

| **TITLE:** **Develop and demonstrate the usage of inline, internal and external style sheet using CSS** |
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**AIM:** To demonstrate usage of CSS

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**Expected Outcome of Experiment:** Use CSS to prepare the layout of web pages.

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**Books/ Journals/ Websites referred:**

1. .

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Importance of CSS in designing of a website is to be explained. Explain various ways to use CSS. Also explain how to change background colour of page, adding and editing border types, adding navigation bars, usage of various types of 2D and 3D transformation.

**Description of the CSS style code with its effect at output**:

/\* Reset some default styles \*/

body, h1, p, form {

margin: 0;

padding: 0;

}

/\* Global Styles \*/

body {

font-family: 'Arial', sans-serif;

background-color: #f4f4f4;

color: #333;

}

.container {

max-width: 800px;

margin: 0 auto;

}

/\* Header Styles \*/

h1 {

color: #007bff;

}

/\* Navigation Styles \*/

nav {

background-color: #007bff;

padding: 10px;

}

nav a {

color: #fff;

text-decoration: none;

margin-right: 20px;

}

/\* Form Styles \*/

form {

margin-top: 20px;

}

label {

display: block;

margin-bottom: 5px;

}

input, button {

margin-bottom: 10px;

}

/\* Button Styles \*/

button {

background-color: #007bff;

color: #fff;

padding: 8px 12px;

border: none;

cursor: pointer;

}

button:hover {

background-color: #0056b3;

}

/\* Hyperlink Styles \*/

a {

color: #007bff;

text-decoration: none;

}

a:hover {

text-decoration: underline;

}

**Post Lab Objective with Ans (Min 5):**

* **What is the Box model in CSS? ...**
* **What are the advantages of using CSS? ...**
* **What are the limitations of CSS?**
* **What are the different types of Selectors in CSS?**

**Answers:**

**Box Model in CSS:**

The CSS Box Model is a fundamental concept that describes the layout and rendering of elements in a web page. It consists of four parts:

1. **Content:** The actual content of the box, where text and images appear.
2. **Padding:** A transparent area around the content, inside the box. It provides space between the content and the border.
3. **Border:** A border surrounding the padding (if any). It is the boundary between the padding and margin.
4. **Margin:** A transparent area outside the border. It provides space between the border of the element and the surrounding elements.

The sum of the content width, padding, border, and margin creates the total width and height of the box.

**Advantages of Using CSS:**

1. **Separation of Concerns:** CSS allows separation of style from the content and structure of a web page, promoting cleaner and more maintainable code.
2. **Consistent Styling:** CSS provides a way to apply consistent styles across multiple pages, ensuring a cohesive design.
3. **Responsive Design:** CSS allows the creation of responsive layouts that adapt to different screen sizes, improving the user experience on various devices.
4. **Ease of Maintenance:** Centralized stylesheets make it easier to update the look and feel of a website without altering the HTML structure.
5. **Faster Page Loading:** External stylesheets can be cached, reducing the need to download styles for every page visit.

**Limitations of CSS:**

1. **Browser Compatibility:** Different browsers may interpret CSS rules differently, leading to inconsistencies in the rendering of web pages.
2. **Limited Layout Control:** CSS has limitations in creating complex layouts, especially when compared to table-based layouts or flexbox/grid.
3. **Learning Curve:** For beginners, CSS may have a learning curve, and achieving certain designs may require a deep understanding of the language.
4. **Lack of Variables:** Until recent versions of CSS (CSS3), there were no native variables, making it challenging to manage and reuse values.

**Types of Selectors in CSS:**

1. **Universal Selector (\*):** Selects all elements on a page.
2. **Type Selector (e.g., h1, p):** Selects all elements of a specified type.
3. **Class Selector (e.g., .class-name):** Selects all elements with a specific class attribute.
4. **ID Selector (e.g., #id-name):** Selects a specific element with a unique ID attribute.
5. **Descendant Selector (e.g., div p):** Selects all **<p>** elements that are descendants of a **<div>**.
6. **Child Selector (e.g., div > p):** Selects all **<p>** elements that are a direct child of a **<div>**.
7. **Adjacent Sibling Selector (e.g., h2 + p):** Selects the **<p>** element that is immediately preceded by an **<h2>**.
8. **Attribute Selector (e.g., input[type="text"]):** Selects elements based on their attributes.
9. **Pseudo-class Selector (e.g., :hover):** Selects elements based on their state or position.
10. **Pseudo-element Selector (e.g., ::before):** Selects and styles a specific part of an element, like the first line or first letter.