Write a html program to apply different type of selector forms i)simple selector ii) combinator selector iii) pseudo class selector iv) pseudo element selector v) attribute selector

Here’s a complete HTML program that demonstrates various types of CSS selectors:

1. **Simple Selector**
2. **Combinator Selector**
3. **Pseudo-Class Selector**
4. **Pseudo-Element Selector**
5. **Attribute Selector**

**HTML Code:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>CSS Selector Examples</title>

<style>

/\* 1. Simple Selector \*/

h1 {

color: blue;

text-align: center;

}

/\* 2. Combinator Selector: Child selector \*/

div > p {

color: green;

font-weight: bold;

}

/\* 2. Combinator Selector: Descendant selector \*/

section p {

color: darkorange;

}

/\* 3. Pseudo-Class Selector: Hover \*/

a:hover {

color: red;

text-decoration: underline;

}

/\* 3. Pseudo-Class Selector: nth-child \*/

ul li:nth-child(odd) {

background-color: #f0f0f0;

}

/\* 4. Pseudo-Element Selector: First letter \*/

p::first-letter {

font-size: 2em;

font-weight: bold;

color: purple;

}

/\* 4. Pseudo-Element Selector: After \*/

h2::after {

content: " ✨";

}

/\* 5. Attribute Selector \*/

input[type="text"] {

border: 2px solid blue;

padding: 5px;

border-radius: 4px;

}

input[placeholder] {

font-style: italic;

color: gray;

}

</style>

</head>

<body>

<!-- Simple Selector -->

<h1>CSS Selectors Demonstration</h1>

<!-- Combinator Selector -->

<div>

<p>This is a child of the div element (child selector).</p>

</div>

<section>

<p>This is inside the section element (descendant selector).</p>

</section>

<!-- Pseudo-Class Selector -->

<a href="#">Hover over this link</a>

<ul>

<li>First item</li>

<li>Second item</li>

<li>Third item</li>

<li>Fourth item</li>

</ul>

<!-- Pseudo-Element Selector -->

<h2>Heading with Pseudo-Element</h2>

<p>This paragraph starts with a styled first letter and uses pseudo-elements.</p>

<!-- Attribute Selector -->

<form>

<label for="name">Name:</label>

<input type="text" id="name" name="name" placeholder="Enter your name">

<br><br>

<label for="email">Email:</label>

<input type="email" id="email" name="email" placeholder="Enter your email">

</form>

</body>

</html>

**Explanation of Selectors:**

1. **Simple Selector**:
   * Targets HTML elements directly (e.g., h1, p).
   * Example:

css

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h1 {

color: blue;

text-align: center;

}

1. **Combinator Selector**:
   * Targets elements based on their relationship with other elements.
   * Examples:
     + **Child Selector (>)**: Selects direct children of an element.

css

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div > p {

color: green;

font-weight: bold;

}

* + - **Descendant Selector (Space)**: Selects all descendants of an element.

css

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section p {

color: darkorange;

}

1. **Pseudo-Class Selector**:
   * Targets elements in a specific state.
   * Examples:
     + :hover: Targets an element when the user hovers over it.

css

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a:hover {

color: red;

text-decoration: underline;

}

* + - :nth-child(): Targets elements based on their position in a parent.

css

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ul li:nth-child(odd) {

background-color: #f0f0f0;

}

1. **Pseudo-Element Selector**:
   * Targets specific parts of an element.
   * Examples:
     + ::first-letter: Styles the first letter of a block element.

css

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p::first-letter {

font-size: 2em;

font-weight: bold;

color: purple;

}

* + - ::after: Inserts content after an element.

css

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h2::after {

content: " ✨";

}

1. **Attribute Selector**:
   * Selects elements based on their attributes or attribute values.
   * Examples:
     + [type="text"]: Selects all <input> elements with type="text".

css

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input[type="text"] {

border: 2px solid blue;

padding: 5px;

}

* + - [placeholder]: Selects elements with the placeholder attribute.

css

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input[placeholder] {

font-style: italic;

color: gray;

}

This program includes all these selector types and can be tested in a browser for a live demonstration!