**MODULE-2 ASSIGNMENT(CSS AND CSS3)**

**1. What are the benefits of using CSS?**

ANS:  CSS is defined as a method sheet language that provides web designers control over how an internet site communicates with web browsers including the formatting and display of their HTML documents.

Benefits of css:

* CSS plays an important role, by using CSS you simply got to specify a repeated style for element once & use it multiple times as because CSS will automatically apply the required styles.
* The main advantage of CSS is that style is applied consistently across variety of sites. One instruction can control several areas which is advantageous.
* Cascading sheet not only simplifies website development, but also simplifies the maintenance as a change of one line of code affects the whole web site and maintenance time.
* CSS changes are device friendly. With people employing a batch of various range of smart devices to access websites over the web, there’s a requirement for responsive web design.
* It has the power for re-positioning. It helps us to determine the changes within the position of web elements who are there on the page.
* It reduces the file transfer size.

**2. What are the disadvantages of CSS?**

ANS: Disadvantages of CSS:

* CSS, CSS 1 up to CSS3, result in creating of confusion among  web browsers.
* With CSS, what works with one browser might not always work with another. The web developers need to test for compatibility, running the program across multiple browsers.
* There exists a scarcity of security.
* After making the changes we need to confirm the compatibility if they appear. The similar change affects on all the browsers.
* The programming language world is complicated for non-developers and beginners. Different levels of CSS i.e. CSS, CSS 2, CSS 3 are often quite confusing.
* Browser compatibility (some styles sheet are supported and some are not).
* CSS works differently on different browsers. IE and Opera supports CSS as different logic.
* There might be cross-browser issues while using CSS.
* There are multiple levels which creates confusion for non-developers and beginners.

**3. What is the difference between CSS2 and CSS3?**

ANS:Differencebetween CSS2 and CSS3:

* CSS3 is split into many various documents known as Modules. each module adds new capability or extends options outlined in CSS2 over conserving backward compatibility. Work on CSS3 started around the time of publication of the initial CSS2 recommendation.
* The CSS3 version supports more browsers than CSS2.
* CSS3 introduces several new selectors. Those new selectors square measure largely in an exceeding type of pseudo-elements and pseudo-categories.
* The new addition of General relation Combinator will be wont to match relation parts of a given part through diacritic (~) combinator.
* CSS3 introduces several properties attended with new values and units. It facilitates styling of backgrounds, borders, boxes, etc…, that permits the USA to stay most of the styling at intervals the computer network and HTML standards and our document, while not a necessity for all those proprietary third-party package packages.
* New values and new units square measure introduced to support all those new properties. for example, Angle units deg, grad, rad, and switch or Time unitss and MS.

**4. Name a few CSS style component.**

ANS: External stylesheets,Internal Stylesheets,Inline CSS,Selctors,Properties and Values,Functions,Shorthands.

**5. What do you understand by CSS opacity?**

ANS:CSS Opacity:

* The opacity CSS property sets the opacity of an element. Opacity is the degree to which content behind an element is hidden, and is the opposite of transparency.
* Opacity applies to the element as a whole, including its contents, even though the value is not inherited by child elements. Thus, the element and its children all have the same opacity relative to the element's background, even if they have different opacities relative to one another.
* Opacity (0) means: The element is fully transparent (that is, invisible).
* Opacity (0-1)in between means: The element is translucent (that is, content behind the element can be seen).
* Opacity (1) means: its by default value. The element is fully opaque (visually solid).

**6. How can the background color of an element be changed?**

ANS: To add background color in HTML, use the CSS background-color property. Set it to the color name or code you want and place it inside a style attribute. Then add this style attribute to an HTML element, like a table, heading, div, or span tag.

* Identify the HTML element you’d like to add a background to or create one.
* Scan your HTML code to pinpoint which element you’d like to change. If it’s the header, look for the <header> opening tag. If it’s a div, look for the <div> tag.
* Choose an HTML background color.
* You have plenty of [HTML color codes](https://blog.hubspot.com/marketing/guide-using-colors-marketing-design?hubs_content=blog.hubspot.com/website/change-background-color-html&hubs_content-cta=HTML%20color%20codes) to choose from.
* Add a style attribute to the opening tag.
* Next, add the style attribute to the opening tag of your element. For this tutorial, only the background color of this specific table will change. The change will not affect any other element on the page.

**7. How can image repetition of the back-ground be controlled?**

ANS: Here, we will see how an image repetition of the backup is controlled in CSS. This task can be achieved by using the back-ground repeat property that will help us to control the repetition of the image.

* The **background-repeat property** in CSS is used to repeat the background image both horizontally and vertically. It also decides whether the background image will be repeated or not.
* Example:

<!DOCTYPE html>

<html>

<head>

<title>background-repeat property</title>

<style>

body {

margin-top: 40px;

background-image: url("path of image");

background-repeat: no-repeat;

background-size: 150px 100px;

}

h1 {

text-align: center

}

</style>

</head>

<body>

<h1>Explanation of back-ground repeat property:</h1>

</body>

</html>

**8. What is the use of the background-position property?**

ANS: The background-position property sets the starting position of a background image.By default, a background-image is placed at the top-left corner of an element, and repeated both vertically and horizontally.

* The position is relative to the position layer set by: background-origin

Property.

* This property is  specified as one or more position values,separated by commas.
* Syntax: background-position: value;
* **background-position : left top:** This property is used to set the image at the left top.
* **background-position : left center :**This property is used to set the image at the left center.
* **background-position : left bottom;** This property is used to set the image at the left bottom.
* **background-position : center top;** This property is used to set the image at the center top position.
* **background-position : center center;** This property is used to set the image at the center center position.
* **background-position : center bottom;** This property is used to set the image at the center bottom position.
* **background-position : right top;** This property is used to set the image at the right top position.
* **background-position : right center;** This property is used to set the image at the right center position.
* **background-position : right bottom;** This property is used to set the image at the right bottom position.
* **background-position : 25% 75%:** This property is used to set the image at 25% from the left and 75% from the top.
* **background-position : 30px 80px;**: This property is used to set the image at the 30px from left and 80px from top.

**9. Which property controls the image scroll in the background?**

ANS: background-attachment property:

* The background-attachment property sets whether a background image scrolls with the rest of the page, or is fixed.

**10. Why should background and color be used as separate properties?**

ANS: There are serveral reasons for this. First, style sheets become more legible both for humans and machines. The background property is already the most complex property in CSS and combining it with color would make it even more complex. Second, color inherits, but background doesn't and this would be a source of confusion.so,that’s why background and color be used as separate properties.

**11. How to center block elements using CSS1?**

## ANS: Methods to centrally align the Block-level elements:

## Method-1:Specify the width of the element manually. This is because the default width of block elements is 100% of the whole screen. Then, specify the margin for aligning the remaining space around the block element.

**Method-2**: To centrally align the block elements, we can simply make use of the <center> tag. All the elements within the <center> tag will be centrally aligned.

**12. How to maintain the CSS specifications?**

ANS: The CSS specifications are maintained by the World Wide Web Consortium (W3C). Even though every browser supports CSS, there are many inconsistencies in the supported specification version. Some browsers even have their own implementation of the specification and have proprietary (vendor) prefixes.

* The Specification defines how CSS properties should be implemented by browser vendors along with detailed algorithms, code samples and tabular information.
* The Specification also include:
* The syntax and data types of the language.
* Detailed explanation on CSS Selectors.
* How you can assign values to properties.
* The Cascade (the "C" in CSS).
* How inheritance works.
* The Box Model e.t.c.
* Explanation on some of these topic are short and easy to understand while others are explained in great detail.
* The Specification also specify how stylesheets can be included in your web document and how to target specific media e.g print or screen.
* The CSS Specification **prior to CSS3 was a single Specification,** CSS3 on the other hand **is divided into Modules** which are **Independent Specifications** that can be worked on by different author(s) at different paces, that's why we have Selector Level 3 Specification, CSS Color 4, CSS Backgrounds and so on. Some of these modules are revisions of CSS2.1, and some are newly created, but all fall under the banner of CSS3.

**14. What are the ways to integrate CSS as a web page?**

## ANS: The 3 ways to insert CSS into your web pages:

1.Internal CSS: An internal CSS is defined in the <head> section of an HTML page, within a <style> element.

2.External CSS: To use an external style sheet, add a link to it in the <head> section of each HTML page.

3.Inline CSS: An inline CSS uses the style attribute of an HTML element.

**15. What is embedded style sheets?**

ANS: An embedded style sheet is declared within the <head> element of an XHTML document. It applies to the whole document, rather than just one element. Each style declaration (or CSS rule) gets applied to everything in the document that matches that rule.

* This is done by embedding the **<style></style>** tags containing the CSS properties in the head of your document.
* Embedded style sheets are particularly useful for HTML documents that have unique style requirements from the rest of the documents in your project.
* Example:

<!DOCTYPE html>

<html>

<head>

<title>Page Title</title>

<!-- Embedded stylesheet -->

<style>

h2 {font-size: 1.5rem;

color: red;

text-align: center;

}

p {

font-variant: italic;

}

</style>

</head>

<body>

<h2>Welcome To The Era Of CSS</h2>

<p>This document is using an embedded stylesheet!</p>

<p>This is a paragraph</p>

<p>This is another paragraph</p>

</body>

</html>

**16. What are the external style sheets?**

ANS: An external style sheet is a separate CSS file that can be accessed by creating a link within the head section of the webpage. Multiple webpages can use the same link to access the stylesheet. The link to an external style sheet is placed within the head section of the page.

* To apply a rule to multiple pages, an external style sheet is used.
* The <link>tag is used to link external style sheet is placed within the head section of the HTML page.
* External Style Sheet is saved with .css extension.
* Example:

<head>

<link rel="stylesheet" href="mystyle.css">

</head>

* “href” attribute is used to link external stylesheet.

**17. What are the advantages and disadvantages of using external style sheets?**

ANS: Advantages:

* With the help of External Style Sheets, the styles of numerous documents can be organized from one single file.
* In External Style Sheets, Classes can be made for use on numerous HTML element types in many forms of the site.
* In complex contexts, Methods like selector and grouping can be implemented to apply styles.

Disadvantages:

* An extra download is essential to import style information for each file.
* The execution of the file may be deferred till the external style sheet is loaded.
* While implementing style sheets, we need to test Web pages with multiple browsers in order to check compatibility issues.

**18. What is the meaning of the CSS selector?**

**ANS:CSS selector is used to select an element which you want to style.** Selectors are the part of CSS rule set. CSS selectors select HTML elements according to its id, class, type, attribute etc.

There are several different types of selectors in CSS:

1. Element Selector:

* The element selector selects the HTML element by name.
* Example:

<!DOCTYPE html>

<html>

<head>

<style>

p{

    text-align: center;

    color: blue;

}

</style>

</head>

<body>

<p>This style will be applied on every paragraph.</p>

<p id="para1"**>**Me too!</p>

<p>And me!</p>

</body>

</html>

1. ID Selector

* The id selector selects the “id” attribute of an HTML element to select a specific element. An id is always unique within the page so it is choosen to select a single, unique element.
* It is written with the hash character (#), followed by the id of the element.
* Example:

<!DOCTYPE html**>**

<html>

<head>

<style>

#para1 {

    text-align: center;

    color: blue;

}

</style>

</head>

<body>

<p id="para1"**>**Hello Javatpoint.com</p>

<p>This paragraph will not be affected.</p>

</body>

</html>

1. Class Selector:

* The class selector selects HTML elements with a specific class attribute.
* It is used with a period character . (full stop symbol) followed by the class name.
* Example:

<!DOCTYPE html**>**

<html>

<head>

<style>

.center {

    text-align: center;

    color: blue;

}

</style>

</head>

<body>

<h1 class="center"**>**This heading is blue and center-aligned.</h1>

<p class="center"**>**This paragraph is blue and center-aligned.</p>

</body>

</html>

1. Universal Selector:

* The universal selector is used as a wildcard character. It selects all the elements on the pages.
* Example:

<!DOCTYPE html**>**

<html>

<head>

<style>

\* {

   color: green;

   font-size: 20px;

}

</style>

</head>

<body>

<h2>This is heading</h2>

<p>This style will be applied on every paragraph.</p>

<p id="para1"**>**Me too!</p>

<p>And me!</p>

</body>

</html>

1. Group Selector:

* The grouping selector is used to select all the elements with the same style definitions.
* Grouping selector is used to minimize the code. Commas are used to separate each selector in grouping.
* Example:

<!DOCTYPE html**>**

<html>

<head>

<style>

h1, h2, p {

text-align: center;

color: blue;

}

</style>

</head>

<body>

<h1>Hello Javatpoint.com</h1>

<h2>Hello Javatpoint.com (In smaller font) </h2>

<p>This is a paragraph.</p>

</body>

</html>

## General Sibling Selector (~):

* It uses the **tild (~)** sign as the separator between the elements. It selects the elements that follow the elements of first selector, and both of them are the children of the same parent. It can be used for selecting the group of elements that share the common parent element.
* Example:

<!DOCTYPE html**>**

<html>

<head>

<title>General Sibling Selector</title>

<style>

body{

text-align: center;

}

h1 ~ p{

color: blue;

font-size: 25px;

font-weight: bold;

text-align: center;

}

div {

font-size: 32px;

}

</style>

</head>

<body>

<h1>General sibling selector (~) property</h1>

<p>It is the first paragraph element which will get effected.</p>

<div>

<p> It is the paragraph under the div element </p>

</div>

<p>It is the paragraph element after the div</p>

<p>It is the paragraph element which will also get affected</p>

</body>

</html>

## Adjacent Sibling Selector (+)

* It uses the **plus (+)** sign as the separator between the elements. It matches the second element only when the element immediately follows the first element, and both of them are the children of the same parent. This sibling selector selects the adjacent element, or we can say that the element which is next to the specified tag.
* It only selects the element which is just next to the specified first element.
* Example:

<!DOCTYPE html**>**

<html>

<head>

<title> Adjacent Sibling Selector </title>

<style>

body{

text-align: center;

}

p + p{

color: Blue;

font-size:25px;

font-weight: bold;

text-align: center;

}

p {

font-size: 32px;

}

</style>

</head>

<body>

<h1> Adjacent sibling selector (+) property</h1>

<p> It is the first paragraph </p>

<p> It is the second paragraph which is immediately next to the first paragraph, and it get selected. </p>

<div> This is the div element </div>

<p> This is the third paragraph which does not get affected </p>

<p> This paragraph is also selected because it immediately next to third paragraph </p>

</body>

</html>

1. Child Selector(>)

* It uses the greater than **(>)** sign as the separator between the elements. It selects the direct descendant of the parent. This combinator only matches the elements that are the immediate child in the document tree. It is stricter as compared to the descendant selector because it selects the second selector only when the first selector is its parent.
* The parent element must always be placed at the left of the **">"**. If we remove the greater than **(>)** symbol that designates this as a child combinator, then it will become the descendant selector.
* Example:

<!DOCTYPE html**>**

<html>

<head>

<title> Child Selector </title>

<style>

body{

text-align: center;

}

div **>** p{

color: Blue;

font-size:25px;

font-weight:bold;

text-align:center;

}

p {

font-size: 20px;

}

</style>

</head>

<body>

<h1> Child selector (**>**) property</h1>

<p> It is the first paragraph </p>

<p> It is the second paragraph </p>

<div>

<h1>This is the div element</h1>

<p> This is the third paragraph which is the child of div element </p>

<p> This is the fourth paragraph and also get selected because it is also the child of div element **</p>**

</div>

</body>

</html>

## Descendant Selector (space)

* It uses the space as the separator between the elements. The CSS descendant selector is used to match the descendant elements of a particular element and represent it using a single space. The word descendant indicates nested anywhere in the DOM tree. It can be a direct child or deeper than five levels, but it will still be referred to as a descendant.
* It combines two selectors in which the first selector represents an ancestor (parent, parent's parent, etc.), and the second selector represents descendants. The elements matched by the second selector are selected if they have an ancestor element that matches the first selector.
* Example:

<!DOCTYPE html**>**

<html>

<head>

<title> Descendant Selector </title>

<style>

body{

text-align: center;

}

div p{

color: blue;

font-size:28px;

font-weight: bold;

text-align: center;

}

p,div {

font-size: 25px;

}

</style>

</head>

<body>

<div>

<p> This is 1st paragraph in the div. </p>

<p> This is 2nd paragraph in the div. </p>

<span>

This is the span element in the div

<p> This is the paragraph in the span. It will also be affected. </p>

</span>

</div>

<p> Paragraph 4. It will not be affected because it is not in the div. </p>

</body>

</html>