Cascading Style Sheet (CSS)

What is CSS?
1. CSS handles look & feel part of web page. Using CSS, you can control the color of text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, which background images or colors are used, and variety of other effects.
2. Most commonly CSS is combined with markup languages such as HTML.
3. CSS describes how HTML elements are to be displayed on screen, paper or in other media.

CSS can be created using following syntax:

Syntax:

Selector {  Property 1 : Property_value1;  Property 2 : Property_value2;  ..........,  Property n : Property_value n; }

- Selector: It is a HTML tag at which the style will be applied.
- Property: It is a type of attribute of HTML tag.
- Property_value : It is value assigned to particular property.

Example:

h1 {color : red;  Font-family : Arial Black;  Text-Align: Center; }
**Types of CSS:**

we have 3-types of CSS:

1. External CSS
2. Internal / Embedded / Document-wide CSS
3. Inline CSS

**1. External CSS:**

- As the name implies it is created outside(External) the HTML document and saved with .css extension.
- It can be added to HTML document using `<link>` tag.
- It should be added in `<head>` part of HTML document.
- Syntax:
  
  ```html
  <link type="text/css" rel="stylesheet" href="Path of css(with .css filename)" >
  ```

  **Attributes:**
  
  a) `type`: Specifies the style sheet language as a content type.
  b) `rel`: Specifies the relationship between the current document and the linked document.
  c) `href`: specifies the location of the linked document.
Example 1: Use of External CSS

HTML File:

```html
<html>
<head>
    <title> External Style sheet example </title>
    <link rel="stylesheet" href="sitestyle.css" type="text/css">
</head>

<body>
    <h1>Amazing Effects of use External Style Sheet</h1>
    <p>Cascading style sheets are defined as <a href="https://youtu.be/ZQ32Bs2kE3A">Numerics validation Youtube video</a> Provides powerful facilities. </p>
</body>
</html>
```

CSS File(sitestyle.css)

```css
body {font-size: 10pt; 
     font-family: serif; 
     color: black;
     background-color: pink;} 

h1 {font-size: 24pt; 
    font-family: sans-serif; 
    color: blue; 
    text-align: center;} 

p {text-indent: 0.5in; 
    margin-left: 50px; 
    margin-right: 50px;} 

a:link {color:blue; text-decoration:dashed;}
```
2. Internal / Document-wide / Embedded CSS:

- In this css is created within the HTML Document or it is "Embedded" with HTML document hence it is called as Embedded CSS.
- This CSS is use to give stylesheet effect for single HTML document in which it is created, hence it is called as "Document-wide" CSS.
- Internal CSS is created using <style> tag.
It can be created in <head> Part of HTML document & use it in <body>.

Syntax:

```html
<style type="text/css">
Selector { Property 1 : Property_value1;  Property 2 :
Property_value2; ..........., Property n : Property_value n;}
</style>
```

**Example 2: Use of Internal CSS.**

```html
<html>
<head>
<title>Document wide style sheet Example</title>
<style type="text/css">
body   {font-size: 18pt;
       font-family: serif;
       color: Green;
       background-color: aqua;}

h1   {font-size: 24pt;
     font-family: sans-serif;
     color: blue;
     text-align: center;}

p   {text-indent: 0.5in;
     margin-left: 50px;
     margin-right: 50px;}
</style>
</head>
```

<h1>Fabulous Effects of use Internal Style Sheet</h1>

Cascading style sheets are defined as numerical validation Youtube video. Provides powerful facilities.

Output Of Program:

Fabulous Effects of use Internal Style Sheet

Cascading style sheets are defined as numerical validation Youtube video. Provides powerful facilities.
In addition to this,
- we have one more type which included in Internal CSS is "Import CSS"

**Import CSS:**

- It is combination of Internal & External CSS.
- since we can add different styles within HTML document hence it contains Internal CSS.
- Since external CSS can be added, hence it contains External CSS.
- Since External css can be linked (imported) with Import keyword, It is called as Import CSS.
- Syntax:
  
  `<style type="text/css">
    @import url(Path of css(with .css filename));
    @import url(Path of css(with .css filename));
  </style>

  Selector { Property 1 : Property_value1;  Property 2 :

  Property_value2; .........., Property n : Property_value n;}

  </style>`
Example 3: Use of Import CSS

**HTML File:**

```html
<html>
<head>
    <title>Import Style sheet Example</title>
    <style type="text/css">
        @import url(corerules.css);
        @import url(linkrules.css);

        h1 {font-size: 24pt;
            font-family: sans-serif;
            color: green;
            text-align: center;}
    </style>
</head>
<body>
    <h1>Import CSS An Extension of Internal & External CSS</h1>
</body>
</html>
```
CSS Files:

1) corerules.css

body  {font-size: 24pt;
    font-family: serif;
    color: red;
    background-color: lime;}

p   {text-indent: 0.5in;
    margin-left: 50px;
    margin-right: 50px;}

2) linkrules.css:

a:link  {color:blue; text-decoration:none;}
a:visited  {color:red; text-decoration:none;}
a:active  {color:red; text-decoration:none;}
a:hover  {color:purple; text-decoration:underline;}

Output of Program:

![Image of CSS output](image-url)
3. **Inline CSS:**

- As the name implies it is used to apply style to particular line i.e. for a particular (single) tag.
- It should be created in the same tag, where user wants to apply particular style.
- Since it should be created in same tag, to define it, use style as an attribute of that particular tag.
- Syntax:

  <tagname style="Property 1 : Property_value1;  Property 2 : Property_value2;  .........., Property n : Property_value n;">
  Affected Text will go here </tagname>

**Example 4 : Use of Inline CSS**

```html
<html>
  <head>
    <title>Inline style sheet example</title>
  </head>
  <body bgcolor="black" text="pink">
    <p style="color:white; margin-left:20px;">This Paragraph contains Use of Inline CSS <br> Here we can see the difference of inline CSS.</p>
    <p>This is a simple paragraph on which no css is applied, it have only effect of body tag attributes.</p>
  </body>
</html>
```
Cascading Order:

- What style will be used when there is more than one style specified for an HTML element?
- All the styles in a page will "cascade" into a new "Virtual" style sheet by the following rules, where number 1 has the highest priority:
  1. Inline style (inside an HTML element)
  2. External & Internal style sheet.

Advantages of CSS:

1. **CSS saves time:** You can write CSS once & then reuse in multiple HTML pages. You can define a style for each HTML element & apply it to as many web pages as you want.
2. **Pages load faster:** If you are using CSS, you need not need to write HTML tag attributes every time. Just write one CSS rule of a tag & apply it to all the occurrences of that tag. hence, less code means faster download times.

3. **Easy Maintenance:** To make a global change, simply change the style and all the elements in the web pages will be updated automatically.

4. **Superior styles to HTML:** CSS has a much wider array of attributes than HTML, so you can give a far better look to your HTML page in comparison to attributes.

5. **Multiple Device Compatibility:** Style sheets allow content to be optimized for more than one type of device. By using same HTML document, different versions of website can be presented for handheld devices like PDA's and cellphones or for printing.

6. **Global web standards:** now HTML attributes are being deprecated and it is being recommended to use CSS.

Bibliography:
1. Complete Reference HTML & CSS by Thomas Powell
2. W3schools.com