

CSS



- CSS is the key presentational technology that is used in website design.
- 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.

CSS(contd.)



- 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.

CSS(contd.)



- 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



- 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.

Advantages of 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.

Advantages of Using CSS(contd.)



- **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.

Advantages of Using CSS(contd.)

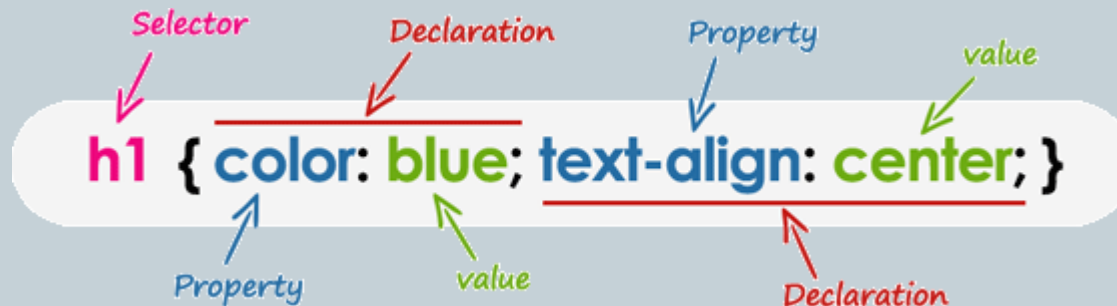


- **Multiple Device Compatibility** — CSS also allows web pages to be optimized for more than one type of device or media. Using CSS the same HTML document can be presented in different viewing styles for different rendering devices such as desktop, cell phones, etc.

CSS syntax



- A CSS stylesheet consists of a set of rules that are interpreted by the web browser and then applied to the corresponding elements such as paragraphs, headings, etc. in the document.
- A CSS rule have two main parts, a selector and one or more declarations:



CSS syntax(contd.)



- The selector specifies which element or elements in the HTML page the CSS rule applies to.
- Whereas, the declarations within the block determines how the elements are formatted on a webpage.
- Each declaration consists of a property and a value separated by a colon (:) and ending with a semicolon (;), and the declaration groups are surrounded by curly braces {}.
- The property is the style attribute you want to change; they could be font, color, background, etc.
- Each property has a value, for example color property can have value either blue or #0000FF etc.

What is Selector?



- 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.
- The universal selector may be omitted if other conditions exist on the element.
- This selector is often used to remove the default margins and paddings from the elements for quick testing purpose.

```
* {  
margin: 0;  
padding: 0;  
}
```

Element Type Selectors



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

Element Type Selectors(contd.)



```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>Example of CSS element type selector</title>
  <style>
    h1 {
      color: red;
    }
    p {
      color: blue;
    }
  </style>
</head>
<body>
  <h1>This is heading</h1>
  <p>This is a paragraph.</p>
</body>
</html>
```

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.

Id Selectors(contd.)



```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>Example of CSS id selector</title>
  <style>
    #error {
      color: #ff0000;
    }
  </style>
</head>
<body>
  <p id="error">This is a warning!</p>
</body>
</html>
```

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.

Class Selectors(contd.)



```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>Example of CSS class selector</title>
  <style>
    .blue {
      color: #0000ff;
    }
  </style>
</head>
<body>
  <h1 class="blue">This is a heading</h1>
  <p class="blue">This is a paragraph.</p>
  <p>This is another paragraph.</p>
</body>
</html>
```

Class Selectors(contd.)



```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>Example of CSS class selector</title>
  <style>
    p.blue {
      color: #0000ff;
    }
  </style>
</head>
<body>
  <h1 class="blue">This is a heading</h1>
  <p class="blue">This is a paragraph.</p>
  <p>This is another paragraph.</p>
</body>
</html>
```

Grouping Selectors



- 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.

h1, h2, h3

{

font-weight: normal;

}

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.
- The style attribute includes a series of CSS property and value pairs. Each "property: value" pair is separated by a semicolon (;), just as you would write into an embedded or external style sheets. But it needs to be all in one line i.e. no line break after the semicolon

Inline Styles(contd.)



```
<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.

Embedded Style Sheets



```
<!DOCTYPE html>
<html lang="en">
<head>
<title>My HTML Document</title>
<style>
body
{
background-color: YellowGreen;
}
p
{
color: #fff;
}
</style>
</head>
<body>
<h1>This is a heading</h1>
<p>This is a paragraph of text.</p>
</body>
</html>
```


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.

External Style Sheets(contd.)



- **Linking External Style Sheets**

Before linking, we need to create a style sheet first. Open code editor and create a new file. Now type the following CSS code inside this file and save it as "style.css".

```
body
{
background: lightyellow;
font: 18px Arial, sans-serif;
}
h1
{ color: orange;
}
```

External Style Sheets(contd.)



- An external style sheet can be linked to an HTML document using the <link> tag. The <link> tag goes inside the <head> section, as you can see in the following example:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="utf-8">
    <title>Example of CSS External Style Sheet</title>
    <link rel="stylesheet" href="/examples/css/style.css">
</head>
<body>
    <h1>This is a heading</h1>
    <p>This is a paragraph of text.</p>
</body>
</html>
```

Importing External Style Sheets



- The `@import` rule is another way of loading an external style sheet.
- The `@import` statement instructs the browser to load an external style sheet and use its styles.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="utf-8">
<title>Example of CSS Imported Style Sheet</title>
<style>
    @import url("/examples/css/style.css");
    p {
        color: blue;
        font-size: 16px;
    }
</style>
</head>
<body>
    <h1>The styles for this heading are defined in the imported style sheet</h1>
    <p>The styles for this paragraph are defined in the embedded style sheet.</p>
</body>
```

Writing Comments in CSS



- Comments are usually added with the purpose of making the source code easier to understand.
- It may help other developer (or you in the future when you edit the source code) to understand what you were trying to do with the CSS.
- Comments are significant to programmers but ignored by browsers.
- A CSS comment begins with `/*`, and ends with `*/`, as shown in the example

Writing Comments in CSS(contd.)



```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>Example of CSS comments</title>
  <style>
    /* This is a CSS comment */
      /* Comments are not displayed,
        by the browser */
    h1 {
      color: blue;
      text-align: center;
    }
  </style>
</head>
<body>
  <h1>This is a heading</h1>
</body>
</html>
```