**CSS**

CSS stands for Cascading Style Sheets. CSS is a standard style sheet language used for describing the presentation (i.e. the layout and formatting) of the web pages.

Prior to CSS, nearly all of the presentational attributes of HTML documents were contained within the HTML markup (specifically inside the HTML tags); all the font colors, background styles, element alignments, borders and sizes had to be explicitly described within the HTML.

As a result, development of the large websites became a long and expensive process, since the style information were repeatedly added to every single page of the website.

To solve this problem CSS was introduced in 1996 by the World Wide Web Consortium (W3C), which also maintains its standard. CSS was designed to enable the separation of presentation and content. Now web designers can move the formatting information of the web pages to a separate style sheet which results in considerably simpler HTML markup, and better maintainability.

CSS3 is the latest version of the CSS specification. CSS3 adds several new styling features and improvements to enhance the web presentation capabilities

**What You Can Do with CSS**

There are lot more things you can do with CSS.

* You can easily apply same style rules on multiple elements.
* You can control the presentation of multiple pages of a website with a single style sheet.
* You can present the same page differently on different devices.
* You can style dynamic states of elements such as hover, focus, etc. that isn't possible otherwise.
* You can change the position of an element on a web page without changing the markup.
* You can alter the display of existing HTML elements.
* You can transform elements like scale, rotate, skew, etc. in 2D or 3D space.
* You can create animations and transitions effects without using any JavaScript.
* You can create print friendly version of your web pages.

The list does not end here, there are many other interesting things that you can do with CSS.

**Advantages of Using CSS**

The biggest advantage of CSS is that it allows the separation of style and layout from the content of the document. Here are some more advantages, why one should start using CSS?

* **CSS Save Lots of Time** — CSS gives lots of flexibility to set the style properties of an element. You can write CSS once; and then the same code can be applied to the groups of HTML elements, and can also be reused in multiple HTML pages.
* **Easy Maintenance** — CSS provides an easy means to update the formatting of the documents, and to maintain the consistency across multiple documents. Because the content of the entire set of web pages can be easily controlled using one or more style sheets.
* **Pages Load Faster** — CSS enables multiple pages to share the formatting information, which reduces complexity and repetition in the structural contents of the documents. It significantly reduces the file transfer size, which results in a faster page loading.
* **Superior Styles to HTML** — CSS has much wider presentation capabilities than HTML and provide much better control over the layout of your web pages. So you can give far better look to your web pages in comparison to the HTML presentational elements and attributes.
* **Multiple Device Compatibility** — CSS also allows web pages to be optimized for more than one type of device or media. Using CSS the same HTML document can be presented in different viewing styles for different rendering devices such as desktop, cell phones, etc.

**Including CSS in HTML Documents**

CSS can either be attached as a separate document or embedded in the HTML document itself. There are three methods of including CSS in an HTML document:

* **Inline styles** — Using the style attribute in the HTML start tag.
* **Embedded styles** — Using the <style> element in the head section of a document.
* **External style sheets** — Using the <link> element, pointing to an external CSS file.

## Inline Styles

Inline styles are used to apply the unique style rules to an element by putting the CSS rules directly into the start tag. It can be attached to an element using the style attribute.

<h1 style="color:red; font-size:30px;">This is a heading</h1> <p style="color:green; font-size:22px;">This is a paragraph.</p> <div style="color:blue; font-size:14px;">This is some text content.</div>

## Embedded Style Sheets

Embedded or internal style sheets only affect the document they are embedded in.

Embedded style sheets are defined in the <head> section of an HTML document using the <style> element. You can define any number of <style> elements in an HTML document but they must appear between the <head> and </head> tags. Let's take a look at an example:

## External Style Sheets

An external style sheet is ideal when the style is applied to many pages of the website.

An external style sheet holds all the style rules in a separate document that you can link from any HTML file on your site. External style sheets are the most flexible because with an external style sheet, you can change the look of an entire website by changing just one file.

You can attach external style sheets in two ways — linking and importing.

## Understanding CSS Syntax

# CSS Selectors

A CSS selector is a pattern to match the elements on a web page. The style rules associated with that selector will be applied to the elements that match the selector pattern.

Selectors are one of the most important aspects of CSS as they allow you to target specific elements on your web page in various ways so that they can be styled.

## Universal Selector

The universal selector, denoted by an asterisk (\*), matches every single element on the page.

## Element Type Selectors

An element type selector matches all instance of the element in the document with the corresponding element type name.

## Id Selectors

The id selector is used to define style rules for a single or unique element.

The id selector is defined with a hash sign (#) immediately followed by the id value

## Class Selectors

The class selectors can be used to select any HTML element that has a class attribute. All the elements having that class will be formatted according to the defined rule.

The class selector is defined with a period sign (.) immediately followed by the class value.

## Descendant Selectors

You can use these selectors when you need to select an element that is the descendant of another element, for example, if you want to target only those anchors that are contained within an unordered list, rather than targeting all anchor elements.

## Child Selectors

A child selector is used to select only those elements that are the direct children of some element.

A child selector is made up of two or more selectors separated by a greater than symbol (>). You can use this selector, for instance, to select the first level of list elements inside a nested list that has more than one level.

## Grouping Selectors

Often several selectors in a style sheet share the same style rules declarations. You can group them into a comma-separated list to minimize the code in your style sheet. It also prevents you from repeating the same style rules over and over again.

# CSS3 Border

With CSS3, you can apply images to an element's borders.

# CSS3 Color

CSS3 provides several new ways to define a color values.

# CSS3 Background

With CSS3, you can apply multiple backgrounds to elements.

# CSS3 Drop Shadows

With CSS3, you can apply drop shadow to an element.

# CSS3 2D Transforms

The CSS3 2D transform feature allows elements to be transformed in 2D space.

# CSS3 Animations

The CSS3 animations feature allows you to create keyframe animations.

# CSS3 Box Sizing

With CSS3 box sizing feature you can control element's effective width.