CSS

CSS is a stylesheet language that describes the presentation of an HTML (or XML) document.

CSS describes how elements must be rendered on screen, on paper, or in other media.

What is CSS?

CSS stands for **C**ascading **S**tyle **S**heets

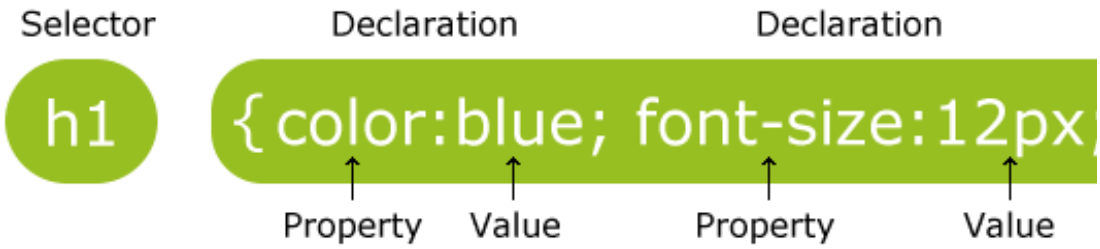
CSS **saves a lot of work**. It can control the layout of multiple web pages all at once

External stylesheets are stored in **CSS files.**

Ex: File.CSS

CSS Syntax

A CSS rule-set consists of a selector and a declaration block:



The selector points to the HTML element you want to style.

The declaration block contains one or more declarations separated by semicolons.

Each declaration includes a CSS propertyName and a value, separated by a colon.

A CSS declaration always ends with a semicolon, and declaration blocks are surrounded by curly braces.

CSS - Colors :

Colors are displayed combining RED, GREEN, and BLUE light

Color Values

CSS colors are defined using a hexadecimal (HEX) notation for the combination of Red, Green, and Blue color values (RGB). The lowest value that can be given to one of the light sources is 0 (HEX 00). The highest value is 255 (HEX FF).

HEX values are written as 3 double digit numbers, starting with a # sign.

color :#000000

color :rgb(0,0,0)

color:black (Font Colour Change)

CSS - backgroundcolor:

The backgroundcolor property sets the background color of an element.

The background of an element is the total size of the element, including padding and border

(but not the margin).

```
body {
   background-color: yellow; background-color: #00ff00; background-color: rgb(255,0,255);
}
```

CSS -font-family:

The font-family property specifies the font for an element.

The font-family property can hold several font names as a "fallback" system. If the browser does not support the first font, it tries the next font.

There are two types of font family names:

family-name - The name of a font-family, like "times", "courier", "arial", etc.

generic-family - The name of a generic-family, like "serif", "sans-serif", "cursive", "fantasy", "monospace".

Start with the font you want, and always end with a generic family, to let the browser pick a similar font in the generic family, if no other fonts are available.

Note: Separate each value with a comma.

```
p {
   font-family: "Times New Roman", Georgia, Serif;
}
```

CSS -font-size:

This property will set size of the font .

medium
Sets the font-size to a medium size. This is default
xx-small
Sets the font-size to an xx-small size
x-small
Sets the font-size to an extra small size
small
Sets the font-size to a small size
large
Sets the font-size to a large size
x-large
Sets the font-size to an extra large size
xx-large
Sets the font-size to an xx-large size
smaller
Sets the font-size to a smaller size than the parent element
larger
Sets the font-size to a larger size than the parent element

length
Sets the font-size to a fixed size in px, cm, etc.

%
Sets the font-size to a percent of the parent element's font size

initial (browser default)
Sets this property to its default value.

inherit (inherit from super element)
Inherits this property from its parent element.

CSS -font-weight(thickness):

The font-weight property sets how thick or thin characters in text should be displayed.

```
p {
   font-weight: normal; font-weight: bold; font-weight: 900;
}
```

CSS -font-style:

font-style: normal|italic|oblique|initial|inherit;

The font-style property specifies the font style for a text.

```
p {
   font-style: normal; font-style: italic; font-style: oblique;
}
```

normal
The browser displays a normal font style. This is default
italic
The browser displays an italic font style
oblique
The browser displays an oblique font style
initial
Sets this property to its default value.
inherit
Inherits this property from its parent element.

CSS -Letter-spacing:

The letter-spacing property increases or decreases the space between characters in a text.

```
h1 {
   letter-spacing: 2px;  letter-spacing: -3px;
}
```

letter-spacing: normal|length|initial|inherit;

CSS -Word-spacing:

The word-spacing property increases or decreases the white space between words.

```
p {
   word-spacing: 30px;
}
```

word-spacing: normal | length | initial | inherit;

CSS -Line-Height:

The line-height property specifies the line height.

Note: Negative values are not allowed.

```
p {
```

```
   line-height: 90%;line-height: 200%;
}
```

line-height: normal|number|length|initial|inherit;

CSS -text-decoration:

The text-decoration property specifies the decoration added to text.

text-decoration: none|underline|overline|line-through|initial|inherit;

```
h1 {
   text-decoration: overline; text-decoration: line-through; text-decoration: underline;
}
```

none
Defines a normal text. This is default

underline
Defines a line below the text

overline
Defines a line above the text

line-through
Defines a line through the text

initial
Sets this property to its default value.

inherit
Inherits this property from its parent element.

CSS -text-transform:

The text-transform property controls the capitalization of text.

```
p {
   text-transform: uppercase;text-transform: lowercase; text-transform: capitalize;
}
```

text-transform: none|capitalize|uppercase|lowercase|initial|inherit;

none
No capitalization. The text renders as it is. This is default

capitalize
Transforms the first character of each word to uppercase

uppercase

Transforms all characters to uppercase

lowercase
Transforms all characters to lowercase

initial
Sets this property to its default value.

inherit
Inherits this property from its parent element.

CSS -text-Align:
The text-align property specifies the horizontal alignment of text in an element.

left
Aligns the text to the left

right
Aligns the text to the right
center
Centers the text

justify
Stretches the lines so that each line has equal width (like in newspapers and magazines)

initial
Sets this property to its default value.

inherit
Inherits this property from its parent element.

CSS -text-indent:

The text-indent property specifies the indentation of the first line in a text-block.

Note: Negative values are allowed. The first line will be indented to the left if the value is negative.

```
p {

   text-indent: 50px;

}
```

CSS -background-image:

The background-image property sets one or more background images for an element.

The background of an element is the total size of the element, including padding and border (but not

the margin).

By default, a background-image is placed at the top-left corner of an element, and repeated both vertically and horizontally.

Tip: Always set a background-color to be used if the image is unavailable.

```
body {
   background-image: url("paper.gif");
   background-color: #cccccc;
}
```

CSS -background-repeat:

The background-repeat property sets if/how a background image will be repeated.

By default, a background-image is repeated both vertically and horizontally.

repeat
The background image will be repeated both vertically and horizontally. This is default

repeat-x
The background image will be repeated only horizontally

repeat-y
The background image will be repeated only vertically

no-repeat
The background-image will not be repeated

initial
Sets this property to its default value.

inherit
Inherits this property from its parent element.

CSS -background-position:

The background-position property sets the starting position of a background image.

Note: By default, a background-image is placed at the top-left corner of an element, and repeated both vertically and horizontally.

```
body {
    background-image: url('smiley.gif');
    background-repeat: no-repeat;
    background-attachment: fixed;
    background-position: center;
    background-position: 30% 20%;
    background-position: 50px 100px;
}
```

CSS -background-attachment:

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

scroll
The background scrolls along with the element. This is default
fixed
The background is fixed with regard to the viewport
local
The background scrolls along with the element's contents
initial
Sets this property to its default value.
inherit
Inherits this property from its parent element.

CSS -float:

The float property specifies whether or not a box (an element) should float.

Note: Absolutely positioned elements ignores the float property!

none
The element is not floated, and will be displayed just where it occurs in the text. This is default

left
The element floats to the left

right
The element floats the right

initial
Sets this property to its default value.

inherit
Inherits this property from its parent element.

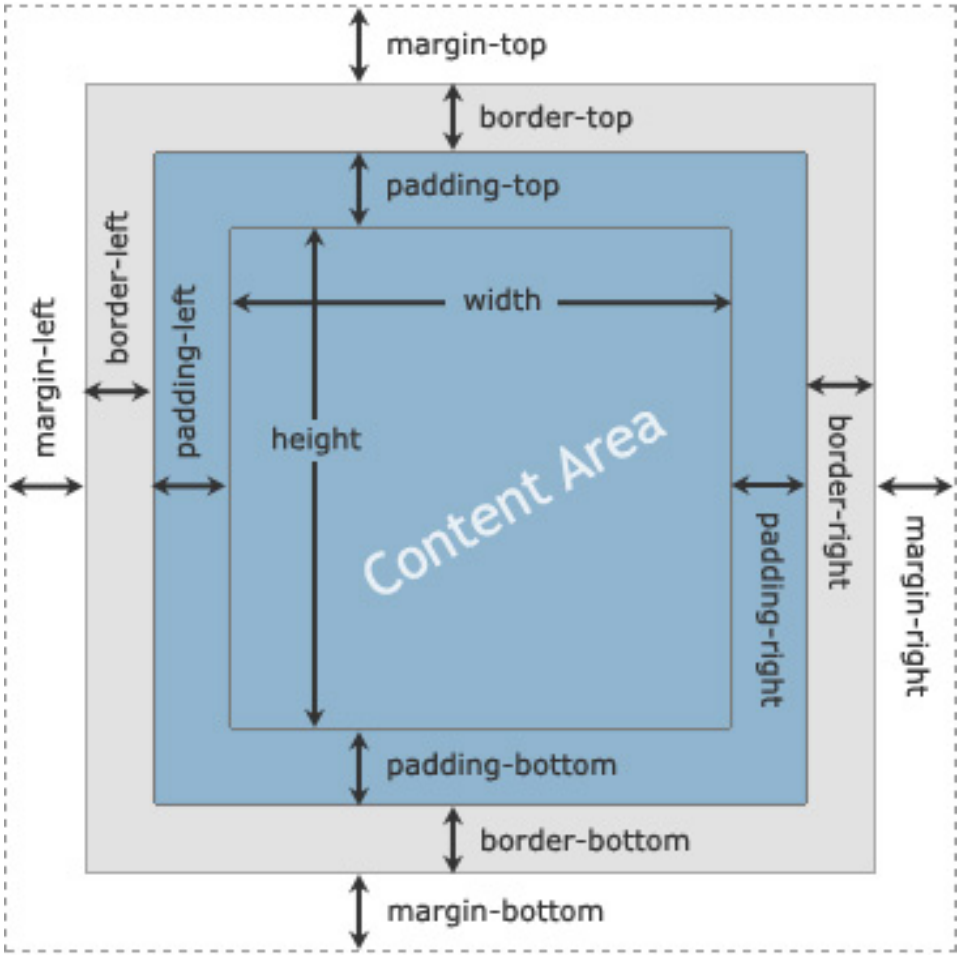
Box Model

The CSS box model describes how elements are visually laid out on the web pages.

What is Box Model

Every element that can be displayed is comprised of one or more rectangular boxes. CSS box model typically describes how these rectangular boxes are laid out on a web page. These boxes can have different properties and can interact with each other in different ways, but every box has a content area and optional surrounding margin, padding, and border.

The following diagram demonstrates how the margin, padding, and border CSS properties determines how much space an element can take on a web page.



CSS -border:

The CSS border properties allow you to specify the style, width, and color of an element's border.

Border Style

The border-style property specifies what kind of border to display.

The following values are allowed:

dotted - Defines a dotted border

-

dashed - Defines a dashed border

solid - Defines a solid border

double - Defines a double border

groove - Defines a 3D grooved border. The effect depends on the border-color value

ridge - Defines a 3D ridged border. The effect depends on the border-color value

inset - Defines a 3D inset border. The effect depends on the border-color value

outset - Defines a 3D outset border. The effect depends on the border-color value

none - Defines no border

hidden - Defines a hidden border

Border Width

The border-width property specifies the width of the four borders.

The width can be set as a specific size (in px, pt, cm, em, etc) or by using one of the three pre-defined values: thin, medium, or thick.

The border-width property can have from one to four values (for the top border, right border, bottom border, and the left border).

Border Color

The border-color property is used to set the color of the four borders.

The color can be set by:

- name - specify a color name, like "red"
- Hex - specify a hex value, like "#ff0000"
- RGB - specify a RGB value, like "rgb(255,0,0)"

transparent

The border-color property can have from one to four values (for the top border, right border, bottom border, and the left border).

If border-color is not set, it inherits the color of the element.

If the border-style property has four values:

border-style: dotted solid double dashed;

- top border is dotted
- right border is solid
- bottom border is double
- left border is dashed

If the border-style property has three values:

border-style: dotted solid double;

top border is dotted

right and left borders are solid

bottom border is double

If the border-style property has two values:

border-style: dotted solid;

top and bottom borders are dotted

right and left borders are solid

If the border-style property has one value:

border-style: dotted;

all four borders are dotted

CSS Margin Properties

The CSS margin properties are used to generate space around elements.

The margin properties set the size of the white space OUTSIDE the border.

CSS Margins

The CSS margin properties set the size of the white space OUTSIDE the border.

If the margin property has four values:

margin: 25px 50px 75px 100px;

-

top margin is 25px

right margin is 50px

bottom margin is 75px

left margin is 100px

If the margin property has three values:

margin: 25px 50px 75px;

top margin is 25px

right and left margins are 50px

bottom margin is 75px

If the margin property has two values:

margin: 25px 50px;

top and bottom margins are 25px

right and left margins are 50px

If the margin property has one value:

margin: 25px;

all four margins are 25px

CSS Padding Properties

The CSS padding properties are used to generate space around content.

The padding properties set the size of the white space between the element content and the element border.

CSS Padding

The CSS padding properties define the white space between the element content and the element border.

The padding clears an area around the content (inside the border) of an element.

If the padding property has four values:

padding: 25px 50px 75px 100px;

top padding is 25px

right padding is 50px

bottom padding is 75px

left padding is 100px

If the padding property has three values:

padding: 25px 50px 75px;

top padding is 25px

right and left paddings are 50px

bottom padding is 75px

If the padding property has two values:

padding: 25px 50px;

top and bottom paddings are 25px

right and left paddings are 50px

If the padding property has one value:

padding: 25px;

all four paddings are 25px

CSS -Opacity:

The opacity property sets the opacity level for an element.

The opacity-level describes the transparency-level, where 1 is not transparent at all, 0.5 is 50% see-through, and 0 is completely transparent.

Note: When using the opacity property to add transparency to the background of an element, all of its child elements become transparent as well. This can make the text inside a fully transparent element hard to read.

CSS Selectors

CSS selectors are used to "find" (or select) HTML elements based on their element name, id, class, attribute, and more

The element Selector

The element selector selects elements based on the element name.

You can select all <p> elements on a page like this (in this case, all <p> elements will be center-

aligned, with a red text color):

Example

```
p {
    text-align: center;
    color: red;
}
```

The id Selector

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

The id of an element should be 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.

The style rule below will be applied to the HTML element with id="para1":

Example

```
#para1 {
    text-align: center;
    color: red;
}
```

The class Selector

The class selector selects elements with a specific class attribute.

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

In the example below, all HTML elements with class="center" will be red and center-aligned:

Example

```
.center {
```

```
    text-align: center;
    color: red;
}
```

Grouping Selectors

If you have elements with the same style definitions, like this:

```
h1, h2, p {
    text-align: center;
    color: red;
}
```

To group selectors, separate each selector with a comma.

Compound Selector:

```
/* selecting only <p> tags that have class="class2" */
p.class2 { background-color: yellow; }
   /* selecting only <input> tags that have class="class1" */
input.class1
{ background-color: red; color: white; height: 30px; width: 100px;  }
```

Child Selector

```
/* Selecting <p> which are children of <div> */
#div1 p { background-color: skyblue; }
```

Direct Child selector

```
/*excluding grand children*/
#div1>p {  background-color: skyblue; }
```

Adjacent one sibling selector

/*Selecting next <p> tag after */

d i v + p {

background-color: skyblue; }

Adjacent Sibling Selector

/*Selecting All <p> tag after */
div~p{background-color:skylbue;}

Attribute selector

/* selecting element based on the attribute value */

i m g [w i d t h = ' 1 2 0 p x ']

{ border: 4px solid red; }

Selects all elements with a title attribute containing the word "flower"

i m g [t i t l e ~ = ' fl o w e r ']

{ border: 4px solid red; }

a[href^="https"] Selects every <a> element whose href attribute value begins with "https"

a[href$=".pdf"] Selects every <a> element whose href attribute value ends with ".pdf"

a[href*="peerstech"] Selects every <a> element whose href attribute value contains the substring "peerstech"

Hover psuedo selector

p:hover { background-color: gray; }

Focus psuedo selector

p:focus { background-color: red;}

Universal selector

/* selects all tags in the web page */

* { font-family: 'Segoe UI';border:2px solid red; margin:15px;

}

First-child Selector

/* selects first <p> in */

div p:first-child

{ color: blue; }

Last-child Selector

/* selects last <p> in */

div p:last-child

{ color: blue; }

Nth-child Selector :

/* selects 4th <p> in */

/* count starts from 1 */

div p:nth-child(4)~p { color: red; }

Even odd Selector :

/* index starts from 1 */

/* selects all even <p>. Means 0 , 2, 4, 6 */

div p:nth-child(even) { background-color: darkgreen; }

/* selects all odd <p>. Means 1, 3, 5 */

div p:nth-child(even) { background-color: darkgreen; }

div p:nth-child(2n)

div p:nth-child(2n+1)

Before :

h1::before { content: url(img/sample.png); }

After :

h1::after { content: url(img/sample.png) " Hello web" ; }

Selection

/* Code for Mozilla Firefox */

::-moz-selection {

color: red; background-color: yellow; }

/* for all remaining browsers */

::selection { color: red; background: yellow; }

CSS Positions

The position property specifies the type of positioning method used for an element.

There are four different position values:

static

relative

fixed

absolute

position: static;

HTML elements are positioned static by default.

Static positioned elements are not affected by the top, bottom, left, and right properties.

An element with position: static; is not positioned in any special way; it is always positioned according to the normal flow of the page:

position: relative;

An element with position: relative; is positioned relative to its normal position.

Setting the top, right, bottom, and left properties of a relatively-positioned element will cause it to be adjusted away from its normal position. Other content will not be adjusted to fit into any gap left by the element.

position: fixed;

An element with position: fixed; is positioned relative to the viewport, which means it always stays in the same place even if the page is scrolled. The top, right, bottom, and left properties are used to position the element.

A fixed element does not leave a gap in the page where it would normally have been located.

position: absolute;

An element with position: absolute; is positioned relative to the nearest positioned ancestor (instead of positioned relative to the viewport, like fixed).

However; if an absolute positioned element has no positioned ancestors, it uses the document body, and moves along with page scrolling.

Overlapping Elements (z-index)

When elements are positioned, they can overlap other elements.

The z-index property specifies the stack order of an element (which element should be placed in front of, or behind, the others).

An element can have a positive or negative stack order: