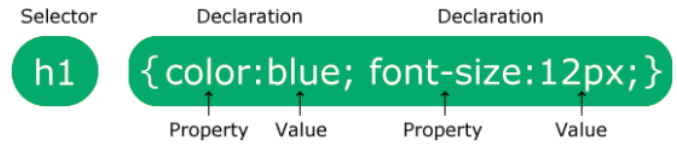
CSS stands for Cascading Style Sheets
CSS describes how HTML elements are to be displayed on screen, paper, or in other media.

CSS Syntax



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 property name and a value, separated by a colon.
Multiple CSS declarations are separated with semicolons, and declaration blocks are surrounded by curly braces.

CSS element Selector

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

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

The CSS id Selector

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

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

CSS class Selector

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

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

CSS Universal Selector

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

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

External CSS

Each HTML page must include a reference to the external style sheet file inside the <link> element, inside the head section.

```
<link rel="stylesheet" href="mystyle.css">
```

Internal CSS

Internal styles are defined within the <style> element, inside the <head> section of an HTML page:

```
<style>body { background-color: linen;} h1 {  color: maroon;  margin-left: 40px;}</style>
```

Inline CSS

To use inline styles, add the style attribute to the relevant element. The style attribute can contain any CSS property.

```
<h1 style="color:blue;text-align:center;">This is a heading</h1>
<p style="color:red;">This is a paragraph.</p>
```

CSS Comments

Comments are used to explain the code, and may help when you edit the source code at a later date.

```
/* This is a single-line comment */
```

CSS Color Names

In CSS, a color can be specified by using a predefined color name:
https://www.w3schools.com/colors/colors_names.asp (FOR MORE COLORS)

CSS Background Color

You can set the background color for HTML elements:

```
<h1 style="background-color:DodgerBlue;">Hello World</h1>
<p style="background-color:Tomato;">Lorem ipsum...</p>
```

CSS Text Color

```
<h1 style="color:Tomato;">Hello World</h1>
<p style="color:DodgerBlue;">Lorem ipsum...</p>
```

CSS Border Color

```
<h1 style="border:2px solid Tomato;">Hello World</h1>
<h1 style="border:2px solid DodgerBlue;">Hello World</h1>
```

CSS Color Values

```
<h1 style="background-color:rgb(255, 99, 71);">...</h1>
<h1 style="background-color:#ff6347;">...</h1>
<h1 style="background-color:hsl(9, 100%, 64%);">...</h1>
```

CSS background-color

The background-color property specifies the background color of an element.

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

CSS background-image

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

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

CSS background-repeat

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

```
body {  background-image: url("gradient_bg.png");}
body {  background-image: url("img_tree.png");
            background-repeat: no-repeat;
          background-position: right top;}
```

CSS background-attachment

The background-attachment property specifies whether the background image should scroll or be fixed (will not scroll with the rest of the page):

```
body {
  background-image: url("img_tree.png");
  background-repeat: no-repeat;
  background-position: right top;
  background-attachment: fixed;}
```

CSS Borders

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

```
p.dotted {border-style: dotted;}
p.dashed {border-style: dashed;}
p.solid {border-style: solid;}
p.double {border-style: double;}
p.groove {border-style: groove;}
p.ridge {border-style: ridge;}
p.inset {border-style: inset;}
p.outset {border-style: outset;}
p.none {border-style: none;}
p.hidden {border-style: hidden;}
p.mix {border-style: dotted dashed solid double;}
```

CSS Border Width

```
p.one {  border-style: solid;  border-width: 5px;}
p.two {  border-style: solid;  border-width: medium;}
p.three {  border-style: dotted;  border-width: 2px;}
p.four {  border-style: dotted;  border-width: thick;}
```

CSS Border Color

```
p.one {  border-style: solid;  border-color: red;}
p.two {  border-style: solid;  border-color: green;}
p.three {  border-style: dotted;  border-color: blue;}
```

CSS Border Sides

In CSS, there are also properties for specifying each of the borders (top, right, bottom, and left):

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

CSS Border - Shorthand Property

```
p {  border: 5px solid red;}
p {  border-left: 6px solid red;}
p {  border-bottom: 6px solid red;}
```

CSS Margins

The CSS margin properties are used to create space around elements, outside of any defined borders.

```
p {  margin-top: 100px;
  margin-bottom: 100px;
  margin-right: 150px;
  margin-left: 80px;}
p {  margin: 25px 50px 75px 100px;}
```

CSS Padding

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

```
div {  padding-top: 50px;  padding-right: 30px;  padding-bottom: 50px;
  padding-left: 80px;}
div {  padding: 25px 50px 75px 100px;}
```

CSS Height, Width and Max-width

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

```
div {  height: 200px;  width: 50%;  background-color: powderblue;}
```

height	Sets the height of an element
max-height	Sets the maximum height of an element
max-width	Sets the maximum width of an element
min-height	Sets the minimum height of an element
min-width	Sets the minimum width of an element
width	Sets the width of an element

The CSS Box Model

The CSS box model is essentially a box that wraps around every HTML element. It consists of: content, padding, borders and margins

```
div {  width: 320px;  height: 50px;  padding: 10px;  border: 5px solid gray;  margin: 0;}
```

CSS Outline

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

```
p.dotted {outline-style: dotted;}
p.dashed {outline-style: dashed;}
p.solid {outline-style: solid;}
p.double {outline-style: double;}
p.groove {outline-style: groove;}
p.ridge {outline-style: ridge;}
p.inset {outline-style: inset;}
p.outset {outline-style: outset;}
```

CSS Outline Width, Color, Style

```
p.ex1 {  border: 1px solid black;  outline-style: solid;
  outline-color: red;  outline-width: thin;}
```

CSS Text

CSS has a lot of properties for formatting text.

```
body {  background-color: lightgrey;  color: blue;}
h1 {  background-color: black;  color: white;}
```

CSS Text Alignment

```
h1 {  text-align: center;}
h2 {  text-align: left;}
div {  text-align: justify;}
```

Text Direction

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

Property	Description
direction	Specifies the text direction/writing direction
text-align	Specifies the horizontal alignment of text
text-align-last	Specifies how to align the last line of a text
unicode-bidi	Used together with the direction property to set or return whether the text should be overridden to support multiple languages in the same document
vertical-align	Sets the vertical alignment of an element

Text Decoration.

The text-decoration-line property is used to add a decoration line to text.

```
h1 {  text-decoration-line: overline;}
h2 {  text-decoration-line: line-through;}
h3 {  text-decoration-line: underline;}
p {  text-decoration-line: overline underline;}
```

Property	Description
text-decoration	Sets all the text-decoration properties in one declaration
text-decoration-color	Specifies the color of the text-decoration
text-decoration-line	Specifies the kind of text decoration to be used (underline, overline, etc.)
text-decoration-style	Specifies the style of the text decoration (solid, dotted, etc.)
text-decoration-thickness	Specifies the thickness of the text decoration line

CSS Text Transformation

The text-transform property is used to specify uppercase and lowercase letters in a text.

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

CSS Text Spacing

Text Indentation

The text-indent property is used to specify the indentation of the first line of a text:

```
p {  text-indent: 50px;}
```

Letter Spacing

The letter-spacing property is used to specify the space between the characters in a text.

```
h1 {  letter-spacing: 5px;}
h2 {  letter-spacing: -2px;}
```

Line Height

The line-height property is used to specify the space between lines:

```
p.small {  line-height: 0.8;}
p.big {  line-height: 1.8;}
```

Word Spacing

The word-spacing property is used to specify the space between the words in a text.

```
p.one {  word-spacing: 10px;}
p.two {  word-spacing: -2px;}
```

The CSS Text Spacing Properties

Property	Description
letter-spacing	Specifies the space between characters in a text
line-height	Specifies the line height
text-indent	Specifies the indentation of the first line in a text-block
white-space	Specifies how to handle white-space inside an element
word-spacing	Specifies the space between words in a text

Text Shadow

The text-shadow property adds shadow to text.

```
h1 {  text-shadow: 2px 2px;}
h1 {  text-shadow: 2px 2px red;}
```

CSS Fonts

Choosing the right font has a huge impact on how the readers experience a website.

Generic Font Families

In CSS there are five generic font families:

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.

```
.p1 {  font-family: "Times New Roman", Times, serif;}
.p2 {  font-family: Arial, Helvetica, sans-serif;}
.p3 {  font-family: "Lucida Console", "Courier New", monospace;}
```

CSS Font Style

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

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

Font Weight

The font-weight property specifies the weight of a font:

```
p.normal {  font-weight: normal;}
p.thick {  font-weight: bold;}
```

Font Variant

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

```
p.normal {  font-variant: normal;}
p.small {  font-variant: small-caps;}
```

Font Size

The font-size property sets the size of the text.

```
h1 {  font-size: 40px;}
```

CSS Icons

Icons can easily be added to your HTML page, by using an icon library.

```
<head>
<script src="https://kit.fontawesome.com/a076d05399.js" crossorigin="anony
mous"></script>
</head>
<body>
<i class="fas fa-cloud"></i>
<i class="fas fa-heart"></i>
<i class="fas fa-car"></i>
<i class="fas fa-file"></i>
<i class="fas fa-bars"></i>
</body>
```

Bootstrap Icons

```
<head>
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3
.7/css/bootstrap.min.css">
</head>
<body>
<i class="glyphicon glyphicon-cloud"></i>
<i class="glyphicon glyphicon-remove"></i>
<i class="glyphicon glyphicon-user"></i>
<i class="glyphicon glyphicon-envelope"></i>
<i class="glyphicon glyphicon-thumbs-up"></i>
</body>
```

Google Icons

```
<head>
<link rel="stylesheet" href="https://fonts.googleapis.com/icon?family=Mate
rial+Icons">
</head>
<body>
<i class="material-icons">cloud</i>
<i class="material-icons">favorite</i>
```

```
<i class="material-icons">attachment</i>
<i class="material-icons">computer</i>
<i class="material-icons">traffic</i>
</body>
```

CSS Links

With CSS, links can be styled in many different ways.

Styling Links

Links can be styled with any CSS property (e.g. `color`, `font-family`, `background`, etc.).

```
/* unvisited link */
a:link {  color: red;}

/* visited link */
a:visited {  color: green;}

/* mouse over link */
a:hover {  color: hotpink;}

/* selected link */
a:active {  color: blue;}
```

Text Decoration

The `text-decoration` property is mostly used to remove underlines from links

```
a:link {  text-decoration: none;}
a:visited {  text-decoration: none;}
a:hover {  text-decoration: underline;}
a:active {  text-decoration: underline;}
```

Background Color

```
a:link {  background-color: yellow;}
a:visited {  background-color: cyan;}
a:hover {  background-color: lightgreen;}
a:active {  background-color: hotpink;}
```

Link Buttons

```
a:link, a:visited {
  background-color: #f44336;
  color: white;
  padding: 14px 25px;
  text-align: center;
  text-decoration: none;
  display: inline-block;}
a:hover, a:active {  background-color: red;}
```

CSS Lists

Unordered Lists:

- Coffee
- Tea
- Coca Cola
  - Coffee
  - Tea
  - Coca Cola

Ordered Lists:

1. Coffee
2. Tea
3. Coca Cola

I. Coffee
II. Tea
III. Coca Cola

In HTML, there are two main types of lists:

- unordered lists (<ul>) - the list items are marked with bullets
- ordered lists (<ol>) - the list items are marked with numbers or letters

The CSS list properties allow you to:

- Set different list item markers for ordered lists
- Set different list item markers for unordered lists
- Set an image as the list item marker
- Add background colors to lists and list items

```
ul.a {  list-style-type: circle;}
ul.b {  list-style-type: square;}
ol.c {  list-style-type: upper-roman;}
ol.d {  list-style-type: lower-alpha;}
ul {  list-style-image: url('sqpurple.gif');}
ul.a {  list-style-position: outside;}
ul.b {  list-style-position: inside;}
```

CSS Tables

The look of an HTML table can be greatly improved with CSS:

Table Borders

To specify table borders in CSS, use the `border` property.

```
table, th, td {  border: 1px solid;}
```

Full-Width Table

```
table {  width: 100%;}
```

Collapse Table Borders

```
table {  border-collapse: collapse;}
table {  border: 1px solid;}
```

Table Width and Height

The width and height of a table are defined by the `width` and `height` properties.

```
table {  width: 100%;}
th {  height: 70px;}
```

CSS Table Alignment

The `text-align` property sets the horizontal alignment (like left, right, or center) of the content in <th> or <td>.

```
td {  text-align: center;}
th {  text-align: left;}
td {  height: 50px;  vertical-align: bottom;}
```

CSS Table Style

To control the space between the border and the content in a table, use the `padding` property on <td> and <th> elements:

```
th, td {  padding: 15px;  text-align: left;}
th, td {  border-bottom: 1px solid #ddd;}
tr:hover {background-color: coral;}
```

CSS Responsive Table

Responsive Table

A responsive table will display a horizontal scroll bar if the screen is too small to display the full content:

```
<div style="overflow-x:auto;">
<table>... table content ...</table></div>
```

CSS Layout - The display Property

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

Inline Elements

An inline element DOES NOT start on a new line and only takes up as much width as necessary.

```
li {  display: inline;}
```

Block-level Elements

A block-level element ALWAYS starts on a new line and takes up the full width available (stretches out to the left and right as far as it can).

```
span {  display: block;}
h1.hidden {  display: none;}
h1.hidden {  visibility: hidden;}
```

The position Property

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

```
div.static {  position: static;  border: 3px solid #73AD21;}
div.relative {  position: relative;  left: 30px;  border: 3px solid #73AD21;}
div.fixed {  position: fixed;  bottom: 0;  right: 0;
  width: 300px;  border: 3px solid #73AD21;}
div.absolute {  position: absolute;  top: 80px;  right: 0;  width: 200px;  height: 100px;  border: 3px solid
#73AD21;}
div.sticky {  position: sticky;  top: 0;  background-color: green;
  border: 2px solid #4CAF50;}
```

CSS Layout - float and clear

The CSS float property specifies how an element should float.
The CSS clear property specifies what elements can float beside the cleared element and on which side.

```
img {  float: right;}
img {  float: none;}
```

CSS Layout - Horizontal & Vertical Align

```
.center {  margin: auto;  width: 50%;  border: 3px solid green;
  padding: 10px;}
.center {  text-align: center;  border: 3px solid green;}
img {  display: block;  margin-left: auto;  margin-right: auto;  width: 40%;}
.clearfix::after {  content: "";  clear: both;  display: table;}
```

CSS Navigation Bar

Having easy-to-use navigation is important for any web site.
With CSS you can transform boring HTML menus into good-looking navigation bars.

```
<ul>
  <li><a href="default.asp">Home</a></li>
  <li><a href="news.asp">News</a></li>
  <li><a href="contact.asp">Contact</a></li>
  <li><a href="about.asp">About</a></li></ul>
ul {  list-style-type: none;  margin: 0;  padding: 0;}
```

Vertical Navigation Bar

```
li a {  display: block;  width: 60px;}li {  display: inline;}
```

Horizontal Navigation Bar

```
ul {  list-style-type: none;  margin: 0;  padding: 0;  overflow: hidden;  background-color: #333;}
li {  float: left;}
li a {  display: block;  color: white;  text-align: center;
  padding: 14px 16px;  text-decoration: none;}

/* Change the link color to #111 (black) on hover */
li a:hover {  background-color: #111;}
```

CSS Image Gallery

CSS can be used to create an image gallery.

```
<style>div.gallery {  margin: 5px;  border: 1px solid #ccc;  float: left;  width: 180px;}
```

```
div.gallery:hover {  border: 1px solid #777;}

div.gallery img {  width: 100%;  height: auto;}

div.desc {  padding: 15px;  text-align: center;}</style>

<div class="gallery">
  <a target="_blank" href="img_5terre.jpg">
    <img src="img_5terre.jpg" alt="Cinque Terre" width="600" height="400">  </a>
  <div class="desc">Add a description of the image here</div> </div>
```

CSS Forms

The look of an HTML form can be greatly improved with CSS:

Styling Input Fields

```
input {  width: 100%;}
```

Padded Inputs

```
input[type=text] {  width: 100%;  padding: 12px 20px;  margin: 8px 0;
  box-sizing: border-box;}
```

Bordered Inputs

```
input[type=text] {  border: 2px solid red;  border-radius: 4px;}
```

Colored Inputs

```
input[type=text] {  background-color: #3CBC8D;  color: white;}
```

Focused Inputs

```
input[type=text]:focus {  background-color: lightblue;}
input[type=text]:focus {  border: 3px solid #555;}
```

Input with icon/image

```
input[type=text] {
  background-color: white;  background-image: url('searchicon.png');
  background-position: 10px 10px;  background-repeat: no-repeat;
  padding-left: 40px;}
```

Animated Search Input

```
input[type=text] {  transition: width 0.4s ease-in-out;}
input[type=text]:focus {  width: 100%;}
```