CASCADING STYLE SHEET (CSS)

Class 02
Selectors in CSS

CSS Comments

CSS comments are snippets of text within your CSS code that are completely ignored by the browser when rendering the webpage.

There are two main ways to write comments in CSS -

Single-line Comments

These comments start with /* and end with */. They can be placed anywhere on a line of code.

style.css

```
```
/* This is a single-line comment */
p {
    color: red;
}
```

### Multi-line comments

These comments also start with /* and end with */, but they can span multiple lines of code. This is useful for adding longer explanations or notes.

style.css

```
```
/* This is a multi-line comment
that explains the styling of the paragraph element */
p {
    color: red;
}
```

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CSS Selectors

CSS selectors are the foundation of web design. They pinpoint the specific elements in your HTML code you want to style. With a few lines of CSS and the right selector, you can transform the look and feel of your entire website.

Common types of Selectors

Let's explore the different types of CSS selectors and how to use them to your advantage:

1. Element Type Selector

The most general approach in CSS is to target elements by their HTML tag. For example, `p` selects all paragraph elements on your page. <u> This type of selector is particularly useful when you want to apply a consistent style to a specific type of element across your entire document.</u>

style.css

```
```
/* Targeting all paragraph elements */
p {
  color: #333;
}
```

## 2. Id Selector

IDs are unique identifiers assigned to a single element. The id selector uses a hash (#) followed by the element's ID. The ID selector is used when you want to uniquely style a specific HTML element on your webpage.

style.css

```
```
#body {
    background-color: #333;
    padding: 20px;
}
```

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3. Class Selector

By using class selectors you can apply the same style to multiple elements across your webpage by simply adding the same class attribute to those elements. Class selector is denoted by a dot (.) followed by the class name.

style.css

```
```
.container {
    background-color: #f0f0f0;
    padding: 20px;
}
```

## 4. Attribute Selector

Attribute selectors are used when you want to select elements based on their attributes or attribute values. Attribute selector is useful for targeting specific elements with certain attributes or values.

style.css

```
```
/* Selecting elements with the class "highlight" */
.highlight {
    background-color: yellow;
}


/* Selecting anchor elements with the href attribute set to "https://www.example.c
a[href="https://www.example.com"] {
    color: blue;
}
```

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5. Grouping Selectors

Grouping selectors in CSS allows you to apply the same style rules to multiple selectors, reducing redundancy in your code.

style.css

```
```
/* Grouping selectors */
h1, h2, h3 {
    color: blue;
    font-family: Arial, sans-serif;
}
```

## 6. Universal Selector

The universal selector (*) in CSS is used to select all elements on a webpage, applying styles to every element unless otherwise restricted by more specific selectors.

```
* {
  border: 2px solid green;
  background-color: beige;
}
```

7. CSS Combinators

CSS combinators are used to define relationships between elements in a document. They specify how elements are connected in terms of hierarchy and position within the HTML structure.

Types of CSS Combinators

- Descendant Selector (- space)
- Child Selector (>)
- Adjacent Sibling Selector (+)
- General Sibling Selector (~)
```

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Descendant Selector (- space)

Selects all elements inside a specified element, regardless of depth.

```
div p {
    color: blue;
}
```

Child Selector (>)

Selects only direct child elements of a specified element.

```
div > p {
    color: red;
}
```

Adjacent Sibling Selector (+)

Selects an element that is immediately next to another specified element.

```
h1 + p {
    font-weight: bold;
}
```

General Sibling Selector (~)

Selects all siblings after a specified element.

```
h1 ~ p {
    color: green;
}
```

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8. Pseudo Selectors

Pseudo-Selectors are special keywords added to CSS selectors that define a specific state of an element or select elements based on conditions without adding extra classes or IDs.

Pseudo-Classes (:)

Pseudo-classes define a special state of an element.

Common Pseudo-Classes:

`:hover` → Selects an element when hovered over.

`:focus` → Selects an element when focused (e.g., an input field).

`:nth-child(n)` → Selects the nth child of a parent.

`:first-child / :last-child` → Selects the first or last child of a parent.

`:not(selector)` → Excludes elements that match the selector.

```css
/* Basic styling for buttons */
button {
  background-color: lightblue;
  padding: 10px 20px;
  margin: 5px;
}

/* :hover - Applies when the user hovers over the button */
button:hover {
  background-color: blue;
  color: white;
}

/* :active - Applies while the button is being clicked */
button:active {
  background-color: navy;
}

/* :focus - Applies when the button is focused */
button:focus {
  outline: 2px solid orange;
}

/* :nth-child(n) - Applies to the nth child element (e.g., every 2nd button) */
button:nth-child(2n) {
  background-color: lightgreen;
}

/* :first-child - Applies to the first child element */
button:first-child {
  background-color: pink;
}
```

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Pseudo-Elements (::)

Pseudo-elements style specific parts of an element.

Common Pseudo-Elements:

`::before` → Inserts content before an element.

`::after` → Inserts content after an element.

`::first-letter` → Styles the first letter of text.

`::first-line` → Styles the first line of text.

`::selection` → Styles selected text.

```css
h1::before {
    content: "🔥 ";
}

h1::after {
    content: " 🎉";
}

p::first-letter {
    font-size: 2em;
    color: red;
}

p::selection {
    background-color: yellow;
}
```