Unit IV

CSS**:** Introduction to Cascading Style Sheets, Types of Style Sheets (Inline, Internal and External), using Id and Classes, CSS properties: Background Properties, Box Model Properties, Margin, Padding, List Properties, Border Properties

CSS

CSS stands for Cascading Style Sheets. It is a style sheet language which is used to describe the look and formatting of a document written in markup language. It provides an additional feature to HTML. It is generally used with HTML to change the style of web pages and user interfaces. It can also be used with any kind of XML documents including plain XML, SVG and XUL.

CSS is used to control the style of a web document in a simple and easy way.CSS is used along with HTML and JavaScript in most websites to create user interfaces for web applications and user interfaces for many mobile applications.

What does CSS do

- You can add new looks to your old HTML documents.
- You can completely change the look of your website with only a few changes in CSS code.

Applications of CSS

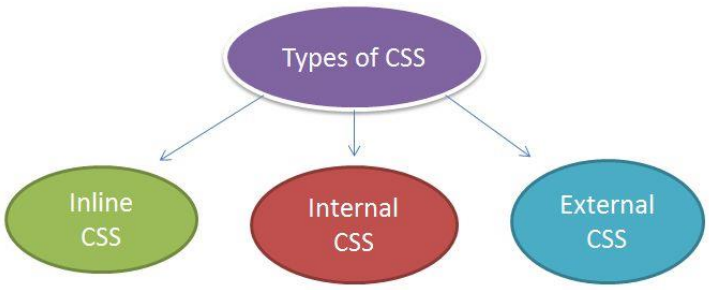
As mentioned before, CSS is one of the most widely used style language over the web. I'm going to list few of them here:

- **CSS saves time** - You can write CSS once and then reuse same sheet in multiple HTML pages. You can define a style for each HTML element and apply it to as many Web pages as you want.
- **Pages load faster** - If you are using CSS, you do not need to write HTML tag attributes every time. Just write one CSS rule of a tag and apply it to all the occurrences of that tag. So less code means faster download times.
- **Easy maintenance** - To make a global change, simply change the style, and all elements in all the web pages will be updated automatically.

- **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 HTML attributes.
- **Multiple Device Compatibility** - Style sheets allow content to be optimized for more than one type of device. By using the same HTML document, different versions of a website can be presented for handheld devices such as PDAs and cell phones or for printing.
- **Global web standards** - Now HTML attributes are being deprecated and it is being recommended to use CSS. So its a good idea to start using CSS in all the HTML pages to make them compatible to future browsers

Types of CSS (Cascading Style Sheet)

Cascading Style Sheet(CSS) is used to set the style in web pages which contain HTML elements. It sets the background color, font-size, font-family, color, … etc property of elements in a web pages.There are three types of CSS which are given below:



Inline CSS: Inline CSS contains the CSS property in the body section attached with element is known as inline CSS.

For Inline CSS every style content is in HTML elements. It is used for a limited section. Whenever our requirements are very small we can use inline CSS. It will affect only single elements. In HTML we require that various HTML tag's views are different so then we use inline Cascading Style Sheets.

There is a disadvantage of inline Cascading Style Sheets. It must be specified on every HTML tag. There is a lot of time consumed by that and it is not the best practice for a good programmer and the code will be quite large and very complex.

```
<p style="color: blue; text-align: left; font-size: 15pt">hello </p>
```

Internal or Embedded CSS: This can be used when a single HTML document must be styled uniquely. The CSS rule set should be within the HTML file in the head section.Internal CSS is used in the condition when we want a style to be used in the complete HTML body.

```
<style type="text/css">
  p {color:green; text-align: left; font-size: 10pt}  // tag
  .para { color: red; font-weight: bold}        //class
#main{ color: red; font-weight: bold}          //id
</style>
```

Inline	Internal

<html>
 	
<body>
 	
 Inline CSS is applied on this heading.
 	
 This paragraph is not affected.
 	
</body>
 	
</html>
	<html>
	<head>
	<style>
	body {
	background-color: linen;
	}
	h1 {
	color: red;
	margin-left: 80px;
	}
	</style>
	</head>
	<body>
	** **The internal style sheet is applied on this heading.** **
	** **This paragraph will not be affected.** **
	</body>
	</html>

External CSS: External CSS contains separate CSS file which contains only style property with the help of tag attributes (For example class, id, heading, … etc). CSS property written in a separate file with .css extension and should be linked to the HTML document using **link** tag. This means that for each element, style can be set only once and that will be applied across web pages.

- **link** tag is used to link the external style sheet with the html webpage.
- **href** attribute is used to specify the location of the external style sheet file.

Properties of CSS: Inline CSS has the highest priority, then comes Internal/Embedded followed by External CSS which has the least priority. Multiple style sheets can be defined on one page. If for an HTML tag, styles are defined in multiple style sheets then the below order will be followed.

- As Inline has the highest priority, any styles that are defined in the internal and external style sheets are overridden by Inline styles.
- Internal or Embedded stands second in the priority list and overrides the styles in the external style sheet.
- External style sheets have the least priority. If there are no styles defined either in inline or internal style sheet then external style sheet rules are applied for the HTML tags.

```
<head>
    <title> External Style Sheets Demo </title>
    <link rel="stylesheet" type="text/css" href="external.css">
  </head>
```

```
body {
   background-color:powderblue;
}
.main {
   text-align:center;
}
```

```
<html>
   <head>
      <link rel="stylesheet"
href="style.css"/>
   </head>

   <body>
      <div class = "main">
         <div class ="GFG">welcome to
```

```
.GFG {
    color:#009900;
    font-size:50px;
    font-weight:bold;
}
#geeks {
    font-style:bold;
    font-size:20px;
}
```

Style.css

```
websol</div>
        <div id ="geeks">
            A computer science portal for
students
        </div>
    </div>
  </body>
</html>
```

CSS Properties

Background

CSS background property is used to define the background effects on element. There are 5 CSS background properties that affects the HTML elements:

1. background-color :
2. background-image
3. background-repeat
4. background-attachment
5. background-position

The background-color property is used to specify the background color of the element.

```
<body style="background-color:pink">
```

The background-image property is used to set an image as a background of an element. By default the image covers the entire element.

```
<body style="background-image:url(1.jpg)">
```

By default, the background-image property repeats the background image horizontally and vertically. Some images are repeated only horizontally or vertically.The background looks better if the image repeated horizontally only.

```
<body style="background-image:url(1.jpg);background-repeat:repeat-x / repeat-y ; no-repeat / repeat">
```

The background-attachment property is used to specify if the background image is fixed or scroll with the rest of the page in browser window. If you set fixed the background image then the image will not move during scrolling in the browser.

```
<body style="background-attachment:fixed / scroll">
```

The background-position property is used to define the initial position of the background image. By default, the background image is placed on the top-left of the webpage.

```
<body style="background-position:top / bottom / center">
```

```
<body style="background-imgae:url(1.jpg);background-repeat:no-repeat; background-attachment:fixed; background-position:center; background-color:pink">
```

Border

The CSS border is a shorthand property used to set the border on an element.The CSS border properties are use to specify the style, color and size of the border of an element.

- border-style
- border-color
- border-width

The Border style property is used to specify the border type which you want to display on the web page. Dashed,dotted,none,groove,solid..

The border-width property is used to set the border's width. It is set in pixels. You can also use the one of the three pre-defined values, thin, medium or thick to set the width of the border.

There are three methods to set the color of the border.It specifies the color name. For example: "red".

```
<img src=1.jpg style=”border:5px red dashed”>
```

Margin

CSS Margin property is used to define the space around elements. It is completely transparent and doesn't have any background color. It clears an area around the element.

Top, bottom, left and right margin can be changed independently using separate properties. You can also change all properties at once by using shorthand margin property.

Properties

Property	Description
margin	This property is used to set all the properties in one declaration.
margin-left	it is used to set left margin of an element.
margin-right	It is used to set right margin of an element.
margin-top	It is used to set top margin of an element.
margin-bottom	It is used to set bottom margin of an element.

Shorthand Property

CSS shorthand property is used to shorten the code. It specifies all the margin properties in one property.

margin: 50px 100px 150px 200px;

It identifies that:

top margin value is 50px **right** margin value is 100px

bottom margin value is 150px **left** margin value is 200px

```
<p style="margin:100px">          </p>       // apply all side

<p style="margin-left:100px">   </p>  // apply left side
```

Padding

CSS Padding property is used *to define the space between the element content and the element border*.

It is different from CSS margin in the way that CSS margin defines the space around elements. CSS padding is affected by the background colors. It clears an area around the content.

Top, bottom, left and right padding can be changed independently using separate properties. You can also change all properties at once by using shorthand padding property.

Properties

Property	Description
padding	It is used to set all the padding properties in one declaration.
padding-left	It is used to set left padding of an element.
padding-right	It is used to set right padding of an element.
padding-top	It is used to set top padding of an element.
padding-bottom	It is used to set bottom padding of an element.

Shorthand Property

CSS shorthand property is used to shorten the code. It specifies all the Padding properties in one property.

Padding: 50px 100px 150px 200px;

It identifies that:

top Padding value is 50px **right** Padding value is 100px

bottom Padding value is 150px **left** Padding value is 200px

```
<p style=" Padding:100px">          </p>       // apply all side

<p style=" Padding-left:100px">   </p>  // apply left side
```

CSS List Properties

In HTML, there are two main types of lists:

- unordered lists (<ul>) - the list items are marked with bullets
- ordered lists (<ol>) - the list items are marked with numbers or letters

The CSS list properties allow you to:

- Set different list item markers for ordered lists
- Set different list item markers for unordered lists
- Set an image as the list item marker
- Add background colors to lists and list items

The list-style-type property specifies the type of list item marker.

list-style-type: circle

The list-style-image property specifies an image as the list item marker:

list-style-image: url("1.jpg");

The list-style-position property specifies the position of the list-item markers

list-style-position: inside;

Shorthand property

The list-style property is a shorthand property. It is used to set all the list properties in one declaration:

list-style: square inside url("1.jpg");

CSS Box Model

All HTML elements can be considered as boxes. In CSS, the term "box model" is used when talking about design and layout.

The CSS box model is essentially a box that wraps around every HTML element. It consists of: margins, borders, padding, and the actual content.

Explanation of the different parts:

- **Content** - The content of the box, where text and images appear
- **Padding** - Clears an area around the content. The padding is transparent
- **Border** - A border that goes around the padding and content
- **Margin** - Clears an area outside the border. The margin is transparent