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Class/Sem:	TE/V
Experiment No.:	2
Title:	Perform various CSS3 Selectors for decorating the webpage.
Date of Performance:	18/07/2025
Date of Submission:	25/07/2025
Marks:	
Sign of Faculty:	

Aim: Perform various CSS3 Selectors for decorating the webpage.

Objective: Using CSS3 Selectors for enhancing the webpage skeleton.

Theory:

The evolution of web design has been marked by significant technological advancements, and one of the most transformative developments has been the introduction of CSS3. Cascading Style Sheets, or CSS, have long been a fundamental aspect of web development, enabling designers to separate content from presentation and thus creating more flexible and maintainable code. However, CSS3, the latest iteration of the CSS standard, has revolutionized the way web designers approach visual aesthetics and user experience on the web.

The Arrival of CSS3

CSS3 was officially released in 1999, but its widespread adoption and the development of its modules continued well into the 2010s. Unlike its predecessors, CSS3 is modular, meaning it is divided into several distinct modules, each responsible for different aspects of design and layout. This modularity allows for easier updates and additions to the specification, ensuring that CSS can evolve alongside new web technologies without requiring a complete overhaul.

Key Features of CSS3

One of the most notable features of CSS3 is its enhanced support for visual effects and animations. Previously, achieving complex animations and transitions required extensive use of JavaScript. With CSS3, designers can implement animations and transitions directly within the stylesheet, simplifying the process and improving performance. Properties such as transform, transition, and animation have become essential tools for creating dynamic and engaging web experiences.

CSS3 also introduced a wide range of new selectors and pseudo-classes, greatly enhancing the precision and flexibility of style rules. Selectors such as nth-child and pseudo-classes like hover and focus enable designers to apply styles based on the state or position of elements, allowing for more interactive and user-friendly designs.

Another significant advancement in CSS3 is the introduction of media queries. Media queries allow designers to create responsive designs that adapt to different screen sizes and resolutions. This capability is crucial in the era of mobile computing, where users access websites from a variety of devices. With media queries, designers can ensure that their sites provide an optimal viewing experience across desktops, tablets, and smartphones.

Aesthetic Enhancements

CSS3 has also vastly improved the aesthetic possibilities of web design. New properties such as border- radius, box-shadow, and text-shadow enable designers to create visually appealing elements with rounded corners, shadows, and textured text without relying on images. This not only enhances the visual appeal of websites but also reduces load times and improves performance by minimizing the use of external image files.

Typography has received a significant boost with CSS3 as well. The inclusion of web fonts through the @font-face rule allows designers to use a wide variety of fonts beyond the standard web-safe options. This has opened up new avenues for creativity in web design, enabling unique and expressive typography that aligns with a site's branding and aesthetic.

The Impact on User Experience

The enhancements brought by CSS3 have had a profound impact on user experience. The ability to create smooth transitions and animations enhances the interactivity of web pages, making them more engaging and enjoyable to use. Responsive design ensures that users have a consistent and accessible experience, regardless of the device they use. This adaptability is crucial in a world where mobile internet usage has surpassed desktop usage.

CSS3's improved styling capabilities also contribute to better accessibility. Designers can use CSS3 properties to create high-contrast modes, larger text options, and other accessibility features that make web content more accessible to users with disabilities. This aligns with the broader movement towards inclusive design, ensuring that the web is a space that everyone can navigate and enjoy.

Code:

Index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Login Page with CSS3 Selectors</title>
  <style>
    /* Element Selector */
    body {
      font-family: Arial, sans-serif;
      background: linear-gradient(to right, #6a11cb, #2575fc);
      display: flex;
      justify-content: center;
      align-items: center;
      height: 100vh;
      margin: 0;
    }
```

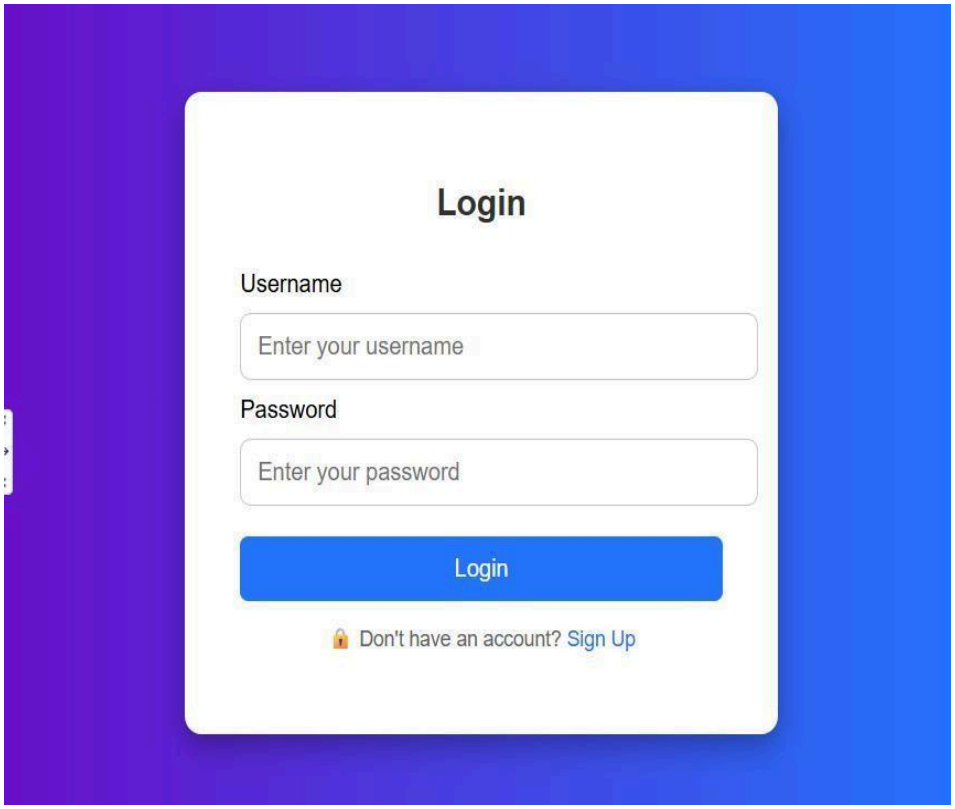
```
/* Class Selector */
.login-container {
    background-color:
    #fff; padding: 40px;
    border-radius: 12px;
    box-shadow: 0 8px 20px rgba(0,0,0,0.3);
    width: 350px;
}

/* ID Selector
*/ #login-title {
    text-align: center;
    margin-bottom:
    30px; color: #333;
}

/* Descendant Selector */
.login-container input {
    width: 100%;
    padding: 12px;
    margin: 10px 0;
    border: 1px solid
    #ccc; border-radius:
    6px; font-size: 16px;
}

/* Attribute Selector */
input[type="submit"] {
    background-color: #2575fc;
    color: #fff;
```

```
    border: none;
    cursor: pointer;
    transition: background-color 0.3s ease;
}

input[type="submit"]:hover {
    background-color: #6a11cb;
}

/* Pseudo-class Selector */
input:focus {
    border-color: #2575fc;
    outline: none;
}

/* Child Selector */
.login-container > p {
    text-align: center;
    font-size: 14px;
    color: #666;
}

/* Pseudo-element Selector */
.login-container p::before {
    content: "🔒 ";
}

/* Adjacent Sibling Selector */
label + input {
    margin-top: 5px;
}
```

```
        /* General Sibling Selector */
        label ~ input {
            margin-bottom: 15px;
        }

        /* Grouping Selector */
        label, input[type="submit"]
        {
            display: block;
        }

        /* Combinator Selector example */
        .login-container div > input {
            border-radius: 8px;
        }

        /* Link Styling */
        a {
            color: #2575fc;
            text-decoration: none;
            transition: color 0.3s;
        }

        a:hover {
            color: #6a11cb;
        }
    </style>
</head>
<body>
    <div class="login-container">
        <h2 id="login-title">Login</h2>
```

```
    <form action="#">
      <div>
        <label for="username">Username</label>
        <input type="text" id="username" placeholder="Enter your username" required>
      </div>
      <div>
        <label for="password">Password</label>
        <input type="password" id="password" placeholder="Enter your password" required>
      </div>
      <input type="submit" value="Login">
    </form>
    <p>Don't have an account? <a href="#">Sign Up</a></p>
  </div>
</body>
</html>
```

Output:



Conclusion:

Cascading StyleSheets (CSS) provides different approaches to developers in order to build standard web pages.