



# Web programming I

Section 4

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# HTML Multimedia

- Multimedia elements (like audio or video) are stored in media files.

Format	File	Description
MPEG	.mpg .mpeg	The most popular video format on the web. Supported by all browsers, but not supported in HTML5.
Flash	.swf .flv	Often requires an extra component (plug-in) to play in web browsers.
Ogg	.ogg	Supported by HTML5.
WebM	.webm	Developed by the web giants, Mozilla, Opera, Adobe, and Google. Supported by HTML5.
MPEG-4 or MP4	.mp4	Supported by all HTML5 browsers. Recommended by YouTube.

# HTML Multimedia cont

[Table 6-1] Web Audio Formats

Format	File	Description
WAV	.wav	Plays well on Windows, Macintosh, and Linux operating systems. Supported by HTML5.
Ogg	.ogg	Supported by HTML5.
MP3	.mp3	MP3 is the most popular format for music players. Combines good compression (small files) with high quality. Supported by all browsers.
MP4	.mp4	MP4 is a video format, but can also be used for audio. MP4 audio format is supported by all browsers.

# <video> element

- The HTML <video> element is used to show a video on a web page.

## Vedio attributes

- **src**: The URL of the video file to embed. However, it's more common to use <source> elements within <video> to support multiple formats.
- **width** and **height**: Sets the display dimensions of the video in pixels.
- **controls**: Adds video controls (play, pause, volume, etc.) for users.
- **autoplay**: Plays the video automatically upon loading. This is often combined with muted, as many browsers only autoplay muted videos.
- **muted**: Mutes the audio of the video by default.
- **loop**: Replays the video continuously when it reaches the end.

# Vedio EX

EXPLORER      Welcome      media.html

MEDIA

- horse.ogg
- media.html
- mov\_bbb.mp4
- movie.mp4

```
<!DOCTYPE html>
<html>
  <head>
    <title>Media Page</title>
  </head>
  <body>
    <h1>Welcome to the Media Page</h1>
    <video src="mov_bbb.mp4" type="video/mp4" controls autoplay muted loop>
  </body>
</html>
```

iframe Example      Media Page

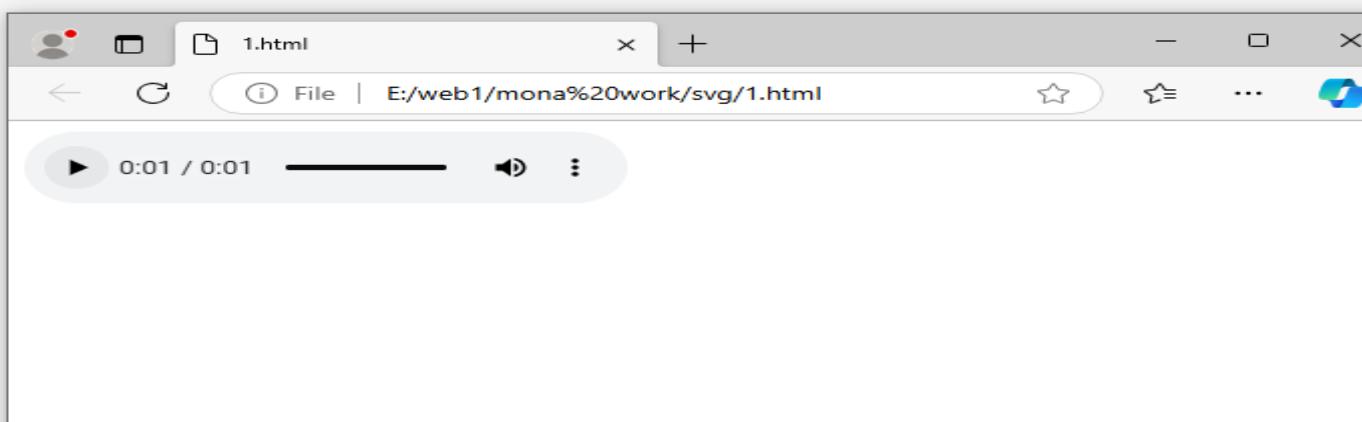
127.0.0.1:5500/media.html

Welcome to the Media Page

# <audio> Element

- To play an audio file in HTML, use the <audio> element

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <audio controls>
6      <source src="horse.ogg" type="audio/ogg">
7      <source src="horse.mp3" type="audio/mpeg">
8  Your browser does not support the audio element.
9  </audio>
10 </body>
11 </html>
12
13
```



# Difference

```
✓ MEDIA
  ◊ horse.ogv
  ◊ media.html
  ◊ mov_bbb.mp4
  ◊ movie.mp4

  ◊ media.html > ⚒ html
    1  <!DOCTYPE html>
    2  <html>
    3  <head>
    4  |   <title>Media Page</title></head>
    5  <body>
    6  |   <h1>Welcome to the Media Page</h1>
    7  |   <video controls autoplay muted loop>
    8  |       <source src="movi_bbb.mp4" type="video/mp4">
    9  |       <source src="movie.mp4" type="video/mp4">
   10 |   </video>
   11 </html>
```

Welcome to the Media Page



# <iframe> attributes

Attribute	Description
SRC	Specifies the URL of the page or video to display inside the iframe.
width	Sets the width of the iframe (in pixels or %).
height	Sets the height of the iframe (in pixels or %).
title	Provides a text description for accessibility (screen readers).
frameborder	Specifies whether to display a border (use "0" or "1"). (Now replaced by CSS).
allowfullscreen	Allows fullscreen mode for videos.
loading	Controls how the iframe loads: "lazy" (delayed) or "eager" (immediate).

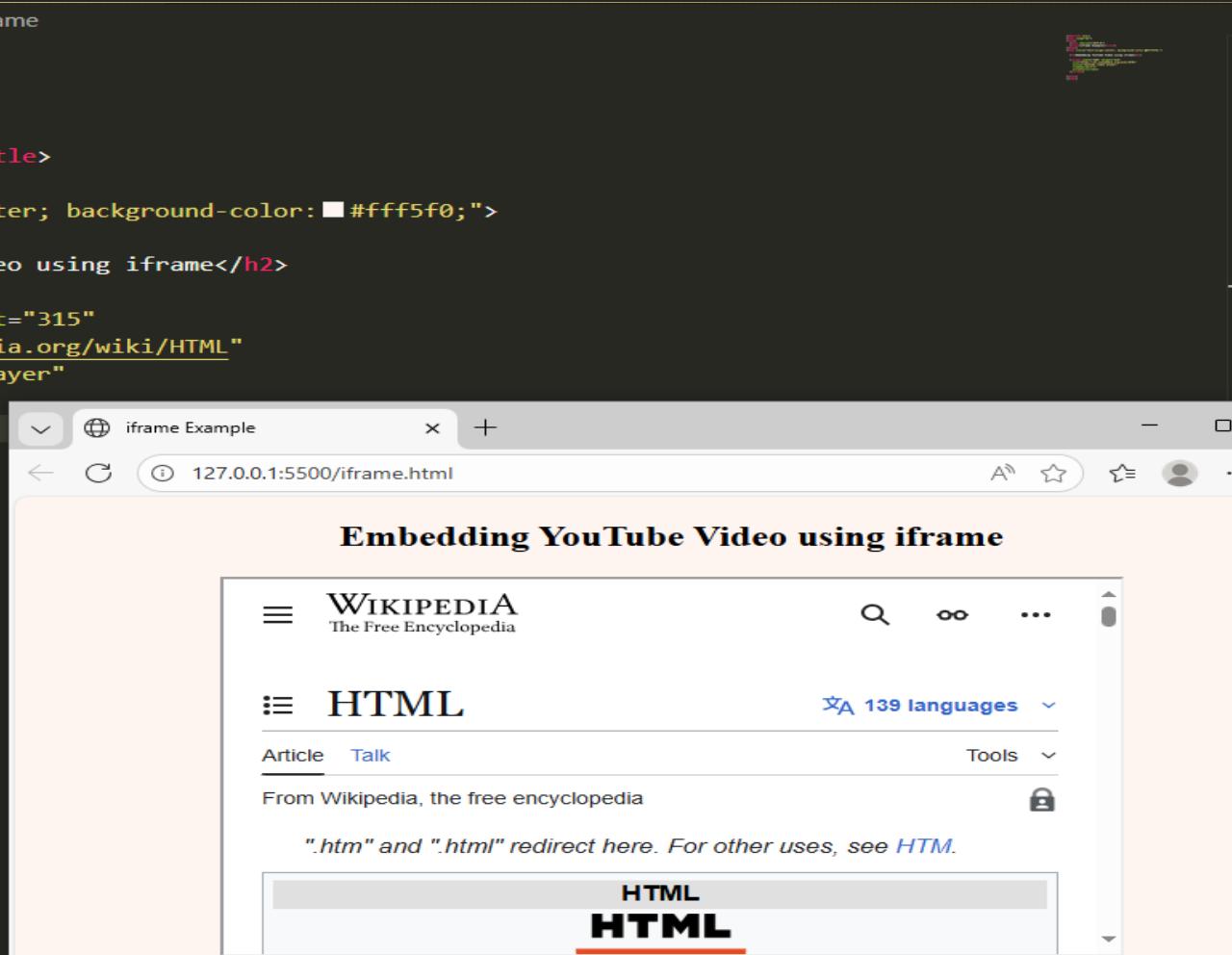
# Iframe ex

```
frame.html > html > body > iframe
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>iframe Example</title>
</head>
<body style="text-align:center; background-color: #fff5f0;">

  <h2>Embedding YouTube Video using iframe</h2>

  <iframe width="560" height="315"
    src="https://en.wikipedia.org/wiki/HTML"
    title="YouTube video player"
    frameborder="1"
    allowfullscreen>
</iframe>

</body>
</html>
```



# Iframe element

```
1  <!DOCTYPE html>
2 ▼ <html>
3 ▼ <head>
4 ▼ <title>
5  HTML5
6 </title>
7 </head>
8 ▼ <body>
9 <iframe width="560" height="315" src="https://www.youtube.com/embed/Apl8h-P0F9Q?
si=sy1XUfTisduG0u2m" title="YouTube video player" frameborder="0" allow="accelerometer;
autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture; web-share"
referrerPolicy="strict-origin-when-cross-origin" style="border: none; width: 100%; height: 100%;">
10 <hr size=10 color="red">
11 <iframe src="div.html" style="border: none; width: 100%; height: 100%;">
```



# <meta> tag & attributes

- provides metadata about the HTML document, which is information not displayed directly on the page but used by browsers, search engines, and other services.
- appear in search engines
- has many attributes

```
1  <!DOCTYPE html>
2 ▼ <html>
3 ▼   <head>
4     <meta>
5     </head>
6 ▼ <body>
```

# <meta> attributes

## viewport:

- Controls the page's dimensions and scaling on mobile devices.
- Typically used for responsive design.
- Example: <meta name="viewport" content="width=device-width, initial-scale=1.0">

```
1  <!DOCTYPE html>
2 ▼ <html>
3 ▼   <head>
4     <!-- <meta charset="iso-8859-1">-->
5     <meta charset="utf-8">
6     <meta name="description" content="our first website">
7     <meta name="author" content="second year IT ">
8     <meta name="keywords" content="BTU IT Track">
9     <meta name="viewport" content="width=device-width,initial-scale=1.0">
10    </head>
11  <body>
12  </body>
13 </html>
```

# <meta attributes>

## Charset Declaration

Defines the character encoding for the HTML document.

```
1  <!DOCTYPE html>
2 ▼ <html>
3 ▼   <head>
4     <meta charset="utf-8">
5   </head>
```

## Name

- Specifies the name of the metadata.
- Common values: "description", "keywords", "author", "viewport".

```
3 ▼   <head>
4     <meta charset="utf-8">
5       <meta name="description" content="our first website">
6       <meta name="author" content="second year IT ">
7       <meta name="keywords" content="BTU IT Track">
8     </head>
```

# Auto refresh

- Auto reload live data pages (like news or stock updates).
- Redirect users after login/logout.
- Create a short “Welcome Page” that jumps to the main site.
- Syntax

```
<meta http-equiv="refresh" content="time; url=target_page">
```

```
3 <head>
4   <title>Media Page</title></head>
5   <meta http-equiv="refresh" content="3;url=page2.html">
6
7
8
9
```

# Cascading Style Sheets

## (CSS) Fundamentals

CSS



- Defines the visual style of web pages
- CSS describes how HTML elements should be displayed.
- With CSS you can quickly and easily restyle any element.
- 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.

# How to add CSS Code to your webpage

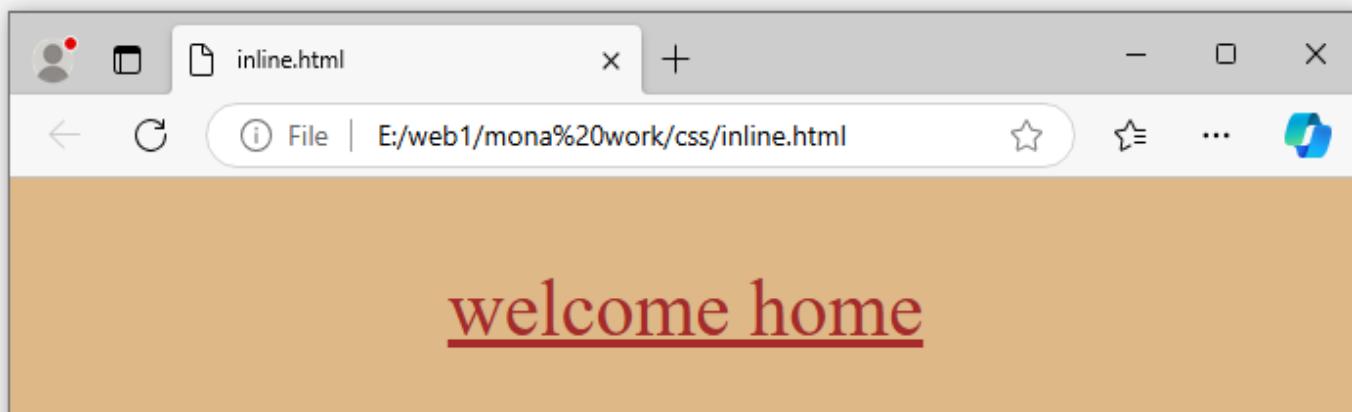
**1-Inline CSS:** Styles added directly to the HTML element

**2-Internal CSS:** Styles defined at the head section of the document.

**3-External CSS:** insert a link tag in the head section to load a CSS file (Styles defined in a separate file)

# Inline CSS

```
1 <!doctype html>
2 ▼ <html>
3 ▼ <head>
4
5     </head>
6 ▼     <body style="background-color: burlywood">
7         <p style="color: brown; font-family: serif; font-size: 40px; text-align: center; text-decoration: underline"> welcome home</p>
8
9     </body>
10 </html>
```



# CSS Syntax

## Internal CSS

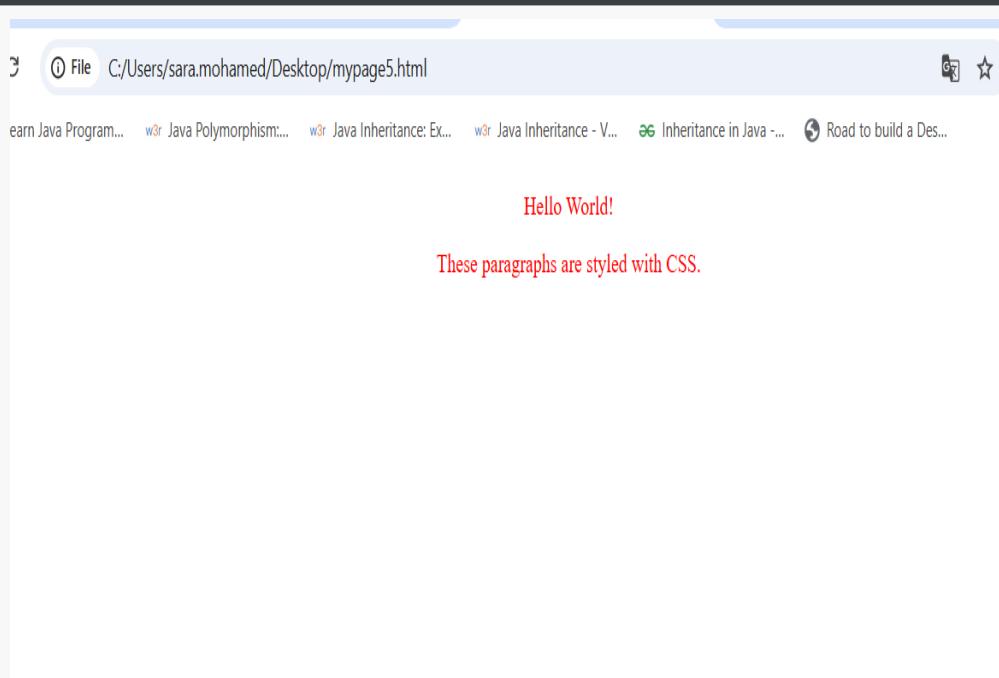
Each CSS rule consists of: Selector

- declaration block
- Selector: specifies the HTML element that we want to apply the styles
- property1 / property2: specifies the attribute of HTML elements that we want to change (color, background, and so on)
- Value : specifies the new value you want to assign to the property (color of the text to the red, background to gray, and so on)



# 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>
```



# Internal syntax(multiple CSS)

```
1  <!doctype html>
2  <html>
3  <head>
4  <style>
5  body{
6      background-color: blanchedalmond;
7      text-align: center;
8  }
9  p{
10     color: brown;
11     font-size: 50px;
12 }
13
14
15
16 </style>
17 </head>
18 <body>
19     <p> welcome to CSS</p>
20 </body>
21 </html>
```



The screenshot shows a web browser window titled "inline.html" with the URL "E:/web1/mona%20work/css/inline.html". The page displays the text "welcome to CSS" in a large, brown, sans-serif font, centered on the page. The browser interface includes standard controls like minimize, maximize, and close buttons, as well as a back button, forward button, and a search/address bar.

# External CSS

The screenshot illustrates the use of external CSS. On the left, the `inline.html` file contains an HTML document structure with a link to an external CSS file:

```
1 <!doctype html>
2 <html>
3 <head>
4   <link rel="stylesheet" href="style.css">
5 </head>
6 <body>
7   <h1> Add the Style file to html page </h1>
8   <p> welcome to CSS</p>
9 </body>
10 </html>
```

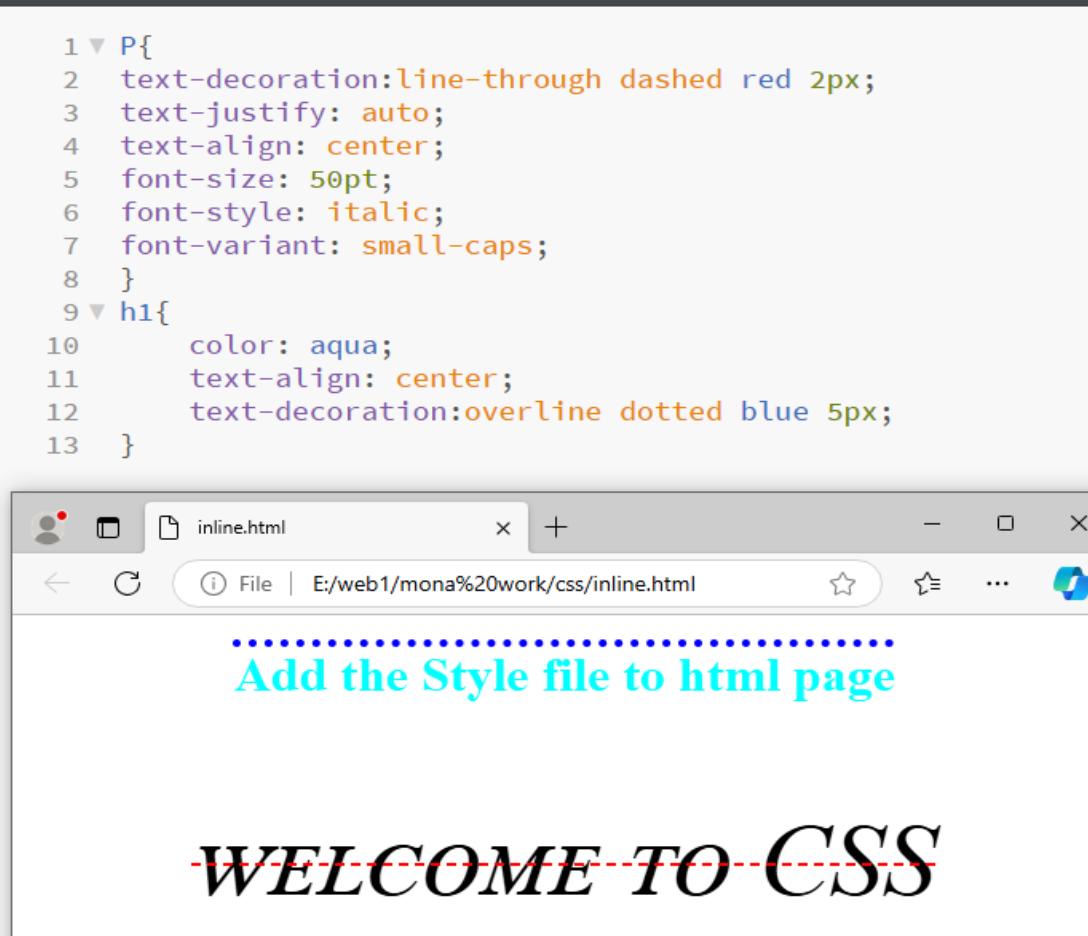
On the right, the `style.css` file contains the following CSS rules:

```
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 ▼ h1{
11   color: aqua;
12   text-align: center
13 }
```

A browser window below shows the rendered output. The heading `<h1> Add the Style file to html page` is displayed in a large, italicized, black font with a blue underline, indicating it has been struck through. The paragraph `<p> welcome to CSS</p>` is centered and colored blue.

At the bottom of the browser window, the status bar displays: Line 10, Column 8 — 10 L.

# Another



The screenshot shows a web browser window with the title "inline.html". The address bar indicates the file is located at "E:/web1/mona%20work/css/inline.html". The page content consists of two main sections: a header and a body. The header section contains the text "Add the Style file to html page" in a light blue font, centered with a dotted underline. The body section contains the text "WELCOME TO CSS" in a large, italicized black font, centered with a red dashed underline. The browser interface includes standard controls like back, forward, and search.

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

# Explanation

•**text-decoration: line-through;**

Adds a line through the text.

•**text-decoration-color: aqua;**

Sets the color of the line-through to aqua.

•**text-justify: auto;**

Adjusts the spacing between words. In this case, the default justification behavior is applied.

•**text-align: center;**

Centers the text horizontally within its container.

# CONT

•**font-size:** 50pt;

Sets the font size to 50 points.

•**font-style:** italic;

Makes the text italicized.

•**font-variant:** small-caps;

Converts the text to small-caps, where lowercase letters are displayed as smaller uppercase letters.

# Multiple external CSS

```
m.css
1 ▼ body {
2     background: lightgreen;
3 }
```

```
s.css
1 ▼ p {
2     color: red;
3 }
4
```

```

1  <!doctype html>
2  <html>
3  <head>
4      <link rel="stylesheet" href="s.css">
5      <link rel="stylesheet"
6          href="m.css">
7  </head>
8  <body>
9      <h1> Add the style file to html
10     page </h1>
11     <p> welcome to CSS</p>
12     <div> welcome to this page</div>
13  </body>
14 </html>
```

Add the Style file to html page

welcome to CSS

welcome to this page

# Inline Style Override Internal Style

The screenshot illustrates the concept of inline styles overriding internal styles in CSS.

**Code Editor (Visual Studio Code):**

```
1 <!doctype html>
2 <html>
3   <head>
4     <style>
5       h1 {
6         color: blue;
7       }
8
9     p {
10       background: red;
11     }
12   </style>
13   <title>Browser</title>
14 </head>
15 <body>
16   <h1 style="color: green">Priority Example</h1>
17   <p>This is Paragraph 1</p>
18   <p style="background:aqua">This is paragraph 2</p>
19 </body>
20 </html>
```

**Browser Preview:**

The browser window shows two paragraphs. The first paragraph has a blue color due to the internal style, while the second paragraph has a red background due to the inline style.

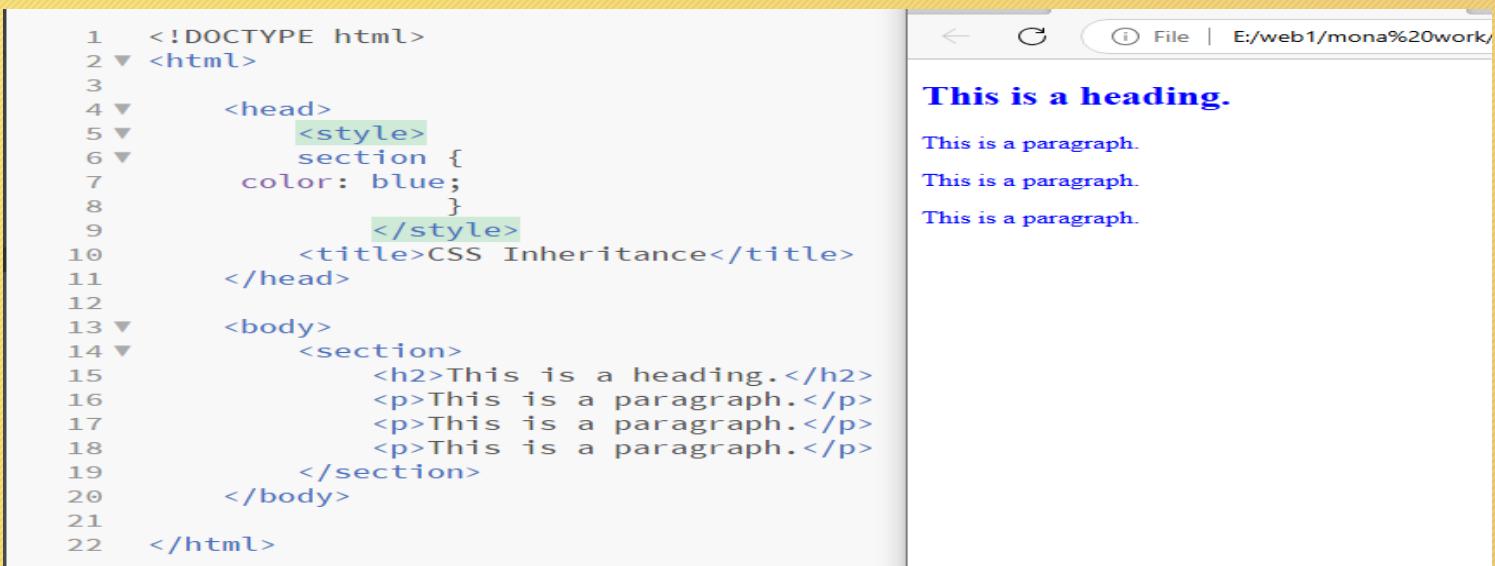
**Output:**

This is Paragraph 1

This is paragraph 2

# CSS Essential Concepts

- **Inheritance:** In CSS, inheritance passes the styles directly from the parent element to its child elements.
- The child elements normally take the same styles that have been assigned to the parent, unless they are provided their own styles.



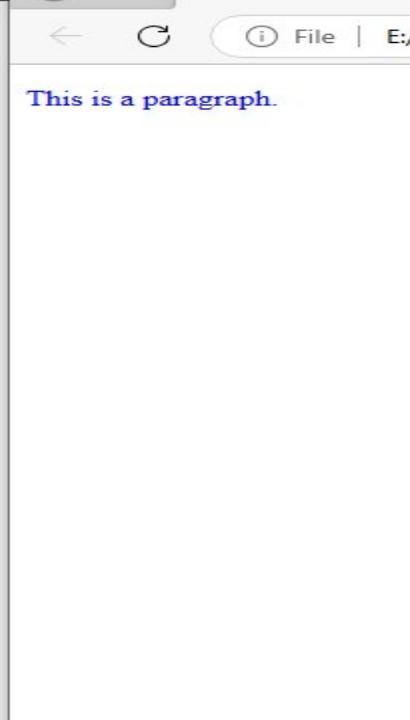
The image shows a code editor on the left and a browser preview on the right. The code editor displays the following HTML and CSS:

```
1  <!DOCTYPE html>
2  <html>
3
4  <head>
5      <style>
6          section {
7              color: blue;
8          }
9      </style>
10     <title>CSS Inheritance</title>
11 </head>
12
13 <body>
14     <section>
15         <h2>This is a heading.</h2>
16         <p>This is a paragraph.</p>
17         <p>This is a paragraph.</p>
18         <p>This is a paragraph.</p>
19     </section>
20 </body>
21
22 </html>
```

The browser preview on the right shows the output with all text colored blue, demonstrating the inheritance of the 'color: blue;' style from the parent 'section' element.

# Rule Order

- Rule order refers to the sequence in which CSS rules are applied to the HTML elements



The image shows a code editor on the left and a browser window on the right. The code editor displays the following HTML and CSS:

```
1  <!DOCTYPE html>
2  <html>
3
4  <head>
5  <style>
6  p {
7      color: red;
8  }
9
10     /* overrides color previous color value */
11    p {
12        color: blue;
13    }
14    </style>
15    <title>CSS rule order </title>
16  </head>
17  <body>
18      <p>This is a paragraph.</p>
19
20  </body>
21
22 </html>
```

The browser window shows a single paragraph with the text "This is a paragraph." The color of the text is blue, demonstrating that the second CSS rule (color: blue;) overrides the first (color: red;).

# CSS Comments

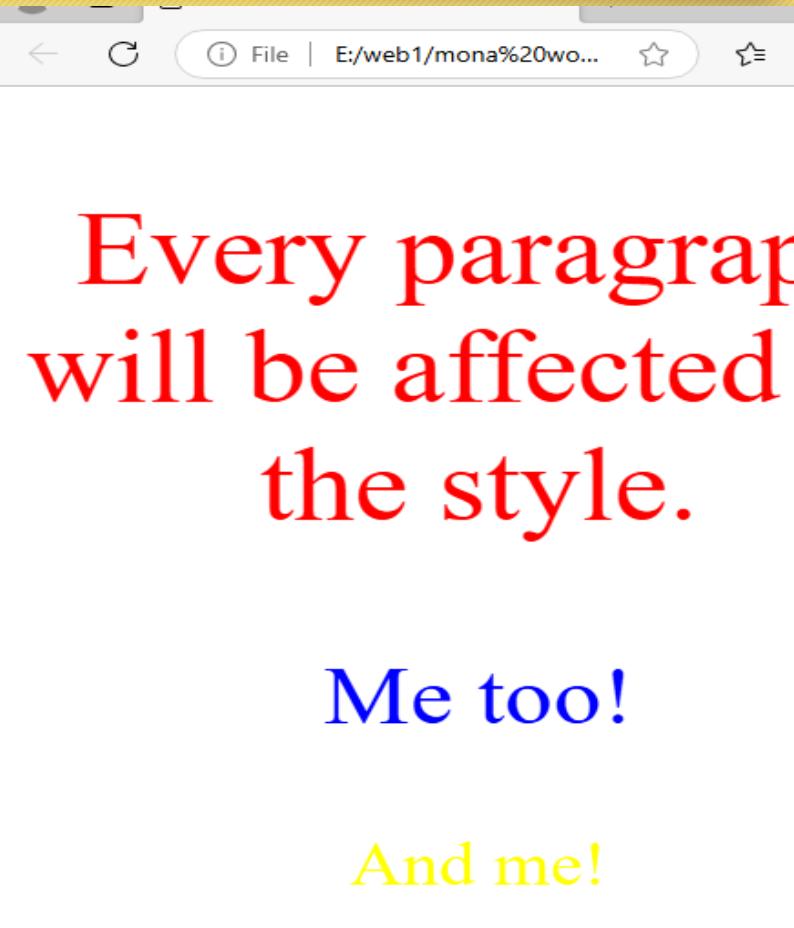
- You can add comment to CSS code by placing your comment within a pair of /\* ... \*/,

# Simple selectors

- Type Selector: Targets elements by their tag name.
- Class Selector(.): Targets elements by their class attribute.
- ID Selector(#): Targets an element by its id attribute
- Universal Selector (\*) : Targets all elements.
- Group Selector: selects all the HTML elements with the same style definitions.

# EX

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <style>
5  p {
6      text-align: center;
7      color: red;
8      font-size: 50pt
9  }
10 #para1{
11     color:blue;
12     font-size: 40pt
13 }
14 .center
15 {
16     color:yellow;
17     font-size: 30pt}
18 </style>
19 </head>
20 <body>
21 <p>Every paragraph will be affected by the style.</p>
22 <p id="para1">Me too!</p>
23 <p class="center">And me!</p>
24
25 </body>
26 </html>
```



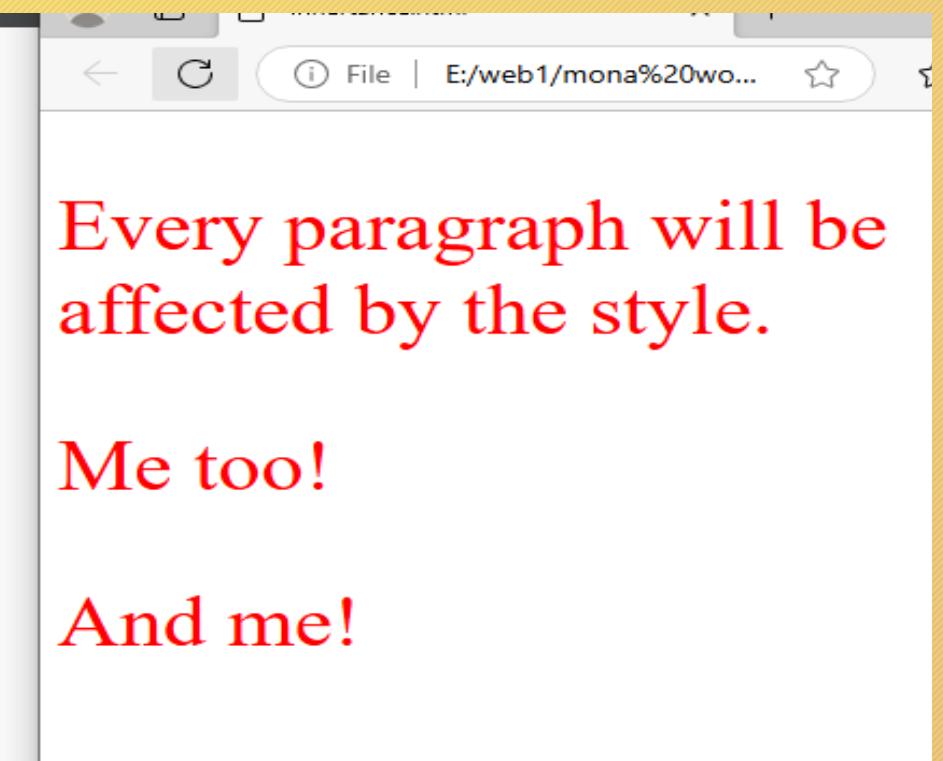
# Simple selectors

- in CSS is a selector that targets elements without combining them with other selectors or using complex structures. These are the most basic types of selectors used to apply styles to HTML elements.
- (select elements based on name, id, class) A class name cannot start with a number!

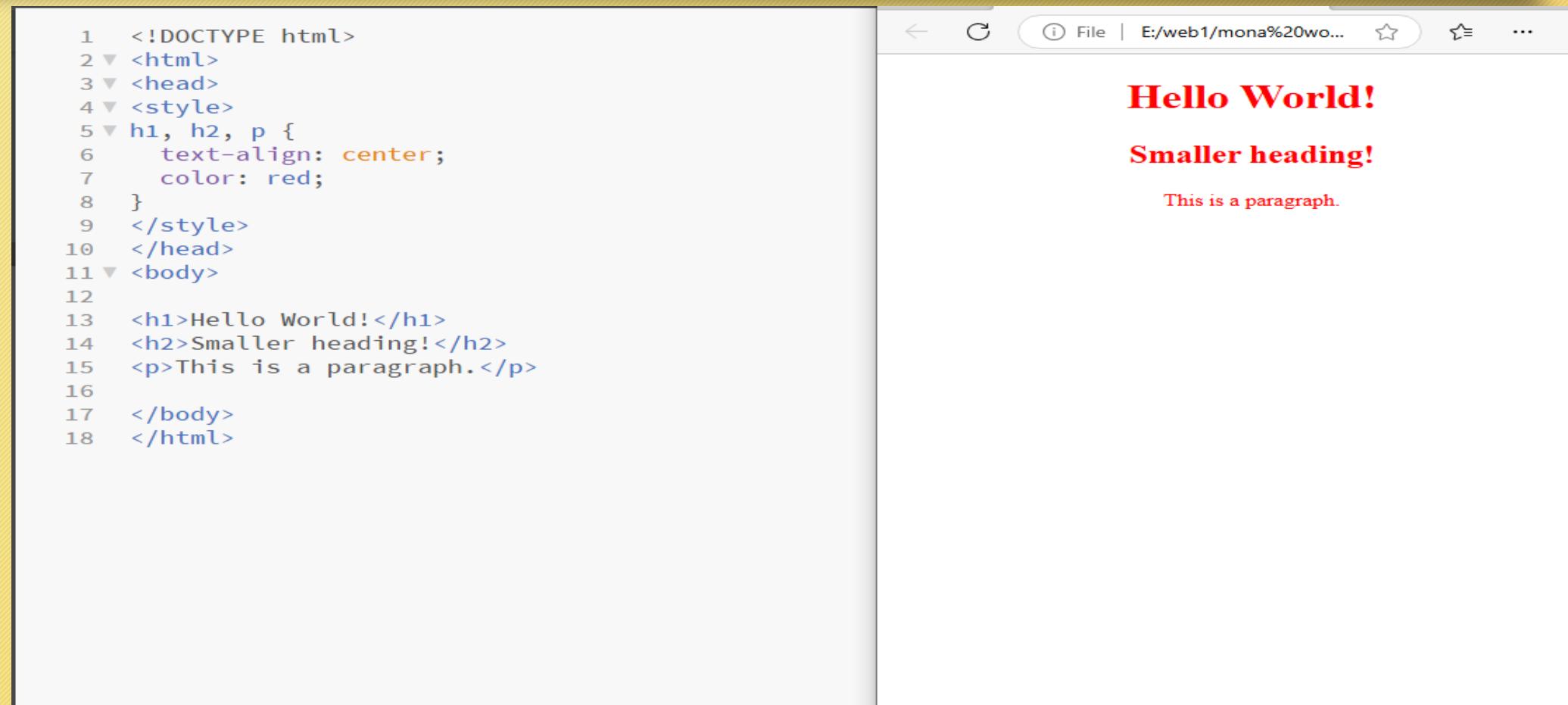
# The CSS Universal Selector

- The universal selector selects every single HTML element on the page. It is written using the asterisk(\*) character

```
1  <!DOCTYPE html>
2  ▼ <html>
3  ▼ <head>
4  ▼ <style>
5  ▼ * {
6      color: red;
7      font-size: 30pt
8  }
9  </style>
10 </head>
11 ▼ <body>
12 <p>Every paragraph will be affected by the style.</p>
13 <p>Me too!</p>
14 <p>And me!</p>
15
16 </body>
17 </html>
```



# The CSS Grouping Selector



A screenshot of a web browser window displaying the output of a CSS grouping selector example. The browser interface includes a header with file navigation and a toolbar. The main content area shows the following text:

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <style>
5  h1, h2, p {
6      text-align: center;
7      color: red;
8  }
9  </style>
10 </head>
11 <body>
12
13 <h1>Hello World!</h1>
14 <h2>Smaller heading!</h2>
15 <p>This is a paragraph.</p>
16
17 </body>
18 </html>
```

The browser displays the text "Hello World!" in a large red font at the top, "Smaller heading!" in a smaller red font below it, and the sentence "This is a paragraph." in a standard black font.

# CSS priority

- !important rules.
- Inline styles.
- (ID > Class > Element).
- Source order (later rules override earlier ones if specificity is the same)

# Style Rule Hierarchy

- The style rule hierarchy determines the priority of CSS rules when multiple rules target the same element.

In CSS, the following hierarchy of style priorities applies:

- Inline styling: Styles applied directly within HTML element.
- ID selectors: Styles elements with specific ID.
- Class and attribute selectors: Styles elements with certain class or attribute.
- Element selectors: Styles elements with specific tag name.

# !important attribute

The image shows a Windows desktop environment. On the left is the Brackets IDE interface, displaying an HTML file named 'inheritance.html'. The code includes CSS rules for class and id selectors, and a rule for the 'p' element using the '!important' attribute. On the right is a web browser window titled 'inheritance.html', showing the rendered output. The page features a heading 'Heading' and three paragraphs. The first paragraph is green, the second is purple, and the third is red, demonstrating the cascading effect of styles and how the '!important' attribute overrides them.

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <style>
5  /* class selector */
6  .paragraph {
7      color: green;
8  }
9  /* id selector */
10 #unique {
11     color: purple;
12 }
13 /* using !important on element selector */
14 p {
15     color: red !important;
16 }
17 </style>
18 </head>
19 <body>
20     <h1>Heading</h1>
21     <p>This is the first paragraph.</p>
22     <p class="paragraph">This is the second paragraph.</p>
23     <p id="unique">This is the third paragraph.</p>
24 </body>
25 </html>
```

Line 6, Column 13 — 25 Lines

File Edit Find View Navigate Debug Help

Working Files

- f.html
- 2.html
- 1.html — svg
- form.html
- s.css
- m.css
- style.css
- inline.html
- inheritance.html

Getting Started

- screenshots
- index.html
- main.css

E:/web1/mona work/css/inheritance.html (Getting Started) - Brackets

inheritance.html

Heading

This is the first paragraph.

This is the second paragraph.

This is the third paragraph.

Search

22°C ٤٣ م جزء ENG 1:36 AM

# Priority example

```
1  <!DOCTYPE html>
2  ▼ <html>
3  ▼ <head>
4  ▼ <style>
5  /* class selector */
6  ▼ .paragraph {
7      color: green;
8  }
9  /* id selector */
10 ▼ #unique {
11     color: purple;
12 }
13 ▼ p {
14     color: red;
15 }
16 </style>
17 </head>
18 ▼ <body>
19     <h1>Heading</h1>
20     <p>This is the first paragraph.</p>
21     <p class="paragraph">This is the second paragraph.</p>
22     <p id="unique" class="paragraph">This is the third paragraph.</p>
23 </body>
24 </html>
```

