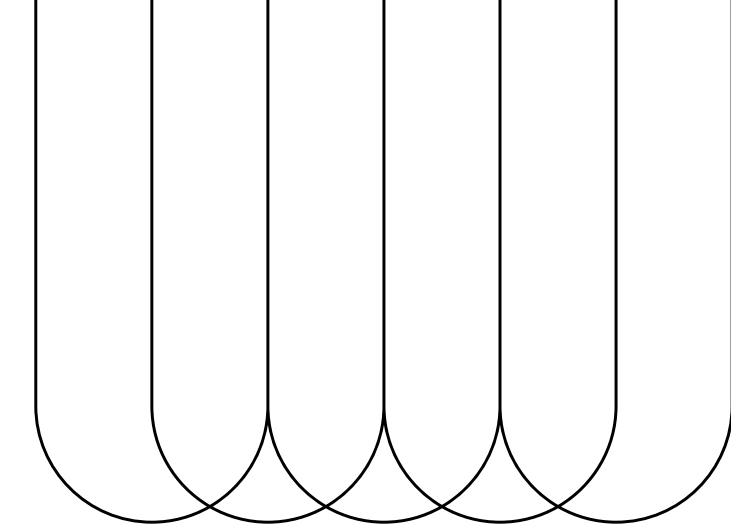# CSS

(Cascading Style Sheets)

CSS INTRODUCTION

CSS (Cascading Style Sheets) is a stylesheet language used to describe the presentation of a web page written in HTML.

With the help of CSS we can control the layout, design, colors, fonts, and overall visual appearance of a website.

```css
body {
    font-family: Arial, sans-serif;
    background-color: #f0f0f0;
    margin: 0;
    padding: 0;
}

h1 {
    color: #333;
    text-align: center;
    padding: 20px;
    background-color: #4CAF50;
    color: white;
}
```
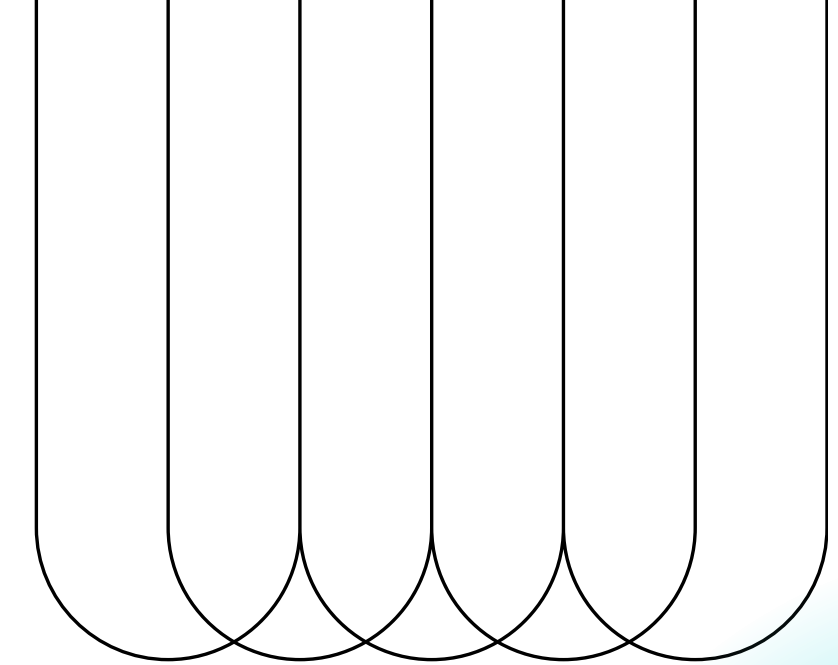
Why Cascade

The term "cascade" in CSS refers to the cascading rules that determine how styles are applied when there are multiple conflicting styles targeting the same HTML element.

The cascade ensures that the correct styling is applied to an element by following a specific set of rules for priority/specificity and inheritance.

```
<style>
    p {color: red;}
    .highlight {color: blue; }
    #special {color: green;}
 </style>
```

```
<p class="highlight" id="special">This is a paragraph with conflicting styles.</p>
```
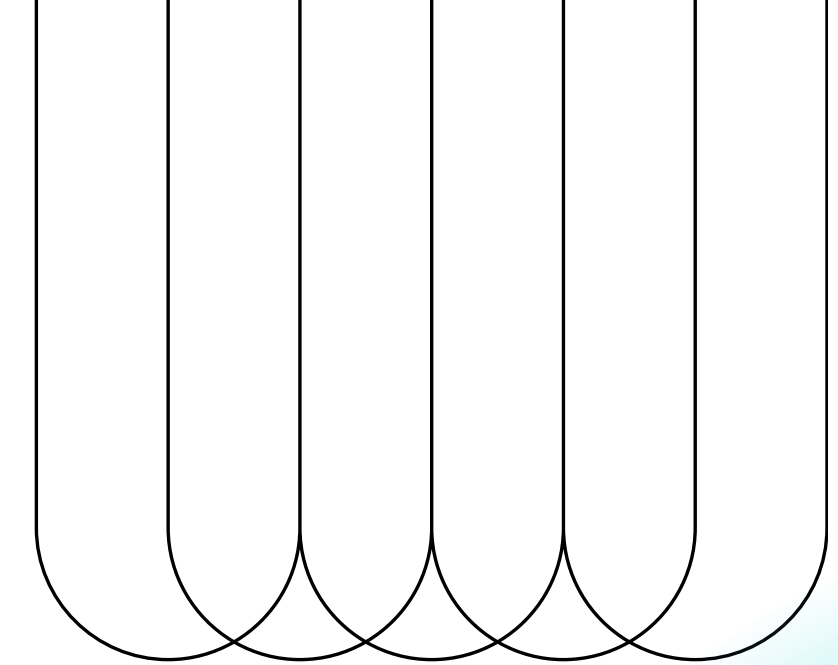
Why CSS?

CSS is used to provide styling to HTML elements, making web pages visually appealing and user-friendly.

Improved User Experience

With CSS, We can control the design, making our site more attractive and improving usability.

Accessibility

CSS enables responsive web design, ensuring that your site is accessible on various devices (like smartphones, tablets, and desktops).

Performance

Properly using CSS can help reduce page load times, as styles can be cached by the browser.
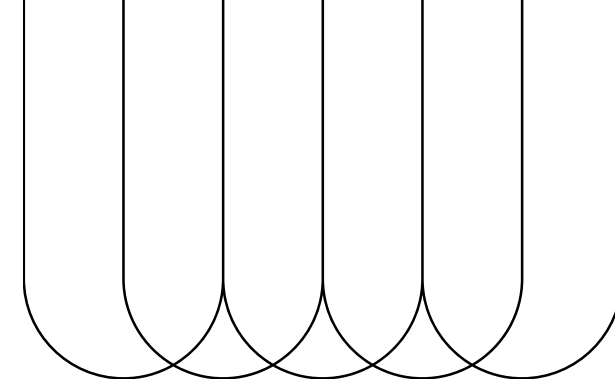
How CSS Works?

When a browser renders a web page, it applies CSS in a specific sequence to determine how the HTML elements should be styled. Here's a step-by-step breakdown of how a browser applies CSS:

1. HTML Parsing: The browser parses the HTML content of the page and builds a Document Object Model (DOM), A tree like structure of html elements.

2. CSS Parsing: The CSS file is parsed to create a CSSOM (CSS Object Model), which is a tree of all the styles that should be applied to the HTML elements.

3. Style Computing: After the browser has both the DOM and CSSOM, it computes the final styles for each element based on the rules defined in the CSS.

4. Cascade and Specificity: CSS follows the cascading rules, meaning that styles can be overridden based on certain priorities: Specificity & Source Order.

5. Rendering: Once the styles are computed, the browser creates a render tree, which combines the DOM and the computed styles. This render tree represents the visual structure of the page.

6. Layout and Painting: The browser determines the size and position of each element on the page and then paints the visual properties like color, background, borders, text, etc., to the screen.
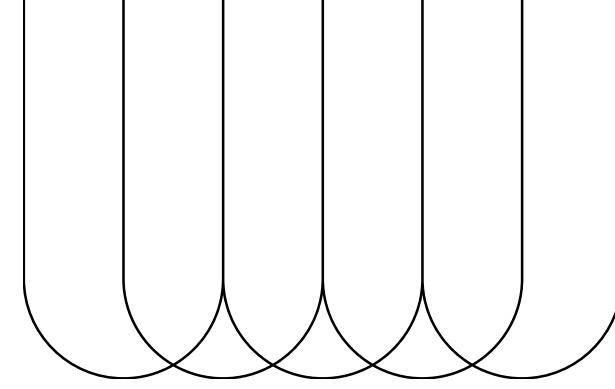
How CSS Works?
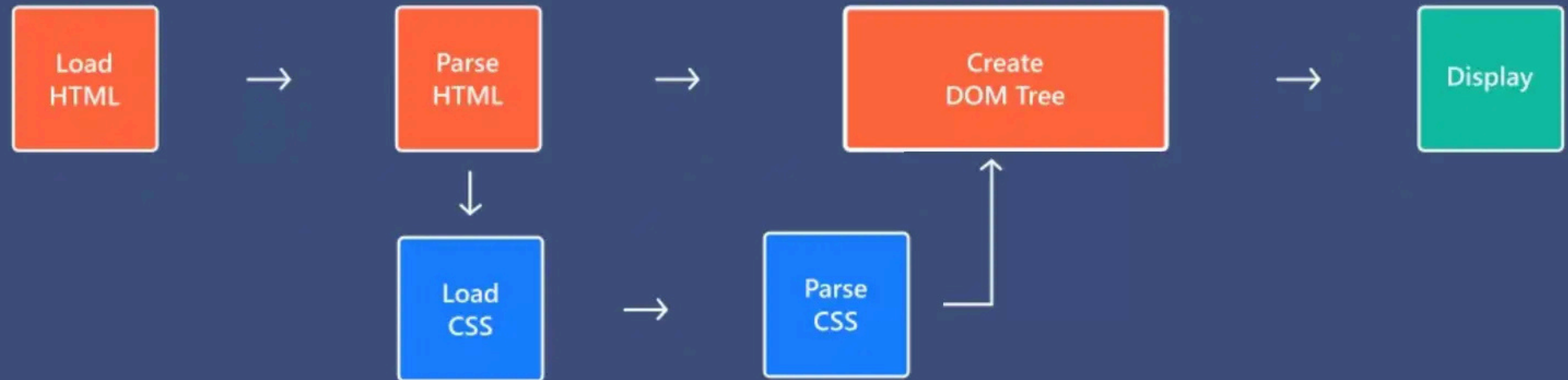
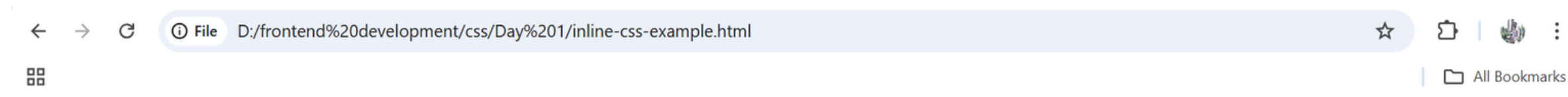# Inline, Internal & External CSS

Css can be included in your html document in three different ways-

Inline CSS

Styles are directly applied to individual HTML elements using the style attribute within the opening tag. Inline CSS are quick and easy for minor style adjustments on specific elements but not scalable for large projects or makes HTML less clean and harder to maintain.

```
<h1 style="color: blue; font-size: 32px; text-align: center;">Welcome!</h1>
```
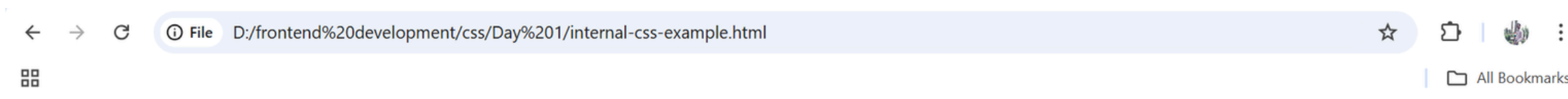
Output:

Welcome!

Inline, Internal & External CSS

Internal CSS

In this approach styles are defined within the ‹style› tag placed inside the ‹head› section of the HTML document. It provide better organization than inline styles but styles are not reusable across multiple HTML pages.

```
<style>
  .h1{color: blue; font-size: 32px; text-align: center;}
</style>
```

```
<h1 class="h1">Welcome!</h1>
```

Output:

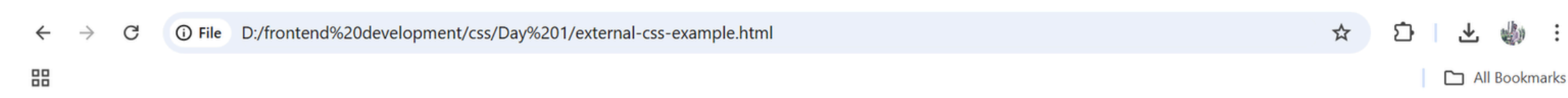**Welcome!**

Inline, Internal & External CSS

External CSS

External CSS refers to writing your CSS rules in a separate file with a .css extension (e.g., styles.css). You then link this CSS file to your HTML document using a <link> tag placed within the <head> section of your HTML file.

```
<link rel="stylesheet" href="styles.css">
```

```
<h1 class="h1">Welcome!</h1>
```

Output:

THANK YOU

PHONE NUMBER

(+91) 778 899 2897

WEBSITE

www.indixpert.com

indiXpert