

Introduction To CSS .

CSS (Cascading Style Sheets) is a way to apply set of visual styles to HTML elements. Uses of CSS are as follows :—

- Apply visual styles to HTML elements
- Apply layouting to the entire page.
- Apply animations to HTML elements.

There are different ways of applying CSS styles into our HTML elements. Some of them are :—

- i) Internal styles (Using the <Style> tag)
- ii) External styles (Using external css file)
- iii) Inline styles (CSS as part of HTML attribute)

Inline > Internal > External

Order of Precedence
in CSS

Anatomy of a CSS ruleset

`<CSS selector> {`

`<css-property>: <value>;`

`<css-property>: <value>;`

`}`

(i) A css selector is the namespace given to the selected HTML element for styling.

(ii) A css-property is the name of the css property being applied.

(iii) A value is the actual value of the css property being applied.

```
h1 {  
  color : red;  
  font-size : 38px;  
}
```

Selects every `<h1>` element on the page and give them the styles given in the ruleset.

The cascading effect of CSS.

The cascading effect of CSS is one of its most important properties. This effect states that multiple CSS properties tend to cascade on top of each other.

In essence, if the same HTML element has two different CSS styles in the CSS file, the rule which has a higher importance takes effect. The rule of importance in CSS is called CSS specificity.

In case the importance of two CSS rulesets are equal, the one coming later in the file takes effect. The CSS styles also carry forward to the next ruleset if we don't have conflict with styles.

Different types of CSS selectors.

(a) Classes → Used to select a group of HTML elements. Uses the 'class' HTML attribute. In CSS, classes are used by the dot operator (.) .

(b) ID → Used to uniquely identify a HTML element.
Uses the 'id' HTML attribute. In CSS, id are used by the hash operator (#).

(c) HTML tag → We can use the name of the HTML tag as a CSS selector.

ID > Classes > HTML tag

Order of priority
for CSS rule.

Imp thing to note here is that the cascading effect does not work in scenarios where order of priority is not the same.

CSS Combinators

Css combinators are a way to create some sort of relationship b/w multiple css selectors. They enable us to be more specific in the HTML elements we want to target in our CSS.

① Descendant combinator ()

- Denoted by a space, the descendant combinator is used to select all the descendant elements to a particular HTML element.

For eg: `div p { }`

→ This will select all the `<p>` which are descendants of a `<div>` HTML tag.

② Child combinator (>)

- Denoted by an angle bracket (>), it is used to select direct child elements of any HTML element.

③ Adjacent sibling combinator (+)

- Denoted by plus sign, it is used to select the sibling element which comes immediately after a particular HTML element.

NOTE: Only the siblings which come after are considered.

④ General sibling combinator (~)

- Denoted by tilde icon (~). It is used to select all the siblings coming after a HTML element.

CSS units

① px → Absolute unit of measurement. Does not change with screen size. px is short for pixels, which are small color dots which are used to render images/text on the screen.

② % → Relative unit of measurement. It is relative size to the parent element. Changes with parent size.

eg: Parent width : 500px.

Child width : 20%. \Rightarrow 20% of 500
 \Rightarrow 100px.

③ em → Relative unit of measurement. It takes into account the values given in the parent element, and calculates the child size by multiplying the size by

the factor.

Eg: Parent font-size : 20px.

Child font-size : 1.5em $\Rightarrow 1.5 \times 20$
 $\Rightarrow 30\text{px}.$

Em has a compounding effect on the final values.
So it should be used with caution.

Eg: Ancestor's font-size = 20px.

Parent's font size = 2em $\Rightarrow 2 \times 20 \Rightarrow 40\text{px}.$

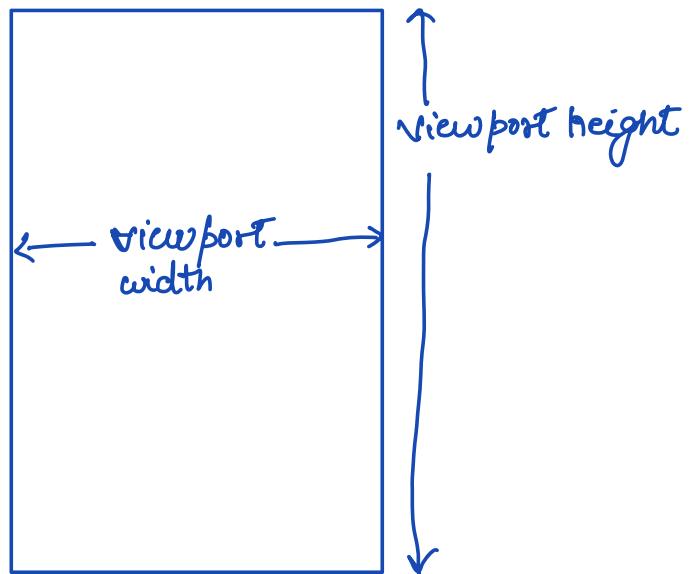
Child's font size $\Rightarrow 4\text{em} \Rightarrow 4 \times \underline{40} \Rightarrow 160\text{px}.$

IV rem \rightarrow Relative in nature. Behaves the same way as em, but instead of taking the parent units in consideration, it uses the unit of the root element i.e. the `<html>` Tag.

By default, the default value of the `<html>` element is 16px.

The default value of 16px can be changed by changing the font size from the web browser's settings.

④ vh & vw → Relative in nature. vh & vw are used to specify units based off of the viewport width and viewport height of the device



The viewport width and height refers to the viewable area of the screen and not the scrollable area.

Text CSS properties

① color → used to change the color of the text.

② font-size → control the size of text.

③ font-family → controls the font of the text.
syntax ⇒ font-family: primary font, fallback 1, fallback 2, ...

There is no limit to the no. of fall back fonts which can be added to the property.

(iv) **font-weight** → controls the thickness of the text.

Possible values ⇒ [100, 900].

↑
Thinneat ↓ Thickest.

(v) **letter-spacing** → controls the spacing b/w letters and characters. Takes value in any CSS unit.

(vi) **line-height** → controls the space b/w two lines of a long text. Takes value in any CSS unit.

COLORS in CSS.

There are different ways of specifying colors in CSS.

- Color name like red, yellow, orange etc.
- color as hex code.
- color as rgb() values. RGB → Red, Green, Blue.
Each of these values can have values b/w 0 to 255

The background property.

The background property is a combination of multiple other CSS background properties.

- (i) background-color : Used to give background color to element.
- (ii) background-image : Used to give the following elements as background to HTML elements
 - (a) Image using url() value.
 - (b) Linear gradient
 - (c) Radial gradient
 - (d) Conic gradient

(iii) background-repeat : Controls repetition of the background image on the x-axis and y-axis.

By default, it is set to repeat

(iv) background-size : Controls the size of the background image. Possible values are

- auto
- contain
- cover

(v) background-position : Controls the position of the background image .

(vi) background-attachment : Controls how the background image scrolls as per the user scroll .

Happy learning !
Rome wasn't built in a
day .