CSS3

CSS is the language we use to style a Web page.

What is CSS?

- CSS stands for **Cascading Style Sheets**
- CSS describes **how HTML elements are to be displayed on screen, paper, or in other media**
- 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**

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

CSS Syntax:

```
h1{
        color:red;
    }
```

h1 => element selectors

color => property

red => value;

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

How To Add/ Way CSS:

- Inline CSS
- Internal CSS
- External CSS

Inline CSS

An inline style may be used to apply a unique style for a single element.

Add the style attribute to the relevant element.

Ex: welcome

Internal CSS

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

The internal style is defined inside the <style> element, inside the head section.

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
  background-color: linen;
}

h1 {
  color: maroon;

}
</style>
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

External CSS

The external CSS is the CSS linked to an HTML file using the <link> tag.

index.html

```
<html>
<head>
<link rel="stylesheet" href="style.css">
</head>
<body>
<p>Hello GFG</p>
</body>
</html>
```

Style.css

```
p {
  color: green;
}
```

How to Command the css

/* style */

CSS Comments

CSS comments are not displayed in the browser

Comments are ignored by browsers. A CSS comment is placed inside the <style> element, and starts with /* and ends with */

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

Categories:

- **Simple selectors**
- **Attribute selectors**
- **Combinator selectors** (select elements based on a specific relationship between them)
- **Pseudo-class selectors**

- **Pseudo-elements selectors**

Simple Selectors: - used to target specific HTML elements for style

These include selecting by:

1. element name (e.g., h1)
2. class (.class-Name)
3. ID (#id-Name)
4. universal (* for all elements).
5. Grouping selectors (h1,p,ul)

Element Selectors (h1): The element selector **selects HTML elements based on the element name.**

Ex: h1, p, ul, li …. Etc.

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

Class Selectors(.): The class **selector selects HTML elements with a specific class attribute**.

write a period (.) character, followed by the class name.

Ex:

<h1 class="center large">Red and center-aligned heading</h1>

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

.large{

    Font-size:55px;
```

```
}
```

ID Selectors (#): - The class **selector selects HTML elements with a specific id attribute**.

write a period (#) character, followed by the id name.

Ex:

<h1 id="bg-color ">Red and center-aligned heading</h1>

```
#bg-color {
    background-color:red;

}
```

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

Class vs ID selectors

- **Class Selector (.):** Targets elements with a specified class attribute, **allowing multiple elements to share the same styling.**
- **ID Selector (#):** Targets a single element with **a unique ID attribute**, ensuring that **styles are applied to one specific element on the page.**

Universal Selector (*): Selects **all elements on the page and applies the same style universally.**

Ex:

```
* {
  text-align: center;
  color: blue;
}
```

Group selectors (,): The grouping selector **selects all the HTML elements with the same style definitions.**

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

h2 {
  text-align: center;
  color: red;
}

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

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

CSS Attribute Selector

Attribute Selector allows you to **select elements based on the presence, value, or specific characteristics of their attribute**.

1. [attribute] Selector: with the **specified attribute**

```
a[href] { color: 2px solid red; }
```

2. [attribute=”value”]: **exactly equal to the** specified value.

```
input[type="submit"] { background-color: green; color: white; }
```

3. [attribute~=”value”]: one of the words **matches the specified value**.

```
div[class~="green"] { border: 3px solid red; }
```

```
<div class="box large green"></div>
 <div class="box small red"></div>
```

4.[attribute^=”value”] **starts** with the specified value.

```
a[href^="https"] { color: darkgreen; }
<a href="https://example.com">Visit Example</a>
```

5.[attribute$=”value”] **ends** with the specified value

```
div[class$="box"] {
border: 2px solid blue;
background-color: lightgray;
}
```

```
a[href*="google"]{ inbetween letters
    background-color: darkblue;
    color: red;
}
```

```
<div class="small-box">This is a small box</div>
<div class="large-box">This is a large box</div>
<div class="circle">This is not a box</div>
```

CSS Combinators

It defines the relationship between two selectors.

Types of CSS Combinators

- Descendant combinator (space) parent - child
- Child combinator (>)parent - child
- Next sibling combinator (+) brothers -sisiter
- Subsequent-sibling combinator (~)brothers -sisiter

Paragraph 1 in the div.

Paragraph 2 in the div.

on element).

Paragraph 3 in the div.

Paragraph 4. Not in a div.

Paragraph 5. Not in a div.

Descendant Selectors (space): selects all elements that are **descendants of a specified element**. (**parent and all childs concepts**)

Ex:

```
<style>
div p {
  background-color: yellow;
}
</style>

<div>
<p>Paragraph 1 in the div.</p>
<p>Paragraph 2 in the div.</p>
<section>
      <p>Paragraph 3 in the div.</p>
      </section>
</div>
<p>Paragraph 4. Not in a div.</p>
<p>Paragraph 5. Not in a div.</p>
```

Child Selectors (>): selects all elements that are the children of a specified element. (**Parent and only childs concepts**)

Ex:

```
<style>
div > p {
  background-color: yellow;
}
</style>
```

Paragraph 1 in the div.

Paragraph 2 in the div.

Paragraph 3. After a div.

Paragraph 4. After a div.

Paragraph 5 in the div.

Paragraph 6 in the div.

Paragraph 7. After a div.

Paragraph 8. After a div.

```
<div>
  <p>Paragraph 1 in the div.</p>
  <p>Paragraph 2 in the div.</p>
  <section>
    <p>Paragraph 3 in the div (inside a section element).</p>
  </section>
  <p>Paragraph 4 in the div.</p>
</div>
```

Next Sibling Selectors (+) select an element that is **directly after another specific element. (sibling concepts)**

Sibling elements must have the same parent element. "**adjacent**" means "immediately following".

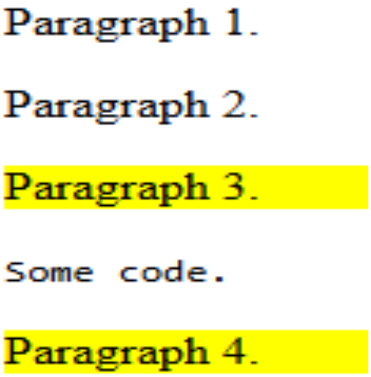
Ex:

```
<style>
div + p {
    background-color: yellow;
        }
</style>
    <div>
      <p>Paragraph 1 in the div.</p>
      <p>Paragraph 2 in the div.</p>
    </div>

    <p>Paragraph 3. After a div.</p>
    <p>Paragraph 4. After a div.</p>

    <div>
      <p>Paragraph 5 in the div.</p>
      <p>Paragraph 6 in the div.</p>
    </div>

    <p>Paragraph 7. After a div.</p>
    <p>Paragraph 8. After a div.</p>
```



Subsequent-sibling Combinator (~) selects **all elements that are next siblings** of a specified element. dilt

Ex:

```
<style>
div ~ p {
  background-color: yellow;
}
</style>
```

```
<p>Paragraph 1.</p>
<div>
  <p>Paragraph 2.</p>
</div>
<p>Paragraph 3.</p>
<code>Some code.</code>
<p>Paragraph 4.</p>
```

-

==========

CSS Colors

Colors are specified using predefined color names, or RGB, HEX, HSL, RGBA, HSLA values. (Text colors)

Color Names

Ex: red, green, yellow, blue, white, black

RGB Value

rgb (***red, green***, ***blue***)

Each parameter (**red, green, and blue**) defines the intensity of the color between 0 and 255.

To display black, rgb (0, 0, 0).

To display white, rgb(255, 255, 255).

RGBA Value

RGBA color values are an extension of RGB color values with an **alpha** channel - **which specifies the opacity for a color.**

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

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

Ex:

rgba (255,99,71,0.5);

0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,1

Opacity / Transparency

The opacity property specifies the opacity/transparency of an element

CSS HEX Colors

A hexadecimal color is specified with: #RRGGBB, where the RR (red), GG (green) and BB (blue) hexadecimal integers specify the components of the color.

*#**rrggbb*** **hexadecimal values between 00 and ff (same as decimal 0-255).**

To display black, set all values to 00, like this: #000000.

To display white, set all values to ff, like this: #ffffff

Sometimes you will see a 3-digit hex code in the CSS source.

#fc9; /* same as #ffcc99 */ #f0f; /* same as #ff00ff */ #b58; /* same as #bb5588 */

HEXA

CSS HSL Colors HSL stands for hue, saturation, and lightness.

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 gray**, **and 100% is the full color.**

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

Ex: hsl(0, 100%, 50%)

hsla(*hue, saturation, lightness, alpha*)

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

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Backgrounds

The CSS background properties are used to add background effects for elements. background-color

- background-image
- background-repeat
- background-attachment
- background-position
- background

```
body {
  background-color: lightblue;
}
```

Opacity / Transparency

The opacity property specifies the opacity/transparency of an element

```
div {
        background-color: green;
        opacity: 0.3;
}
```

background-image

The background-image property specifies an image to use as the background of an element.

By default, the image is repeated so it covers the entire element.

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

background-repeat

By default, the background-image property **repeats an image both horizontally and vertically.**

```
background-repeat: repeat-x;
background-repeat: repeat-y;
background-repeat: no-repeat;
```

background-position

The **background-position** property is used to specify **the position of the background image.**

left top
left center
left bottom
right top
right center
right bottom
center top
center center
center bottom

x% y% - 10% 40% .

xpos ypos – 50px 100px

background-attachment
The **background-attachment** property **specifies whether the background image should scroll or be fixed**

background-attachment: scroll; image will scroll by default

background-attachment: fixed; image will fixed

CSS background - Shorthand

```
body {
  background: #ffffff url("img_tree.png") no-repeat right top;
}
```

1 – color , 2 – image , 3 – repeat , 4 – positions 5 - size

==========

background-size
The background-size property specifies the size of the background images.

the keyword syntax ("auto", "cover" and "contain")

background-size: 100% 100%;

background-size: contain;

background-size: cover;

Background-clip
The background-clip property defines how far the background (color or image) should extend within an element.

background-clip: border-box | padding-box | content-box | initial | inherit;

The background-origin property specifies the origin position (the background positioning area) of a background image.

padding-box – By Default.

border-box - The background image starts from the upper left corner of the border

content-box - The background image starts from the upper left corner of the content

background-origin: content-box, border-box;

background: url(img_tree.gif), url(paper.gif);

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Gradient-colors

CSS gradients let you display smooth transitions between two or more specified colors.

CSS defines three types of gradients:

- **Linear Gradients (goes down/up/left/right/diagonally)**
- **Radial Gradients (defined by their center)**
- **Conic Gradients (rotated around a center point)**

background-image: linear-gradient(*direction*, *color-stop1*, *color-stop2, ...*);

Direction - Top to Bottom (this is default)

```
background-image: linear-gradient(to right, red , yellow);
```

Direction - Diagonal

You can make a gradient diagonally by specifying both the horizontal and vertical starting positions.

Syntax

background-image: linear-gradient(*angle*, *color-stop1*, *color-stop2*);

```
background-image: linear-gradient(red 10%, yellow, green);
```

```
 background-image: linear-gradient(to right, red,orange,yellow,green,blue,indigo,violet);
```

```
background-image: repeating-linear-gradient(red, yellow 10%, green 20%);
```

CSS Radial Gradients

A radial gradient is defined by its center.

To create a radial gradient you must also define at least two color stops.

Syntax

background-image: radial-gradient(*shape size* at *position, start-color, ..., last-color*);

background-image: radial-gradient(closest-side at 60% 55%, red, yellow, black); x –axis y- axis

background-image: radial-gradient(farthest-side at 60% 55%, red, yellow, black);

background-image: radial-gradient(closest-corner at 60% 55%, red, yellow, black);

background-image: radial-gradient(farthest-corner at 60% 55%, red, yellow, black);

```
background-image: repeating-radial-gradient(red, yellow 10%, green 15%);
```

CSS Conic Gradients

A conic gradient is a gradient with color transitions rotated around a center point.

To create a conic gradient you must define at least two colors.

Syntax

background-image: conic-gradient([from *angle*]
[at *position*,] *color* [*degree*]*, color* [*degree*]*, ...*);

By default, *angle* is 0deg and *position* is center.

If no *degree* is specified, the colors will be spread equally around the center point.

```
 background-image: conic-gradient(red, yellow, green);

 background-image: conic-gradient(red, yellow, green, blue, black);

background-image: conic-gradient(red 45deg, yellow 90deg, green 210deg);

background-image: conic-gradient(red, yellow, green, blue, black);
  border-radius: 50%;


 background-image: conic-gradient(red 0deg, red 90deg, yellow 90deg, yellow 180deg, green 180deg, green 270deg, blue 270deg);
  border-radius: 50%;

background-image: conic-gradient(from 90deg, red, yellow, green);


background-image: conic-gradient(at 60% 45%, red, yellow, green);

background-image: repeating-conic-gradient(red 10%, yellow 20%);
  border-radius: 50%;
```

The **background-blend-mode Property** defines how the element's background image should blend with each other and with the element's background-color.

```
background-blend-mode:
normal|multiply|screen|darken|lighten|
color-dodge|saturation|difference|luminosity|overlay;
```

CSS Units (Sizing concepts)

CSS has several different units for expressing a length.

CSS properties take "length" values, such as width, margin, padding, font-size, etc.

There are two types of length units: **absolute** and **relative**.

Absolute Units

The absolute length units are fixed

1. Cm – centimetres,
2. mm - millimetres,
3. in - inches (1in = 96px = 2.54cm)
4. px * pixels (1px = 1/96th of 1in)
5. pt points (1pt = 1/72 of 1in)
6. pc picas (1pc = 12 pt)

Relative Units

7. Em - Relative to the Parent Element
8. Rem - Relative to the root element r=> root element
9. Vw - Relative to the width of the viewport*
10. Vh - Relative to 1% of the height of the viewport*
11. Vmin - Relative to 1% of viewport's* smaller dimension
12. Vmax - Relative to 1% of viewport's* larger dimension
13. % - Relative to the parent element

CSS Margins (Spacing concepts)

Margins are used to **create space around elements, outside** of any **defined borders.**

each side of an element (top, right, bottom, and left).

- margin-top
- margin-right
- margin-bottom
- margin-left

Values

auto - the browser calculates the margin

length - specifies a margin **in px, pt, cm, etc.**

% - specifies a margin **in % of the width** of the containing element

inherit specifies that the margin should be inherited from **the parent element**

```
p {
  margin-top: 100px;
  margin-bottom: 100px;
  margin-right: 150px;
  margin-left: 80px;
}
```

Margin - Shorthand

- **margin: 25px 50px 75px 100px;**
  - top margin is 25px
  - right margin is 50px
  - bottom margin is 75px
  - left margin is 100px
- **margin: 25px 50px 75px;**
  - top margin is 25px
  - right and left margins are 50px
  - bottom margin is 75px
- **margin: 25px 50px;**
  - top and bottom margins are 25px
  - right and left margins are 50px
- **margin: 25px;**
  - all four margins are 25px

```
width: 300px;  margin: auto;
```

```
div {
```

```
  border: 1px solid red;
  margin-left: 100px;
}
p.ex1 {
  margin-left: inherit;
}
```

CSS Padding

Padding is used to create space around an element's content, inside of any defined borders.

each side of an element (top, right, bottom, and left).

- padding-top
- padding-right
- padding-bottom
- padding-left

Values

auto - the browser calculates the margin

length - specifies a margin **in px, pt, cm, etc.**

% - specifies a margin **in % of the width** of the containing element

inherit specifies that the margin should be inherited from **the parent element**

```
div {
  padding-top: 50px;
  padding-right: 30px;
  padding-bottom: 50px;
  padding-left: 80px;
}
```

Padding - Shorthand

- **padding: 25px 50px 75px 100px;**

    - top padding is 25px
    - right padding is 50px
    - bottom padding is 75px
    - left padding is 100px
- **padding: 25px 50px 75px;**
    - top padding is 25px
    - right and left paddings are 50px
    - bottom padding is 75px
- **padding: 25px 50px;**
    - top and bottom paddings are 25px
    - right and left paddings are 50px
- **padding: 25px;**
    - all four paddings are 25px

Padding and Element Width **box-sizing: border-box; (width + padding size will increase so add border-box)**

CSS Borders

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

CSS Border Style

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

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

The border-width property specifies the width of the four borders. set as a specific size (in px, pt, cm, em, etc) three pre-defined values: thin, medium, or thick:

```
border-width: 25px 10px 4px 35px;
```

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

```
 border-color: red green blue yellow;
```

```
p {
  border-top-style: dotted;
  border-right-style: solid;
  border-bottom-style: dotted;
  border-left-style: solid;
}
```

```
p {
  border-style: dotted solid double dashed;
}
```

```
/* Three values */
p {
  border-style: dotted solid double;
}
```

```
/* Two values */
p {
  border-style: dotted solid;
}
```

```
/* One value */
p {
  border-style: dotted;
}
```

CSS Border – Shorthand

```
p {
  border: 5px solid red;
}
```

```
p {
  border-left: 6px solid red;
}
```

The border-radius property is used to add rounded borders to an element:

```
p {
  border: 2px solid red;
  border-radius: 5px;
}
```

CSS Outline

An outline is a line drawn outside the element's border.

- outline-style – dotted, dashed. ref in borders
- outline-color – red, green, yellow
- outline-width – thin, thick, medium
- outline-offset - adds space between an outline and the edge/border of an element
- outline - outline: 5px solid yellow;

CSS Text

Text Color - color

Text Alignment and Text Direction

- text-align - property is used to **set the horizontal alignment of a text.**

  left alignment is default, text-align: center, left, right, justify

- text-align-last – right, center, left, justify
- direction
- unicode-bidi

```
p {
        direction: rtl;
        unicode-bidi: bidi-override;
}
```

- vertical-align - property sets the **vertical alignment of an element. (img)**

  Baseline, text-top, text-bottom, sub, super

Text Decoration - property is used to add a decoration line to text.

- text-decoration-line - overline, line-through, underline, text-decoration-line: overline underline
- text-decoration-color - red, green
- text-decoration-style - solid, double, dotted, dashed, wavy
- text-decoration-thickness - 5px
- text-decoration - text-decoration: underline red double 5px;
- text-decoration: none;

Text Transformation - property is used to specify uppercase and lowercase letters in a text.

text-transform: uppercase, lowercase, capitalize;

Text Spacing

- text-indent: 50px - property is used to specify the **indentation of the first line of a text**
- letter-spacing: 2px, -2px; = property is used to specify **the space between the characters in a text.**
- line-height:0.8, 1.8 => property is used to specify **the space between lines**:
- word-spacing: 10px, -2px => property is used to specify **the space between the words in a text.**
- white-space: nowrap property specifies **how white-space inside an element is handled.**

Text Shadow

- The text-shadow property adds shadow to text.
- text-shadow: 2px 2px; **horizontal** shadow (2px) and the **vertical** shadow (2px):
- text-shadow: 2px 2px red; **(red)** to the shadow:
- text-shadow: 2px 2px 5px red; a **blur effect (5px)** to the shadow:
- text-shadow: 0 0 3px #ff0000, 0 0 5px #0000ff;

- box-shadow

CSS Fonts – important

1. **Serif** fonts **have a small stroke at the edges of each letter.** They create a **sense of formality and elegance.**
2. **Sans-serif** fonts have **clean lines (no small strokes attached).** They create **a modern and minimalistic look.**
3. **Monospace** fonts - here all the **letters have the same fixed width.** They **create a mechanical look.**
4. **Cursive** fonts **imitate human handwriting.**
5. **Fantasy** fonts are **decorative/playful fonts.**

Difference Between Serif and `Sans-serif Fonts`

Serif	Times New Roman Georgia Garamond
Sans-serif	Arial Verdana Helvetica

Monospace	Courier New Lucida Console Monaco
Cursive	Brush Script MT Lucida Handwriting
Fantasy	Copperplate Papyrus

font-family property to **specify the font of a text.**

font-style property is mostly used to specify italic text. Normal , italic , oblique

font-weight property **specifies the weight of** a font: normal, bold ,bolder,lighter, 100,200,300,400,500,600,700,800,900

font-variant property **specifies whether or not a text should be displayed in a small-caps font**.

small-caps font, **all lowercase letters are converted to uppercase letters**. Normal , small-caps;

font-size property sets the size of the text.

font: italic small-caps bold 12px/30px Georgia, serif;

1 – font-style

2 – font-variant

3 – font-weight

4 – font-size

5 – font-family

shorthand

Google Fonts - take fonts from google

The CSS height and width properties are used to set the height and width of an element.

The CSS max-width property is used to set the maximum width of an element.

CSS Box Model

In CSS, the term "box model" is used when talking about design and layout.

- **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
- **-**

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CSS Pseudo-classes selectors

Syntax:

```
selector:pseudo-class {
  property: value;
}
```

a – hyperlink , ancher, a, link

```
a:link {
  background-color: yellow;
}

a:visited {
  background-color: cyan;
}
```

```
a:hover {
  background-color: lightgreen;
}

a:active {
  background-color: hotpink;
}

a:link, a:visited {
  background-color: #f44336;
  color: white;
 }

a:hover, a:active {
  background-color: red;
}

a.highlight:hover {
  color: #ff0000;
}
```

:first-child pseudo-class matches a specified element that is the first child of another element.

:checked

input:checked
option:checked

```
input[type="radio"]:checked {
  box-shadow: 0 0 5px 3px blue;
}
input[type="checkbox"]:checked {
  box-shadow: 0 0 5px 3px maroon;
}
option:checked {
  color: blue;
  background-color: pink;
}
```

```
input:optional {
  background-color: lightgreen;
}

input:required {
  background-color: pink;
  border-color: red;
}
```

:nth-child()

```
li:nth-child(2) {
  background-color: lightgreen;
}
p:nth-child(odd) {
  background-color: red;
}

p:nth-child(even) {
  background: lightgreen;
}
p:nth-child(3n+1) {  n=>0,1,2,3,4,5
  background-color: red;
}
p:nth-child(3n-1) {
  background-color: red;
}

p:nth-last-child(3n+0) {

  background-color: red;

}
```

Cursor

```
<span style="cursor: auto">auto</span><br>
<span style="cursor: crosshair">crosshair</span><br>
<span style="cursor: default">default</span><br>
<span style="cursor: e-resize">e-resize</span><br>
```

```
<span style="cursor: help">help</span><br>
<span style="cursor: move">move</span><br>
<span style="cursor: n-resize">n-resize</span><br>
<span style="cursor: ne-resize">ne-
resize</span><br>
<span style="cursor: nw-resize">nw-
resize</span><br>
<span style="cursor: pointer">pointer</span><br>
<span style="cursor: progress">progress</span><br>
<span style="cursor: s-resize">s-resize</span><br>
<span style="cursor: se-resize">se-resize</span><br>
<span style="cursor: sw-resize">sw-
resize</span><br>
<span style="cursor: text">text</span><br>
<span style="cursor: w-resize">w-resize</span><br>
<span style="cursor: wait">wait</span>
```

CSS Lists

```
list-style-type: circle , square , upper-roman , lower-alpha

list-style-image: url('sqpurple.gif');

list-style-position: outside , inside;

list-style-type: none;

list-style: square inside url("sqpurple.gif"); shorthand
```

CSS Layout - The display Property

The display property is the most important CSS property for controlling layout.

```
display: none;

display: inline;

display: block;

display: inline-block;

display:flex;
```

display:grid;

the element will still take up the same space as before. The element will be hidden, but still affect the layout:

visibility: hidden;

The position property specifies the type of positioning method used for an element (static, relative, fixed, absolute or sticky).

- Static - normal
- relative - is positioned relative to its normal position.
- Fixed - is positioned relative to the viewport, which means it always stays in the same place even if the page is scrolled.
- Absolute - document body,
- sticky -is positioned based on the user's scroll position.

Elements are then positioned using the top, bottom, left, and right properties.

```
top: 80px;
right: 0;
```

left, right

The z-index property specifies the stack order of an element.

CSS Pseudo-elements

```
selector::pseudo-element {
  property: value;
}
```

::first-line pseudo-element is used to add a special style to the first line of a text.

::first-letter pseudo-element is used to add a special style to the first letter of a text.

::before pseudo-element can be used to insert some content before the content of an element. Content: url()

::after pseudo-element can be used to insert some content after the content of an element.

::marker pseudo-element selects the markers of list items.

::selection pseudo-element matches the portion of an element that is selected by a user.
::selection: color, background, cursor, and outline.

CSS Height, Width and Max-width

The CSS height and width properties are used to set the height and width of an element.

The CSS max-width property is used to set the maximum width of an element.

The height and width properties may have the following values:

- auto - This is default. The browser calculates the height and width
- length - Defines the height/width in px, cm, etc.
- % - Defines the height/width in percent of the containing block
- initial - Sets the height/width to its default value
- inherit - The height/width will be inherited from its parent value