CSS

CSS FUNDAMENTALS

Pseudo-class

IN A ROCKET
Learn front-end development at *rocket speed*

PSEUDO-CLASSES

A **pseudo-class** selects an element with **a special state specified by a keyword**.

Syntax

```
selector:pseudo-class {style properties}
```

a:link {color: green}

With this code all a elements that have not yet been visited are shown in green.

DYNAMIC

PSEUDO-CLASSES

TARGET & LANG

UI ELEMENT STATES

STRUCTURAL

NEGATION

Dynamic pseudo-classes

:link

:visited

:hover

:active

:focus

PSEUDO-CLASSES / DYNAMIC / LINK STATES

Contact

a:link

Represents links that have not yet been visited.

Contact

a:visited

Styles for links that have been visited (exists in the browser's history).

Contact

a:hover

Generally triggered when the user hovers over an element with the cursor (mouse pointer).

Contact

CLICKED

a:active

Triggered when the user clicks the link or selects it with the keyboard's tab key.

Dynamic pseudo-classes

How to remember them?

:link
:visited

LO**V**E

:**h**over
:**a**ctive

HATE

:focus

PSEUDO-CLASSES / DYNAMIC

Selects all links that have **not yet been visited**.

Syntax `selector:link {style properties}`

```
a:link {color: green}
```

With this code all not visited links are shown in green.

PSEUDO-CLASSES / DYNAMIC

READY TO USE CODE

HTML

```
<body>
<a href="#">Not visited.</a>
<a href="#">Visited.</a>
<a href="#">Hover.</a>
<a href="#">Active.</a>
<input type="text" name="zip" id="zip">
</body>
```

CSS

```
a:link { color: blue; }
a:visited { color: purple; }
a:hover { color: green; }
a:active { color: red; }
input:focus { color: orange; }
```

Browser

DYNAMIC

TARGET & LANG

PSEUDO-CLASSES

UI ELEMENT STATES

STRUCTURAL

NEGATION

PSEUDO-CLASSES / TARGET & LANG

Selects a **fragment identifier** that has a location within a resource.

Syntax `selector:target {style properties}`

h2:terms {color: green}

With this code the `terms` fragment identifier is shown in green.

PSEUDO-CLASSES / TARGET & LANG

READY TO USE CODE

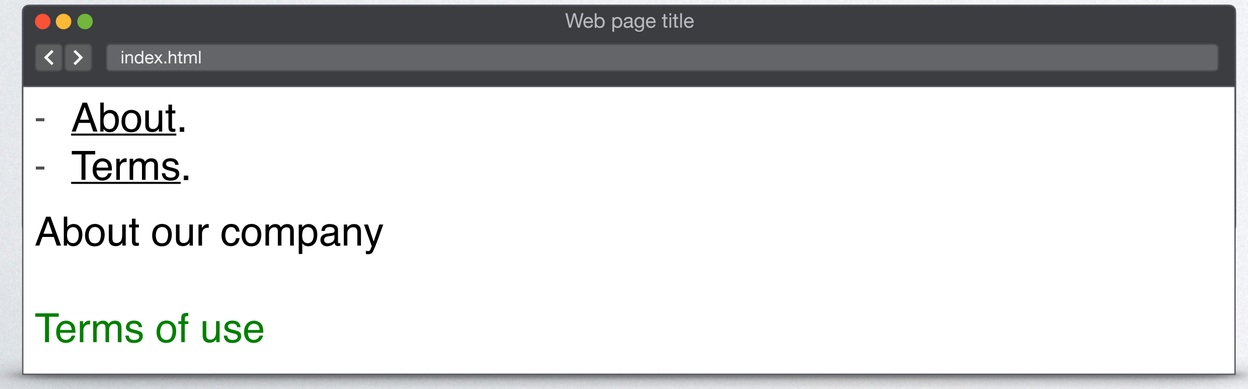
HTML

```
<body>
<a href="#about">About.</a>
<a href="#terms">Terms.</a>
<h2 id="about">About our company</h2>
<h2 id="terms">Terms of use</h2>
</body>
```

CSS

```
h2:target { color: green; }
```

Browser



PSEUDO-CLASSES / TARGET & LANG

Selects elements based on the **language** they are determined to be in.

Syntax `selector:lang(lg) {style properties}`

p:lang(en) {color: green}

With this code the paragraphs in English (en) are shown in green.

PSEUDO-CLASSES / TARGET & LANG

READY TO USE CODE

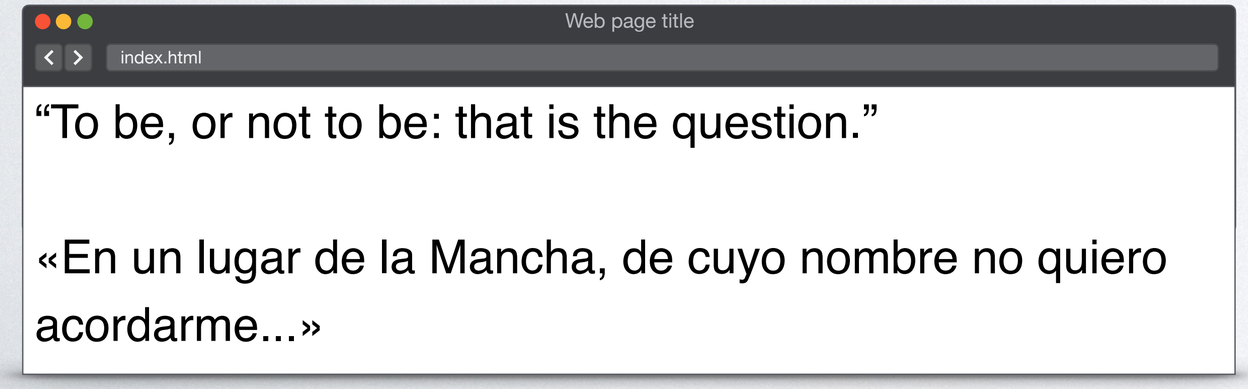
HTML

```
<body>
<p lang="en"><q>To be, or not to be:
that is the question.</q></p>
<p lang="es"><q>En un lugar de la
Mancha, de cuyo nombre no quiero
acordarme...</q></p>
</body>
```

CSS

```
p:lang(en) > q { quotes: '\201C' '\201D'; }

p:lang(es) > q { quotes: '«' '»'; }
```

Browser



DYNAMIC

TARGET & LANG

UI ELEMENT STATES

PSEUDO-CLASSES

STRUCTURAL

NEGATION

PSEUDO-CLASSES / UI ELEMENT STATES

Selects any enabled element (it can be selected, clicked on, typed into, etc.).

Syntax `selector:enabled {style properties}`

```
input:enabled {color: green}
```

With this code only the enabled inputs are shown in green.

PSEUDO-CLASSES / UI ELEMENT STATES

Selects any disabled element.

Syntax `selector:enabled {style properties}`

```
input:disabled {color: green}
```

With this code only the disabled inputs are shown in green.

PSEUDO-CLASSES / UI ELEMENT STATES

READY TO USE CODE

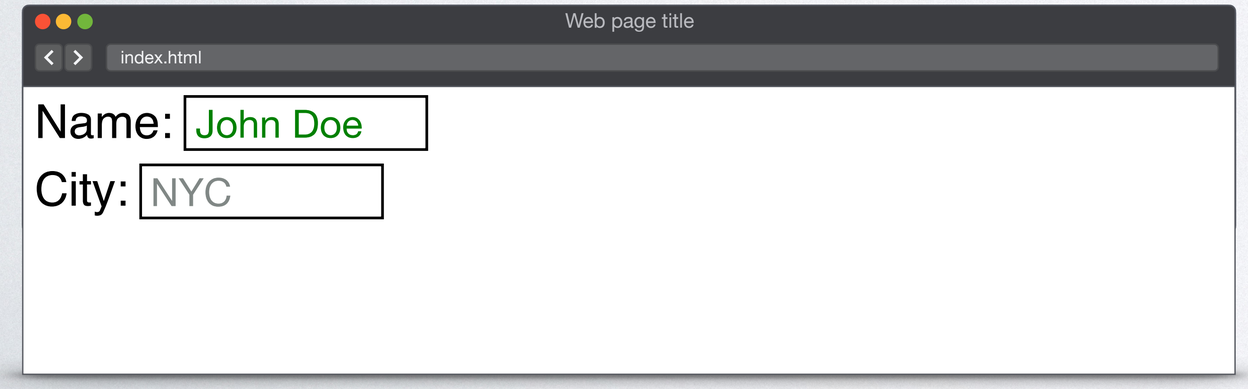
HTML

```
<body>
<form>
<label for="name">Name:</label>
<input type="text" id="name">
<label for="city">City:</label>
<input type="text" id="city" value="NYC"
disabled="disabled">
<input type="button" value="Submit">
</form>
</body>
```

CSS

```
input:enabled { color: green; }

input:disabled { color: gray; }
```

Browser



PSEUDO-CLASSES / UI ELEMENT STATES

Selects any radio, checkbox or option that is checked or toggled to an on state.

Syntax `selector:checked {style properties}`

```
input:checked {color: green}
```

With this code only the checked inputs are shown in green.

PSEUDO-CLASSES / UI ELEMENT STATES

READY TO USE CODE

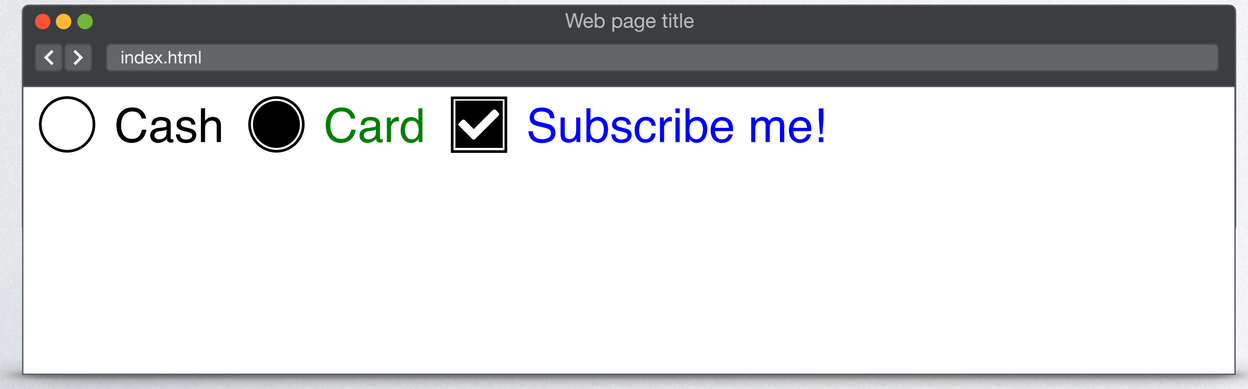
HTML

```
<body>
<form>
<input type="radio" name="pay" id="cash">
<label for="cash">Cash</label>
<input type="radio" name="pay" id="card">
<label for="card">Card</label>

<input type="checkbox" name="nwslt" id="nwslt">
<label for="nwslt">Subscribe me!</label>
</form>
</body>
```

CSS

```
input[type=radio]:checked + label { color: green; }

input[type=checkbox]:checked + label { color: blue; }
```

Browser



DYNAMIC

TARGET & LANG

UI ELEMENT STATES

STRUCTURAL

PSEUDO-CLASSES

NEGATION

Structural pseudo-classes

:root
:empty

:first-child
:last-child
:nth-child()
:only-child

:first-of-type
:last-of-type
:nth-of-type()
:only-of-type

PSEUDO-CLASSES / STRUCTURAL

Selects an element that is the root of the document (in HTML, this is always the HTML element).

Syntax `:root {style properties}`

:root {color: green}

PSEUDO-CLASSES / STRUCTURAL

READY TO USE CODE

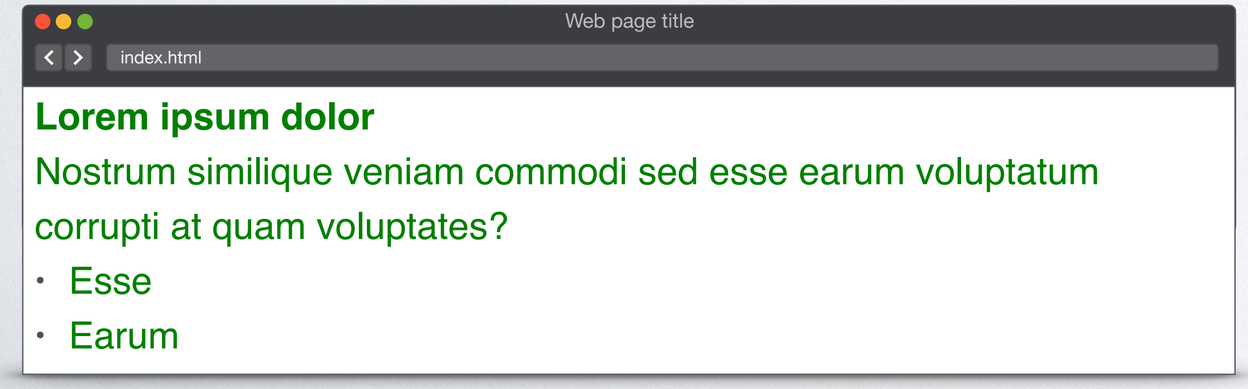
HTML

```
<body>
<h2>Lorem ipsum dolor</h2>
<p>Nostrum similique veniam commodi sed esse earum
voluptatum corrupti at quam voluptates?</p>
<ul>
  <li>Esse</li>
  <li>Earum</li>
</ul>
</body>
```

CSS

```
:root { color: green; }
```

Browser



PSEUDO-CLASSES / STRUCTURAL

READY TO USE CODE

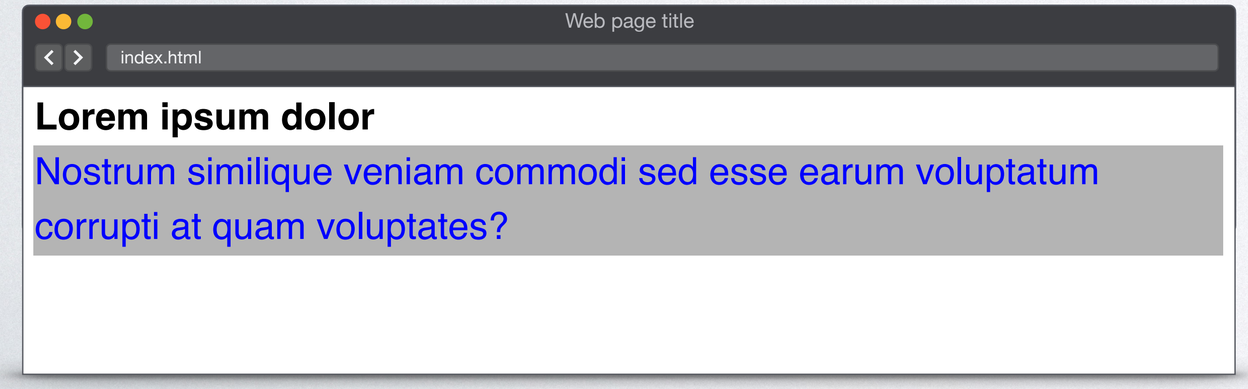
HTML

```
<body>
<h2>Lorem ipsum dolor</h2>
<p>Nostrum similique veniam commodi sed esse
earum voluptatum corrupti at quam voluptates?
</p>
</body>
```

CSS

```
:root {
  --color-primary: blue;
  --color-secondary: gray;
}

p {
  background: var(--color-secondary);
  color: var(--color-primary);
}
```

Browser



Structural pseudo-classes

:root
:empty

:first-child
:last-child
:nth-child()
:only-child

:first-of-type
:last-of-type
:nth-of-type()
:only-of-type

PSEUDO-CLASSES / STRUCTURAL

Selects an element that has no children at all.

Syntax `element:empty {style properties}`

div:empty {background: gray}

With this code only the `empty` divs are shown in gray.

PSEUDO-CLASSES / STRUCTURAL

READY TO USE CODE

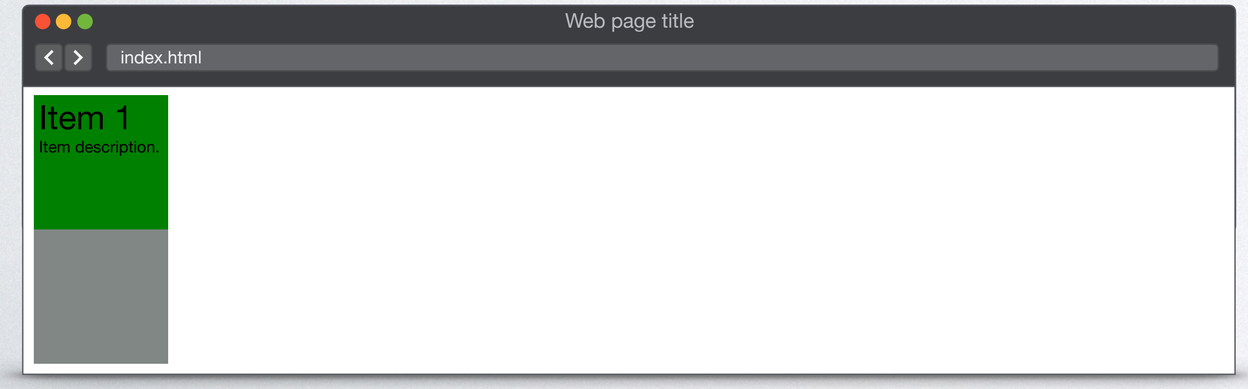
HTML

```
<body>
<article>
  <h2>Item 1</h2>
  <p>Item description.</p>
</article>
<article><!-- No item here --></article>
</body>
```

CSS

```
article {
  background: green;
  width: 100px;
  height: 100px;
}

article:empty {
  background: gray;
}
```

Browser



Structural pseudo-classes

:root
:empty

:first-child
:last-child
:nth-child()
:only-child

:first-of-type
:last-of-type
:nth-of-type()
:only-of-type

PSEUDO-CLASSES / STRUCTURAL

Selects an element that is first in a list of siblings.

Syntax `element:first-child {style properties}`

li:first-child {color: green}

With this code only the first `li` of a list is shown in green.

PSEUDO-CLASSES / STRUCTURAL

READY TO USE CODE

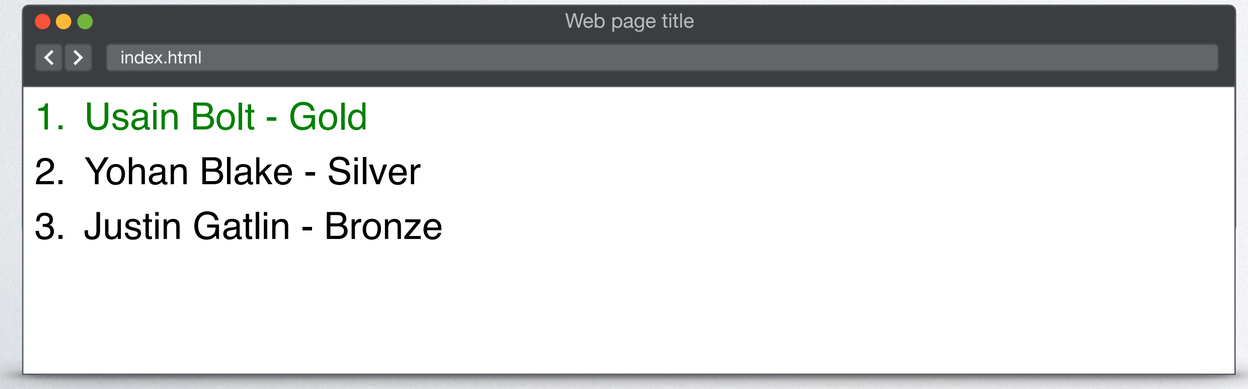
HTML

```
<body>
<ol>
  <li>Usain Bolt - Gold</li>
  <li>Yohan Blake - Silver</li>
  <li>Justin Gatlin - Bronze</li>
</ol>
</body>
```

CSS

```
li:first-child { color: green; }
```

Browser



Structural pseudo-classes

:root
:empty

:first-child
:last-child
:nth-child()
:only-child

:first-of-type
:last-of-type
:nth-of-type()
:only-of-type

PSEUDO-CLASSES / STRUCTURAL

Selects an element that is last in a list of siblings.

Syntax `element:last-child {style properties}`

li:last-child {color: green}

With this code only the last `li` of a list is shown in green.

PSEUDO-CLASSES / STRUCTURAL

READY TO USE CODE

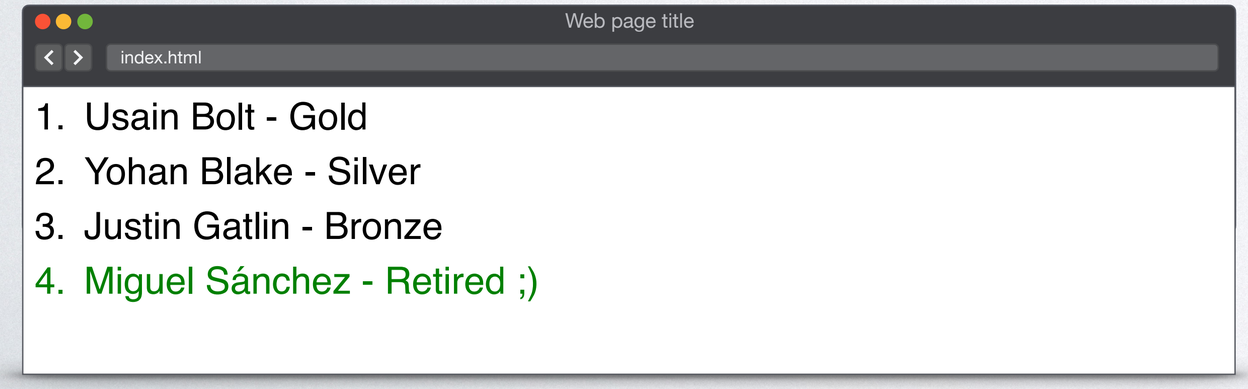
HTML

```
<body>
<ol>
  <li>Usain Bolt - Gold</li>
  <li>Yohan Blake - Silver</li>
  <li>Justin Gatlin - Bronze</li>
  <li>Miguel Sánchez - Retired ;)</li>
</ol>
</body>
```

CSS

```
li:last-child { color: green; }
```

Browser



Structural pseudo-classes

:root
:empty

:first-child
:last-child
:nth-child()
:only-child

:first-of-type
:last-of-type
:nth-of-type()
:only-of-type

PSEUDO-CLASSES / STRUCTURAL

Selects an element that has an+b-1 siblings before it in the document tree and has a parent element.

Syntax `element:nth-child(an + b) {style properties}`

```
li:nth-child(2n+1) {color: green}
```

With this code every odd `li` of a list is shown in green.

li:nth-child(4) { color: green; }

- Item 1
- Item 2
- Item 3
- Item 4
- Item 5
- Item 6
- Item 7
- Item 8

Difference

```
li:nth-child(2n+1) { color: green; }
```

First term

- Item 1
- Item 2
- Item 3
- Item 4
- Item 5
- Item 6
- Item 7
- Item 8

Difference

```
li:nth-child(2n+2) { color: green; }
```

First term

- Item 1
- Item 2
- Item 3
- Item 4
- Item 5
- Item 6
- Item 7
- Item 8

```
li:nth-child(odd) { color: green; }
```

- Item 1
- Item 2
- Item 3
- Item 4
- Item 5
- Item 6
- Item 7
- Item 8

```
li:nth-child(even) { color: green; }
```

- Item 1
- Item 2
- Item 3
- Item 4
- Item 5
- Item 6
- Item 7
- Item 8

Difference

```
li:nth-child(1n+3) { color: green; }
```

First term

- Item 1
- Item 2
- Item 3
- Item 4
- Item 5
- Item 6
- Item 7
- Item 8

Difference

```
li:nth-child(-1n+3) { color: green; }
```

First term

- Item 1
- Item 2
- Item 3
- Item 4
- Item 5
- Item 6
- Item 7
- Item 8

li:nth-**last**-child(-n+3) { color: green; }

- Item 1
- Item 2
- Item 3
- Item 4
- Item 5
- Item 6
- Item 7
- Item 8

Structural pseudo-classes

:root
:empty

:first-child
:last-child
:nth-child()
:only-child

:first-of-type
:last-of-type
:nth-of-type()
:only-of-type

PSEUDO-CLASSES / STRUCTURAL

Selects an element that has no siblings.

Syntax `element:only-child {style properties}`

li:only-child {color: green}

With this code only an `li` without siblings is shown in green.

PSEUDO-CLASSES / STRUCTURAL

READY TO USE CODE

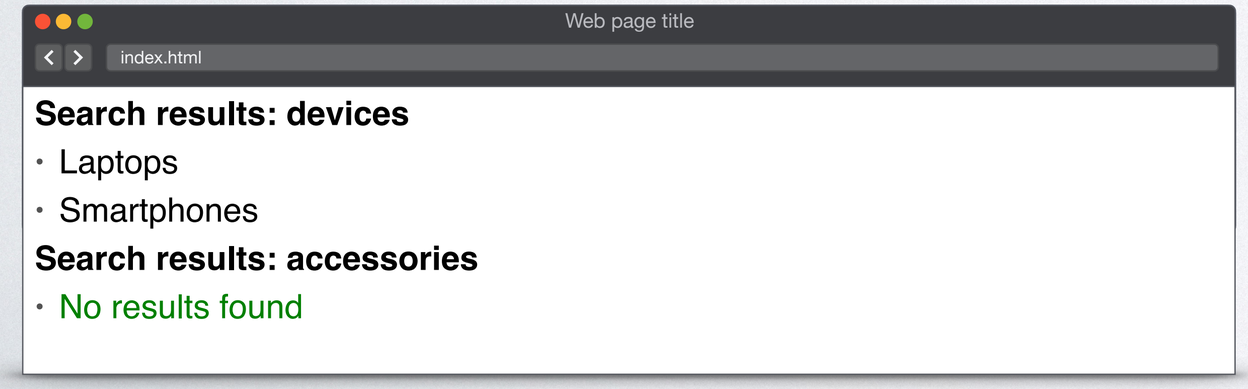
HTML

```
<body>
<h2>Search results: devices</h2>
<ul>
  <li>Laptops</li>
  <li>Smartphones</li>
</ul>
<h2>Search results: accessories</h2>
<ul>
  <li>No results found</li>
</ul>
</body>
```

CSS

```
li:only-child { color: green; }
```

Browser



Structural pseudo-classes

:root
:empty

:first-child
:last-child
:nth-child()
:only-child

:first-of-type
:last-of-type
:nth-of-type()
:only-of-type

PSEUDO-CLASSES / STRUCTURAL

Selects an element that is the first sibling of its type.

Syntax `element:first-of-type {style properties}`

p:first-of-type {color: green}

With this code only the first p in a group of children paragraphs is shown in green.

PSEUDO-CLASSES / STRUCTURAL

READY TO USE CODE

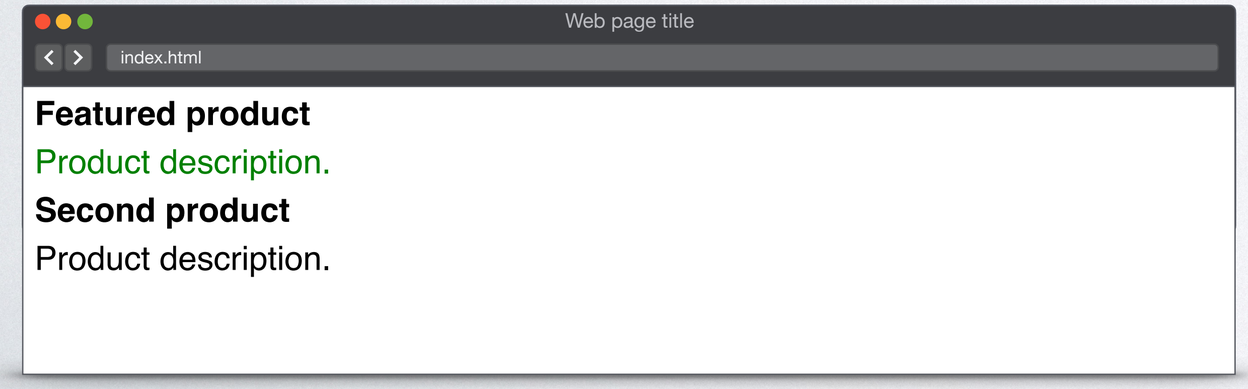
HTML

```
<body>
<main>
  <h2>Featured product</h2>
  <p>Product description.</p>
  <h2>Second product</h2>
  <p>Product description.</p>
</main>
</body>
```

CSS

```
p:first-of-type { color: green; }
```

Browser



Structural pseudo-classes

:root
:empty

:first-child
:last-child
:nth-child()
:only-child

:first-of-type
:last-of-type
:nth-of-type()
:only-of-type

Selects an element that is the last sibling of its type.

Syntax `element:first-of-type {style properties}`

p:last-of-type {color: green}

With this code only the last p in a group of children paragraphs is shown in green.

PSEUDO-CLASSES / STRUCTURAL

READY TO USE CODE

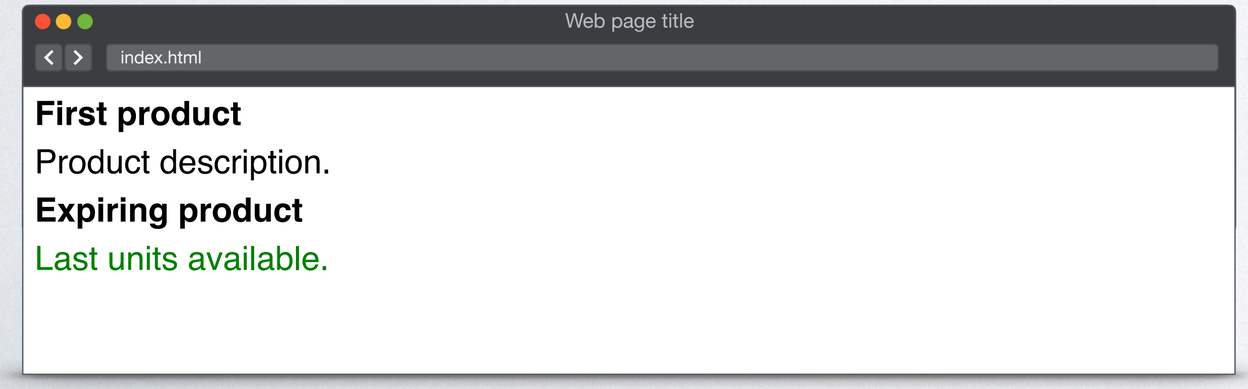
HTML

```
<body>
<main>
  <h2>First product</h2>
  <p>Product description.</p>
  <h2>Expiring product</h2>
  <p>Last units available.</p>
</main>
</body>
```

CSS

```
p:last-of-type { color: green; }
```

Browser



Structural pseudo-classes

:root
:empty

:first-child
:last-child
:nth-child()
:only-child

:first-of-type
:last-of-type
:nth-of-type()
:only-of-type

PSEUDO-CLASSES / STRUCTURAL

Selects elements of a given type, based on their position among a group of siblings.

Syntax `element:nth-of-type() {style properties}`

```
p:nth-of-type(odd) {color: green}
```

With this code only the odd paragraphs in a group of children paragraphs are shown in green.

PSEUDO-CLASSES / STRUCTURAL

READY TO USE CODE

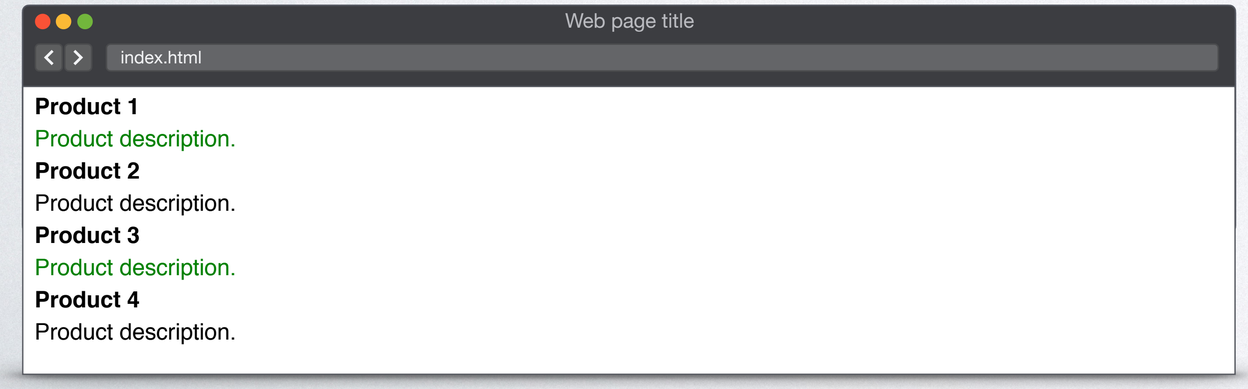
HTML

```
<body>
<main>
  <h2>Product 1</h2>
  <p>Product description.</p>
  <h2>Product 2</h2>
  <p>Product description.</p>
  <h2>Product 3</h2>
  <p>Product description.</p>
  <h2>Product 4</h2>
  <p>Product description.</p>
</main>
</body>
```

CSS

```
p:nth-of-type(odd) { color: green; }
```

Browser



Structural pseudo-classes

:root
:empty

:first-child
:last-child
:nth-child()
:only-child

:first-of-type
:last-of-type
:nth-of-type()
:only-of-type

PSEUDO-CLASSES / STRUCTURAL

Selects an element that has no siblings with the same expanded element name.

Syntax `element:only-of-type() {style properties}`

p:only-of-type {color: green}

With this code only the paragraph with no other siblign paragraphs is shown in green.

PSEUDO-CLASSES / STRUCTURAL

READY TO USE CODE

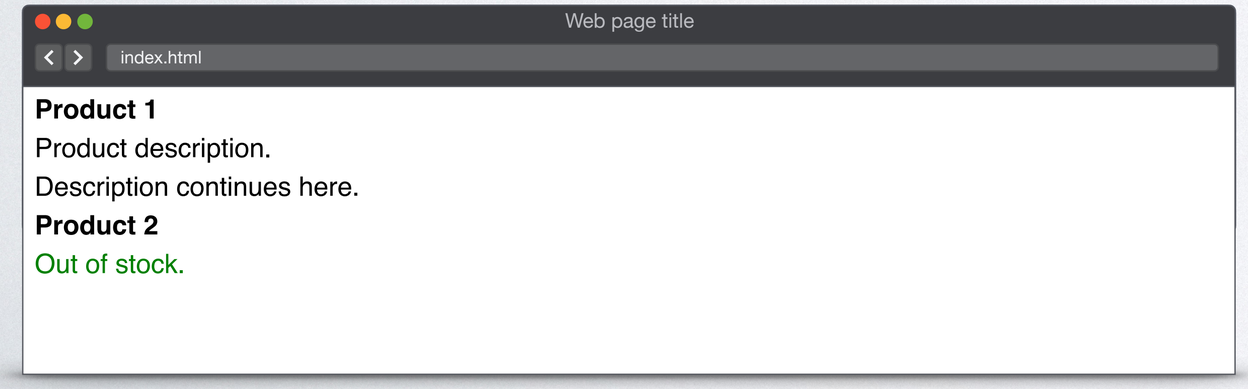
HTML

```
<body>
<article>
  <h2>Product 1</h2>
  <p>Product description.</p>
  <p>Description continues here.</p>
</article>
<article>
  <h2>Product 2</h2>
  <p>Out of stock.</p>
</article>
</body>
```

CSS

```
p:only-of-type { color: green; }
```

Browser



DYNAMIC

TARGET & LANG

UI ELEMENT STATES

STRUCTURAL

NEGATION

PSEUDO-CLASSES

PSEUDO-CLASSES / NEGATION

Selects elements that do not match a list of selectors.

Syntax `element:not(X) {style properties}`

```
header :not(h1)  {color: green}
```

With this code all the elements of a header are shown in green, excluding all h1 headers.

PSEUDO-CLASSES / NEGATION

READY TO USE CODE

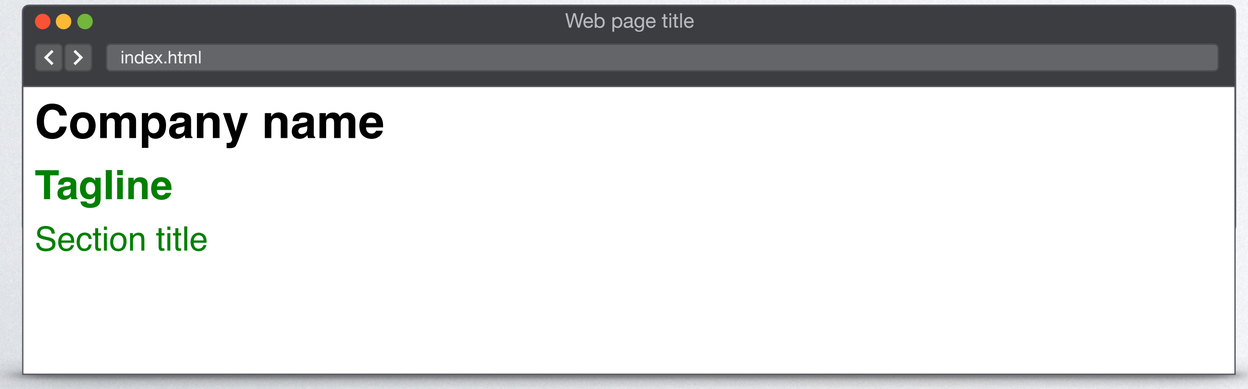
HTML

```
<body>
<header>
  <h1>Company name</h1>
  <h2>Tagline</h2>
  <h3>Section title</h3>
</header>
</body>
```

CSS

```
header:not(h1) { color: green; }
```

Browser



PSEUDO-CLASSES / NEGATION

READY TO USE CODE

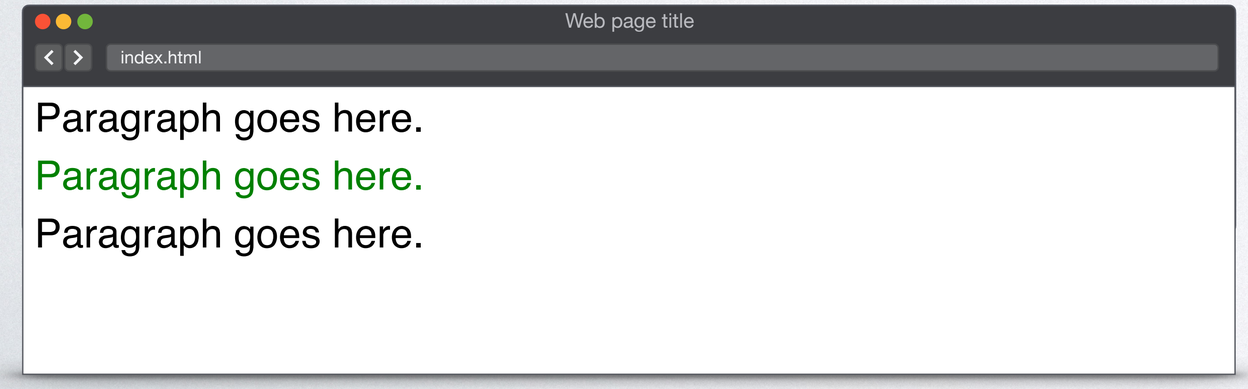
HTML

```
<body>
<p class="mini">Paragraph goes here.</p>
<p>Paragraph goes here.</p>
<p class="mini">Paragraph goes here.</p>
</body>
```

CSS

```
.mini { color: black; }

p:not(.mini) { color: green; }
```

Browser



DYNAMIC

PSEUDO-CLASSES

TARGET & LANG

PSEUDO-CLASSES

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PSEUDO-CLASSES

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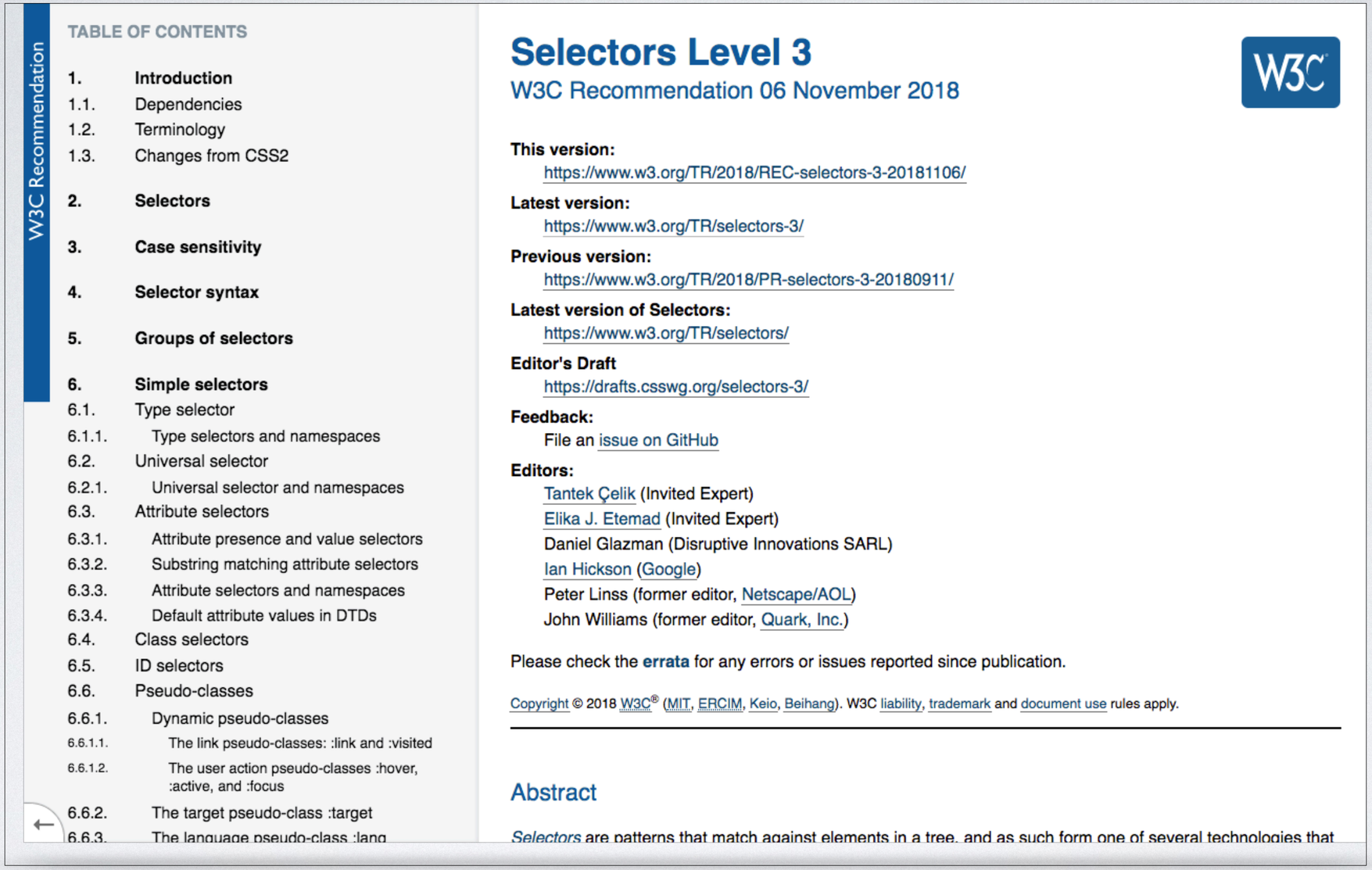
NEGATION

PSEUDO-CLASSES

REFERENCE: W3C



W3C Recommendation

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Selectors Level 3

W3C Recommendation 06 November 2018

This version:
https://www.w3.org/TR/2018/REC-selectors-3-20181106/

Latest version:
https://www.w3.org/TR/selectors-3/

Previous version:
https://www.w3.org/TR/2018/PR-selectors-3-20180911/

Latest version of Selectors:
https://www.w3.org/TR/selectors/

Editor's Draft
https://drafts.csswg.org/selectors-3/

Feedback:
File an issue on GitHub

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Abstract

Selectors are patterns that match against elements in a tree, and as such form one of several technologies that

SOURCE: Selectors Level 3 by W3C.

CSS

CSS FUNDAMENTALS

Pseudo-class

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