

# Lecture\_5

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# Introduction to Cascade Style Sheets **(CSS)**

# CSS stands for Cascading Style Sheets

- ▶ With CSS you can quickly and easily restyle any element.
- ▶ Using CSS you can assign new styles to override the default settings for the font family and size used
- ▶ CSS saves a lot of work. It can control the layout of multiple web pages all at once
- ▶ One way you can add styling to a web page is by inserting the required statements into the head of the page, between the <head> and </head> tags.
- ▶ **External style sheets** are stored in separate CSS files. With an external stylesheet file, you can change the look of an entire website by changing just one file!
- ▶ In general, CSS is used to define styles for your web pages, including the design, layout and variations in display for different devices and screen sizes.
- ▶ While HTML is intended to describe the content of a web page, CSS add the styles and formatting to the HTML page.
- ▶ Different sections of website may attach to different styles using different external stylesheet files.

# CSS Syntax

- ▶ Each CSS rule consists of:
  - Selector
  - declaration block
  
- The **selector** points to the HTML element you want to style.
- The declaration block contains one or more declarations (styles) separated by semicolons.
- Each declaration includes a **CSS property name and a value**, separated by a colon.



# How to add CSS Code to your webpage

## **1-Inline CSS**, by adding a style attribute to the HTML tag

- ▶ Example: `<p style="color:red">Demo</p>`

## **2-Internal CSS**, by inserting a style tag in the head section -

- ▶ example: `<head><style>p { color:red }</style></head>`

## **3-External CSS**, insert a link tag in the head section to load a CSS file -

- ▶ Example: `<head><link rel="stylesheet" href="style.css"></head>`

# Inline CSS, by adding a style attribute to the HTML tag

```
1  <!DOCTYPE html>
2 ▼ <html>
3  <head>
4  </head>
5 ▼ <body>
6  <a href="#" style="font-family:sans-serif;font-size:20pt">click Me</a>
7  </body>
8  </html>
```

# Output

A screenshot of a web browser window. The address bar shows the file path: C:/Users/sara.mohamed/Desktop/mypage5.html#. The browser interface includes standard navigation buttons (back, forward, search) and a toolbar with various icons. Below the toolbar, there is a row of links related to Java programming. The main content area of the browser displays a single, underlined link with the text "Click Me".

**With inline styles, you'll add the style attribute to an HTML tag followed by your CSS to style an element.**

So in our case, the text of the first paragraph is red with a font-size of 20px. The second one, however, remains unchanged.

```
<p style="color: red; font-size: 20px;">This is my first paragraph.</p>
<p>This is my second paragraph.</p>
```

# Internal CSS, by inserting a style tag in the head section

```
1  <!DOCTYPE html>
2  ▼ <html>
3  ▼ <head>
4  ▼ <style>
5  ▼ p {
6      color: red;
7      text-align: center;
8  }
9  </style>
10 </head>
11 ▼ <body>
12 <p>Hello World!</p>
13 <p>These paragraphs are styled with CSS.</p>
14 </body>
15 </html>
```



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Hello World!

These paragraphs are styled with CSS.

# When to Use (and when NOT to use) Inline Styles

- ▶ Say you have an HTML file with ten or more paragraph tags. Can you imagine styling each one individually with inline styles?
- ▶ Doing so will quickly clutter your code, making it hard to read and maintain.
- ▶ Besides, inline styles can introduce specificity issues if you're also using internal or external stylesheets.
- ▶ That's because inline styles have a high specificity. This means they'll override most other rules in internal and external stylesheets

For example, we added inline styles to two paragraph elements. We've also added an internal stylesheet.

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>My New Webpage</title>
5     <style>
6       p {
7         color: pink;
8       }
9     </style>
10    </head>
11
12  <body>
13    <p style="color: blue;">A blue paragraph.</p>
14    <p style="color: blue;">Another blue paragraph.</p>
15  </body>
16 </html>
```

A blue paragraph.

Another blue paragraph.

The CSS from our inline styles override the CSS in the internal stylesheet. So, we end up with two blue paragraphs.

# How to Link External CSS to HTML?

- ▶ External CSS is a method used to style multiple HTML pages with a single stylesheet. This approach involves creating a separate CSS file with a .css extension that contains style properties applied to various selectors (such as classes, IDs, headings, etc.).
- ▶ By using external CSS, you can maintain a consistent design across multiple web pages efficiently.

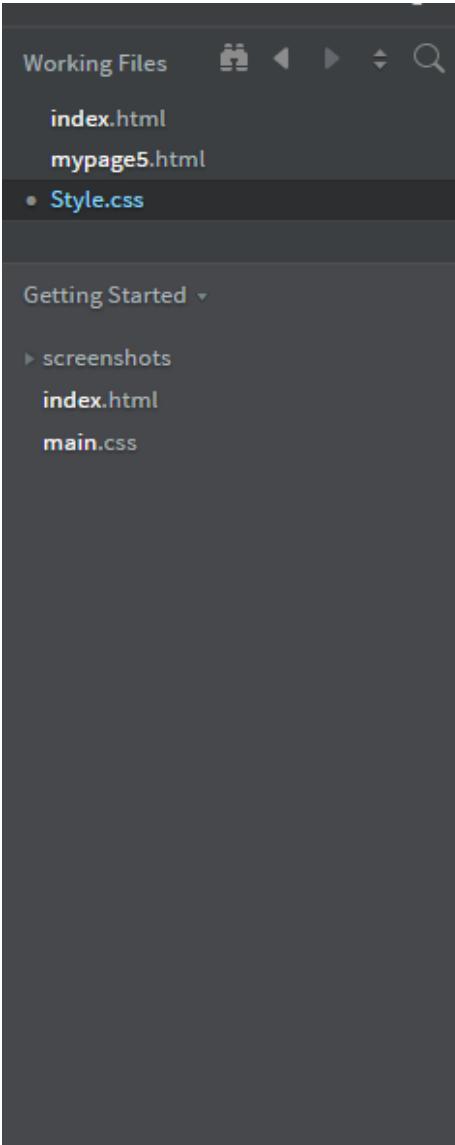
# Syntax

- ▶ To link an external CSS file to an HTML document, you need to use the `<link>` element within the `<head>` section of your HTML file. The `<link>` element should have the `rel` attribute set to "stylesheet" and the `href` attribute specifying the path to your CSS file.

```
<link rel="stylesheet"  
      href="path/to/your/styles.css">
```

# External CSS, insert a link tag in the head section to load a CSS file -

First , you will create the following file :



```
1▼ p{  
2    text-decoration: line-through;  
3    text-decoration-color: aqua;  
4    text-justify: auto;  
5    text-align: center;  
6    font-size: 50pt;  
7    font-style: italic;  
8    font-variant: small-caps;  
9  
10   }  
11▼ h1{  
12    color: bisque;  
13   }
```

# Add the Style file to html page

```
1  <!DOCTYPE html>
2▼ <html>
3▼ <head>
4      <link rel="stylesheet" href="Style.css">
5 </head>
6▼ <body>
7      <h1> WEb Developer</h1>
8 <p>W.S. Toh is a senior web developer and SEO
practitioner with over 20 years of experience.
Graduated from the University of London. When not
secretly being an evil tech ninja, he enjoys
photography and working on DIY projects</p>
9 </body>
10 </html>
```

# Output

A screenshot of a web browser window displaying a resume page. The browser's address bar shows the file path: C:/Users/sara.mohamed/Desktop/mypage5.html#. The page content includes a header "WEb Developer" and a large, stylized bio text. The bio text is written in a bold, black, serif font and is heavily underlined with a thick blue line. The text describes the individual's professional background, mentioning senior web developer and SEO practitioner experience, graduation from the University of London, and hobbies like photography and DIY projects.

WEb Developer

***W.S. TOH IS A SENIOR WEB DEVELOPER AND SEO  
PRACTITIONER WITH OVER 20 YEARS OF  
EXPERIENCE. GRADUATED FROM THE UNIVERSITY  
OF LONDON. WHEN NOT SECRETLY BEING AN EVIL  
TECH NINJA, HE ENJOYS PHOTOGRAPHY AND  
WORKING ON DIY PROJECTS***

# Advantages of External CSS

- **Improved Maintainability:** Having styles in a separate file makes it easier to manage and update your styles without modifying each HTML document.
- **Enhanced Reusability:** The same CSS file can be linked to multiple HTML files, promoting consistent design across your site.
- **Efficient Caching:** Browsers cache external CSS files, leading to faster page load times on subsequent visits.

# Disadvantages of External CSS

- ▶ **Loading Time:** Pages may not render correctly until the external CSS file is fully loaded, potentially causing a flash of unstyled content (FOUC).
- ▶ **Performance Concerns:** Linking multiple CSS files can increase download times, affecting overall site performance.

# Example for external CSS

Working Files

index.html  
sara.html  
style.css

Getting Started ▾

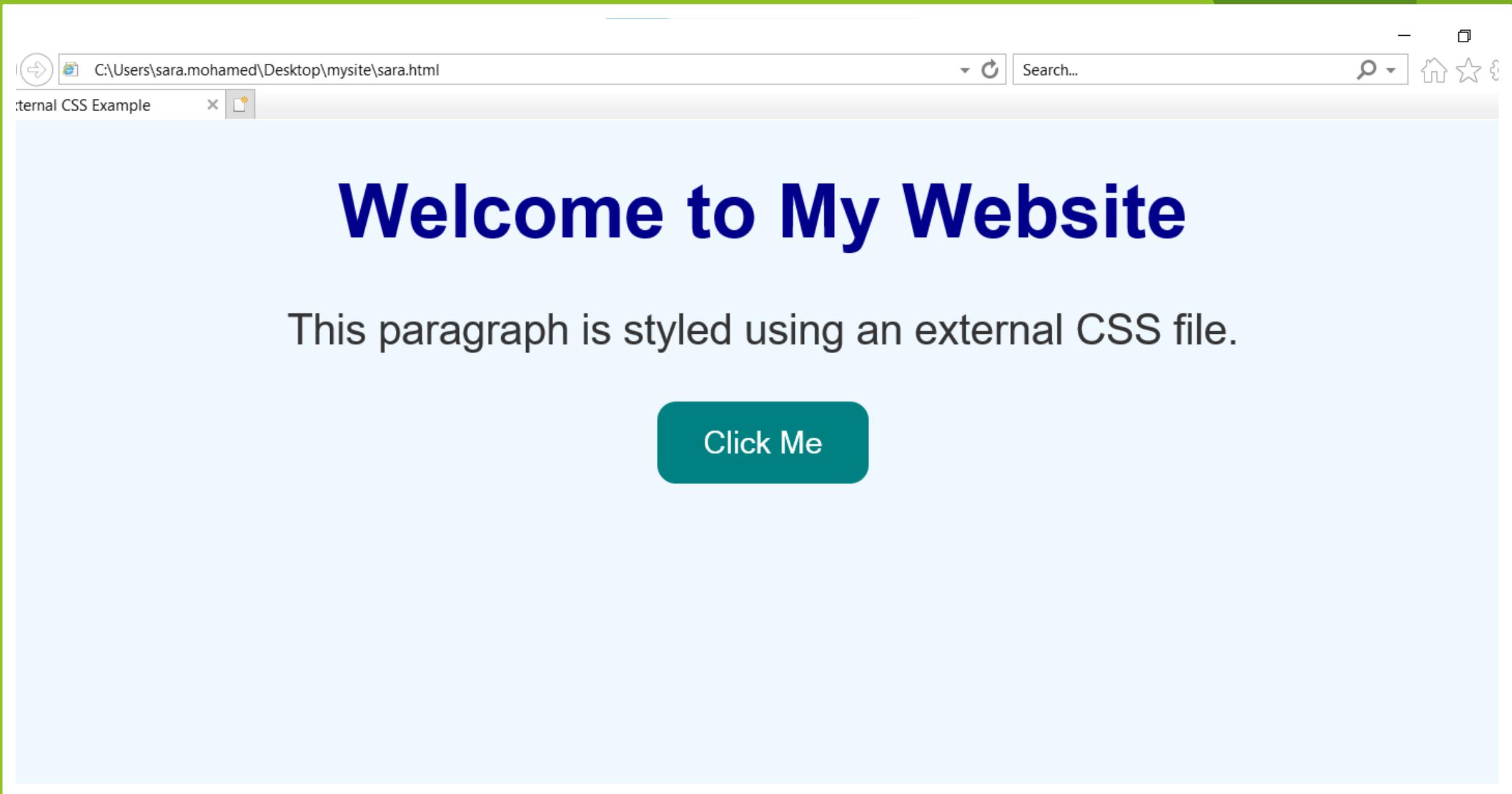
screenshots  
index.html  
main.css

```
1 /* External CSS file */
2
3 ▼ body {
4     background-color: #f0f8ff;
5     font-family: Arial, sans-serif;
6 }
7
8 ▼ h1 {
9     color: darkblue;
10    text-align: center;
11 }
12
13 ▼ p {
14     color: #333;
15     font-size: 18px;
16     text-align: center;
17 }
18
19 ▼ button {
20     background-color: teal;
21     color: white;
22     padding: 10px 20px;
23     border: none;
24     border-radius: 8px;
25     display: block;
26     margin: 20px auto;
27     cursor: pointer;
28 }
29
30 ▼ button:hover {
31     background-color: darkcyan;
32 }
```

Create the CSS file  
Called **style.css**

The image shows a screenshot of a code editor interface. On the left, there's a sidebar with 'Working Files' containing 'index.html', 'sara.html', and 'style.css'. Below that is a 'Getting Started' section with 'screenshots', 'index.html', and 'main.css'. The main area displays the following HTML code:

```
1 <!DOCTYPE html>
2 ▼ <html>
3 ▼   <head>   <title>External CSS Example</title>
4
5   <!-- Link to the external CSS file -->
6   <link rel="stylesheet" href="style.css"> </head>
7 ▼ <body>
8
9 <h1>Welcome to My Website</h1>
10 <p>This paragraph is styled using an external CSS file.</p>
11 <button>Click Me</button>
12 |
13
14 </body>
15
16 </html>
```



## CSS Syntax: margin: top/bottom left/right;

The `margin` property controls the space outside an element's border.

When you write **two values**, like:

css

```
margin: 20px auto;
```

they mean:

1. `20px` → margin for **top and bottom**
2. `auto` → margin for **left and right**

### What It Does:

- `20px` adds 20 pixels of space above and below the element.
- `auto` lets the browser automatically calculate left and right margins **equally**, which centers the element horizontally.

 This only works if the element has a **fixed width** (not `width: 100%`).

# CSS Comments

- You can add comment to CSS code by placing your comment within a pair of /\* ... \*/,

```
/*
   A CSS
   Multiline
   comment
*/
h1 {
    font-size:240%;
    color:blue;
}

p b { color:red; }
/* This is a CSS single line comment */
```

# CSS Selectors

- ▶ Selectors are used to "find" (or select) the HTML elements you want to style.
- ▶ Selectors can be divided into five categories :
  - **Simple selectors.**
  - **Combinator selectors.**
  - **Pseudo-class selectors.**
  - **Pseudo-elements selectors.**
  - **Attribute selectors.**

# Simple selectors

1-Selects HTML elements based on the element name

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

- ▶ 2-ID selector: selects directly access HTML elements using the element ID attribute. To select an element with a specific id, write a hash (#) character, followed by the id of the element

# ID selector example

```
1  <!DOCTYPE html>
2  ▼ <html>
3  ▼ <head>
4
5  ▼   <style>
6  ▼     #myformat{
7         text-align: center;
8         color: red;
9     }
10    </style>
11  </head>
12  ▼ <body>
13    <h1> WEb Developer</h1>
14
15  <div id="myformat" style="background-color:
16    azure">example for simple selector</div>
16  </body>
17  </html>
```

# Output



Learn Java Program...

Java Polymorphism:...

Java Inheritance: Ex...

Java Inheritance - V...

Inheritance in Java -...

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All Bookmarks

# WEb Developer

example for simple selector

# 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

```
}

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

# class Selector example

```
5▼      <style>
6▼          #myformat{
7              text-align: center;
8              color: red;
9          }
10▼          .center {
11              text-align: center;
12              color: cornflowerblue;
13          }
14
15      </style>
16  </head>
17▼ <body>
18      <h1 class="center"> Web Developer</h1>
19
20      <div id="myformat" style="background-color:
21          azure">example for simple selector</div>
22  </body>
23  </html>
```

# WEb Developer

example for simple selector

Also, you can also specify that only specific HTML elements should be affected by a class to narrow the class scope

```
5▼      <style>
6▼        #myformat{
7          text-align: center;
8          color: red;
9        }
10▼       p.center {
11         text-align: center;
12         color: cornflowerblue;
13       }
14
15      </style>
16    </head>
17▼ <body>
18  <h1 class="center"> Web Developer</h1>
19  |
20  <p id="myformat" style="background-color:
21    azure">example for simple selector</p>
21  </body>
22  </html>
```

# Output



# WEb Developer

example for simple selector

# The example code after change

```
5▼      <style>
6▼          #myformat{
7              text-align: center;
8              color: red;
9          }
10▼         p.center {
11             text-align: center;
12             color: cornflowerblue;
13         }
14
15     </style>
16 </head>
17▼ <body>
18 <h1 class="center"> WEb Developer</h1>
19
20 <p class="center" style="background-color:
21     azure">example for simple selector</p>
22 </body>
23 </html>
```

# Output



# WEb Developer

example for simple selector

```
<style>
  #myformat{
    font-family : cursive, arial ,
    "Times new Roman" ;
    font-family: sans-serif;
    font-size:30pt;
    font-stretch:extra-expanded;
    font-style: oblique;
    font-variant: small-caps;
    font-weight:bold;
  }

```

## **EXAMPLE FOR SIMPLE SELECTOR**

```
5 <style>
6   #myformat{
7     color : red ;
8   }
9   #myid{
10    color:#FF0000 ;
11  }
12  #newfor{
13    color:rgb(255,0,0) ;
14  }
15
16  </style>
17 </head>
18 <body>
19 <p id="myformat">example for simple selector</p>
20 <p id="myid">example for simple selector</p>
21 <p id="newfor">example for simple selector</p>
```

example for simple selector

example for simple selector

example for simple selector

```
<style>
    #myformat{
        color : red ;
        text-transform:|
    }
    #myid{
        color:#FF0000
    }
    #newfor{
        color:rgb(255,
    }

</style>
body>
```

- capitalize
- full-width
- inherit
- lowercase
- none
- uppercase

# Thank you

# References

- ▶ <https://www.freecodecamp.org/news/inline-css-guide-how-to-style-an-html-tag-directly/>
- ▶ <https://www.geeksforgeeks.org/css/how-to-link-external-css-to-html/>