

Selectors and Properties in CSS

Understanding Selectors

CSS (Cascading Style Sheets) is a powerful language used for describing the presentation of a document written in HTML or XML. Selectors in CSS are patterns that are used to select and style HTML elements. They define the elements to which a set of CSS rules will be applied.

Types of Selectors:

1. Type Selector:

- Targets elements based on their type.
- Example: `p` selects all <p> elements.`

2. Class Selector:

- Targets elements with a specific class attribute.
- Example: `.my-class` selects all elements with class="my-class".`

3. ID Selector:

- Targets a single element with a specific id attribute.
- Example: `#my-id` selects the element with id="my-id".`

4. Descendant Selector:

- Targets an element that is a descendant of another specified element.
- Example: `div p` selects all <p> elements that are descendants of <div>.`

5. Child Selector:

- Targets an element that is a direct child of another specified element.
- Example: `ul > li` selects all elements that are direct children of .`

6. Universal Selector:

- Targets all elements on a page.
- Example: `*` selects all elements.`

Attribute Selectors

Attribute selectors allow you to target elements based on the presence or value of their attributes.

1. Presence Selector:

- Selects elements with a specific attribute, regardless of its value.
- Example: `[disabled]` selects all elements with the `disabled` attribute.

2. Value Selector:

- Selects elements with a specific attribute and value.
- Example: `[type="text"]` selects all elements with `type="text"`.

3. Substring Matching Selector:

- Selects elements with an attribute containing a specific substring.
- Example: `[href*="example"]` selects all elements with an `href` containing "example".

Pseudo-classes and Pseudo-elements

Pseudo-classes

Pseudo-classes are used to select and style elements based on their state or position.

1. Hover Pseudo-class:

- Selects and styles an element when the mouse pointer is over it.
- Example: `a:hover` selects and styles a hyperlink when hovered.

2. Focus Pseudo-class:

- Selects and styles an element that has focus.
- Example: `input:focus` selects and styles a focused input element.

Pseudo-elements

Pseudo-elements select and style parts of an element rather than a whole element.

1. ::before Pseudo-element:

- Inserts content before the content of the selected element.
- Example: `p::before`` inserts content before all `<p>`` elements.

2. `::after` Pseudo-element:

- Inserts content after the content of the selected element.
- Example: `p::after`` inserts content after all `<p>`` elements.

Applying Basic Styles to HTML Elements

CSS properties are used to style selected elements. Here are some common properties:

1. Color:

- Sets the color of text.
- Example: `color: #336699;``

2. Font-size:

- Sets the size of the font.
- Example: `font-size: 16px;``

3. Margin:

- Sets the margin around an element.
- Example: `margin: 10px;``

4. Padding:

- Sets the padding inside an element.
- Example: `padding: 5px;``

5. Border:

- Sets the border properties.
- Example: `border: 1px solid #000;``

6. Background-color:

- Sets the background color of an element.
- Example: `background-color: #F0F0F0;``

These properties can be combined and customized to achieve a wide range of styles.

In summary, CSS selectors and properties provide a powerful way to style HTML elements, making web pages visually appealing and well-designed. Understanding the different types of selectors and commonly used properties is crucial for effective web development.