What’s new in CSS?

@bramus

2023.03.23 — DevDay

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@bramus@front-end.social

https://www.bram.us/
@bramusblog

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Mediaqueries L4 syntax

[popover] attribute

Individual Transform Properties

color-scheme

@scope

Color Spaces

aspect-ratio

contain

:toggle()

scrollbar-gutter

accent-color

overscroll-behavior

<dialog>

<selectmenu>

Style Queries

Scroll-Linked Animations

:focus-visible

Grid Track Animations

Cascade Layers

[lazy]

Scroll Snapping

Nesting

:has()

contrast-color()

View Transitions

Dynamic Viewport Units

Subgrid

[inert]

color-mix()

Container Queries

COLRv1 Fonts

:modal

Variable Fonts

anchor positioning

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Mediaqueries L4 syntax

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anchor positioning

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Pre-Releases

https://www.mozilla.org/en-US/firefox/channel/desktop/
https://developer.apple.com/safari/technology-preview/
https://www.google.com/chrome/canary/

Release Notes

https://www.mozilla.org/en-US/firefox/releases/
https://webkit.org/blog/
https://developer.chrome.com/blog/

Compat Data

https://github.com/mdn/browser-compat-data/
https://caniuse.com/
https://time-to-stable.deno.dev/

CSS Working Group

https://www.w3.org/blog/CSS/
https://github.com/w3c/csswg-drafts/issues

Bug Trackers

https://bugzilla.mozilla.org/
https://bugs.webkit.org/
https://crbug.com/

Platform Trackers

https://mozilla.github.io/standards-positions/
https://webkit.org/status/
https://chromestatus.com/

Platform News

https://web.dev/tags/new-to-the-web/

Interop Efforts

https://wpt.fyi/compat2021
https://wpt.fyi/interop-2022

Interop Effor

Active Focus Areas				INTEROP
Border Image	99.4%	95.6%	94.0%	92.6%
Color Spaces and Functions	99.9%	95.0%	99.7%	94.8%
Container Queries	98.6%	86.7%	85.5%	77.5%
Containment	98.0%	97.1%	73.6%	71.8%
CSS Math Functions	57.0%	83.0%	81.6%	51.9%
CSS Pseudo-classes	92.8%	95.6%	92.9%	83.0%
Custom Properties	97.4%	4.8%	93.7%	4.8%
Flexbox	99.4%	97.0%	93.5%	92.7%
Font Feature Detection and Palettes	96.2%	100%	93.5%	91.9%
Forms	89.1%	93.4%	85.7%	80.2%
Grid	99.4%	88.2%	90.5%	82.5%
:has()	100%	24.5%	93.9%	24.5%
Inert	100%	100%	94.7%	94.7%
Masking	68.2%	92.2%	85.4%	60.9%
Media Queries 4	100%	97.9%	99.9%	97.9%
Modules	97.5%	91.4%	86.6%	85.3%
Motion Path	79.5%	96.5%	91.5%	74.9%
Offscreen Canvas	98.5%	96.1%	95.9%	94.8%
Pointer and Mouse Events	67.5%	80.9%	46.6%	33.3%
Scrolling	94.8%	93.5%	94.7%	88.3%
Subgrid	17.6%	85.6%	98.0%	13.7%
Transforms	98.0%	95.7%	98.1%	93.2%
URL	90.4%	90.1%	99.3%	87.3%
Web Codecs (video)	100%	1.3%	59.6%	1.3%
Web Compat 2023	77.9%	69.6%	95.7%	57.7%
Web Components	92.3%	95.3%	99.5%	89.0%
TOTAL	88.8%	82.5%	89.3%	70.0%

https://wpt.fyi/compat2021
https://wpt.fyi/interop-2022

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Established Additions

(worth mentioning)

Custom Properties

49 15 31 9.1

https://developer.mozilla.org/en-US/docs/Web/CSS/--*

```
:root {
  --base-font-size: 1em;
  --columns: 10em 10em;
  --base-gap: 1.75em;
}

body {
  margin: 0;
  padding: var(--base-gap) 0;
  font-size: var(--base-font-size);
}

main {
  gap: var(--base-gap);
  grid-template-columns: var(--columns);
}
```

```
@media all and (max-width: 15em) {
  :root {
    --base-font-size: 0.75em;
    --columns: 12em;
    --base-gap: 0.5em;
  }
}
```

```
html {
    --page-count: 200;
    --page-count-range: clamp(1, var(--page-count) / 50, 20);
    --page-width: calc(10px * var(--page-count-range));
}
```

https://jsbin.com/dozadun/3/edit?html,css,output

https://jsbin.com/dozadun/3/edit?html,css,output

```
:root {
    --base-blue: 222;
    --palette-blue-10: hsl(var(--base-blue), 10%, 100%);
    --palette-blue-20: hsl(var(--base-blue), 20%, 100%);
    --palette-blue-30: hsl(var(--base-blue), 30%, 100%);
    --palette-blue-40: hsl(var(--base-blue), 40%, 100%);
    --palette-blue-50: hsl(var(--base-blue), 50%, 100%);
    --palette-blue-60: hsl(var(--base-blue), 60%, 100%);
    --palette-blue-70: hsl(var(--base-blue), 70%, 100%);
    --palette-blue-80: hsl(var(--base-blue), 80%, 100%);
    --palette-blue-90: hsl(var(--base-blue), 90%, 100%);
    --palette-blue-100: hsl(var(--base-blue), 100%, 100%);
}
```

https://blog.maximeheckel.com/posts/the-power-of-composition-with-css-variables

https://blog.maximeheckel.com/posts/the-power-of-composition-with-css-variables

```
.sidebar {
    background: var(--bg, #ae0001);
}
```

```
// Reference to element
const el = document.querySelector('#my-elem');

// Get Custom Property Value
const foo = window.getComputedStyle(el)
              .getPropertyValue('--foo');

// Set Custom Property Value
el.style.setProperty('--foo', newValue);
```

https://www.bram.us/2016/11/12/css-variables-var-subtitle/

```
const root = document.documentElement;

// Sync mouse x/y position to custom properties
document.querySelector('[data-hover]')
    .addEventListener('mousemove', e => {
        let x = e.offsetX;
        let y = e.offsetY;

        root.style.setProperty('--mouse-x', `${x}px`);
        root.style.setProperty('--mouse-y', `${y}px`);
    });
```

https://codepen.io/bramus/full/GRmROgE

--pointer-x	0.00
--pointer-y	0.00
--pointer-angle	0.00
--pointer-distance	0.00

https://codepen.io/bramus/full/porJLgR

Space-Separated Color Notation

65 79 52 12.1

https://brm.us/space-colors

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```
/* Before: Comma-Separated Functional Color Notation */
div {
    color: rgb(0, 0, 0);
    color: rgba(0, 0, 0, 1);
}

/* After: Space-Separated Functional Color Notation */
div {
    color: rgb(0 0 0);
    color: rgb(0 0 0 / 1);
    color: rgb(0 0 0 / 100%);
}
```

https://brm.us/space-colors

aspect-ratio

88 88 89 15

https://brm.us/aspect-ratio

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```
/* Old, hacky way */
.parent {
    width: 100%;
    height: 0;
    padding-top: 56.25%;
}

/* New, sensible way */
.parent {
    width: 100%;
    aspect-ratio: 16 / 9;
}
```

https://brm.us/aspect-ratio

```
/* New, sensible way */
.parent {
    width: 10em;
    height: 10em;
    ~~aspect-ratio: 16 / 9;~~ 🚫
}
```

https://brm.us/aspect-ratio

Logical Properties and Values

89 89 66 15

https://developer.mozilla.org/en-US/docs/Web/CSS/CSS_Logical_Properties

```
element {
    width: 20em;
    height: 10em;
    float: right;
    padding-right: 1em;
}
```

→

```
element {
    inline-size: 20em;
    block-size: 10em;
    float: end;
    padding-inline-end: 1em;
}
```

https://w3c.github.io/csswg-drafts/css-sizing-3/#size

```
html {
    writing-mode: horizontal-tb;
    direction: ltr;
}
```

Elements Console Sources

```
<!DOCTYPE html>
…<html lang="en" data-react-helmet="lang" style="
    direction: ltr;
    /* direction: rtl; */
```

html

Styles Computed Layout Event Listeners DOM Breakpoints

Filter :hov .cls

```
element.style {
  direction: ltr;
  direction: rtl;
  writing-mode: vertical-lr;
  writing-mode: vertical-rl;
}

:root {                                                    <style>
  --borderWidth: min(max(4px,1vw),8px);
}

html, body {                                               <style>
  min-block-size: calc(100vh - var(--borderWidth));
}

html, body {                                               <style>
  border-block-start: var(--borderWidth) solid #111;
  border-block-end: 0px;
  border-inline: var(--borderWidth) solid #111;
}

html, body {                                               <style>
  --borderWidth: clamp(4px,1vw,8px);
  font-size: clamp(15px, 2vw, 18px);
}

html, body {                                               <style>
  -webkit-font-smoothing: antialiased;
  text-size-adjust: none;
  backface-visibility: hidden;
  color: rgb(17, 17, 17);
  font-family: Quicksand, sans-serif;
  font-size: min(max(15px, 2vw), 18px);
  font-weight: 400;
  line-height: 1.75;
  min-height: calc(100vh - var(--borderWidth));
  background: rgb(240, 240, 240);
  border-bottom: 0px;
}

* {                                                        <style>
  border: 0px;
  box-sizing: border-box;
  font-size: 100%;
  margin: 0px;
  padding: 0px;
  vertical-align: baseline;
}

html[Attributes Style] {
  -webkit-locale: "en";
}

html {                                                    user agent stylesheet
  display: block;
```

https://adrianroselli.com/2019/11/css-logical-properties.html

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[css-logical] Flow-relative syn

github.com/w3c/csswg-drafts/issues/1282

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w3c / csswg-drafts Public

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Code Issues 2.3k Pull requests 48 Actions Projects 17 Security Insights

[css-logical] Flow-relative syntax for `margin`-like shorthands #1282

New issue

Open fantasai opened this issue on Apr 23, 2017 · 63 comments

fantasai commented on Apr 23, 2017 Member

CSS currently assigns the values in the margin/padding/border shorthand to their physical longhands, i.e.

```
margin: 1em 2em 3em 4em;
```

is equivalent to

```
margin-top: 1em;
margin-right: 2em;
margin-bottom: 3em;
margin-left: 4em;
```

I'm pretty sure we want some equivalent syntax for assigning into the logical longhands instead, but what should that be?

The current proposal is to put a keyword in front of the 4 values, like

```
margin: relative 1em 2em 3em 4em;
```

Another possibility is to use a !keyword:

```
margin: 1em 2em 3em 4em !relative;
```

or to create a new property in its place:

```
margin-relative: 1em 2em 3em 4em;
```

Assignees
No one assigned

Labels
css-logical-1 i18n-tracker
Needs Feedback/Review

Projects
No open projects
1 closed project

Milestone
No milestone

Development
No branches or pull requests

Notifications Customize
Unsubscribe
You're receiving notifications because you're subscribed to this thread.

27 participants

https://github.com/w3c/csswg-drafts/issues/1282

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Smooth Scrolling

61 79 36 15.4

```
html {
    scroll-behavior: smooth;
}
```

Scroll Snapping

```
ul {
    scroll-snap-type: x mandatory;
}

ul > li {
    scroll-snap-align: start;
}
```

https://snap-gallery.netlify.app/

https://www.youtube.com/watch?v=34zcWFLCDIc

accent-color

93	93	92	15.4

Checkbox

Radio Buttons

Range Slider

Progress element

https://brm.us/accent-color

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```
form {
    accent-color: hotpink;
}
```

https://brm.us/accent-color

New/Upcoming Additions

Individual Transform Properties

104 104 72 14.1

https://web.dev/css-individual-transform-properties/

0%
5%
10%
90%
95%
100%
1.5
scale
1.2
1.2
1
1
1
360deg
rotate
360deg
180deg
180deg
0deg
0deg
100%
translate
100%
0%
0%
0%
5%
10%
90%
95%
100%

0%
5%
10%
90%
95%
100%
1.5
scale
1.2
1.2
1.2
1.2
1
1
1
360deg
rotate
360deg
270deg
180deg
180deg
90deg
0deg
0deg
100%
translate
100%
95%
90%
0%
0%
5%
10%
0%
5%
10%
90%
95%
100%

```css
@keyframes anim {
  0% { transform: translateX(0%); }
  5% { transform: translateX(5%) rotate(90deg) scale(1.2); }
  10% { transform: translateX(10%) rotate(180deg) scale(1.2); }
  90% { transform: translateX(90%) rotate(180deg) scale(1.2); }
  95% { transform: translateX(95%) rotate(270deg) scale(1.2); }
  100% { transform: translateX(100%) rotate(360deg); }
}

.target {
  animation: anim 2s;
  animation-fill-mode: forwards;
}
```

https://web.dev/css-individual-transform-properties/

```
@keyframes anim {
  0% { transform: translateX(0%); }
  5% { transform: translateX(5%) rotate(90deg) scale(1.2); }
  10% { transform: translateX(10%) rotate(180deg) scale(1.2); }
  90% { transform: translateX(90%) rotate(180deg) scale(1.2); }
  95% { transform: translateX(95%) rotate(270deg) scale(1.2); }
  100% { transform: translateX(100%) rotate(360deg); }
}

.target {
  animation: anim 2s;
  animation-fill-mode: forwards;
}
```

https://web.dev/css-individual-transform-properties/

```
@keyframes anim {
    0% { translate: 0% 0; }
    100% { translate: 100% 0; }

    0%, 100% { scale: 1; }
    5%, 95% { scale: 1.2; }

    0% { rotate: 0deg; }
    10%, 90% { rotate: 180deg; }
    100% { rotate: 360deg; }
}

.target {
    animation: anim 2s;
    animation-fill-mode: forwards;
}
```

https://web.dev/css-individual-transform-properties/

```css
@keyframes move {
    0% { translate: 0% 0; }
    100% { translate: 100% 0; }
}
@keyframes scale {
    0%, 100% { scale: 1; }
    5%, 95% { scale: 1.2; }
}
@keyframes rotate {
    0% { rotate: 0deg; }
    10%, 90% { rotate: 180deg; }
    100% { rotate: 360deg; }
}

.target {
    animation: move 2s, scale 2s, rotate 2s;
    animation-fill-mode: forwards;
}
```

https://web.dev/css-individual-transform-properties/

```
.transform--individual {
    translate: 50% 0;
    rotate: 30deg;
    scale: 1.2;
}

.transform--individual-alt {
    rotate: 30deg;
    translate: 50% 0;
    scale: 1.2;
}
```

https://web.dev/css-individual-transform-properties/

:focus-visible

86	86	85	15.4

https://brm.us/focus-visible

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This is some text with some link

Button with :focus

This is some text with some link

https://codepen.io/matthiasott/pen/LYZEwBJ

The `:focus-visible` pseudo-class lets you show focus styles only when they are needed.

This is some text with some link

Button with :focus-visible

This is some text with some link

https://codepen.io/matthiasott/pen/LYZEwBJ

```
/* Show focus styles on keyboard focus. */
:focus-visible {
    outline: 3px solid blue;
}
```

https://brm.us/focus-visible

(Size) Container Queries

105 105 110 16

https://web.dev/cq-stable/

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Container Queries allow authors to style descendants based on aspects of a parent query container

A container size query allows querying the size of the query container's principal box.

https://drafts.csswg.org/css-contain-3/#size-container

The Polar Bear

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer mattis turpis eu neque tincidunt lacinia. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Aliquam auctor ultrices tortor et volutpat. Donec eu semper orci, eu fermentum orci. Vivamus aliquam lobortis egestas. Proin vel mauris vitae sem auctor cursus. Aenean sit amet odio at magna pharetra luctus nec eget urna. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia curae; Praesent in leo at tellus ultricies laoreet.

Polar bear walking by Daniel Bosse

The polar bear *(Ursus maritimus)* is a hypercarnivorous bear whose native range lies largely within the Arctic Circle, encompassing the Arctic Ocean, its surrounding seas and surrounding land masses. It is the largest extant bear species, as well as the largest extant land carnivore.

Polar bear walking by Daniel Bosse

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Polar bear walking by Daniel Bosse

The polar bear *(Ursus maritimus)* is a hypercarnivorous bear whose native range lies largely within the Arctic Circle, encompassing the Arctic Ocean, its surrounding seas and surrounding land masses. It is the largest extant bear species, as well as the largest extant land carnivore.

https://web.dev/cq-stable/

```
.animalcard {
    display: grid;
    grid-template: "image" "description" / 1fr;
}
```

https://web.dev/cq-stable/

```
.animalcard {
    display: grid;
    grid-template: "image" "description" / 1fr;
}

.animalcard-wrapper {
    container-type: inline-size; /* Establish Query Container */
}
```

https://web.dev/cq-stable/

```
.animalcard {
    display: grid;
    grid-template: "image" "description" / 1fr;
}

.animalcard-wrapper {
    container-type: inline-size;
}

@container (min-width: 30rem) {
    .animalcard {
        gap: 2em;
        padding: 2em;
        grid-template: "image description" / 1fr 1fr;
    }
}
```

https://web.dev/cq-stable/

```
.animalcard {
    display: grid;
    grid-template: "image" "description" / 1fr;
}

.animalcard-wrapper {
    container-type: inline-size;
}

@container (min-width: 30rem) {
    .animalcard {
        gap: 2em;
        padding: 2em;
        grid-template: "image description" / 1fr 1fr;
    }
}

@container (min-width: 70rem) {
    .animalcard {
        grid-template-columns: 2fr 1fr;
    }
}
```

https://web.dev/cq-stable/

CSS Nesting

https://developer.chrome.com/articles/css-nesting/

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```
table.colortable td {
    text-align: center;
}

table.colortable td .c {
    text-transform: uppercase;
}

table.colortable td:first-child,
table.colortable td:first-child + td {
    border: 1px solid black;
}

table.colortable th {
    text-align: center;
    background: black;
    color: white;
}
```

https://developer.chrome.com/articles/css-nesting/

```
table.colortable {
    td {
        text-align: center;
        .c {
            text-transform: uppercase;
        }
        &:first-child,
        &:first-child + td {
            border: 1px solid black;
        }
    }
    th {
        text-align: center;
        background: black;
        color: white;
    }
}
```

https://developer.chrome.com/articles/css-nesting/

Ship it?!

```
table.colortable {
  ❌td {
        text-align: center;
        .c {
            text-transform: uppercase;
        }
        &:first-child,
        &:first-child + td {
            border: 1px solid black;
        }
    }
  ❌th {
        text-align: center;
        background: black;
        color: white;
    }
}
```

https://developer.chrome.com/articles/css-nesting/

{CSS}

```
table.colortable {
    & td {
        text-align: center;
        .c {
            text-transform: uppercase;
        }
        &:first-child,
        &:first-child + td {
            border: 1px solid black;
        }
    }
    & th {
        text-align: center;
        background: black;
        color: white;
    }
}
```

https://developer.chrome.com/articles/css-nesting/

{CSS}

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```
#element, div {
  & p { color: blue; }
}
div p {
    color: red;
}
```

https://developer.chrome.com/articles/css-nesting/

{CSS}

```
#element, div {
  & p { color: blue; }
}
div p {
    ~~color: red;~~
}
```

https://developer.chrome.com/articles/css-nesting/

{CSS}

```
#element, div {
  & p { color: blue; }
}
div p {
    ~~color: red;~~
}
```

```
:is(#element, div) p {
    color: blue;
}
div p {
    ~~color: red;~~
}
```

https://developer.chrome.com/articles/css-nesting/

{CSS}

```
#element, div {
  & p { color: blue; }
}
div p {
    ~~color: red;~~
}
```

```
:is(#element, div) p { /* (1,0,0) + (0,0,1) = (1,0,1) */
    color: blue;
}
div p { /* (0,1,1) */
    ~~color: red;~~
}
```

https://developer.chrome.com/articles/css-nesting/

{CSS}

:has()

105 105 103 15.4

“Parent Selector”

https://brm.us/css-has

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```html
<a href="https://www.bram.us/">
    <img src="https://brm.us/avatar" alt="Bramus’s avatar"
         width="800" height="800">
</a>
```

```css
a img {
}

a:has(img) {
}
```

https://brm.us/css-has

```
a:has(> img) {
}

section:not(:has(h1, h2, h3, h4, h5, h6)) {
}
```

https://brm.us/css-has

~~“Parent Selector”~~

https://brm.us/css-has

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```html
<figure>
    <img src="https://brm.us/avatar" alt="Bramus’s avatar"
         width="800" height="800">
    <figcaption>Bramus</figcaption>
</figure>
```

```css
figure:has(figcaption) {
}

figure:has(figcaption) img {
}
```

https://brm.us/css-has

```html
<h1>About Bramus</h1>

<p>Bramus a front-end developer from Belgium. He works as a
Chrome Developer Relations engineer at Google.</p>
```

```css
h1:has(+ p) {
}
```

https://brm.us/css-has

https://codepen.io/bramus/pen/ZEXJmBx

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```html
<form>
    <label for="email">E-mail</label>
    <input type="email" name="email" id="email" />
</form>
```

https://codepen.io/bramus/pen/ZEXJmBx

```
/* Color the label red when the input is invalid */
label:has(+ :invalid) {
    color: red;
}
label:has(+ :invalid)::before {
    content: "❌ ";
}

/* Color the label green when the input is valid */
label:has(+ :valid) {
    color: green;
}
label:has(+ :valid)::before {
    content: "✅ ";
}
```

https://codepen.io/bramus/pen/ZEXJmBx

https://codepen.io/bramus/pen/exrYVW

```html
<form>
    <select>
        <option value="0">Choose a car make …</option>
        <option value="1">Audi</option>
        <option value="2">BMW</option>
        <option value="3">Ford</option>
        <option value="4">Mercedes</option>
    </select>

    <select data-showwhen="1">…</select>
    <select data-showwhen="2">…</select>
    <select data-showwhen="3">…</select>
    <select data-showwhen="4">…</select>
</form>
```

https://codepen.io/bramus/pen/exrYVW

```
/* Hide succeeding dropdowns by default */
select[data-showwhen] {
    display: none;
}

/* Only show a succeeding content when dropdown has
   the correct option selected */
select:has(option[value="1"]:checked) ~ [data-showwhen="1"],
select:has(option[value="2"]:checked) ~ [data-showwhen="2"],
select:has(option[value="3"]:checked) ~ [data-showwhen="3"],
select:has(option[value="4"]:checked) ~ [data-showwhen="4"] {
    display: block;
}
```

https://codepen.io/bramus/pen/exrYVW

https://codepen.io/jh3y/pen/mdxggmO

```
.block:hover {
    scale: 2;
}
.block:has(+ .block:hover),
.block:hover + .block {
    scale: 1.7;
}
.block:has(+ .block + .block:hover),
.block:hover + .block + .block {
    scale: 1.45;
}
.block:has(+ .block + .block + .block:hover),
.block:hover + .block + .block + .block {
    scale: 1.2;
}
```

https://codepen.io/jh3y/pen/mdxggmO

```
/* At least 10 (10 or more) children */
ul:has(> :nth-child(10)) {
    outline: 2px solid green;
}

/* Exactly 5 children */
ul:has(> :nth-child(5):last-child) {
    outline: 2px solid blue;
}
```

https://brm.us/css-has-child-count

```
/* At most 3 (3 or less, excluding 0) children */
ul:has(> :nth-child(-n+3):last-child) {
    outline: 1px solid red;
}

/* At most 3 (3 or less, including 0) children */
ul:not(:has(> :nth-child(3))) {
    outline: 1px solid red;
}
```

https://brm.us/css-has-child-count

```
/* Between 7 and 9 children (boundaries inclusive) */
ul:has(> :nth-child(7)):has(> :nth-child(-n+9):last-child) {
    outline: 2px solid yellow;
}

/* Between 7 and 9 children (boundaries exclusive) */
ul:has(> :nth-child(7) + *):not(:has(> :nth-child(9))) {
    outline: 2px solid cyan;
}
```

https://brm.us/css-has-child-count

Color Functions

111 111 88 15.3

https://brm.us/new-color-functions

```
.text-primary-dark {
    color: color-mix(var(--theme-primary), black 10%);
}

.text-primary-darker {
    color: color-mix(var(--theme-primary), black 20%);
}
```

https://brm.us/new-color-functions

```
:root {
    --color: #ff0000;
}

.selector {
    /* change the transparency */
    color: hsl(from var(--color) h s l / .5);

    /* change the hue */
    color: hsl(from var(--color) calc(h + 180deg) s l);

    /* change the saturation */
    color: hsl(from var(--color) h calc(s + 5%) l);
}
```

https://brm.us/new-color-functions

Color Spaces

111	111	X	15.3

https://developer.chrome.com/articles/high-definition-css-color-guide/

https://www.saji8k.com/displays/color-space/

https://www.saji8k.com/displays/color-space/

https://www.saji8k.com/displays/color-space/

https://www.saji8k.com/displays/color-space/

https://brm.us/hd-colors

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```
body {
    color: color(display-p3 1 0.5 0);
    color: color(display-p3 1 0.5 0 / .5);
}
```

https://developer.chrome.com/articles/high-definition-css-color-guide/

Resolving Colors in CSS

Which color space?

- sRGB
  - Hex colors
  - `rgb()` and `rgba()`
  - `hsl()` and `hsla()`
  - `hwb()`
  - Named colors
- Non-sRGB
  - Lab and LCH
    - `lab()` and `lch()`
  - OKLab and OKLCH
    - `oklab()` and `oklch()`
  - Any Color Space
    - `color()`

https://developer.chrome.com/articles/high-definition-css-color-guide/

https://twitter.com/argyleink/status/1490376117064065025

https://www.youtube.com/watch?v=zkun6wAPc1s

New Viewport Units

108 108 101 15.4

https://web.dev/viewport-units/

https://web.dev/viewport-units/

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https://web.dev/viewport-units/

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https://www.youtube.com/watch?v=xl9R8aTOW_I

Cascade Layers

99 99 97 15.4

https://brm.us/cascade-layers

```html
<input type="password" id="password" style="color: blue;" />
```

```css
input { color: grey; }
input[type="password"] { color: hotpink !important; }
#password { color: lime; }
```

https://brm.us/at-layer

Origin and Importance
Same Origin
Context
Same Context
Element Attached Styles
Not via style attr
Specificity
Same Specificity
Order of Appearance

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Origin and Importance
Same Origin
Context
Same Context
Element Attached Styles
Not via style attr
Specificity
Same Specificity
Order of Appearance

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```
ul[class] {
    margin: 0;
    padding: 0;
    list-style-type: none;
}
```

https://brm.us/at-layer

```
ul[class] {
    margin: 0;
    padding: 0;
    list-style-type: none;
}

.nav {
    margin: 0 40px;
}
```

https://brm.us/at-layer

```
ul[class] { /* (0,1,1) */
    margin: 0;
    padding: 0;
    list-style-type: none;
}

.nav { /* (0,1,0) */
    margin: 0 40px;
}
```

https://brm.us/at-layer

```
ul[class] { /* (0,1,1) */
    margin: 0;
    padding: 0;
    list-style-type: none;
}

ul.nav { /* (0,1,1) */
    margin: 0 40px;
}
```

https://brm.us/at-layer

```
.slider.slider-horizontal > .slider-item {
    background: #fefefe;
    padding: 10px;
    border: 1px solid #000;
}
```

https://brm.us/at-layer

```
.slider.slider-horizontal > .slider-item {
    background: #fefefe;
    padding: 10px;
    border: 1px solid #000;
}

.slider-item {
    border-color: #F00;
}
```

https://brm.us/at-layer

```
.slider.slider-horizontal > .slider-item {
    background: #fefefe;
    padding: 10px;
    border: 1px solid #000;
}

.slider-item {
    border-color: #F00 !important;
}
```

https://brm.us/at-layer

```
.u-text-left {
    text-align: left;
}

.u-text-center {
    text-align: center;
}

.u-text-right {
    text-align: right;
}

.card__content {
    text-align: left;
}
```

https://brm.us/at-layer

```
.card__content {
    text-align: left;
}

.u-text-left {
    text-align: left;
}

.u-text-center {
    text-align: center;
}

.u-text-right {
    text-align: right;
}
```

https://brm.us/at-layer

Origin and Importance
Same Origin
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Origin and Importance
Same Origin
Context
Same Context
Element Attached Styles
Not via style attr
Layers
Same Layer
Specificity
Same Specificity
Order of Appearance

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With Cascade Layers you get to slice up single-origin styles in several layers, and control the priority of each layer

@layer

```
ul[class] {
    margin: 0;
    padding: 0;
    list-style-type: none;
}



.nav {
    margin: 0 40px;
}
```

https://brm.us/at-layer

```
@layer reset {
    ul[class] {
        margin: 0;
        padding: 0;
        list-style-type: none;
    }
}

@layer components {
    .nav {
        margin: 0 40px;
    }
}
```

https://brm.us/at-layer

Element Attached Styles

Not via style attr

Cascade layers are ordered by order of appearance [and prioritized]

Same Layer

Specificity

Cascade Layers *(Declaration Order)*

Cascade Layers *(Priority Order, Stack)*

Highest Priority

Lowest Priority

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Cascade Layers *(Declaration Order)*

Cascade Layers *(Priority Order, Stack)*

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```
@layer reset {
    ul[class] {
        margin: 0;
        padding: 0;
        list-style-type: none;
    }
}

@layer components {
    .nav {
        margin: 0 40px;
    }
}
```

Origin and Importance
Same Origin
Context
Same Context
Element Attached Styles
Not via style attr
Layers
Same Layer
Specificity
Same Specificity
Order of Appearance

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Cascade Layers

More details

- Appending to layers
- Anonymous layers
- Predefine layer order
- Loading external CSS files into layers
- Unlayered styles
- Layer nesting
- Rolling back layers

Cascade Layers

More details

- Appending to layers
- Anonymous layers
- **Predefine layer order**
- Loading external CSS files into layers
- Unlayered styles
- Layer nesting
- Rolling back layers

Cascade Layers *(Declaration Order)*

Cascade Layers *(Priority Order, Stack)*

Highest Priority

Lowest Priority

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Cascade Layers *(Declaration Order)*

Cascade Layers *(Priority Order, Stack)*

Highest Priority

Lowest Priority

@bramus

Cascade Layers *(Declaration Order)*

Cascade Layers *(Priority Order, Stack)*

Highest Priority

Lowest Priority

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`@layer` Statement

Cascade Layers (Declaration Order)
@layer reset, base, components, utilities;
@layer reset { … }
@layer base { … }
@layer components { … }
@layer base { … }
@layer utilities { … }
Cascade Layers (Priority Order, Stack)
@layer utilities { … }
@layer components { … }
@layer base { … }
@layer reset { … }
Highest Priority
Lowest Priority

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Cascade Layers *(Declaration Order)*

@layer reset, base, components, utilities;

@layer reset { … }

@layer base { … }

@layer utilities { … }

@layer base { … }

@layer components { … }

Cascade Layers *(Priority Order, Stack)*

@layer utilities { … }

@layer components { … }

@layer base { … }

@layer reset { … }

Highest Priority

Lowest Priority

@bramus

Cascade Layers *(Declaration Order)*

@layer reset, base, components, utilities;

@layer reset { … }

@layer utilities { … }

@layer components { … }

@layer base { … }

@layer base { … }

Cascade Layers *(Priority Order, Stack)*

@layer utilities { … }

@layer components { … }

@layer base { … }

@layer reset { … }

Highest Priority

Lowest Priority

@bramus

Cascade Layers *(Declaration Order)*

@layer reset, base, components, utilities;

@layer base { … }

@layer utilities { … }

@layer components { … }

@layer reset { … }

@layer base { … }

Cascade Layers *(Priority Order, Stack)*

@layer utilities { … }

@layer components { … }

@layer base { … }

@layer reset { … }

Highest Priority

Lowest Priority

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https://www.youtube.com/watch?v=zEPXyqj7pEA

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```
@layer reset, thirdparty, base, components, utilities;

@import url(reset.css) layer(reset);
@import url(carousel.css) layer(thirdparty);
@import url(map.css) layer(thirdparty);

@layer base {
    …
}

@layer utilities {
    …
}

@layer components {
    …
}
```

Subgrid

X	X	71	16

https://brm.us/subgrid

https://brm.us/subgrid

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https://brm.us/subgrid

```
.grid {
    display: grid;
    grid-template-columns: repeat(9, 1fr);
    grid-template-rows: repeat(4, minmax(100px, auto));
}

.item {
    display: grid;
    grid-column: 2 / 7;
    grid-row: 2 / 4;
}

.subitem {
    grid-column: ??;
    grid-row: ??;
}
```

https://brm.us/subgrid

https://brm.us/subgrid

```
.grid {
    display: grid;
    grid-template-columns: repeat(9, 1fr);
    grid-template-rows: repeat(4, minmax(100px, auto));
}

.item {
    display: grid;
    grid-column: 2 / 7;
    grid-row: 2 / 4;


}

.subitem {
    grid-column: ??;
    grid-row: ??;
}
```

https://brm.us/subgrid

```
.grid {
    display: grid;
    grid-template-columns: repeat(9, 1fr);
    grid-template-rows: repeat(4, minmax(100px, auto));
}

.item {
    display: grid;
    grid-column: 2 / 7;
    grid-row: 2 / 4;
    grid-template-columns: subgrid;
    grid-template-rows: subgrid;
}

.subitem {
    grid-column: ??;
    grid-row: ??;
}
```

https://brm.us/subgrid

https://brm.us/subgrid

```
.grid {
    display: grid;
    grid-template-columns: repeat(9, 1fr);
    grid-template-rows: repeat(4, minmax(100px, auto));
}

.item {
    display: grid;
    grid-column: 2 / 7;
    grid-row: 2 / 4;
    grid-template-columns: subgrid;
    grid-template-rows: subgrid;
}

.subitem {
    grid-column: 3 / span 2;
    grid-row: 1 / 3;
}
```

https://brm.us/subgrid

Media Query Ranges

https://brm.us/media-query-ranges

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```
/* Old Way */
@media (max-width: 750px) {
    …
}

/* New Way */
@media (width <= 750px) {
    …
}
```

https://brm.us/media-query-ranges

```
/* Old Way */
@media (min-width: 300px) and (max-width: 750px) {
    …
}

/* New Way */
@media (300px <= width <= 750px) {
    …
}
```

https://brm.us/media-query-ranges

@property

85	85	X	16.4

https://web.dev/at-property/

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“TypeScript for Custom Properties”

https://web.dev/at-property/

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```
@property --angle {
    syntax: "<angle>";
    initial-value: 0deg;
    inherits: false;
}
```

https://web.dev/at-property/

```
#element {
    background: conic-gradient(
        from var(--angle),
        #d53e33 0deg 90deg,
        #fbb300 90deg 180deg,
        #377af5 180deg 270deg,
        #399953 270deg 360deg
    );

    transition: all 0.2s ease-in-out;
}

#element:hover {
    --angle: 360deg;
}
```

https://web.dev/at-property/

https://web.dev/css-border-animations/

View Transitions

https://developer.chrome.com/docs/web-platform/view-transitions/

Change the DOM in a single step, while creating an animated transition between the two states.

https://developer.chrome.com/docs/web-platform/view-transitions/

https://developer.chrome.com/docs/web-platform/view-transitions/

```
function spaNavigate(data) {
  // Fallback for browsers that don't support this API:
  if (!document.startViewTransition) {
    updateTheDOMSomehow(data);
    return;
  }

  // With a transition:
  document.startViewTransition(() => {
    updateTheDOMSomehow(data)
  });
}
```

https://developer.chrome.com/docs/web-platform/view-transitions/

```
::view-transition
└─ ::view-transition-group(root)
   └─ ::view-transition-image-pair(root)
      ├─ ::view-transition-old(root)
      └─ ::view-transition-new(root)
```

https://developer.chrome.com/docs/web-platform/view-transitions/

```
::view-transition-old(root),
::view-transition-new(root) {
  animation-duration: 5s;
}
```

https://developer.chrome.com/docs/web-platform/view-transitions/

https://developer.chrome.com/docs/web-platform/view-transitions/

https://developer.chrome.com/docs/web-platform/view-transitions/

https://live-transitions.netlify.app/

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Thanks / Questions

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