



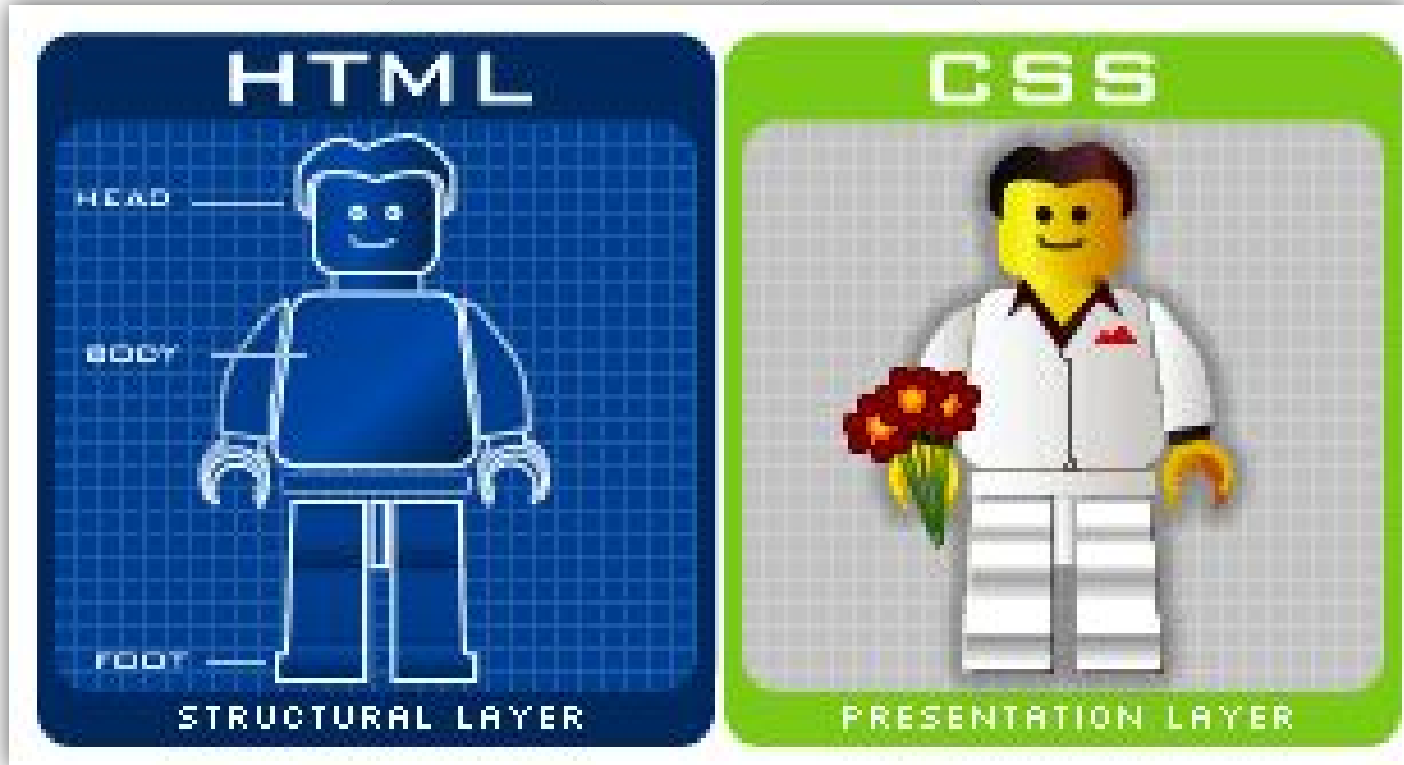
CSS and CSS3

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What is CSS ?

- Cascading Style Sheets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable.
- CSS handles the look and feel part of a web page. It is one of the fundamental web standards, with profound impact on typography, aesthetics, and accessibility on the web.
- CSS is easy to learn and understand but it provides a powerful control over the presentation of an HTML document.
- Before we had CSS, all of the styling of HTML was embedded directly in the document. It has become the W3C standard for controlling visual presentation of web pages.

HTML with CSS



CSS inclusion in html

- There are three types of stylesheets inclusion :
 - Inline CSS ----> Used inside a particular tag
 - `<h1 style ="color:#36C;"> This is inline CSS </h1>`
 - Internal CSS ----> Used inside HTML page

```
<!DOCTYPE html>
<html>
<head>
<style>
  p{color: green}
</style>
</head>
<body>
  <p>The text in this paragraph will be green.</p>
  <p>This paragraph too.</p>
</body>
</html>
```

CSS inclusion in html

- External CSS ----> Used outside HTML page

```
<head>  
<link type="text/css" href="mystyle.css" media="all" />  
</head>
```

- Importing CSS ----> to import an external stylesheet in a manner similar to the <link> element

```
<head>  
@import "mystyle.css";  
</head>
```

CSS Syntax and Selectors

A CSS comprises of style rules that are interpreted by the browser and then applied to the corresponding elements in your document. A style rule is made of three parts:

- Selector { property: value; }
- h1 { color: red; }
- Selector Types:
 - Element type selectors
 - table { background:#ccc; border: 1px solid red}
 - p, h5, img, ul, ol, li

CSS Syntax and Selectors

- Universal Selectors

- `* { background: black; }`

- Descendant Selectors

- To apply a style rule to a particular element only when it lies inside a particular element.

- `ul li { text-align: center; }`

- Class Selectors

- Defining the style rules based on the class attributes of the elements.
 - This rule renders the property for every element with 'h-light' class attribute set to background yellow in the document.

- `<p>Qwinix Technologies</p>`

- `<p class="h-light">CSS training</p>`

- `.h-light { background: yellow; }`

CSS Syntax and Selectors

- ID Selectors

- Each element can have only one ID. Each page can have only one element with that ID.
 - `#info { padding: 10px; text-align:left; color:black; font-size:13px;}`
- Best to use as foundation for descendant selectors
 - `#info h3 { font-weight:600; font-family: helvetica; }`

- Child Selectors

- Similar to descendants but has different functionality.
 - `body > p { color : black; }`
- This rule will render all the paragraphs in black if they are a direct child of the `<body>` element. Other paragraphs put inside other elements like `<div>` or `<td>` would not have any effect of this rule.

CSS Syntax and Selectors

- Attribute Selectors

- Advantage to this method is that the `<input type="submit" />` element is unaffected, and the color applied only to the desired text fields
 - `input[type="text"] { color: blue; }`
 - `p[lang] { color: red; text-align:center;}` selects all paragraph elements with a lang attribute.
 - `a[href*="qwinix"] { color: red; text-align:left; }`

- Grouping Selectors

- Separating the selectors with a comma and apply the style rules.
 - `#content, footer, h3 { font-weight:normal; text-transform:lowercase; }`

CSS property and Values

1.Color

- CSS color values are used to set a color either for the foreground of an element (i.e., its text) or for the background of the element. They can also be used to affect the color of borders and other decorative effects.
- CSS include total 16,777,216 (1 Crore 67 Lakhs) colours.However 17 colors are known by their by name. Transparent is also a valid value.
 - H4 { color: #6A7; }

Format		Syntax	Example
Hex Code		#RRGGBB	p{color:#FF0000;}
Short Code	Hex	#RGB	p{color:#6A7;}
RGB %		rgb(rrr%,ggg%,bbb%)	p{color:rgb(50%,50%,50%);}
RGB Absolute		rgb(rrr,ggg,bbb)	p{color:rgb(0,0,255);}
keyword		aqua, black, etc.	p{color:teal;}

CSS property and Values

2.Text

- Text Alignment

Text Align	Value
Left	Align text to left
Right	Align text to right
Center	Align text to center
Justify	Justified text

- Text color

- `p{ color:#000;}`

- Letter-spacing

- `p{ letter-spacing:5px;}`

- Word-spacing

- `p{ word-spacing:8px;}`

CSS property and Values

- Text Indent

- Text Indent changes the position of first word of first line in right direction. If given negative, it will move to left!
- `p{ text-indent:1cm;}`

- Text Decoration

- Values: underline, overline, line-through, blink.
 - `p{ text-decoration:underline;}`

- Text Transform

- Values: uppercase, lowercase, capitalize.
 - `p{ text-transform:uppercase;}`

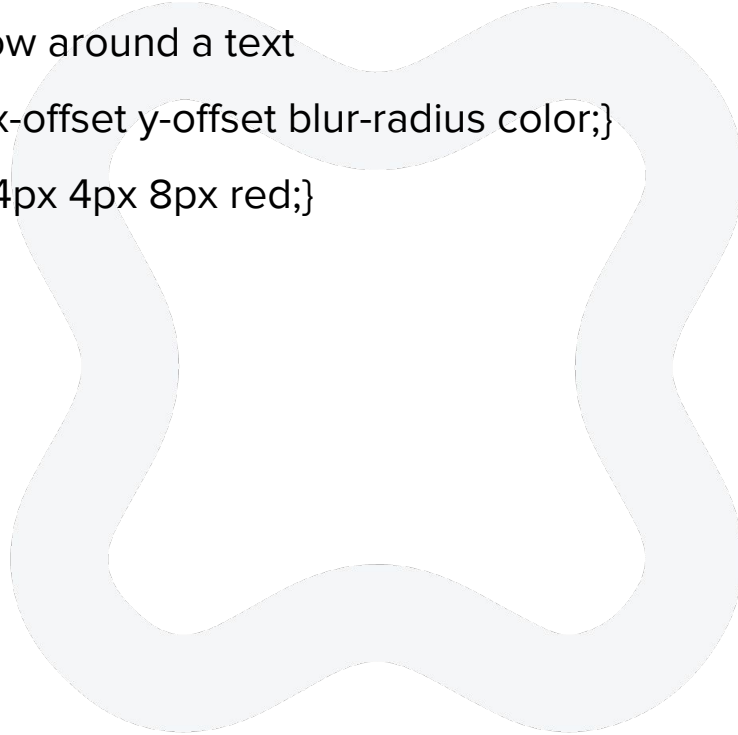
- White Space

- The white-space property is used to describe how whitespace inside the element is handled.
- Values: normal, nowrap, pre, pre-line, pre-wrap, initial, inherit;
- `p{ white-space:pre;}`

CSS *property and Values*

- Text Shadow

- To set the shadow around a text
- `p{ text-shadow: x-offset y-offset blur-radius color;}`
- `p{ text-shadow: 4px 4px 8px red;}`



CSS property and Values

3.Fonts

- Font-family
 - Font-family property is used to change the face of a font.
 - `p { font-family:georgia,garamond,serif; }`
- Font-size
 - Font-size property is used to set the size of the text.
 - `p { font-size:14px; }`

Property	Description	Values
font-style	The font-style property is mostly used to specify italic text.	normal italic oblique
font-variant	In a small-caps font, all lowercase letters are converted to uppercase letters.	normal Small-Caps
font-weight	The font-weight property sets how thick or thin characters in text should be displayed.	normal bold bolder lighter 100 200

CSS property and Values

- In CSS, Font size is given using property “font-size”. We can give value of font-size using 4 different units.
 - Pixels (px)
 - Em (em)
 - Points (pt)
 - percentage (%)
- $16\text{px} = 1\text{em} = 100\% = 12\text{pt}$
- Font-stretch
 - This property relies on the user's computer to have an expanded or condensed version of the font being used.
 - Possible values could be normal, wider, narrower, ultra-condensed, extra-condensed, condensed, semi-condensed, semi-expanded, expanded, extra-expanded, ultra-expanded.
 - `P {font-stretch:ultra-expanded;}`

CSS property and Values

4. Image

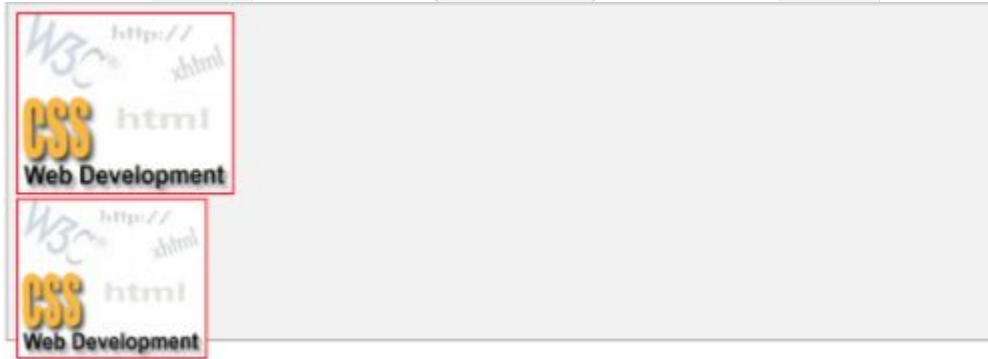
- **Border** property is used to set the width of an image border.
 - ``
 - ``



- **Height** property is used to set the height of an image. This property can have a value in length or in %. While giving value in %, it applies it in respect of the box in which an image is available.

CSS property and Values

- **Border** property is used to set the height of an image.
 - ``
 - ``



- **Width** property is used to set the width of an image.
 - ``
 - ``

CSS property and Values

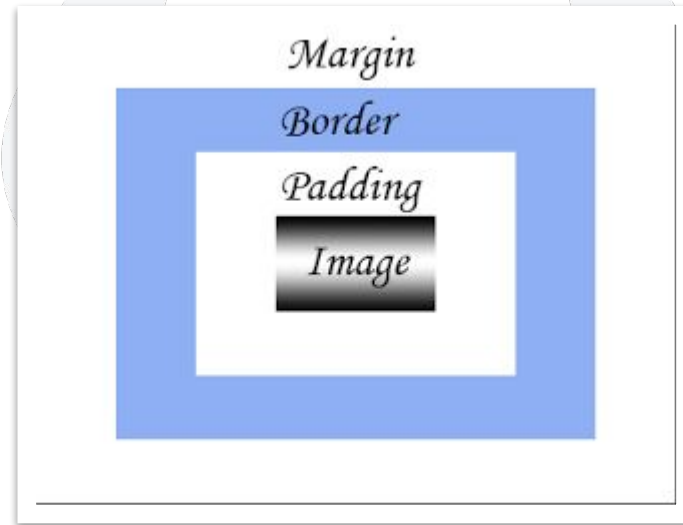
- **Width** property is used to set the width of an image.



CSS property and Values

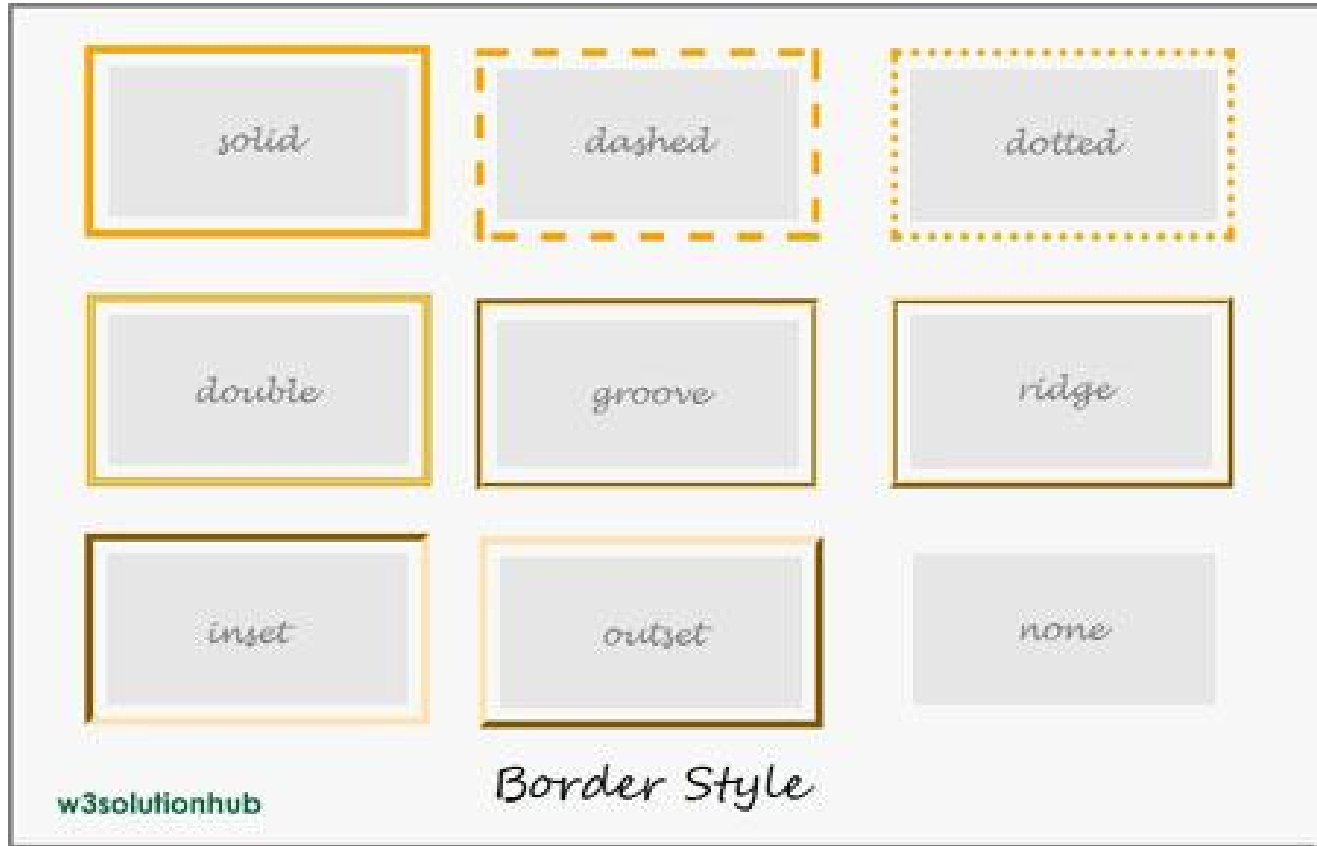
5.CSS Box Model

- Suppose we have a div shown above containing an image
- Padding is used to give space inside.
- Border is used to give particular border.
- Margin is used to give space outside



CSS property and Values

- Borders



CSS property and Values

● Margin

- The margin property defines the space around an HTML element. It is possible to use negative values to overlap content.

- `Selector { margin-top:10px;}`
- `Selector { margin-top:10px; margin-left:14px;}`
- `Selector{ margin: top right bottom left;}`
- `#content { margin: 10px 13px 11px 14px; }`
- `#content { margin: 5% 13% 6% 11%; }`
- `#content { margin: (top bottom) (right left); }`
- `#content { margin: 5% 13%; }`

- The values of the margin property are not inherited by the child elements.

CSS property and Values

● Padding

- The padding property allows you to specify how much space should appear between the content of an element and its border.
- The value of this attribute should be either a length, a percentage, or the word inherit. If the value is inherit, it will have the same padding as its parent element. If a percentage is used, the percentage is of the containing box.
 - `Selector { padding-top:10px;}`
 - `Selector { padding-top:10px; padding-left:14px;}`
 - `Selector{ padding: top right bottom left;}`
 - `#content { padding: 10px 13px 11px 14px; }`
 - `#content { padding: 5% 13% 6% 11%; }`
 - `#content { padding: (top bottom) (right left); }`
 - `#content { padding: 5% 13%; }`

CSS property and Values

5. Background properties

All CSS Background Properties

Property	Description
<u>background</u>	Sets all the background properties in one declaration
<u>background-attachment</u>	Sets whether a background image is fixed or scrolls with the rest of the page
<u>background-color</u>	Sets the background color of an element
<u>background-image</u>	Sets the background image for an element
<u>background-position</u>	Sets the starting position of a background image
<u>background-repeat</u>	Sets how a background image will be repeated

CSS property and Values

- `p { background-color:yellow; }`
- `p { background-image:url(/images/pattern1.gif);}`
- `p { background-image:url(/images/pattern1.gif); background-repeat: repeat;}`
- `p { background-image:url(/images/pattern1.gif); background-repeat: repeat-y;}`
- `table { background-image:url(/images/pattern1.gif);background-position:100px;}`
- `table { background-image:url(/images/pattern1.gif);background-position:100px 200px;}`
- `#content { background-image:url(/images/pattern1.gif); background-attachment:fixed/scroll; }`
- `#content { background:url(/images/pattern1.gif) repeat fixed;}`

CSS property and Values

6.Positioning

- CSS helps you to position your HTML element. You can put any HTML element at whatever location you like. You can specify whether you want the element positioned relative to its natural position in the page or absolute based on its parent element.
 - Relative Positioning
 - Relative positioning changes the position of the HTML element relative to where it normally appears. So "left:20" adds 20 pixels to the element's LEFT position.
 - You can use two values top and left along with the position property to move an HTML element anywhere in an HTML document.

CSS property and Values

- Move Left - Use a negative value for left.
- Move Right - Use a positive value for left.
- Move Up - Use a negative value for top.
- Move Down - Use a positive value for top.
 - `.about img {position:relative; left:80px; top:20px; background-color:yellow;}`
- Absolute Positioning
 - An element with `position: absolute` is positioned at the specified coordinates relative to your screen top-left corner.
 - `.about img {position:absolute; left:80px; top:20px; background-color:yellow;}`
- Fixed Positioning
 - Fixed positioning allows you to fix the position of an element to a particular spot on the page, regardless of scrolling. Specified coordinates will be relative to the browser window.
 - `.about img {position:absolute; left:80px; top:20px; background-color:yellow;}`

CSS property and Values

 <p>Default position</p>	 <p>Moved across Moved down</p>	 <p>Centered horizontally automatically</p>
	<code>position:relative; 1. left:100px; 2. top:50px;</code>	<code>margin:0 auto;</code>
 <p>Side-by-side</p>	 <p>Overlapping</p>	 <p>Out of order</p>
<code>1: position:absolute; top:40px;left:40px; 2: position:absolute; top:40px;left:100px;</code>	<code>position:absolute; 1: top:10px;left:30px; 2: top:30px;left:50px; 3: top:50px;left:70px;</code>	<code>position:absolute; 1: top:30px;left:50px; 2: top:50px;left:70px; 3: top:10px;left:30px;</code>

CSS property and Values

6. Links

- CSS properties of hyperlinks
 - `a:link { color: #000000; opacity: .8; }`
 - `a:visited { color: #006600; }`
 - `a:hover {color: #FFCC00; opacity: 1; }`
 - `a:active {color: #FF00CC}`

7.pseudo-classes

- CSS pseudo-classes are used to add special effects to some selectors.
- No need to use JavaScript or any other script to use those effects.
- `selector:pseudo-class {property: value}`
- `selector:pseudo-class {property: value}`

CSS property and Values

- a:hover MUST come after a:link and a:visited in the CSS definition in order to be effective.
- ☐ a:active MUST come after a:hover in the CSS definition in order to be effective.
- ☐ Pseudo-class names are not case-sensitive.

CSS3 selectors

- Adjacent selectors
 - `ul + p { color: red; }`
 - It will select only the element that is immediately preceded by the former element.
In this case, only the first paragraph after each ul will have red text.

CSS property and Values

- Sibling selectors
 - `ul ~ p { color: red; }`
 - sibling combinator is similar to `X + Y`, however, it's less strict. While an adjacent selector (`ul + p`) will only select the first element that is immediately preceded by the former selector, this one is more generalized. It will select, referring to our example above, any `p` elements, as long as they follow a `ul`.
- negation pseudo class selectors
 - `div:not(#container) { color: blue; }`
 - The negation pseudo class is particularly helpful. Let's say I want to select all `divs`, except for the one which has an `id` of `container`. The snippet above will handle that task perfectly.
- <http://code.tutsplus.com/tutorials/the-30-css-selectors-you-must-memorize--net-16048>

CSS property and Values

- Float Property
- The float CSS property specifies that an element should be taken from the normal flow and placed along the left or right side of its container, where text and inline elements will wrap around it.
 - `img { float: left; margin: 0 0 10px 10px;}`
- Clear Property
 - The clear property is used to control the behavior of floating elements.
 - Elements after a floating element will flow around it. To avoid this, use the clear property.
 - The clear property specifies on which sides of an element floating elements are not allowed to float
 - http://www.w3schools.com/css/tryit.asp?filename=trycss_layout_clear

CSS Specificity

CSS Selector Specificity - Cheat Sheet

	*	id	classes	elements	result [*]
	a	b	c	d	
li	0	0	0	1	1
.lorem	0	0	10	0	10
#ipsum	0	100	0	0	100
style = " "	1000	0	0	0	1000
ul li	0	0	0	2	2
ul ol + li	0	0	0	3	3
ul ol li.red	0	0	10	3	13
li:first-line	0	0	0	2	2
#ipsum li	0	100	0	1	101
a:link	0	0	10	1	11

Useful Links

1. <http://code.tutsplus.com/tutorials/the-30-css-selectors-you-must-memorize--net-16048>
2. <https://hackhands.com/70-Expert-Ideas-For-Better-CSS-Coding/>
3. <http://www.w3schools.com/css/default.asp>
4. <http://www.tutorialspoint.com/w3css/>
5. <https://css-tricks.com/>
6. <http://noeticforce.com/css-tools-tutorial-and-resources-for-learning-web-design>



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