Task3-CSS Selectors (Gemini)

**CSS Selectors** are patterns used to specify which elements in an HTML document should be styled. They provide a way to target specific elements or groups of elements based on various criteria, such as their tag name, class, ID, attributes, or their relationship to other elements.

**Types of CSS Selectors**

1. **Element Selectors:** Target elements based on their tag name.
   * Example: h1 targets all <h1> elements.
2. **Class Selectors:** Target elements based on their class attribute.
   * Example: .my-class targets all elements with the class "my-class".
3. **ID Selectors:** Target a single element based on its unique ID attribute.
   * Example: #my-id targets the element with the ID "my-id".
4. **Attribute Selectors:** Target elements based on their attributes.
   * Example: [href] targets all elements with an href attribute.
   * Example: [type="checkbox"] targets all elements with the type attribute set to "checkbox".
5. **Pseudo-Classes:** Target elements based on their state or condition.
   * Example: :hover targets an element when the mouse hovers over it.
   * Example: :active targets an element when it is clicked.

**Example HTML Document**

<!DOCTYPE html>

<html>

<head>

<title>CSS Selectors Example</title>

<style>

h1 {

    color: red;

}

.my-class {

    font-size: 24px;

}

#my-id {

    background-color: yellow;

}

a[href="https://example.com"] {

    text-decoration: none;

}

input[type="checkbox"]:checked {

    background-color: green;

}

p:hover {

    color: blue;

}

</style>

</head>

<body>

<h1>This is a heading</h1>

<p class="my-class">This is a paragraph.</p>

<div id="my-id">This is a div.</div>

<a href="https://example.com">Link</a>

<input type="checkbox">

<p>Hover over this paragraph.</p>

</body>

</html>

**Explanation**

* **Element Selector:** h1 styles all headings.
* **Class Selector:** .my-class styles the paragraph with the class "my-class".
* **ID Selector:** #my-id styles the div with the ID "my-id".
* **Attribute Selector:** a[href="https://example.com"] styles the link with the href attribute set to "[https://example.com](https://www.google.com/url?sa=E&source=gmail&q=https://example.com)".
* **Attribute Selector:** input[type="checkbox"]:checked styles the checkbox when it is checked.
* **Pseudo-Class:** p:hover styles the paragraph when the mouse hovers over it.

**Note:** CSS selectors can be combined using spaces, +, >, and ~ to create more complex targeting rules.