

CSS SELECTORS

1. **Simple Selectors and Combinators:**

- Simple selectors are methods used to target elements in an HTML or XML document. For example, `p` selects all `<p>` elements.
- Simple selectors are the most fundamental type of selectors.
- They target HTML elements based on their name or tag. For example, `h1` selects all `<h1>` elements.
- Simple selectors are essential for applying styles to specific types of elements across your web page.

```
<!DOCTYPE html>
<html>
<head>
  <style>
    h2 {
      color: blue;
    }
  </style>
</head>
<body>
  <h2>This is a blue heading</h2>
  <h2>Another blue heading</h2>
</body>
</html>
```

2. **Class and ID Selectors:**

- Class selectors allow you to target a group of elements based on the class applied to them. For example, `<p class="highlight">`.
- ID selectors allow you to uniquely target a single element, such as `<div id="header">`.

- **Class Selectors**

- Class selectors are denoted by a dot (.) followed by the class name (e.g., `.highlight`).
- They allow you to target multiple elements with the same class attribute.
- Useful for applying consistent styles to related elements.
- Example: `<p class="highlight">` can be styled with `.highlight`.

- **ID Selectors**

- ID selectors are denoted by a hash (#) followed by the ID name (e.g., `#header`).
- They target a single, unique element with a specific ID attribute, and IDs should be unique on a page.
- Useful for applying unique styles to specific elements.
- Example: `<div id="header">` can be styled with `#header`.

`<p class="highlight">This is highlighted text.</p>`

`<p class="highlight">Another highlighted text.</p>`

```
<!DOCTYPE html>
<html>
<head>
  <style>
    .highlight {
      background-color: yellow;
    }
    #header {
      font-size: 24px;
    }
  </style>
</head>
<body>
  <p class="highlight">This is hig
  <p class="highlight">Another hig
  <div id="header">This is a heade
</body>
</html>
```

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3. ****Attribute Selectors:****

Common pseudo-elements include `::before` and `::after`, used for adding content before or after an element's content.

- Useful for adding decorative content or special styling to specific elements.
- Example: `p::before` adds content before all `

` elements.
- They are used to select elements based on the values of their attributes. For example, `input[type="text"]` selects all `` elements with a "text" type.
- Attribute selectors target elements based on their attributes and attribute values.
- They are enclosed in square brackets (`[]`) and can match specific attributes and values.
- Useful for styling elements with specific attributes.
- Example: `[target="_blank"]` selects elements with a "target" attribute set to "_blank".

```
<!DOCTYPE html>
<html>
<head>
  <style>
    a[target="_blank"] {
      text-decoration: underline;
    }
  </style>
</head>
<body>
  <a href="https://example.com" target="_blank">Example 1</a>
  <a href="https://example.org" target="_blank">Example 2</a>
</body>
</html>
```

4. ****Pseudo-Class Selectors:****

- They are used to target specific states or interactions of elements based on user actions. For instance, `a:hover` changes the formatting of links when the user hovers over them.
- Pseudo-class selectors target elements based on their state or position within the document.
- Common pseudo-classes include `:hover`, `:active`, `:focus`, `:first-child`, and `:nth-child()`.
- Useful for creating interactive and state-dependent styles.
- Example: `a:hover` selects links when the user hovers over them.

```
<!DOCTYPE html>
<html>
<head>
  <style>
    a:hover {
      color: red;
    }
  </style>
</head>
<body>
  <a href="#">Hover over me</a>
</body>
</html>
```

5. ****Pseudo-Element Selectors:****

- They are used to target parts of an element itself, rather than selecting the whole element. For example, `p::before` allows you to add content before a paragraph element.
- Pseudo-element selectors target specific parts of an element's content, allowing you to style those parts separately.
- They are preceded by a double colon (`::`). Common pseudo-elements include `::before` and `::after`, used for adding content before or after an element's content.
- Useful for adding decorative content or special styling to specific elements.
- Example: `p::before` adds content before all `

` elements.

```
<!DOCTYPE html>
<html>
<head>
  <style>
    h1::before {
      content: "Chapter ";
      font-weight: bold;
    }
  </style>
</head>
<body>
  <h1>Introduction</h1>
  <h1>Main Content</h1>
</body>
</html>
```

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Combinations

CSS selectors can be combined to create more specific and targeted styling rules. Here are some common examples of combining CSS selectors:

1. ****Combining Simple Selectors****:

- You can combine multiple simple selectors to target specific elements. For example:

```
h1.title {  
  /* Styles for h1 elements with class title */  
}
```

2. ****Combining Class and Element Selectors****:

- Combining class selectors with element selectors to target specific elements with a particular class:

```
div.sidebar p.highlight {  
  /* Styles for paragraphs with class highlight inside a sidebar div */  
}
```

3. ****Combining Class and Pseudo-Class Selectors****:

- Combining class selectors with pseudo-class selectors for more precise styling:

```
.button:hover {  
  /* Styles for buttons with class button when hovered */  
}
```

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4. ****Combining Descendant Selectors****:

- Using a space between selectors to target elements that are descendants of another element. For example:

```
article p {  
    /* Styles for all paragraphs with  
    */  
}
```

5. ****Combining Child Selectors****:

- Using the `>` symbol to target direct child elements. This is useful for styling specific child elements without affecting nested elements:

```
ul > li {  
    /* Styles for direct child list  
    */  
}
```

6. ****Combining Attribute and Element Selectors****:

- Combining attribute selectors with element selectors to target elements with specific attributes:

```
input[type="text"] {  
    /* Styles for input elements with  
    */  
}
```

7. ****Combining Multiple Selectors****:

- Combining multiple selectors by separating them with commas to apply the same styles to different elements.

```
h2, h3, h4 {  
    /* Styles for h2, h3, and h4 ele  
    */  
}
```

8. ****Combining Class and Pseudo-Element Selectors****:

- Combining class selectors with pseudo-element selectors to add content before specific elements with a class:``

```
.quote::before {  
    content: "";  
}
```