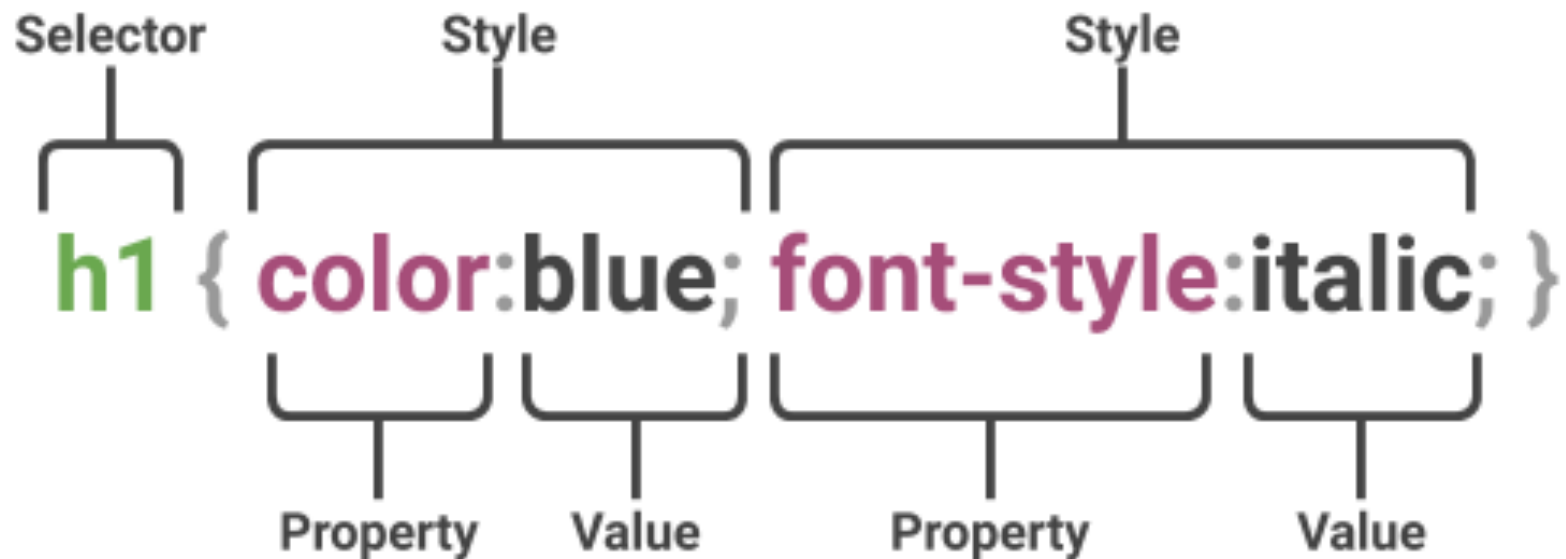# CASCADING STYLESHEET

Styling your HTML pages

WHAT IS CSS?

- CSS stands for Cascading Style Sheet.

- CSS is used to design HTML tags.

- CSS is a widely used language on the web.

- is used in combination with HTML that customizes how HTML elements will appear. CSS can define styles and change the layout and design of a sheet.

```html
<h2 style="text-align: center;">Centered text</h2>

<p style="color: blue; font-size: 18px;">Blue, 18-point text</p>
```

CSS SYNTAX

h1 { color:blue; font-style:italic; }

Selector: h1

Style: color:blue;
- Property: color
- Value: blue

Style: font-style:italic;
- Property: font-style
- Value: italic

WHERE CAN YOU WRITE YOUR CSS ?

Inline CSS

```
<h2 style="text-align:
center;">Centered text</h2>

<p style="color: blue; font-size:
18px;">Blue, 18-point text</p>
```

Internal CSS

```
<head>
  <style>
    h1 {
        color: blue;
    }
  </style>
</head>
```

External CSS

```
<head>
  <link href="style.css"
type="text/css" rel="stylesheet">
</head>
```

The <link> element is used to link HTML documents to external resources like CSS files. It commonly uses:

➢ href attribute to specify the URL to the external resource

➢ rel attribute to specify the relationship of the linked document to the current document

➢ type attribute to define the type of content being linked

2 MAJORS DIFFICULTIES IN USING CSS

CSS Selector

How you select the HTML element to apply your style

1. CSS Element Selector
2. CSS Id Selector
3. CSS Class Selector
4. CSS Universal Selector
5. CSS Attribute Selector
6. CSS Group Selector

CSS Properties

How you choose the CSS properties effectively

1. CSS Background
2. CSS Border
3. CSS Display
4. CSS Float
5. CSS Font
6. CSS Line Height
7. CSS Opacity
8. CSS Padding/Margin
9. CSS Position
10. CSS Visibility
11. CSS Width/Height
12. CSS Align
13. CSS Word wrap

BASIC CSS SELECTOR: ELEMENT SELECTOR

The CSS **type or element selector** matches elements by node name. In other words, it selects all elements of the given type within a document.

```css
span {
  background-color: skyblue;
}
```

HTML

```html
<span>Here's a span with some text.</span>
<p>Here's a p with some text.</p>
<span>Here's a span with more text.</span>
```

Result

Here's a span with some text.

Here's a p with some text.

Here's a span with more text.

BASIC CSS SELECTOR: ID SELECTOR

The CSS **ID selector** matches an element based on the value of the element's id attribute. In order for the element to be selected, its id attribute must match exactly the value given in the selector.
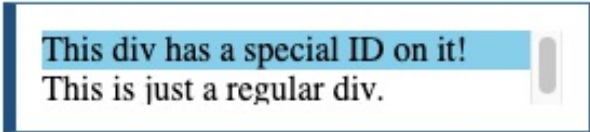
CSS

```
#identified {
    background-color: skyblue;
}
```

HTML

```
<div id="identified">This div has a special ID on it!</div>
<div>This is just a regular div.</div>
```

Result

This div has a special ID on it!
This is just a regular div.

BASIC CSS SELECTOR: CLASS SELECTOR

The CSS **class selector** matches elements based on the contents of their class attribute.

CSS

```css
.red {
  color: #f33;
}

.yellow-bg {
  background: #ffa;
}

.fancy {
  font-weight: bold;
  text-shadow: 4px 4px 3px #77f;
}
```

Result

This paragraph has red text.

This paragraph has red text and a yellow background.

This paragraph has red text and "fancy" styling.

This is just a regular paragraph.

HTML

```html
<p class="red">This paragraph has red text.</p>
<p class="red yellow-bg">This paragraph has red text and a yellow backgr
<p class="red fancy">This paragraph has red text and "fancy" styling.</p
<p>This is just a regular paragraph.</p>
```

BASIC CSS SELECTOR: ATTRIBUTE SELECTOR

The CSS **attribute selector** matches elements based on the presence or value of a given attribute.

CSS

```css
a {
  color: blue;
}

/* Internal links, beginning with "#" */
a[href^="#"] {
  background-color: gold;
}

/* Links with "example" anywhere in the URL */
a[href*="example"] {
  background-color: silver;
}

/* Links with "insensitive" anywhere in the URL,
   regardless of capitalization */
a[href*="insensitive" i] {
  color: cyan;
}

/* Links with "cAsE" anywhere in the URL,
with matching capitalization */
a[href*="cAsE" s] {
  color: pink;
}
```

```css
/* Links that end in ".org" */
a[href$=".org"] {
  color: red;
}

/* Links that start with "https" and end in ".org" */
a[href^="https"][href$=".org"] {
  color: green;
}
```

Result

- Internal link
- Example link
- Insensitive internal link
- Example org link
- Example https org link

HTML

```html
<ul>
  <li><a href="#internal">Internal link</a></li>
  <li><a href="http://example.com">Example link</a></li>
  <li><a href="#InSensitive">Insensitive internal link</a></li>
  <li><a href="http://example.org">Example org link</a></li>
  <li><a href="https://example.org">Example https org link</a></li>
</ul>
```

BASIC CSS SELECTOR: UNIVERSAL SELECTOR

The CSS **universal selector** (*) matches elements of any type.

CSS

```css
* [lang^=en] {
  color: green;
}

*.warning {
  color: red;
}

*#maincontent {
  border: 1px solid blue;
}

.floating {
  float: left
}

/* automatically clear the next sibling after a floating element */
.floating + * {
  clear: left;
}
```

HTML

```html
<p class="warning">
  <span lang="en-us">A green span</span> in a red paragraph.
</p>
<p id="maincontent" lang="en-gb">
  <span class="warning">A red span</span> in a green paragraph.
</p>
```

Result

A green span in a red paragraph.

A red span in a green paragraph.

GROUP CSS SELECTOR

The , selector is a grouping method that selects all the matching nodes. **Syntax:** A, B **Example:** div, span will match both <span> and <div> elements.

```
h1, h2, h3, h4, h5, h6 { font-family: helvetica; }
```

COMBINATOR CSS SELECTOR

You can apply more condition into your selection. This will help in complicate scenario where you only want to apply your CSS to a section of your pages only. There are different combinators:

Descendant combinator: The (space) combinator selects nodes that are descendants of the first element. **Syntax:** A B

Child combinator: The > combinator selects nodes that are direct children of the first element. **Syntax:** A > B

General sibling combinator: The ~ combinator selects siblings. This means that the second element follows the first (though not necessarily immediately), and both share the same parent.   **Syntax:** A ~ B

Adjacent sibling combinator: The + combinator matches the second element only if it *immediately* follows the first element.   **Syntax:** A + B

Column combinator: The || combinator selects nodes which belong to a column.   **Syntax:** A || B

PSEUDO-CLASS CSS SELECTOR

A CSS **pseudo-class** is a keyword added to a selector that specifies a special state of the selected element(s). For example, :hover can be used to change a button's color when the user's pointer hovers over it.

```css
/* Any button over which the user's pointer is hovering */
button:hover {
  color: blue;
}
```

PSEUDO-ELEMENTS CSS SELECTOR

A CSS **pseudo-element** is a keyword added to a selector that lets you style a specific part of the selected element(s). For example, ::first-line can be used to change the font of the first line of a paragraph.

Syntax

```
selector::pseudo-element {
  property: value;
}
```

```
/* The first line of every <p> element. */
p::first-line {
  color: blue;
  text-transform: uppercase;
}
```

More detail: https://developer.mozilla.org/en-US/docs/Web/CSS/Pseudo-elements

CSS PROPERTIES: THE BASIC PROPERTIES

A *CSS property* styles an aspect of an HTML element.

A CSS property declaration consists of a property name and a property value. The property name comes first, then a colon, and then the value. Here is the general pattern a CSS property declaration follows:

```
property-name : property-value
```

CSS Syntax

```
selector #id .class :pseudoclass ::pseudoelement [attr] {
    property : value ;
}
```

Colors

Keywords: RoyalBlue;
Hexadecimal: #4169E1; ➔ #46E;
RGB model: RGB(65,105,225);
HSL model: HSL(225,71%,88%);
transparent

with alpha channel
RGB(65,105,225, 0.5);
HSL(225,71%,88%, 0.5);
currentColor

Backgrounds

background-color: [color];   color: [color];
background-image: url(image.jpg); none
background-repeat: repeat | repeat-x | repeat-y | no-repeat
background-attachment: scroll | fixed
background-position: [pos-x] [pos-y];

background: color | image | repeat | attachment | position

Fonts

font-family: [font1], [font2], [font3], ... ;
serif | sans-serif | cursive | fantasy | monospace
font-size: [size] xx-small | x-small | small | medium
large | x-large | xx-large | smaller | larger
font-style: normal | italic | oblique
font-weight: [100-900] normal | bold | lighter | bolder

font: style | variant | weight | size/height | family

4ex

normal
2ex
1ex
A A A
2em 1em 0.5em

Font (aligments and spacing)

letter-spacing: [size]; normal
line-height: [size]; normal
text-indent: [size];
word-spacing: [size]; normal
white-space: normal | no-wrap | pre | pre-line | pre-wrap

tab-size: [size];
text-align: left | center | right | justify
vertical-align: [size] baseline
sub | super | top | middle | bottom
text-top | text-bottom

Tables

border-collapse: separate | collapse
border-spacing: [size];
caption-side: top | bottom
empty-cells: show | hide
table-layout: auto | fixed

Fonts (variants)

font-variant: normal | small-caps
text-decoration: none | underline | overline | line-through
text-transform: none | capitalize | lowercase | uppercase

Outlines

outline-color: [color]; invert
outline-style: [style];
outline-width: [size]; thin | medium | thick

outline: color | style | width

Elements (types)

display: inline | block | inline-block | none | list-item
table | table-cell | table-row
visibility: visible | hidden | collapse

Displacement

float: none | left | right
clear: none | left | right | both

z-index:
15 5 -5

Mouse cursors

cursor: url(image.png);
default | crosshair | help | move
pointer | progress | text | wait
none | context-menu | cell
vertical-text | alias | copy
no-drop | not-allowed | all-scroll
col-resize
row-resize

Margins and paddings

margin/padding: top | right | bottom | left   *-top
margin/padding: top | right left | bottom   *-left
margin/padding: top bottom | left right   *-right
margin/padding: top right bottom left   *-bottom

Lists

list-style-image: url(image.png); none
list-style-position: inside | outside
list-style-type: disc | circle | square | none
1. 2. 01. 02. decimal | decimal-leading-zero
a. b. A. B. lower-alpha | upper-alpha
i. ii. I. II. lower-roman | upper-roman

list-style: type | position | image

Border

border-color: [color];
border-width: [size]; thin | medium | thick
border-style: [style];

border: width | style | color
border-top-*
border-right-*
border-bottom-*
border-left-*

Styles

solid
dotted
dashed
double
groove
ridge
inset
outset

25.4mm   10mm 4.23mm   0.35mm
1in   1cm 1pc 1mm 1pt

Position types

position: static | absolute | relative | fixed
top/right/bottom/left: [size] auto
clip-path: url(shape.svg) shape | auto
overflow: visible | hidden | scroll | auto

Columns

column-width: [size];
column-count: [number]; auto

columns: width | count

Columns separator

column-rule-width: [size];
column-rule-style: [style];
column-rule-color: [color];

column-rule: width | style | color

Columns

column-gap: [size]; normal
column-span: [number]; all
column-fill: balance | auto

Dimensions

max-width: [size]; none
min-width: [size]; none
width: [size] auto
*-height

Locations

top
top-left   top-right
left   right
bottom-left   bottom-right
bottom   padding
border
margin

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Gradients

background-image:
    linear-gradient([dir], [col1], [col2]...);
    radial-gradient([shape] [size] at [pos], [col1], [col2], ...);
    repeating-linear-gradient(...);
    repeating-radial-gradient(...);

Shadows

text-shadow: [pos-x] [pos-y] [blur] [color]; none
box-shadow: [pos-x] [pos-y] [blur] [size] [color]; none | inset

Shadows or backgrounds

background-image: url(back1.png), url(back2.png), ...;
background-repeat: no-repeat, repeat-x, ...;

Backs

background-clip: border-box | padding-box | content-box
background-origin: padding-box | border-box | content-box
background-size: [size-w] [size-h]; cover | contain | auto

background: color | position | size | repeat | origin | clip | att | img

Round borders CSS3

border-radius: top | right | bottom | left   border-top-left-*
border-radius: top bottom | left right   border-top-right-*
border-radius: top right bottom left   border-bottom-left-*
                                                 border-bottom-right-*

Borders with images

border-image-outset: [size]
border-image-repeat: stretch | repeat | round | space
border-image-slice: top | right | bottom | left
border-image-source: url(image.png)
border-image-width: [size]

border-image: source | slice | width | outset | repeat

Transitions

transition-property: [css-property]; none | all
transition-duration: [time];
transition-timing-function: [timing-function]
transition-delay: [time];

transition: property | duration | t-function | delay

Transformaciones

transform-origin: [pos-x] [pos-y] [pos-z];
transform-style: flat | preserve-3d

Animations

animation-name: [name]; none
animation-duration: [time];
animation-timing-function: ➔
animation-delay: [time];
animation-iteration-count: [number]; infinite
animation-direction: normal | reverse | alternate | alternate-reverse
animation-fill-mode: none | forwards | backwards | both
animation-play-state: running | paused

animation: name | duration | timing-func | delay | i-c | dir | f-m | p-s

Lineal gradient (Direction)

to top
to top left   360deg   to top right
             325deg 35deg
to left 270deg   90deg to right
             215deg 145deg
to bottom left 180deg to bottom right
to bottom

-webkit-
-moz-
-ms-
-o-

Radial gradient (Options)

shape: ellipse | circle
size: [size] farthest-corner | closest-corner
farthest-side | closest-side
pos: center | top | left | right | bottom
top left | top right | bottom left | bottom right

Typograph CSS3

@font-face {
    font-family: 'Open Sans';
    font-weight: 300;
    src: local('Open Sans'),
    url(file.ttf) format('truetype'),
    url(file.woff) format('woff'); }

http://fonts.googleapis.com/css?family=Open+Sans:300,400|Roboto:400

Fonts CSS3

font-stretch: ultra-condensed
extra-condensed | condensed | semi-condensed
normal | semi-expanded | expanded
extra-expanded | ultra-expanded
text-overflow: [text]; clip | ellipsis
text-justify: auto | inter-word | distribute | none
font-size-adjust: [number] none

Transformations 3D

transform: translate3d(x, y, z);
transform: translateZ(z);
transform: scale3d(x, y, z);
transform: scaleZ(z);
transform: rotate3d(x,y,z,deg);
transform: rotateZ(deg);
transform: perspective(n);
transform: matrix3d(n,n,n,...)

CSS Filters

filter: [filter](n)
filter-func   (n)
grayscale: [0...1]
blur: [size]
sepia: [0...1]
saturate: [0...1]
opacity: [0...1]
brightness: [0...1]
contrast: [0...1]
hue-rotate: [deg]
invert: [0...1]
filter: f1(n) f2(n) ...

Media

@media print {
    propiedad : valor;
}

@media screen {
    propiedad : valor;
}

@media screen and
(max-width: 640px) {
    propiedad : valor;
}

Pagination

@page {
    size: [width] [height];
    landscape | portrait | auto
    margin: [...]
    orphans: [number];
    widows: [number]; }

Rotation 2D

transform: rotateX(deg_x);
transform: rotateY(deg_y);
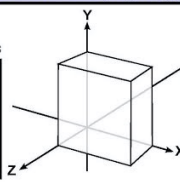transform: rotate(deg);

Scale 2D

transform: scaleX(x);
transform: scaleY(y);
transform: scale(x, y);

Translation 2D

transform: translateX(x);
transform: translateY(y);
transform: translate(x, y);

Skew 2D

transform: skewX(deg_x);
transform: skewY(deg_y);
transform: skew(deg, deg);

timing-function cubic-bezier()

ease   (0.25, 0.1, 0.25, 1)
linear   (0.00, 0.0, 1.00, 1)
ease-in   (0.42, 0.0, 1.00, 1)
ease-out   (0.00, 0.0, 0.58, 1)
ease-in-out (0.42, 0.0, 0.58, 1)

0
270 deg 90
180

Keyframes

@-vendor-keyframes

@keyframes nameanimation {
    0% { propiedad: valor }
    ...
    100% { propiedad: valor }
}

0% = from
100% = to

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MORE ADVANCED CSS PROPERTIES ARE COMING LATER