

# CSS Quick Reference

Selectors, layout, flexbox, grid, animation, responsive design

## Selectors

### Basic Selectors

<b>*</b>	Universal — all elements
<b>div</b>	Type — all <code>&lt;div&gt;</code> elements
<b>.class</b>	Class — elements with class
<b>#id</b>	ID — element with id
<b>[attr]</b>	Attribute — has attribute
<b>[attr="val"]</b>	Attribute equals value

### Combinators

<b>A B</b>	Descendant (any depth)
<b>A &gt; B</b>	Direct child only
<b>A + B</b>	Adjacent sibling (next)
<b>A ~ B</b>	General sibling (all after)

### Pseudo-classes

<b>:hover</b>	Mouse over element
<b>:focus</b>	Element has focus
<b>:first-child</b>	First child of parent
<b>:nth-child(n)</b>	Nth child (1-based, <b>odd, even, 2n+1</b> )
<b>:not(sel)</b>	Negation — exclude matches
<b>:has(sel)</b>	Parent selector (contains match)

### Pseudo-elements

<b>::before</b>	Insert content before element
<b>::after</b>	Insert content after element
<b>::placeholder</b>	Style input placeholder text
<b>::selection</b>	Style highlighted text

## Box Model

### Box Sizing

```
/* Include padding/border in width */
*, ::before, ::after {
  box-sizing: border-box;
}
```

### Properties

<b>margin</b>	Space outside border
<b>border</b>	Edge around padding
<b>padding</b>	Space inside border
<b>width / height</b>	Content dimensions
<b>outline</b>	Ring outside margin (no space)

### Shorthand

```
margin: 10px; /* all sides */
margin: 10px 20px; /* vertical | horizontal */
margin: 10px 20px 30px; /* top | horiz | bottom */
margin: 10px 20px 30px 40px; /* T R B L */
```

## Flexbox

### Container

```
.flex {
  display: flex;
  justify-content: center; /* main axis */
  align-items: center; /* cross axis */
  gap: 1rem;
}
```

## Container Properties

<b>flex-direction</b>	<b>row   column   row-reverse   column-reverse</b>
<b>flex-wrap</b>	<b>nowrap   wrap   wrap-reverse</b>
<b>justify-content</b>	<b>flex-start   center   space-between   space-around   space-evenly</b>
<b>align-items</b>	<b>stretch   center   flex-start   flex-end   baseline</b>
<b>align-content</b>	Multi-line cross axis alignment
<b>gap</b>	Space between flex items

### Item Properties

<b>flex: 1</b>	Grow to fill available space
<b>flex: 0 0 200px</b>	Fixed width, no grow/shrink
<b>align-self</b>	Override align-items for one item
<b>order</b>	Change visual order (default 0)

## Grid

### Container

```
.grid {
  display: grid;
  grid-template-columns: repeat(3, 1fr);
  grid-template-rows: auto 1fr auto;
  gap: 1rem;
}
```

### Container Properties

<b>grid-template-columns</b>	Define column tracks: <b>1fr 2fr, repeat(3, 1fr)</b>
<b>grid-template-rows</b>	Define row tracks
<b>grid-template-areas</b>	Named areas: " <b>header header" "nav main"</b>
<b>gap</b>	Row and column gaps
<b>justify-items</b>	Align items inline (horizontal)
<b>align-items</b>	Align items block (vertical)

### Item Placement

```
.item {
  grid-column: 1 / 3; /* span cols 1-2 */
  grid-row: 1 / -1; /* span all rows */
  grid-area: header; /* named area */
}
```

## Typography

### Font Properties

<b>font-family</b>	Typeface stack: <b>'Inter', sans-serif</b>
<b>font-size</b>	Size: <b>1rem, 16px, clamp(1rem, 2vw, 2rem)</b>
<b>font-weight</b>	<b>normal (400)   bold (700)   100-900</b>
<b>font-style</b>	<b>normal   italic   oblique</b>
<b>line-height</b>	Line spacing: <b>1.5</b> (unitless recommended)
<b>letter-spacing</b>	Character spacing: <b>0.05em</b>

### Text Properties

<b>text-align</b>	<b>left   center   right   justify</b>
<b>text-decoration</b>	<b>none   underline   line-through</b>
<b>text-transform</b>	<b>uppercase   lowercase   capitalize</b>
<b>text-overflow</b>	<b>ellipsis</b> (with overflow: hidden)
<b>white-space</b>	<b>nowrap   pre   pre-wrap</b>
<b>word-break</b>	<b>break-all   break-word</b>

## Colors & Backgrounds

### Color Formats

```
color: #fff660; /* hex */
color: rgb(255, 102, 0); /* rgb */
color: hsl(24, 100%, 50%); /* hsl */
color: oklch(70% 0.15 50); /* oklch */
```

### Background Properties

<b>background-color</b>	Solid fill: <b>#f0f0f0</b>
<b>background-image</b>	<b>url(img.jpg)</b> or gradient
<b>background-size</b>	<b>cover   contain   100px 200px</b>
<b>background-position</b>	<b>center   top right   50% 50%</b>
<b>background-repeat</b>	<b>no-repeat   repeat-x   repeat-y</b>

### Gradients

```
background: linear-gradient(to right, #f00, #00f);
background: radial-gradient(circle, #fff, #000);
background: conic-gradient(red, yellow, green);
```

## Transitions & Animation

### Transitions

```
.btn {
  transition: background 0.3s ease, transform 0.2s;
}
.btn:hover {
  background: #0056b3;
  transform: scale(1.05);
}
```

### Transition Properties

<b>transition-property</b>	Which property to animate
<b>transition-duration</b>	Length: <b>0.3s, 300ms</b>
<b>transition-timing-function</b>	<b>ease   linear   ease-in-out   cubic-bezier()</b>
<b>transition-delay</b>	Wait before starting

### Keyframe Animation

```
@keyframes spin {
  from { transform: rotate(0deg); }
  to { transform: rotate(360deg); }
}
.icon { animation: spin 1s linear infinite; }
```

### Animation Properties

<b>animation-name</b>	Reference @keyframes name
<b>animation-duration</b>	Length of one cycle
<b>animation-iteration-count</b>	<b>1   3   infinite</b>
<b>animation-direction</b>	<b>normal   alternate   reverse</b>
<b>animation-fill-mode</b>	<b>forwards   backwards   both</b>

## Responsive Design

### Media Queries

```
@media (max-width: 768px) {
  .sidebar { display: none; }
}
@media (prefers-color-scheme: dark) {
  body { background: #1a1a1a; color: #eee; }
}
```

# CSS Quick Reference

## Common Breakpoints

<b>max-width: 480px</b>	Mobile phones
<b>max-width: 768px</b>	Tablets
<b>max-width: 1024px</b>	Small laptops
<b>max-width: 1280px</b>	Desktops

## Viewport Units

<b>vw / vh</b>	% of viewport width / height
<b>dvh</b>	Dynamic viewport height (mobile-safe)
<b>svh / lvh</b>	Small / large viewport height
<b>cqi</b>	Container query inline size

## Container Queries

```
.card-wrapper { container-type: inline-size; }
@container (min-width: 400px) {
  .card { flex-direction: row; }
}
```

## Positioning

### Position Values

<b>static</b>	Default — normal document flow
<b>relative</b>	Offset from normal position; keeps space
<b>absolute</b>	Positioned to nearest positioned ancestor
<b>fixed</b>	Positioned to viewport; stays on scroll
<b>sticky</b>	Toggles relative/fixed based on scroll

## Centering Patterns

```
/* Flex center */
display: flex;
justify-content: center;
align-items: center;

/* Grid center */
display: grid;
place-items: center;
```

## Stacking

<b>z-index</b>	Stack order (higher = on top); needs <b>position</b>
<b>isolation: isolate</b>	Creates new stacking context

## Custom Properties

### Define & Use

```
:root {
  --color-primary: #3b82f6;
  --spacing-md: 1rem;
}
.btn {
  background: var(--color-primary);
  padding: var(--spacing-md);
}
```

## Fallback Values

```
color: var(--accent, #ff6600);
/* uses #ff6600 if --accent is not defined */
```

## Dynamic Theming

```
[data-theme="dark"] {
  --bg: #1a1a2e;
  --text: #e0e0e0;
}
body { background: var(--bg); color: var(--text); }
```