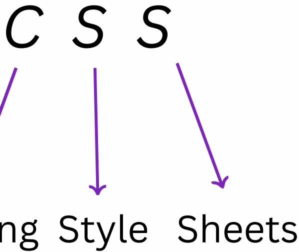
THRIVE
Women for Women

Introduction to CSS

Lecture Flow

- *What is CSS*
- *Basic Selectors and Properties*
- *Box Modeling*
- *CSS Units*
- *How to link*
- *Q&A*
- *Practice session*



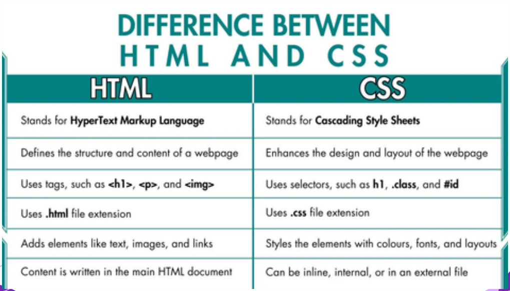
C S S

Cascading Style Sheets

What is CSS?

- CSS is the language used to style and visually design HTML pages.

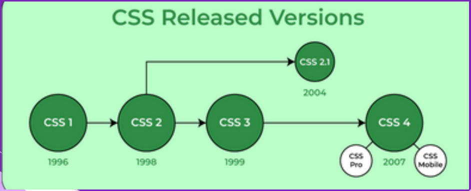
- It controls things like colors, sizes, spacing, and layout, turning plain HTML into a clean, attractive webpage.



DIFFERENCE BETWEEN HTML AND CSS

HTML	CSS
Stands for **HyperText Markup Language**	Stands for **Cascading Style Sheets**
Defines the structure and content of a webpage	Enhances the design and layout of the webpage
Uses tags, such as **<h1>**, **<p>**, and **<img>**	Uses selectors, such as **h1**, **.class**, and **#id**
Uses **.html** file extension	Uses **.css** file extension
Adds elements like text, images, and links	Styles the elements with colours, fonts, and layouts
Content is written in the main HTML document	Can be inline, internal, or in an external file

The concept of styling web pages emerged as early as 1994, with Håkon Wium Lie proposing the original idea for CSS. He later partnered with Bert Bos to develop the CSS specification in 1996.



HTML
CSS

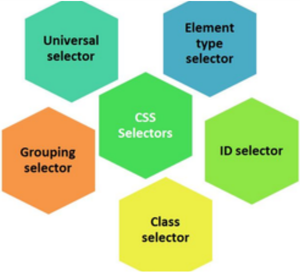
Basic Selectors

- Basic selectors are the simplest ways to tell CSS which HTML elements you want to style.

- They help the browser understand “Apply these styles to this specific element (or group of elements).”

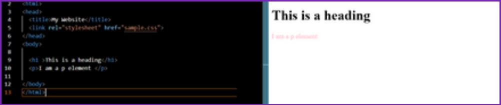
- Think of selectors as a label that points to the elements you want to design.

Basic Selectors



1. Element Selector

- This targets an HTML tag by its name. It styles all elements of that type.



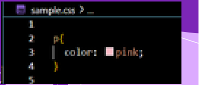
```html
<html>
<head>
  <title>My Website</title>
  <link rel="stylesheet" href="sample.css">
</head>
<body>


  <h1 >This is a heading</h1>
  <p>I am a p element </p>

</body>
</html>
```

This is a heading

I am a p element



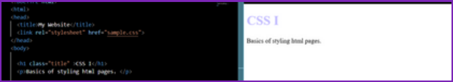
```css

p{
  color: pink;
}

```

2. Class Selector

- Targets elements that have a specific class attribute.
- Classes are reusable — you can use the same class on many elements.

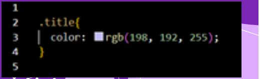


```html
<html>
<head>
  <title>My Website</title>
  <link rel="stylesheet" href="sample.css">
</head>
<body>

  <h1 class="title" >CSS I</h1>
  <p>Basics of styling html pages. </p>
```

CSS I

Basics of styling html pages.



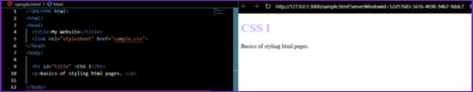
```css

.title{
  color: rgb(198, 192, 255);
}

```

3. ID Selector

- Targets an element by its unique id. IDs should be used only once per page.



sample.html > html
http://127.0.0.1:3000/sample.html?serverWindowId=52d17683-5616-4698-94b7-9ddc7

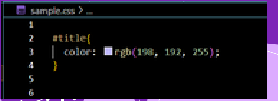
```html
<!DOCTYPE html>
<html>
<head>
  <title>My Website</title>
  <link rel="stylesheet" href="sample.css">
</head>
<body>

  <h1 id="title" >CSS I</h1>
  <p>Basics of styling html pages. </p>

</body>
```

CSS I

Basics of styling html pages.



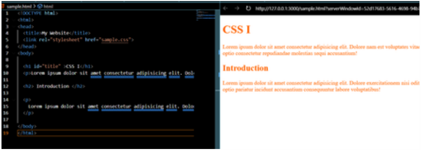
```css

#title{
  color: rgb(198, 192, 255);
}


```

4. Universal Selector (*)

- Targets every element on the page.



```html
<!DOCTYPE html>
<html>
<head>
  <title>My Website</title>
  <link rel="stylesheet" href="sample.css">
</head>
<body>

  <h1 id="title" >CSS I</h1>
  <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Dol-

  <h2> Introduction </h2>

  <p>
    Lorem ipsum dolor sit amet consectetur adipisicing elit. Dolo
  </p>

</body>
</html>
```

http://127.0.0.1:3000/sample.html?serverWindowId=52d17683-5616-4698-94b

CSS I

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Introduction

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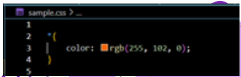


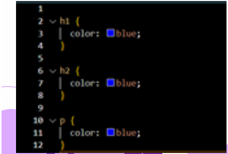
```css

*{
  color: rgb(255, 102, 0);
}

```

4. Grouping Selector (,)

- A grouping selector lets you apply the same CSS styles to multiple different selectors at once.
- Instead of repeating the same code for each element, you group them using a comma.

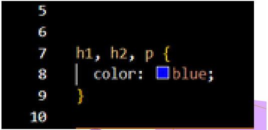


```css

h1 {
  color: blue;
}

h2 {
  color: blue;
}

p {
  color: blue;
}
```



```css


h1, h2, p {
  color: blue;
}

```

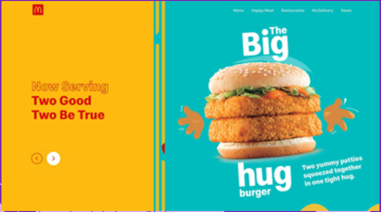
CSS Properties

- CSS properties are the settings you apply to an element to change its appearance.

- Each property controls one specific thing — like color, size, spacing, borders, fonts, layout, or animation.

CSS Properties

- Think of HTML elements as objects, and CSS properties as the "controls" that change how those objects look.



🎨 1. Color & Background Properties

Property	What it does
color	Changes text color
background-color	Sets background color
background-image	Adds an image behind the element
background-repeat	Controls repeating of background images
background-size	Controls image size (cover, contain, etc.)
background-position	Positions the background image
opacity	Controls transparency (0 = invisible, 1 = solid)

✍️ 2. Text & Font Properties

Property	What it does
font-size	Controls text size
font-family	Sets the typeface (Arial, Times, etc.)
font-weight	Makes text bold or light
font-style	Italic text
text-align	Aligns text (left, right, center)
text-decoration	Underline, line-through, none
text-transform	Uppercase, lowercase, capitalize
line-height	Space between lines
letter-spacing	Space between letters
word-spacing	Space between words

📦 3. Box Model Properties (Spacing & Borders)

Property	What it does
width	Sets element width
height	Sets element height
padding	Space inside the box (between content & border)
margin	Space **outside** the box (between elements)
border	Adds border around the element
border-radius	Curves the corners (for rounded shapes)
box-sizing	Controls how width/height are calculated

⚙️ 4. Display & Layout Properties

Property	What it does
display	Defines how an element behaves (block, inline, flex, grid)
position	Positions element (absolute, relative, fixed)
top, bottom, left, right	Position offsets
float	Old method for layout (rare now)
clear	Clears floated elements
z-index	Controls stacking order (what appears on top)

🎛️ 5. Visibility & Overflow

Property	What it does
visibility	Show or hide an element (but keeps space)
display (none)	Removes element completely
overflow	What happens if content overflows (scroll, hidden)

🔄 6. Transition & Animation

Property	What it does
transition	Smoothly change properties over time
animation	Controls keyframe animations
animation-duration	Length of the animation
animation-name	Which animation to run

🎯 Other Useful Properties

- **Cursor :** Changes mouse cursor style
- **box-shadow:** Adds shadow behind element
- **text-shadow:** Adds shadow to text
- **pointer-events :** Enables / disables mouse interactions

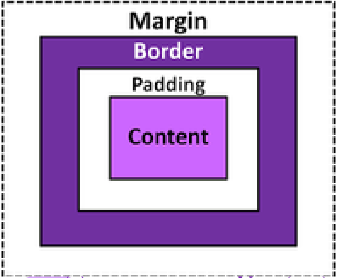
Box Models

- The CSS Box Model is a fundamental concept in web development that describes how HTML elements are rendered as rectangular boxes by the browser's rendering engine.

Box Models

- Every HTML element is treated as a box.
- CSS uses this box to calculate how much space the element takes on the page.

Box Models



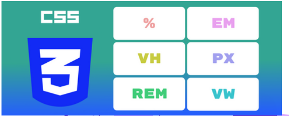
Box Models

Each element has 4 layers (from inside → outside):

- **Content —** The actual text/image inside the element
- **Padding —** Space around the content
- **Border —** The line around the padding
- **Margin —** Space outside the border (separates elements)

CSS Units

- CSS provides different units of measurement to control sizes like width, font-size, padding, margin, and more.
- Each unit behaves differently, and choosing the right one affects how your website scales and responds to different screens.



1. px (Pixels) Units

- A fixed, absolute unit. One pixel = one dot on the screen.

Key ideas:

- Does not change with screen size or user settings.
- Good for precise, fixed designs.
- But not ideal for responsive pages.

2. em (Relative to Parent Element)

- A relative unit based on the font-size of the parent element.

How it works:

- 1em = 100% of the parent’s font size.
- 2em = twice the parent’s font size
- Stacks and “multiplies” when nested.

3. rem (Relative to Root Element)

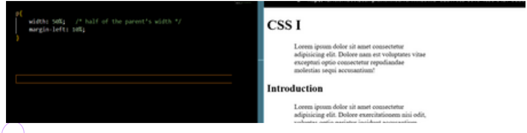
- A relative unit based on the html (root) element’s font size, usually 16px by default.

Why it’s popular:

- Consistent
- Predictable
- Does **NOT** multiply when nested

4. % (Percentage)

- A relative unit based on the container/parent element.



```
p{
    width: 50%;   /* half of the parent's width */
    margin-left: 10%;
}
```

CSS I

Lorem ipsum dolor sit amet consectetur adipisicing elit. Dolore nam est voluptates vitae excepturi optio consectetur repudiandae molestias sequi accusantium!

Introduction

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5. vh (Viewport Height)

- Relative to the height of the browser window (viewport).

Example:

- 1vh = 1% of the viewport height
- 100vh = full screen height

6. vw (Viewport Width)

- Relative to the width of the browser screen.

Example:

- 1vw = 1% of screen width
- 100vw = full width

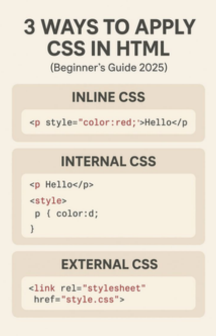
7. auto

- Let the browser decide the size based on content or layout rules.

Example:

- margin: auto; centers an element
- height: auto;

Ways to Link CSS



3 WAYS TO APPLY CSS IN HTML

(Beginner's Guide 2025)

INLINE CSS

```
<p style="color:red;">Hello</p
```

INTERNAL CSS

```
<p Hello</p>
<style>
 p { color:d;
}
```

EXTERNAL CSS

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

Inline CSS

- **Inline** CSS involves adding styles directly to an HTML element using the ***“style”*** attribute, which allows you to target individual elements for a unique style

Inline CSS

- This method is useful for quick testing or applying a style to a single element, but it is not recommended for extensive styling and bigger projects.

```
<p style="color: red;">Hello!</p>
```

Exercise 1: Editing a tag of your choice

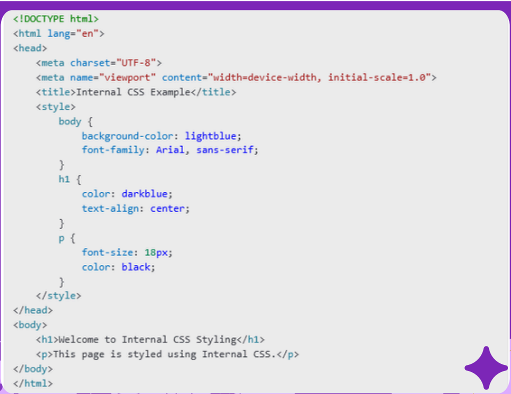
Select any single HTML tag from the document and change one of its attributes using inline method.

Internal CSS

- **Internal CSS** is a method of styling HTML where CSS rules are placed directly inside the **<style>** tags within the **<head>** section of a single HTML document.

Internal CSS

- This approach is useful for applying unique styles to **one specific page**, as the styles defined only affect that page.



```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Internal CSS Example</title>
    <style>
        body {
            background-color: lightblue;
            font-family: Arial, sans-serif;
        }
        h1 {
            color: darkblue;
            text-align: center;
        }
        p {
            font-size: 18px;
            color: black;
        }
    </style>
</head>
<body>
    <h1>Welcome to Internal CSS Styling</h1>
    <p>This page is styled using Internal CSS.</p>
</body>
</html>
```

Exercise 2: Editing a tag of your choice

Select any single HTML tag from the document and change one of its attributes using Internal styling.

External CSS

- **External CSS** is a method of styling a webpage by creating a separate **.css** file that contains all the style rules and linking it to an HTML document using a **<link>** tag in the **<head>** section.

External CSS

- This approach promotes code organization, reusability, and easier maintenance, as a single stylesheet can be applied to multiple HTML pages, and changes can be made in one file to update the entire website.

! Inside your HTML file

```
<head>
      <link rel="stylesheet" href="styles.css">
</head>
```

Q/A

🧪 Practice Session

1. Open the HTML and CSS files
   - Open index.html in your browser.
   - Open both files in a code editor

(VS Code recommended).

🧪 Practice Session

2. Change the CSS values and observe the results

- Changing colors
- Changing font sizes (px, em, rem)
- Changing display types
- Moving elements with position
- Editing spacing, shadows, opacity, etc.

Resources

- Web.dev
- W3 School Css
- CSS for beginners - video Link

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Thank You!!!