

CSS Introduction

What is CSS?

- * CSS stands for cascading style sheets
- * CSS describes how HTML elements are to be displayed on screen.
- * It can control layout of multiple pages all at ones.
- * External style sheets are stored in .css files.

Why use CSS?

It is used to define styles of your web pages, including the design, layout and variations in display for different devices and screen sizes.

CSS Syntax

A css rule consists of a selector and a declaration block.

h1

{ color: blue; }

selector

property value

Selectors in CSS

A CSS selector selects the HTML element(s) you want to style.

1- Simple Selector

1. Element Selector

2. Class Selector

3. ID Selector

4. Pseudo-class Selector

5. Multiple Selector

Element Selector

CSS element selector selects HTML elements based on the element name.

Ex - `p {`

`text-align: center;`

`color: red;`

`}`

Class Selector

The class selector selects HTML elements with a specific class attribute.

To select elements with a specific class, write a period(.) character, followed by the class name.

Ex .center {

color: red;

center says .center controls no style at all

.center says nothing at all

ID Selector (id) has higher priority than class selector

• priority

⇒ The ID selector uses the id attribute of an HTML elements to select a specific element.

⇒ The id of an element is unique within a page, so the id selector is used to select one unique element!

⇒ To select an element with a specific id, write a hash (#) character, followed by the id of the element.

Ex #para1 {

color: red;

#para1 says color:red; nothing else

Pseudo-classes Selector

• pseudo classes (W) are often used

A pseudo-class is a keyword added to a selector that specifies a special state of the selected element(s).

For example:

- * Style an element when a user hovers the cursor over it.
- * Style visited and unvisited links differently.

Syntax: It is a tool of strings with

selector:pseudo-class{ property:value; }

Multipled Selector / Grouping Selector

A grouping selector selects all the HTML elements with the same style definitions.

- ⇒ It will be better to group the selectors, to minimize the code.
- ⇒ To group selectors, separate each selector with a (,) comma.

Ex `h1, h2, p { color: red; }`

Exploration Time (HW)

- * Universal Selector

- * Nested Selector

- * Attribute Selector

Universal Selector

The universal selector (*) selects all HTML elements on the page.

Ex `* { color: red; }`

Nested Selector

Just like in HTML where you can have elements nested inside other elements, the same can be done in CSS.

Syntax

class1-sele class2-sele id-sele {
property: value;
}

Ex table tr th{
background-color: red;
}

Attribute Selector

The [attribute] selector is used to select elements with a specified attribute.

Ex a[target] {
background-color: yellow;
}

How to add styling in HTML?

* Inline CSS

* Internal CSS

* External CSS

Inline CSS

- ⇒ To style an HTML element, you can add the style attribute directly to the opening tag.
- ⇒ To use inline styles, add the style attribute to the relevant element.
- ⇒ Inline styles should be avoided at all costs because it makes it impossible to alter styles from an external stylesheet.

Ex `<p style="color:red;"> I am Rishabh. </p>`

Internal CSS / Style Tag

An internal style sheet may be used if one single HTML page has a unique style.

HTML allows us to write CSS code inside the `<style>` element, inside the head section.

Ex `<head>`
`<style>`
 `h1 {`
 `color: red;`

`<style>`
`</head>`

External CSS

- ⇒ When the HTML & CSS code are in separate files, they must be linked.
- ⇒ You can use the `<link>` element to link the HTML and CSS files together. The `<link>` element must be placed within the head of the HTML file.

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

Specificity

If there are two or more CSS rules that point to the same element, the selector with highest specificity value will "win", and its style declaration will be applied to that HTML element.

Specificity Hierarchy

Every CSS selector has its place in the specificity hierarchy.

There are four categories which define the specificity level of a selector:

- * Inline styles
- * IDs
- * Classes, pseudo-classes, attribute selectors
- * Elements and pseudo-elements

!important Rule

- ⇒ The **!important** rule in CSS is used to add more importance to a property/value than normal.
- ⇒ If you use the **!important** rule, it will override all previous styling tag rules.
- ⇒ It is good to know about the **!important** rule. However, do not use it unless you absolutely have to.

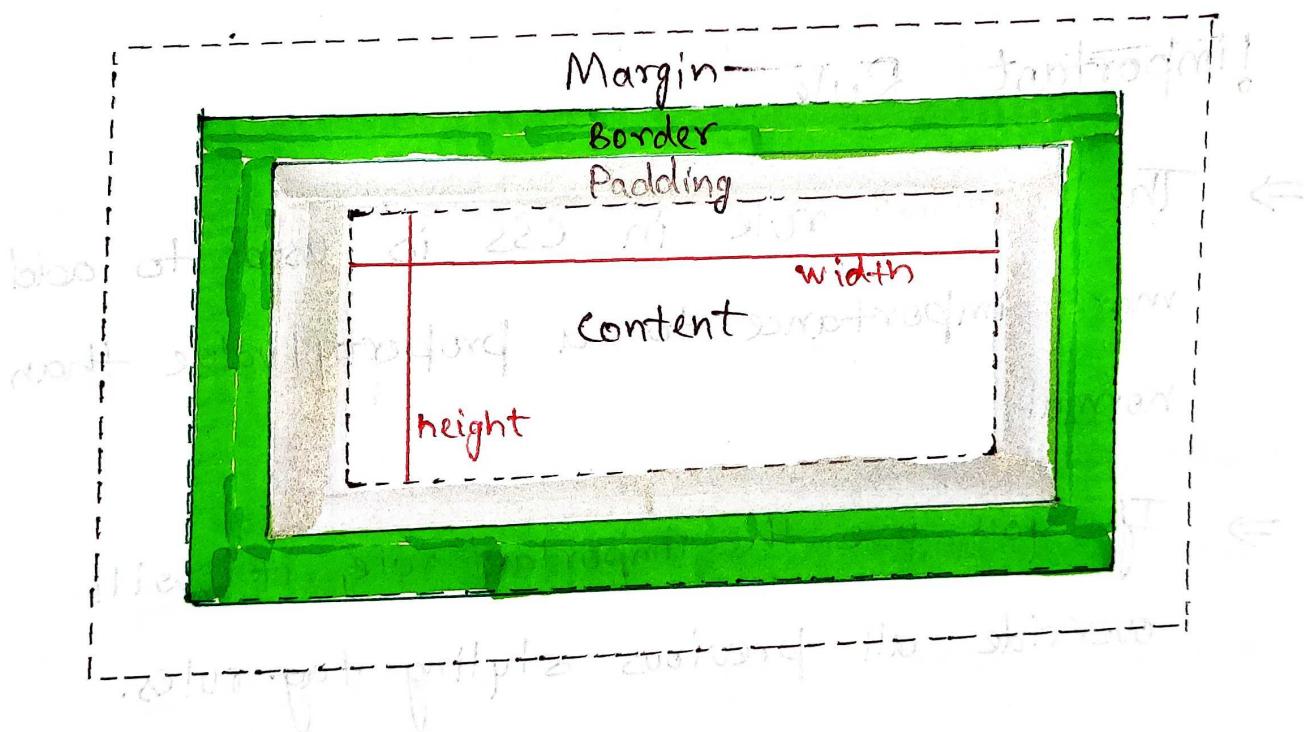
Ex p {
 color: red !important;

y

Handwritten notes on Box Model and its properties 22.2 part

Box Model in CSS

- * The box model is the basic building block of CSS.
- * According to the box model's concept every element on a page is a rectangular box and it may have width, height, padding, borders and margins.



Explanation

- * 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.

Colors in CSS

Colors in CSS can be specified by the following methods:

* Hexadecimal colors

* RGB colors

* Predefined / Cross-browser color names

* RGBA colors

* HSL colors

* HSLA colors

Hexadecimal Colors

A hexadecimal color is specified with: #RRGGBB where RR(Red), GG(Green) and BB(Blue).

All values must be b/w 00 and FF, where 00 means lowest value and FF means highest value.

Black = #000000

White = #ffffff

RGB Colors

An RGB color values represent RED, GREEN and BLUE light sources.

`rgb(red, green, blue)`

Each parameter defines the intensity of the color and can be an integer b/w

0 and 255 or a percentage value from 0% to 100%.

Ex `rgb(255, 99, 71)`

Predefined | Cross-browser Color Names

140 color names are predefined in the HTML and CSS color specification.

RGBA Colors

It is an extension of RGB color values with an alpha channel - which specifies the opacity for a color.

The 'alpha' parameter is a number b/w 0.0 (fully transparent) and 1.0 (not transparent at all).

`rgba(255, 99, 71, 0.8)`

HSL colors

`hsl (hue, saturation, lightness)`

Hue is a degree 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 grey, and 100% is the full color.

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

HSLA colors

HSLA is an extension of HSL color values with an alpha channel - which specifies the opacity for a color.

The alpha parameter is a number b/w 0.0 to and 1.0.

`hsla(0, 100%, 50%, 1)`

Explore Time

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* Font:

* Font-family

* Font-weight

* Font-style

* Emphasis & Important

* How to add external fonts?

Font

The word font refers to a set of printable or displayable typography or text characters in a specific style and size.

Font-family

All font family is a set of fonts that have a common design.

Font-weight

Weight is the overall thickness of a typeface's stroke in any given font.

Font-style

The font-style property is mostly used to specify italic text.

External Fonts

```
@font-face {  
    font-family: myFont;  
    src: url(sansation-light.woff);  
}
```

Units in CSS

1- Absolute unit

2- Percentage unit

3- Relative unit

1) Relative to font size

2) Related to Document

Absolute Unit

* mm

* cm

* in

* px ↗ fixed (1/96 inch)

Percentage Unit

* $\text{div} \{ \text{width: } 10\%; \}$ absolute layout
left: 10% pixels
 $\Rightarrow 10\%$ of parent div

Relative Unit to Font size

- * em \Rightarrow Related to parent element
- * rem \Rightarrow Related to root element

Relative Unit to ViewPort

- * vw $\Rightarrow \frac{1}{100} \times \text{width of viewport}$
- * vh $\Rightarrow \frac{1}{100} \times \text{height of viewport}$