TECH FEST 2022
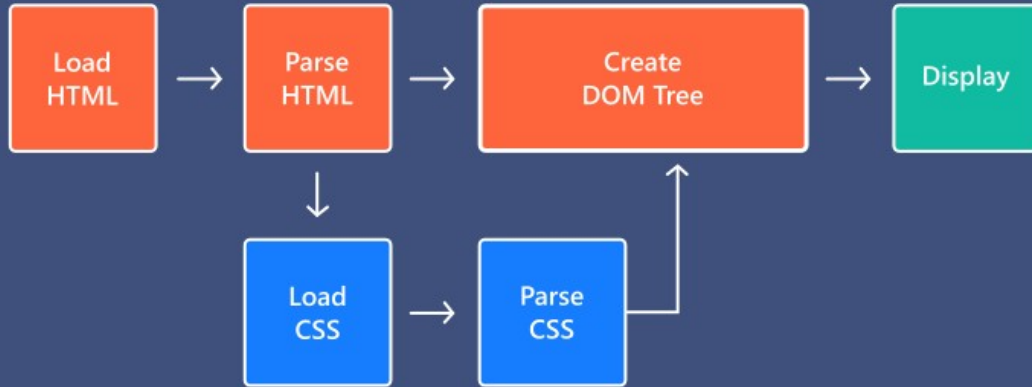
"Coding for progress"

CSS

> CSS stands for "**Cascading Style Sheets**."

> CSS is a widely used on the web.

> CSS helps the web designers to apply style on HTML tags.

> **Cascading**: refers to the procedure that determine which style will apply to a certain section, if you have more than one style rule.

> **Style**: How you want a certain part of your page to look. You can set things like color, margins, font etc for things like tables, paragraphs and headings.

> **Sheets**: The "sheets" are like templates, or a set of rules, for determine how the web page will look.

> So, CSS(all together) is a styling language-is set of rules to tell browsers how your web page should look.

How CSS Works?

How CSS Works

Load HTML → Parse HTML → Create DOM Tree → Display

Load CSS → Parse CSS

Advantages of CSS
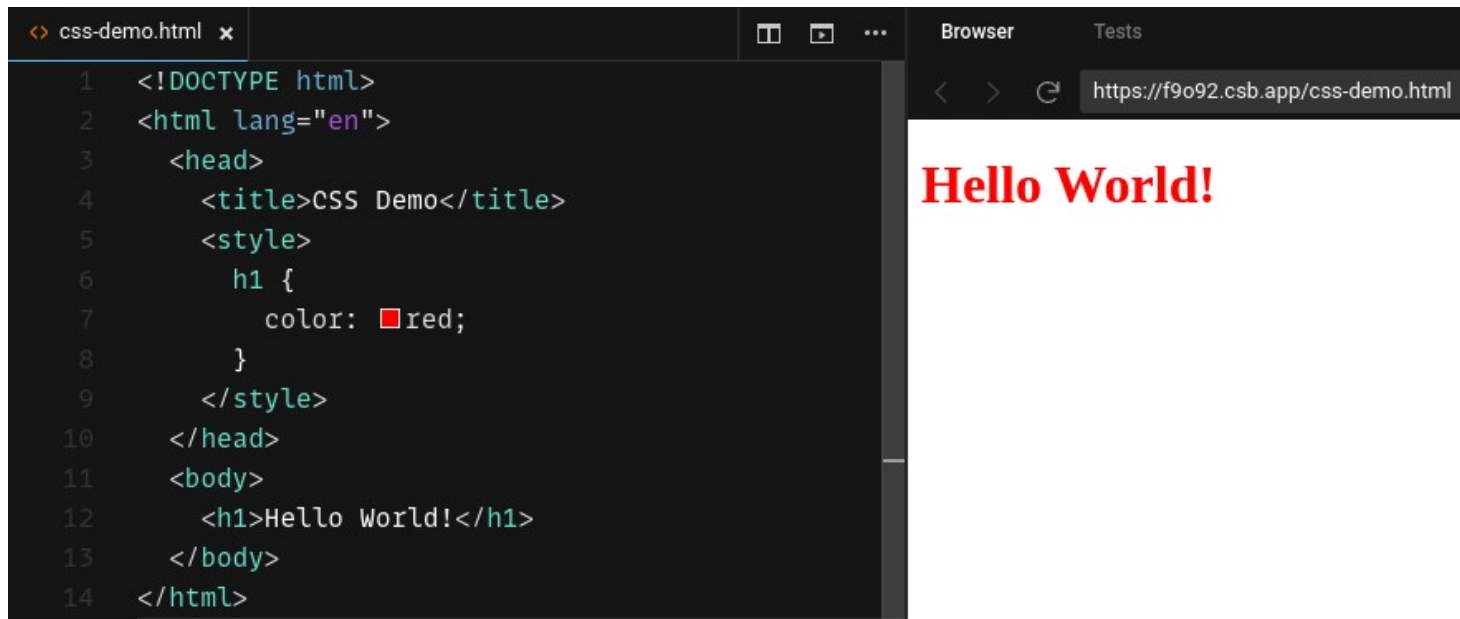
> **CSS saves time**: You can write CSS once and then reuse same sheet in multiple HTML pages.

> **Easy maintenance**: To make global change, simply change the style and all elements in all the web pages will be updated automatically.

> **Global web standards**: Now, HTML attributes are being deprecated and it is being recommended to use CSS.so it's a good to start using CSS in all the HTML page to make them compatible to future browsers.

> **Pages load faster**: If you are using CSS you don't need to write HTML tag attributes every time. Just write one CSS rule of a tag and apply it to all the occurrences of that tag. So less code means faster download times.

CSS Syntax

> CSS Syntax rule set contains a selector and a declaration block.

> **Selector:** Selector indicates the HTML element you want to style. It could be any tag like <h1>, <p> etc.

> **Declaration Block**: The declaration block can contain one or more declarations separated by a semicolon.

> Each declaration contains a property name and value, separated by a colon.

> **Property:** A Property is a type of attribute of HTML element. It could be color, border etc.

> **Value:** Values are assigned to CSS properties. In the above example, value "blue" is assigned to color property.

Example

Types of CSS

> **Inline CSS**: Inline CSS is used to style a specific HTML element.
Add a style attribute to each HTML tag without using the selectors.
Eg: <p style="color:blue;">It will be useful here.</p>

> **Internal CSS**: Internal CSS has <style> tag in the <head> section of the HTML document.
This CSS style is an effective way to style single pages.
Eg: <style type="text/css"></style>

> **External CSS**: In external CSS, we link the web pages to the external .css file.
Eg: <link rel="stylesheet" type="text/css" href=style.css">

CSS Rules Overriding

> Any inline style sheet takes highest priority. So it will override any rule defined in <style>..</style> tags or rules defined in any external style sheet file.

> Any rule defined in <style>..</style> tags will override rules defined in any external style sheet file.

> Any rule defined in external style sheet file takes lowest priority & rules defined in this file will be applied only when above rules are not applicable.

CSS Selectors

1. CSS element Selector: h1 {}

2. CSS id Selector: #title {}

3. CSS class Selector: .container {}

4. CSS Universal Selector: * {}

5. CSS Grouping Selector: h1, p {}

CSS element Selector

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

> Example:

```
<style>
  p {
    color: ▮red;
    text-align: center;
  }
</style>
```

all <p> elements on the page will be center-aligned, with a red text color.

CSS id Selector

> The id selector uses the id attribute of an HTML element 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.

```
<style>
  #text-red {
    color: red;
    text-align: center;
  }
</style>
```

CSS 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.

```
<style>
  .text-center {
    color: red;
    text-align: center;
  }
</style>
```

CSS Universal Selector

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

```
<style>
  * {
    margin: 0;
    padding: 0;
  }
</style>
```

CSS Grouping Selector

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

```
<style>
  h1,
  h2,
  h3,
  p {
    color: ■red;
    text-align: center;
  }
</style>
```
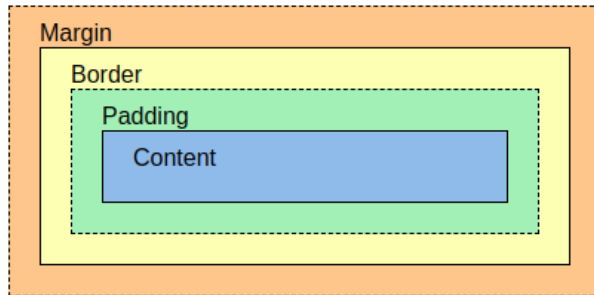
CSS Units

> CSS has several different units for expressing a length.

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

> **Length** is a number followed by a length unit, such as 10px, 2em, etc. There are two types of length units: absolute and relative.

- **Absolute Lengths**: The absolute length units are fixed and a length expressed in any of these will appear as exactly that size. E etc.

- **Relative Lengths**: Relative length units specify a length re to another length property. Eg: rem, em, vw, vh, %, etc.

```
<style>
  img {
    width: 50%;
    height: 100px;
  }
  h1 {
    font-size: 36px;
  }
</style>
```

CSS Box Model

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

> The CSS box model is essentially a box that wraps around every HTML element.

> It consists of: margins, borders, padding, and the actual content.

> **CSS Color**: Syntax: color: value;

> **CSS background**:
CSS background-color:
    Syntax: background-color: value;
CSS background-image:
    Syntax: background-image: url(value);
CSS Background position:
    Syntax: background-position: value; // right, left, center, bottom, top
CSS background-attachment:
    Syntax: background-attachment: value; // fixed, scroll
CSS background-size:
    Syntax: background-size: value; // cover, contain, auto

```
<style>
  body {
    color: ☐#000;
    background: ■red;
  }
</style>
```

CSS Borders

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

> CSS Border properties:

• border-width: Width of a border

• border-style: Sets the style of borders (dotted, solid, dashed, etc)

• border-color: Color of a border

Eg: h1 { border: 1px solid red };

```
<style>
  div {
    border: 5px solid blue;
  }
</style>
```

CSS Fonts

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

> The right font can create a strong identity for your brand.

> The font adds value to your text.

- **CSS Font Family: font-family: Arial, Helvetica, sans**

- **CSS Font Size: font-size: 40px;**

- **CSS Font Style: font-style: italic;**

- **CSS Font Weight: font-weight: bold**

```
<style>
  body {
    font-family: sans-serif;
    font-weight: bold;
    font-style: italic;
  }
</style>
```

CSS Display Property

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

> The `display` property specifies how an element is displayed.

> Every HTML element has a default display value depending on what type of element it is.

> The default display value for most elements is block or inline.

- **Block-level Elements**: div, h1, p, header, footer, etc

- **Inline Elements**: span, a, img.

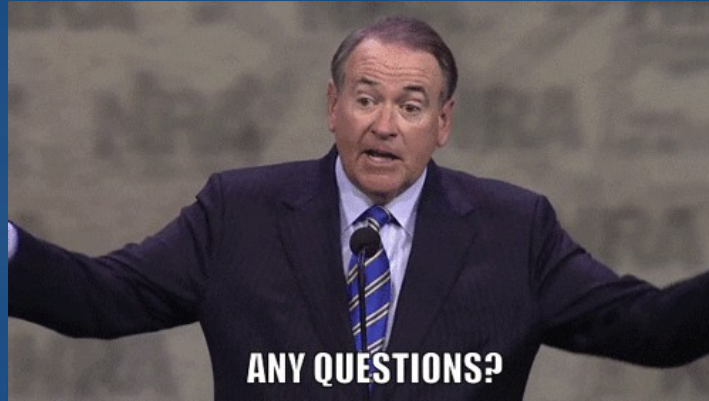- **Display: none**; It is basically used to hide the elements from the website.

Topics you can explore

> **CSS Positions**: relative, absolute, fixed, static

> **CSS Pseudo Class**: hover, active, before, after

> **CSS Media queries**

> **CSS Flex**

> **CSS Grid**

> **CSS Animations**

Any Questions?

Learning Resources:
w3schools
codecademy