

### Syntax

A CSS rule consists of a **selector** and a **declaration** block.

```
selector {
  property1: value1;
  property2: value2;
}
```

No space between the property value and its unit

### Simple selectors

<code>name { ... }</code>	<code>&lt;name&gt;</code>
<code>#id { ... }</code>	<code>&lt;element id="id"&gt;</code>
<code>.class { ... }</code>	<code>&lt;element class="class"&gt;</code>
<code>name.class { ... }</code>	<code>&lt;name class="class"&gt;</code>
<code>* { ... }</code>	all elements
<code>selector1, selector2, ..., selectorX { ... }</code>	Grouping selector

### Combinator selectors

Based on a specific relationship between them

<code>x y { ... }</code>	Descendant selector: all <i>y</i> elements inside <i>x</i> elements
<code>x &gt; y { ... }</code>	Child selector: all <i>y</i> elements where the parent is a <i>x</i> elements
<code>x + y { ... }</code>	Adjacent sibling selector: the first <i>y</i> element placed immediately after <i>x</i> elements
<code>x ~ y { ... }</code>	General sibling selector: all <i>y</i> elements that are preceded by a <i>x</i> element

### Pseudo-elements selectors

Part of an element

Syntax `selector::pseudoelement { property: value; }`

<code>selector::after</code>	Insert content after every <i>selector</i> element Only apply to block-level elements
<code>selector::before</code>	Insert content before every <i>selector</i> element
<code>selector::first-letter</code>	Selects the first letter of every <i>selector</i> element
<code>selector::first-line</code>	Selects the first line of every <i>selector</i> element
<code>selector::marker</code>	Selects the markers of list items

### Pseudo-elements selectors (cont)

`selector::selection` Selects the portion of an element that is selected by a user

Only some limited types of properties apply to each of the pseudo-elements

### Attribute selectors

Based on an attribute or attribute value	All elements with a target attribute
<code>[attribute]</code>	All elements with an <i>attribute</i> attribute
<code>[attribute = "value"]</code>	All elements with <i>attribute</i> = <i>value</i>
<code>[attribute ~= "value"]</code>	All elements with an <i>attribute</i> attribute that contains a space-separated list of words, one of which is <i>value</i>
<code>[attribute  = "value"]</code>	All elements with an <i>attribute</i> attribute value starting with <i>value</i>
<code>selector[attribute ^= "value"]</code>	All <i>selector</i> elements with an <i>attribute</i> attribute value starting with <i>value</i>
<code>selector[attribute \$= "value"]</code>	All <i>selector</i> elements with an <i>attribute</i> attribute value ending with <i>value</i>
<code>selector[attribute = "value*"]</code>	All <i>selector</i> elements with an <i>attribute</i> attribute value containing the substring <i>value</i>

### Colors and background

color	<i>color</i>   initial   inherit
background	<i>bg-color</i> <i>bg-image</i> <i>position/bg-size</i> <i>bg-repeat</i> <i>bg-origin</i> <i>bg-clip</i> <i>bg-attachment</i>   initial   inherit
background-color	<i>color</i>   transparent [def]   initial   inherit

### Colors and background (cont)

background-image	<i>url</i>   none [def]   initial   inherit
background-position	<i>value</i> [def: 0% 0%]   initial   inherit
background-position-y	like background-position, but def: 0%
background-position-x	
background-size	auto [def]   <i>length</i>   <i>percentage</i>   cover   contain   initial   inherit
background-repeat	repeat [def]   repeat-x   repeat-y   no-repeat   initial   inherit
background-clip	border-box [def]   padding-box   content-box   initial   inherit
background-origin	border-box   padding-box [def]   content-box   initial   inherit
background-attachment	scroll [def]   fixed   local   initial   inherit
background-blend-mode	normal [def]   multiply   screen   overlay   darken   lighten   color-dodge   saturation   color   luminosity

They are different ways to tell the colors: name | hex | rgb(*red, green, blue*) | rgba(*red, green, blue, alpha*) | hsl(*hue, saturation, lightness*) | hsla(*hue, saturation, lightness, alpha*) | hwb

### Border

border	<i>border-width border-style</i> [req] <i>border-color</i>   initial   inherit
border-top/right/bottom/left	<i>border-left/right/top-width</i> [req] <i>border-left/right/top-style</i> [req] <i>border-left/right/top-color</i>   initial   inherit

### Border (cont)

border-block/inline	<i>border-block/inline-width border-block/inline-style</i> [req] <i>border-block/inline-color</i>   initial   inherit
border-block/inline-end/start	<i>border-block/inline-end/start-width border-block/inline-end/start-style border-block/inline-end/start-color</i>   initial   inherit
<b>width</b>	[def: medium]
border-width	1 to 4 values: medium   thin   thick   <i>length</i>   initial   inherit To take effect, the <i>border-style</i> must be set
border-top/right/bottom/left-width	1 value: like border-width
border-block/inline-width	1 to 2 values: like border-width To take effect, the <i>border-block/inline-style</i> must be set
border-block/inline-end/start-width	1 value: like border-width To take effect, the <i>border-block/inline-end/start-style</i> must be set
<b>style</b>	[def: none]
border-style	1 to 4 values: none   hidden   dotted   dashed   solid   double   groove   ridge   inset   outset   initial   inherit
border-top/right/bottom/left-style	1 value: like border-style
border-block/inline-style	1 to 2 values: like border-style
border-block/inline-end/start-style	1 value: like border-style
<b>color</b>	[def: text color]



By **Manon Gerrd**  
(manongerard)

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### Border (cont)

border-color	1 to 4 values: <i>colors</i>   transparent   initial   inherit To take effect, the <i>border-style</i> must be set
border-top/right/bottom/left-color	1 value: like border-color To take effect, the <i>border-style</i> or <i>border-left/right/top-style</i> must be set
border-block/inline-color	1 to 2 values: like border-color To take effect, the <i>border-block/inline-style</i> must be set
border-block/inline-end/start-color	1 value: like border-color To take effect, the <i>border-block/inline-end/start-style</i> must be set
<b>radius</b>	[def: 0]
border-radius	1 to 4 values: <i>length</i>   %   initial   inherit
border-top/right/bottom/left-radius	1 value: like border-radius
border-end/start-end/start-radius	1 to 2 values: like border-radius

### image

border-image	<i>border-image-source border-image-slice border-image-width border-image-outset border-image-repeat</i>   initial   inherit
border-image-slice	<i>number</i>   % [def: 100%]   fill   initial   inherit
border-image-source	none [def]   <i>image</i>   initial   inherit
border-image-width	<i>number</i> [def: 1]   <i>length</i>   %   auto   initial   inherit
border-image-outset	<i>length</i> [def: 0]   <i>number</i>   initial   inherit

### Border (cont)

border-image-repeat	stretch [def]   repeat   round   space   initial   inherit
<b>table</b>	
border-collapse	separate [def]   collapse   initial   inherit
border-spacing	1 or 2 values: <i>length</i>   initial   inherit Only works when border-collapse is separate

### Position

position	static [def]   absolute   fixed   relative   sticky   initial   inherit
bottom	auto [def]   <i>length</i>   %   initial   inherit
top	Negatives values are allowed
right	different depending on the position property
left	
clip-path	<i>clip-source</i>   <i>basic-shape</i>   margin-box   border-box   padding-box   content-box   fill-box   stroke-box   view-box   none   initial   inherit
z-index	auto [def]   <i>number</i>   initial   inherit = stack order of an element

### Display

display	<i>value</i> [def: block or inline]
visibility	visible [def]   hidden   collapse   initial   inherit

Hiding an element can be done by setting the display property to none. The element will be hidden, and the page will be displayed as if the element is not there.

visibility:hidden; also hides an element. However, the element will still take up the same space as before. The element will be hidden, but still affect the layout:



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(manongerard)

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### Float

float	none [def]   left   right   initial   inherit
clear	none [def]   left   right   both   initial   inherit
box-sizing	content-box [def]   border-box   initial   inherit

### List

list-style	<i>list-style-type list-style-position list-style-image</i>   initial   inherit
list-style-type	<i>value</i> [def: disc]
list-style-position	inside   outside [def]   initial   inherit
list-style-image	none [def]   <i>url</i>   initial   inherit

### Table

caption-side	top   bottom   initial   inherit
empty-cells	show   hide   initial   inherit
table-layout	auto [def]   fixed   initial   inherit

### Units

0 unit can be omitted

**Absolute Lengths** not recommended

cm, mm, in, px, pt, pc

**Relative Lengths**

em, ex, ch, rem, vw, vh, vmin, vmax, %

A whitespace cannot appear between the number and the unit

### Column

columns	auto [def]   <i>column-width column-count</i>   initial   inherit
column-count	<i>number</i>   auto [def]   initial   inherit
column-width	auto [def]   <i>length</i>   initial   inherit
column-fill	balance [def]   auto   initial   inherit
column-span	none [def]   all   initial   inherit
column-rule	<i>column-rule-width column-rule-style column-rule-color</i>   initial   inherit
column-rule-width	medium [def]   thin   thick   <i>length</i>   initial   inherit

### Column (cont)

column-rule-style	none [def]   hidden   dotted   dashed   solid   double   groove   ridge   inset   outset   initial   inherit
column-rule-color	<i>color</i> [def: current color]   initial   inherit
column-gap	<i>length</i>   normal   initial   inherit

### Transition

transition	<i>transition-property transition-duration transition-timing-function transition-delay</i>   initial   inherit
transition-property	none   all [def]   <i>property</i>   initial   inherit
transition-duration	<i>time</i> [def: 0s]   initial   inherit
transition-timing-function	linear   ease [def]   ease-in   ease-out   ease-in-out   step-start   step-end   steps(int,start   end)   cubic-bezier( <i>n,n,n,n</i> )   initial   inherit
transition-delay	<i>time</i> [def: 0s]   initial   inherit

### Counter

content	normal [def]   none   counter   attr   <i>string</i>   open-quote   close-quote   no-open-quote   no-close-quote   <i>url</i>   initial   inherit Used with ::before and ::after
counter-increment	none [def]   <i>id</i>   initial   inherit
counter-reset	none [def]   <i>id number</i>   initial   inherit

counter(*countername, counterstyle*)



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### Icons

Font Awesome Icons

Bootstrap Icons

Google Icons

### Specificity Hierarchy

1. Inline styles

2. IDs

3. Classes, pseudo-classes, attribute selectors

4. Elements and pseudo-elements

!important can override this hierarchy

### Insert CSS

external    inside <head>: <link rel="stylesheet" href="mystyle.css">

internal    inside <head>: inside <style>

inline      inside and element: using the style attribute

### Pseudo-class selectors

Based on a certain state

```
Syntax      selector: pseudo-class {
              property: value;
            }
```

*selector.active*    The active link

*selector.checked*   All checked *selector* elements

*selector.disabled*   All disabled *selector* elements

*selector.empty*      All *selector* elements that has no children

*selector.enabled*    All enabled *selector* elements

*selector.first-child*   All *selector* elements that is the first child of its parent

*selector.first-of-type*   All *selector* elements that is the first *selector* element of its parent

*selector.focus*      The *selector* element that has focus

*selector.hover*      Links on mouse over

*selector.in-range*    *selector* elements with a value within a specified range

*selector.invalid*    All *selector* elements with an invalid value

### Pseudo-class selectors (cont)

*selector.lang(language)*   All *selector* elements with a lang attribute value starting with *language*

*selector.last-child*      All *selector* elements that is the last child of its parent

*selector.last-of-type*    All *selector* elements that is the last *selector* element of its parent

*selector.link*            All unvisited links

*selector.not(selector)*   All elements that is not a *selector* element

*selector.nth-child(n)*    All *selector* elements that is the second child of its parent

*selector.nth-last-child(n)*   All *selector* elements that is the second child of its parent, counting from the last child

*selector.nth-last-of-type(n)*   All *selector* elements that is the second *selector* element of its parent, counting from the last child

*selector.nth-of-type(n)*   All *selector* elements that is the *n*th *selector* element of its parent

*selector.only-of-type*    All *selector* elements that is the only *selector* element of its parent

*selector.only-child*      All *selector* elements that is the only child of its parent

*selector.optional*      *selector* elements with no "required" attribute

*selector.out-of-range*    *selector* elements with a value outside a specified range

*selector.read-only*      *selector* elements with a "readonly" attribute specified

*selector.read-write*      *selector* elements with no "readonly" attribute

*selector.required*      *selector* elements with a "required" attribute specified

### Pseudo-class selectors (cont)

<code>selector:root</code>	The document's root element
<code>selector:target</code>	The current active #news element (clicked on a URL containing that anchor name)
<code>selector:valid</code>	All <code>selector</code> elements with a valid value
<code>selector:visited</code>	All visited links

### Margin

<code>margin</code>	1 to 4 values: <i>length</i> [def: 0]   %   auto [horizontally center]   initial   inherit;
<code>margin-bottom/left/right/top</code>	1 value: like margin
<code>margin-block/inline</code>	1 to 2 values: like margin, but auto by default
<code>margin-block/inline-end/start</code>	1 value: like margin-block/inline

Negative values are allowed

Margin Collapse: top and bottom (not left and right !) margins of elements are sometimes collapsed into a single margin that is equal to the largest of the two margins.

### Padding

<code>padding</code>	1 to 4 values: <i>length</i> [def:0]   %   initial   inherit
<code>padding-top/right/bottom/left</code>	1 value: like padding
<code>padding-block/inline</code>	1 to 2 values: like padding, but def: auto
<code>padding-block/inline-end/start</code>	1 value: like padding-block/inline

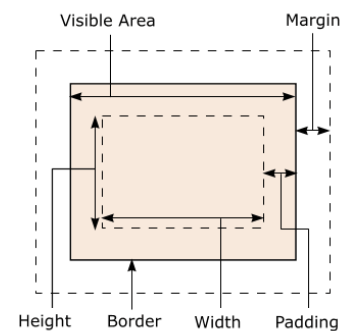
### Padding (cont)

`box-sizing` `content-box` [def, border and padding not included] | `border-box` [content, padding and border included] | initial | inherit

Padding and Element Width: if an element has a specified width, the padding added to that element will be added to the total width of the element.

To keep the given width, no matter the amount of padding, you can use the `box-sizing` property. This causes the element to maintain its actual width; if you increase the padding, the available content space will decrease.

### Box model



### Height and width

<code>height/width</code>	<i>length</i>   %   auto [def]   initial   inherit min/max-height/width override the height/width property
<code>max-height/width</code>	<i>length</i>   %   none [def]   initial   inherit Improves the browser's handling of small windows
<code>min-height/width</code>	<i>length</i>   %   initial   inherit

The height and width properties do not include padding, borders, or margins.

### Text

#### alignment and direction

`text-align` left [def: if direction is ltr] | right [def: if direction is rtl] | center | justify | initial | inherit

`text-align-last` auto [def] | left | right | center | justify | start | end | initial | inherit

`direction` ltr [def] | rtl | initial | inherit

`unicode-bidi` normal [def] | embed | bidi-override | initial | inherit

`vertical-align` baseline [def] | length | sub | super | top | text-top | middle | bottom | text-bottom | initial | inherit

#### decoration

`text-decoration` *text-decoration-line* [req] *text-decoration-color* *text-decoration-style* *text-decoration-thickness* | initial | inherit

`text-decoration-line` none [def] | underline | overline | line-through | initial | inherit  
Can combine more than 1 value

`text-decoration-color` *color* [def: *current color*] | initial | inherit

`text-decoration-style` solid [def] | double | dotted | dashed | wavy | initial | inherit

`text-decoration-thickness` auto [def] | from-font | *length/percentage* | initial | inherit

#### transformation

`text-transform` none [def] | capitalize | uppercase | lowercase | initial | inherit

#### text spacing

### Text (cont)

`text-indent` *length* [def: 0] | % | initial | inherit  
Negative values are allowed

`letter-spacing` normal [def] | *length* | initial | inherit  
Negative value also allowed

`line-height` normal [def] | *number* | *length* | % | initial | inherit

`word-spacing` normal [def] | *length* | initial | inherit

`white-space` normal [def] | nowrap | pre | pre-line | pre-wrap | initial | inherit

#### shadow

`text-shadow` *h-shadow* [req] *v-shadow* [req] *blur-radius* [def: 0] *color* | none [def] | initial | inherit

`text-justify` auto [def] | inter-word | inter-character | none | initial | inherit

`text-orientation` mixed [def] | upright | sideways | sideways-right | use-glyph-orientation | initial | inherit  
Works only when writing-mode is set to vertical

`text-overflow` clip [def] | ellipsis | *string* | initial | inherit  
requires white-space: nowrap; overflow: hidden

`text-decoration: none;` is used to remove the underline from links:  
`a { text-decoration: none; }`

### Font

`font` *font-style* *font-variant* *font-weight* *font-size/line-height* [req] *font-family* [req] | caption | icon | menu | message-box | small-caption | status-bar | initial | inherit



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### Font (cont)

font-style	normal [def]   italic   oblique   initial   inherit
font-variant	normal [def]   small-caps   initial   inherit
font-weight	normal [def]   bold   bolder   lighter   number   initial   inherit
font-size	medium [def]   xx-small   x-small   small   large   x-large   xx-large   smaller   larger   length   initial   inherit
font-family	<i>family-name</i>   <i>generic-family</i>   initial   inherit Start with the font you want, <i>[then add backup fonts.]</i> and always end with a generic family. Separate each value with a comma.
font-feature-settings	normal [def]   feature-value [ <i>1 / 0 / on / off</i> ]
font-kerning	auto   normal   none
font-size-adjust	<i>number</i>   none   initial   inherit
font-stretch	ultra-condensed   extra-condensed   condensed   semi-condensed   normal [def]   semi-expanded   expanded   extra-expanded   ultra-expanded   initial   inherit
font-variant-caps	normal [def]   small-caps   all-small-caps   petite-caps   all-petite-caps   unicase   titling-caps   initial   inherit   unset
@font-face	font-family [req] src [req] font-stretch font-style font-weight unicode-range

### Outline

outline	<i>outline-width</i> <i>outline-style</i> [def: invert] <i>outline-color</i>   initial   inherit
outline-width	medium [def]   thin   thick   <i>length</i>   initial   inherit Must Always declare outline-style before

### Outline (cont)

outline-style	none [def]   hidden   dotted   dashed   solid   double   groove   ridge   inset   outset   initial   inherit
outline-color	color [def: <i>current color</i> ]   initial   inherit Must Always declare outline-style before
outline-offset	<i>length</i> [def: 0]   initial   inherit

### Math functions

calc( <i>expression</i> )
max( <i>value1</i> , <i>value2</i> , ..., <i>valueX</i> )
min( <i>value1</i> , <i>value2</i> , ..., <i>valueX</i> )

### Overflow

overflow	visible [def]   hidden   clip   scroll   auto   initial   inherit
overflow-wrap	normal [def]   anywhere   break-word   initial   inherit
overflow-x/y	visible [def]   hidden   scroll   auto   initial   inherit
overflow-anchor	auto [def]   none   initial   inherit

Only works for block elements with a specified height

### Other

/* ... */	Comment
opacity	<i>number</i> [def: 1]   initial   inherit
Navigation bar	<a href="https://www.w3schools.com/css/css_navbar.asp">https://www.w3schools.com/css/css_navbar.asp</a>
Dropdown	<a href="https://www.w3schools.com/css/css_dropdowns.asp">https://www.w3schools.com/css/css_dropdowns.asp</a>

Dropdown are useful for addition info to help the users



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