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**Introduction To CSS**

What is CSS?

CSS is Cascading Style Sheet. CSS is used to style the HTML Elements. CSS helps us to change the text color, background color, format the tables. Give the borders and paddings to the HTML Elements. Change the font size, font style. Give borders to images. Give different colors to the links. CSS decides where to display and how to display. HTML decides what to display. You can display different color in desktop and in mobile.

HTML helps us to create web pages. CSS is used to style the web page. CSS is a arts. Everyone can give different style to the same web page.

CSS Syntax

P  
{

Background-color:red;

}

How to write CSS.

In css we will not use the term tag rather we use the term selector. Selector means what you are selecting which tag. there are different types of selectors in CSS.

1. Tag selector
2. Id selector
3. Class selector.

Tag selector we all are familiar with tags. We know p, h1 to h6, div, span, ul, ol, li etc.

When we write p as a selector we mean that we are selector all the ps in the page.

Id selector. ID is an attribute and can be used with any tag. Only one element can use one id, and that id cannot be used by any other element.

Class Selector. Class is also an attribute and can be used with any tag. Any element can use one or more classes. And the same class can be used by other elements also.

A class selector is denoted by a dot(.) and the class name for example .myclass, .yourclass.

A ID selector is denoted by a hash sing (#) and the id name for example #myid, #yourid.

Let’s see a example

<p id=”myid” class=”myclass”>

Here P is the tag, id is myid and class is myclass.

In CSS we can select like this

P  
{

Background-color:red;

Color:yellow;

}

.myclass  
{

Background-color:red;

Color:black

}

#myid  
{

Background-color:red;

Color:black;

}

How to add CSS in HTML page.

We can say there are three types of CSS.

1. Inline CSS
2. Internal CSS
3. External CSS

By three types of CSS we should understand that there are three ways to write CSS. CSS is same in all the three cases. Inline CSS is written by using the style attribute of a tag. For example <p style=”background-color:red”>. In this example style is the attribute and background-color:red is the value. We can give more than one style in the style attribute. For example <p style=”background-color:red;color:white;”>.

Internal CSS is written in the Style tag inside the head tag in the html page

For example

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta http-equiv="X-UA-Compatible" content="IE=edge">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Document</title>

    <style>

        h1 {

            color: blue;

        }

    </style>

</head>

<body>

    <h1>Hello World</h1>

</body>

</html>

External CSS

When we want to use external CSS we need to create two files. First file is the html file for example it is INDEX.HTML, and the second file is the CSS file for example STYLE.CSS.

In the beginning the html file looks like this

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta http-equiv="X-UA-Compatible" content="IE=edge">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Document</title>

</head>

<body>

    <h1>Hello World</h1>

</body>

</html>

The CSS file looks like this

body {

    background-color: red;

    color: blue;

}

Now the question is how to make the html file understand that it is supposed to use the style.css file.

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

This is the line of code you have to write in the .html file to link with the .css file with the .html file.

There is no limit of numbers of .css file that you can link with the .html file.

ORDER OF SELECTOR

1. ID SELECTOR
2. CLASS SELECTOR
3. TAG SELECTOR

For example if a element say h1 have a id and a class as given below

<body>

    <h1 id="myid" class="myclass">Hello World</h1>

</body>

Here the tag selector is h1, id selector is myid and class selector is myclass.

In the style section we have the style like this.

<style>

        h1 {

            color: red;

        }

        #myid {

            color: blue;

        }

     .myclass {

            color: green;

        }

    </style>

In this case id will have the first preference, then the class and then the element selector.

**Comments in CSS**

Comments means the particular statement(s) will not get executed. But the code or statement will remain in the file. If we want to use it again we have to uncomment the commented lines.

<style>

        h1 {

            color: red;

        }

        /\* #myid {

            color: blue;

        } \*/

     .myclass {

            color: green;

        }

    </style>

In the example above

  /\* #myid {

            color: blue;

        } \*/

These line is commented. The commented line show be within /\*….. \*/. Again we use comments to put some remarks so that we can know latter on why we have written these lines of code.

**Why we need class selector when we have element selector.**

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta http-equiv="X-UA-Compatible" content="IE=edge">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <!-- <link rel="stylesheet" href="style.css"> -->

    <title>Document</title>

    <style>

        h1 {

            color: red;

        }

    </style>

</head>

<body>

    <h1>Statement 1</h1>

    <h1>Statement 2</h1>

    <h1>Statement 3</h1>

    <h1>Statement 4</h1>

    <h1>Statement 5</h1>

</body>

</html>

In this example you can see that all the h1 have become red in color. But if we want only the 1 and 4 h1 to be of color red then we need to use a class. If we don’t want all the elements to have the same style but only a group of element should have the same style we need to use the class.

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta http-equiv="X-UA-Compatible" content="IE=edge">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <!-- <link rel="stylesheet" href="style.css"> -->

    <title>Document</title>

    <style>

        .red {

            color: red;

        }

    </style>

</head>

<body>

    <h1 class="red">Statement 1</h1>

    <h1>Statement 2</h1>

    <h1>Statement 3</h1>

    <h1 class="red">Statement 4</h1>

    <h1>Statement 5</h1>

</body>

</html>

**Rules for IDs and CLASS(s).**

In a web page any element can have only one id. And the same id cannot be used by any other elements.

In a web page any element can have one or more classes. And the same classes can be used by any other elements.

**What is element class selector?**

If we write selector like this

  h1.red {

            color: red;

        }

The selector above specifies that it select all the h1 with the class red. If a p have class red even then the p with class red will not be affected. If we want all the elements with class red gets selected we need to write the selector like this.

 .red {

            color: red;

        }

The above selector will select all the elements with class red. If we want only h1 and p with class red to be selected our selector should be like this

<style>

        h1.red,

        p.red {

            color: red;

        }

    </style>

If you see above statement you can see **h1.red,p.red.** This means that only h1 and p elements with the class red is selected. Please not it has to be separated with a comma.

**Colors in CSS**

Colors in CSS can be specified using

1. Predefined color names,
2. RGB
3. RGBA
4. HEX
5. HSL
6. HSLA

Predefined color name for example are red, green, blue, gray etc you can use many color using names of the color. In many websites you can get the details of color names supported in the web.

RGB

rgb(red,green,blue)

In place of Red, Green Blue, you have to enter the values of the color within the range of 0 to 255.

For example black rgb(0,0,0), white rgb(255,255,255), red rgb(255,0,0), green rgb(0,255,0), blue(0,0,255). The total numbers of color you can get is 256X256X256.

rgba(*red,* *green*, *blue, alpha*)

The alpha parameter is a number between 0.0 (fully transparent) and 1.0 (not transparent at all):

HEX

Hex color codes start with **a pound sign** or hashtag (#) and are followed by six letters and/or numbers. The first two letters/numbers refer to red, the next two refer to green, and the last two refer to blue.

Hexadecimal Number System is one the type of Number Representation techniques, in which there value of base is 16. That means there are only 16 symbols or possible digit values, there are 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F. Where A, B, C, D, E and F are single bit representations of decimal value 10, 11, 12, 13, 14 and 15 respectively.

Red #ff0000

Green #00ff00

Blue #0000ff

Black #000000

White #ffffff

HSL

The hsl() functional notation expresses a given color according to its hue, saturation, and lightness components. An optional alpha component represents the color's transparency.

Hue is a degree0 on the color wheel from 0 to 360. 0 is red, 120 is green, and 240 is blue.

Saturation is a percentage value, 0% means a shade of gray, and 100% is the full color.

Lightness is also a percentage, 0% is black, 50% is neither light or dark, 100% is white

Red hsl(0,100%,50%)

Hsla(0,100%,50%,0.5)

<https://developer.mozilla.org/en-US/docs/Web/CSS/CSS_Colors/Color_picker_tool>

Background in css

Let us create a DIV to see the background. Let us give a ID to the div say bg. In the css we have to write

#bg

{

Background-color:red;

}