

Module 1 - Working With Selectors In CSS

A selector in CSS is what you use to target HTML elements so you can style them.

- A selector is used in CSS to target HTML elements.
- It tells the browser which element to apply styles to.
- Selectors are followed by { } where the styles are written.

Types of CSS Selectors

1. Universal Selector (*): Selects all elements on the page.
2. Element Selector (p, h1, etc.): Selects elements by their tag name.
3. Class Selector (.classname): Selects elements that have a specific class.
4. ID Selector (#idname): Selects one element with a specific ID.
5. Group Selector (h1, p): Selects multiple elements and applies the same style.
6. Pseudo-class Selector (a:hover): Selects elements in a special state, like when you hover your mouse.

Id Selector

An ID selector in CSS is used to style a specific element with a unique id attribute.

- It starts with a # followed by the ID name.
- Example: #title { color: red; } targets an element like <h1 id="title">.
- Only one element should use the same ID on a page.

Syntax of Id Selector

```
#idname {  
  property: value;  
}
```

Class Selector

A class selector allows you to apply the same CSS style to multiple HTML elements by assigning them a class name.

This is useful when you want to reuse the same styling across various parts of a webpage. In your CSS, you define styles for that class using a dot (.) followed by the class name.

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Syntax of Class Selector

```
.classname {  
  property: value;  
}
```

Element Selector

The element selector targets all HTML elements of a specific type or tag name. It allows you to apply styles universally to every instance of that tag in your HTML document. When you write a CSS rule with an element selector, the browser finds every element with that tag name and applies the styles you specify.

Syntax of Element Selector

```
element {  
  property: value;  
}
```

Universal Selector

The universal selector in CSS is written as an asterisk *. It is used to select every single element on a web page, regardless of its type, class, ID, or other attributes.

Syntax of Universal Selector

```
* {  
  property: value;  
}
```

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Group Selector

A group selector is used to apply the same styles to multiple selectors at once. Instead of writing separate CSS rules for each element, you can group them together using commas.

Syntax of Group Selector

```
selector1, selector2, selector3 {  
  property: value;  
}
```

Why do we use Selectors in CSS?

- **To Target Elements:**
Selectors tell the browser which HTML elements you want to style. Without selectors, CSS wouldn't know where to apply the styles.
- **Apply Styles Efficiently:**
They let you apply styles to specific elements or groups of elements, not just everything at once.
- **Control Over Design:**
By selecting elements precisely (like a single ID, a class, or all paragraphs), you can **customize the look** of your webpage exactly how you want.
- **Reuse and Maintainability:**
Selectors let you reuse styles for multiple elements and keep your CSS organized and easy to update.

CSS Selectors

- CSS selectors are used to "find" (or select) the HTML elements you want to style.
- We can divide CSS selectors into five categories:
 - Simple selectors (select elements based on name, id, class)
 - Combinator selectors (select elements based on a specific relationship between them)
 - Pseudo-class selectors (select elements based on a certain state)
 - Pseudo-elements selectors (select and style a part of an element)
 - Attribute selectors (select elements based on an attribute or attribute value)

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Simple Selectors

✓ 1. Simple Selectors

These select elements based on their name (tag), class, or ID.

Selector Type	Syntax	Example	What It does
Element	<code>cElement</code>	<code>p {}</code>	Targets all <code><p></code> elements
Class	<code>.classname</code>	<code>.box {}</code>	Targets elements with <code>class="box"</code>
ID	<code>#idname</code>	<code>#header {}</code>	Targets the element with <code>id="header"</code>

Combinator Selector

✓ 2. Combinator Selectors

These select elements based on their relationship to other elements.

Selector Type	Syntax	What It does
Descendant	<code>A B</code>	Selects all B elements inside A
Child	<code>A > B</code>	Selects B elements that are direct children of A
Adjacent sibling	<code>A + B</code>	Selects B element immediately after A
General sibling	<code>A ~ B</code>	Selects all B elements that are siblings of A

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Pseudo Class Selector

 **3. Pseudo-class Selectors**

These select elements based on their state or position.

Pseudo-class	Syntax	What It does
<code>:hover</code>	<code>a:hover</code>	When mouse hovers over a link
<code>:first-child</code>	<code>li:first-child</code>	First child in a list
<code>:nth-child(n)</code>	<code>li:nth-child(2)</code>	Second item in a list
<code>:checked</code>	<code>input:checked</code>	A checked checkbox or radio button



Pseudo Element Selector

 **4. Pseudo-element Selectors**

These style a part of an element, not the whole thing.

Pseudo-element	Syntax	What it does
<code>::before</code>	<code>p::before</code>	Adds content before an element
<code>::after</code>	<code>p::after</code>	Adds content after an element
<code>::first-line</code>	<code>p::first-line</code>	Styles only the first line of text
<code>::first-letter</code>	<code>p::first-letter</code>	Styles only the first letter

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Attribute Selector

✓ 5. Attribute Selectors

These select elements based on the presence or value of an attribute.

Selector	Example	What it does
[attr]	input[required]	Targets inputs with <code>required</code> attribute
[attr="value"]	input[type="text"]	Targets inputs with <code>type="text"</code>
[attr^="value"] (starts)	a[href^="https"]	Links that start with https
[attr\$="value"] (ends)	img[src\$=".jpg"]	Images with source that ends with jpg
[attr*="value"] (contains)	a[href*="login"]	Links that contain the word "login" in URL

Why do we use Simple Selectors?

Simple selectors target HTML elements directly by their tag name, class, or ID.

- **Element selector:** selects all elements of a given type (e.g., `p {}` targets all paragraphs).
- **Class selector:** targets elements with a specific class (e.g., `.box {}`).
- **ID selector:** targets a unique element with a specific ID (e.g., `#header {}`).

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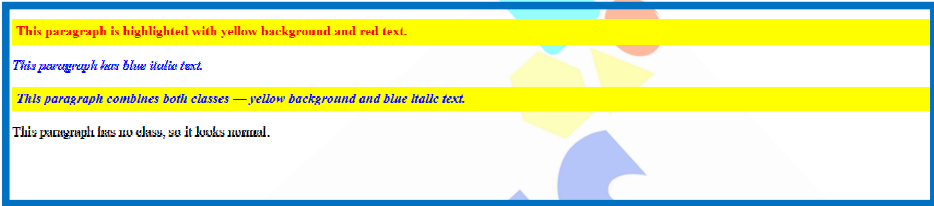
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Class Selectors Code

```

<!DOCTYPE html>
<html>
<head>
<title>Class Selector Example</title>
<style>
/* Class selector */
.highlight {
background-color: yellow;
color: red;
font-weight:
bold;
padding: 5px;
}
.blue-text {
color: blue;
font-style: italic;
}
</style>
</head>
<body>
<p class="highlight">This paragraph is highlighted with yellow background and red text.</p>
<p class="blue-text">This paragraph has blue italic text.</p>
<p class="highlight blue-text">This paragraph combines both classes – yellow background and blue italic text.</p>
<p>This paragraph has no class, so it looks normal.</p>
</body>
</html>
    
```



Assignment

- Take 2 <p> tags (paragraph elements).
- Give different id attributes to each <p> tag.
- For the first <p> tag:
 - Use a dotted border.
 - Set the background color to yellow.
- For the second <p> tag:
 - Use a solid border.
 - Set the background color to blue.