a single value will set equally the padding in each side.
 - **padding: 10px 5px 4px 15px;**
 - This syntax contains multiple values in each sides of a content. 10px will be the top padding, 5px is for the right side of the content, 4px in the bottom side and 15px is for the right side.
 - **padding: 5px 10px 15px;**
 - This syntax may contain same values for the two paddings and different values for the remaining. **5px** is for the **top padding** while **10px** are for the **right and left padding** and **15px** will be the **bottom padding**.
 - **padding: 10px 20px;**
 - These two (2) values will have the same values for the two padding and same with the other two remaining. The **10px** is for the **top and bottom padding** while the **20px** are the **right and left padding**.
 - **padding-top: 10px;**
 - This sets the padding at the top of an element.
 - **padding-right: 15px;**
 - This sets the padding at the right of an element.
 - **padding-bottom: 5px;**
 - This sets the padding at the bottom of an element.
 - **padding-left: 20px;**
 - This sets the padding at the left of an element.



Element Positioning

Moving an item or an HTML element is possible from its regular position in the normal flow. In CSS, the `position` property is used to specify the type of positioning. It contains different values for the type of positions. There are additional properties that are used to indicate the distance from the container. These are `left`, `right`, `top`, and `bottom` property.

Static – The element is positioned according to the normal flow, and this is the default position.

- An element that is positioned with this value will not be affected by the `top`, `right`, `left`, and `bottom` properties.

```
.pos3{
  position: static;
  border: 1px solid blue;
  width: 300px;
  height: 100px;
  text-align: center;
  padding: 5px;
  border: 3px solid blue;
}
```

Relative – An element is displaced out of its normal flow position and moved relative to where it would have been placed.

- In relative positioning, the element is affected by the `top`, `right`, `left`, and `bottom` properties.

```
.offset {
  border: 3px solid black;
  padding: 10px;
  margin: 10px;
  color: white;
  background-color: #409D9B;
  position: relative;
  top: -30px;
  left: 30px;
  width: 33%;
}
```

Absolute – An element that is positioned absolutely in the normal flow, it will be removed completely.

```
.pos1 {
  position: absolute;
  left: 50px;
  top: 50px;
}
```


Fixed – The element is fixed in a specific position in the window, even when the document is scrolled.

- The top, left, right, and bottom properties can be used to move the HTML element along with the position property.

```
.pos3{  
    position: fixed;  
    bottom: 0;  
    left: 0;  
    width: 100%;  
    text-align: center;  
    padding: 5px;  
    border-top: 3px solid blue;  
    background-color: #cccccc;  
}
```

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- Lemay, L., Colburn, R., & Kyrnin, J. (2016). *Sams teach yourself HTML, CSS and JavaScript web publishing in one hour a day* (7th ed.). New Jersey: Pearson Education, Inc.
- Krause, J. (2016). *Introducing web development*. California: Apress Media, LLC.