

HTML AND CSS

SHARMAL SOLIGIAN S

HTML

- HTML stands for Hyper Text Markup Language
- HTML is the standard markup language for creating Web pages
- HTML describes the structure of a Web page.

- The `<!DOCTYPE html>` declaration defines that this document is an HTML5 document
- The `<html>` element is the root element of an HTML page
- The `<head>` element contains meta information about the HTML page
- The `<title>` element specifies a title for the HTML page (which is shown in the browser's title bar or in the page's tab)
- The `<body>` element defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.
- The `<h1>` element defines a large heading
- The `<p>` element defines a paragraph

Start tag	Element content	End tag
<h1>	My First Heading	</h1>
<p>	My first paragraph.	</p>
 	<i>none</i>	<i>none</i>

HTML Page Structure

```
<html>

    <head>
        <title>Page title</title>
    </head>

    <body>
        <h1>This is a heading</h1>
        <p>This is a paragraph.</p>
        <p>This is another paragraph.</p>
    </body>
</html>
```

HTML Attributes

- All HTML elements can have attributes
- Attributes provide additional information about elements
- Attributes are always specified in the start tag
- Attributes usually come in name/value pairs like: name="value"

href Attribute

The src Attribute

1. Absolute URL
2. Relative URL

The width and height Attributes

The alt Attribute

The style Attribute

The lang Attribute

HTML Headings

The screenshot shows a Visual Studio Code interface with an HTML file open. The left sidebar contains icons for file operations like Open, Save, Find, and Settings. The top menu bar includes File, Edit, Selection, View, Go, Run, Terminal, and Help. A status bar at the bottom shows file paths, line counts, and other development metrics.

HTML.html - HTML and CSS Preesentation - Visual Studio Code

File Edit Selection View Go Run Terminal Help

Get Started

HTML.html - HTML and CSS Preesentation - Visual Studio Code

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
  </head>
  <body>
    <h1>First paragraph</h1>
    <h2>Second paragraph</h2>
    <h3>Third paragraph</h3>
    <h4>Fourth paragraph</h4>
    <h5>Fifth paragraph</h5>
    <h6>Sixth paragraph</h6>
  </body>
</html>
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER

[Running] cd "d:\HTML and CSS Preesentation\" && start chrome && "d:\HTML and CSS Preesentation\"HTML.html

[Done] exited with code=0 in 0.348 seconds

Document

File | D:/HTML%20and... A

First paragraph

Second paragraph

Third paragraph

Fourth paragraph

Fifth paragraph

Sixth paragraph

HTML Paragraphs

The image shows a screenshot of the Visual Studio Code interface. On the left is the sidebar with various icons for file operations like copy, paste, find, and settings. The top navigation bar includes File, Edit, Selection, View, Go, Run, Terminal, and Help. A tab bar at the top center shows "HTML.html - HTML and CSS Presentation - Visual Studio Code". The main editor area displays the following HTML code:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>HTML and CSS presentation</title>
  </head>
  <body>
    <p>Paragraph</p>
  </body>
</html>
```

To the right of the editor is a browser window titled "HTML and CSS presentation" showing the rendered content: a single paragraph with the text "Paragraph". The status bar at the bottom indicates the file is 117 lines long, has 37 spaces, 4 tabs, and is currently viewing the HTML file.

HTML Styles

File Edit Selection View Go Run Terminal Help

Get Started HTML.html

```
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta http-equiv="X-UA-Compatible" content="IE=edge">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <title>HTML and CSS presentation</title>
8  </head>
9  <body style="background-color: #rgb(49, 49, 97);">
10     <p style="background-color: #grey; color: #rgb(67, 238, 238);>Paragraph</p>
11  </body>
12  </html>
```



External CSS

The image shows a dual-pane development environment. On the left, the Visual Studio Code interface is visible, featuring a dark theme. It has a top navigation bar with File, Edit, Selection, View, Go, Run, Terminal, and Help. Below the navigation bar is a toolbar with icons for Save, Undo, Redo, Find, Replace, Copy, Paste, and others. The main workspace contains two tabs: "Get Started" and "HTML.html". The "HTML.html" tab is active, displaying the following code:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>HTML and CSS presentation</title>
    <link rel="stylesheet" href="Style.css">
  </head>
  <body>
    <h1>Heading</h1>
    <p>Paragraph</p>
  </body>
</html>
```

To the right of the code editor is a browser window titled "HTML and CSS presentation". The browser displays the rendered HTML content, which includes a red heading and a black paragraph. The browser's interface includes a back/forward button, a search bar, and a status bar at the bottom.

HTML comments <!-- -->

The image shows a screenshot of the Visual Studio Code interface. On the left, the code editor displays an HTML file named "HTML.html". The code includes standard HTML tags like DOCTYPE, meta tags for charset and viewport, a title, and a link to a CSS file. A specific comment block is highlighted in green, containing the text: "`<!-- This will not appear on browser -->`". In the center, the browser preview window shows the rendered HTML. It features a red header titled "Heading" and a blue paragraph below it, demonstrating that the commented-out section was successfully removed from the final output.

```
File Edit Selection View Go Run Terminal Help
Get Started HTML.html # Style.css
HTML.html - HTML and CSS Presentation - Visual Studio Code
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>HTML and CSS presentation</title>
    <link rel="stylesheet" href="Style.css">
</head>
<body>
    <!-- This will not appear on browser -->
    <h1>Heading</h1>
    <p>Paragraph</p>
</body>
</html>
```

HTML.html - HTML and CSS Presentation - Visual Studio Code

File | D:/HTML%20and... A

Heading

Paragraph

HTML Formatting Elements

- - Bold text
- - Important text
- <i> - Italic text
- - Emphasized text
- <mark> - Marked text
- <small> - Smaller text
- - Deleted text
- <ins> - Inserted text
- <sub> - Subscript text
- <sup> - Superscript text

HTML Links

HTML links are hyperlinks.

You can click on a link and jump to another document.

When you move the mouse over a link, the mouse arrow will turn into a little hand.

```
<a href="url">link text</a>
```

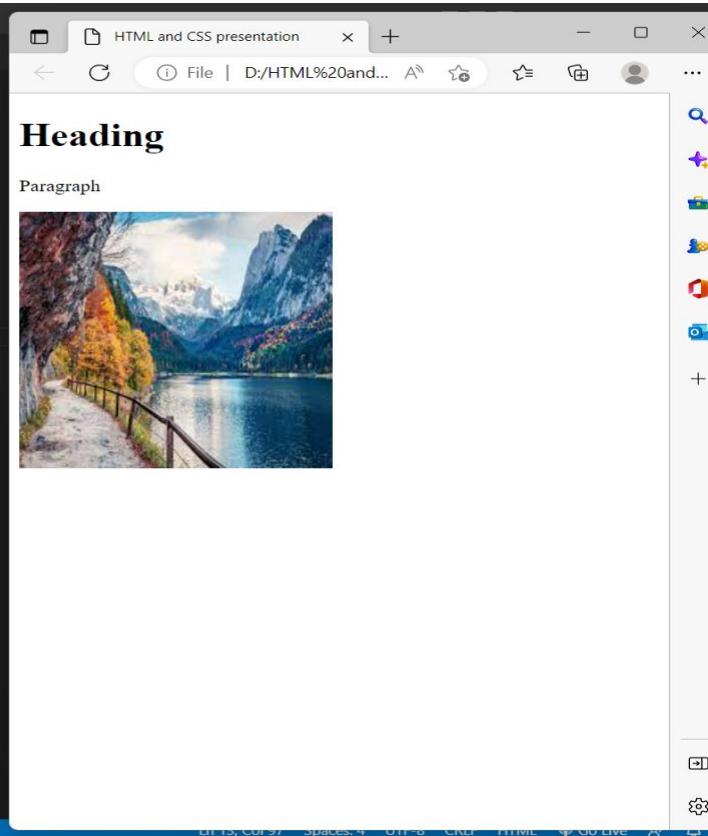
HTML Images

File Edit Selection View Go Run Terminal Help

HTML.html - HTML and CSS Preesentation - Visual Studio Code

Get Started HTML.html # Style.css

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>HTML and CSS presentation</title>
  </head>
  <body>
    <!-- This will not appear on browser -->
    <h1>Heading</h1>
    <p>Paragraph</p>
    
  </body>
</html>
```



HTML Favicon

File Edit Selection View Go Run Terminal Help

HTML.html - HTML and CSS Presentation - Visual Studio

Get Started HTML.html # Style.css

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>HTML and CSS presentation</title>
    <link rel="icon" href="D:\HTML and CSS Preesentation\image2.jpg">
  </head>
  <body>
    <!-- This will not appear on browser -->
    <h1>Heading</h1>
    <p>Paragraph</p>
    
  </body>
</html>
```



Heading

Paragraph



The Target Attribute

Value	Description
_blank	The response is displayed in a new window or tab
_self	The response is displayed in the current window
_parent	The response is displayed in the parent frame
_top	The response is displayed in the full body of the window
<i>framename</i>	The response is displayed in a named iframe

HTML LISTS

Unordered lists:

index - Notepad

File Edit View

```
<!DOCTYPE html>
<html>
<body>

<h2>An unordered HTML list</h2>

<ul>
  <li>Lion</li>
  <li>Bear</li>
  <li>Tiger</li>
</ul>

</body>
</html>
```

Ln 10, Col 12 100% | Windows (CRLF) | UTF-8



An unordered HTML list

- Lion
- Bear
- Tiger

Ordered Lists:

The screenshot shows a Windows desktop environment. On the left, there is a Notepad window titled "index - Notepad" containing an HTML file. On the right, there is a Microsoft Edge browser window titled "index.html" displaying the content of the file.

Notepad Content (index.html):

```
<!DOCTYPE html>
<html>
<body>

<h2>An ordered HTML list</h2>

<ol>
  <li>Beans</li>
  <li>Cabbage</li>
  <li>Brinjal</li>
</ol>

</body>
</html>
```

Browser Display (index.html):

An ordered HTML list

1. Beans
2. Cabbage
3. Brinjal

Ln 16, Col 1 | 100% | Windows (CRLF) | UTF-8

HTML Description Lists

The screenshot shows a Windows desktop environment. On the left is a Notepad window titled "index - Notepad" containing the HTML code for a description list. On the right is a Microsoft Edge browser window titled "index.html" displaying the rendered output of that code.

Notepad Content (index.html):

```
<!DOCTYPE html>
<html>
<body>

<h2>A Description List</h2>

<dl>
  <dt>India</dt>
  <dd>- New Delhi</dd>
  <dt>England</dt>
  <dd>- London</dd>
</dl>

</body>
</html>
```

Browser Output (index.html):

A Description List

India
- New Delhi

England
- London

Ln 15, Col 8 | 100% | Windows (CRLF) | UTF-8

HTML Table:

The image shows a screenshot of the Visual Studio Code interface. On the left is the code editor with a dark theme, displaying an HTML file named 'JavaScript.html'. The code includes an H2 header, a table with three columns ('Name', 'Contact', 'Country') and two rows of data, and a descriptive paragraph at the bottom. On the right is a browser window titled 'JavaScript.html' showing the rendered HTML. The browser's address bar indicates the file is located at 'D:/HTML/JavaScript.html'. The browser's status bar shows 'File: JavaScript.html' and other details like 'Line: 14, Col: 15'.

```
D: > HTML > <h2>A basic HTML table</h2>
10  <table style="width:100%">
11    <tr>
12      <th>Name</th>
13      <th>Contact</th>
14      <th>Country</th>
15    </tr>
16    <tr>
17      <td>Alfreds Futterkiste</td>
18      <td>Maria Anders</td>
19      <td>Germany</td>
20    </tr>
21    <tr>
22      <td>Centro comercial Moctezuma</td>
23      <td>Francisco Chang</td>
24      <td>Mexico</td>
25    </tr>
26  </table>
27
28  <p>To understand the example better, we have added borders to the table.</p>
29
30  </body>
31
32  </html>
```

A basic HTML table

Name	Contact	Country
Alfreds Futterkiste	Maria Anders	Germany
Centro comercial Moctezuma	Francisco Chang	Mexico

To understand the example better, we have added borders to the table.

HTML Block and Inline Elements

The image shows a screenshot of a development environment with two windows. On the left is a code editor in Visual Studio Code, displaying an HTML file named 'HTML.html'. The code includes a head section with meta tags for charset, http-equiv, and viewport, and a body section containing a div with a gray background and aquamarine text. The right window is a web browser showing the rendered HTML. The browser's address bar indicates the file is located at 'D:/HTML%20and%20CSS%20Presentation...'. The browser content area displays a single paragraph of text: 'A block-level element always starts on a new line, and the browsers automatically add some space (a margin) before and after the element. A block-level element always takes up the full width available (stretches out to the left and right as far as it can.)'. Below this, another paragraph states 'This is span'.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>HTML and CSS presentation</title>
    <link rel="icon" href="D:\HTML and CSS Presentation\image2.jpg">
</head>
<body>
    <!-- Block and inline -->
    <div style="background-color: #gray; color: #aquamarine">
        <p>A block-level element always starts on a new line, and the browsers automatically add some space (a margin) before and after the element. A block-level element always takes up the full width available (stretches out to the left and right as far as it can.)</p>
        <p>This is <span style="color: #rgb(248, 119, 38);">span</span></p>
    </div>
</body>
</html>
```

A block-level element always starts on a new line, and the browsers automatically add some space (a margin) before and after the element. A block-level element always takes up the full width available (stretches out to the left and right as far as it can.)

This is span

HTML class Attribute

```
File Edit Selection View Go Run Terminal Help
Get Started HTML.html # Style.css
HTML.html > html > head > style > .box
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta http-equiv="X-UA-Compatible" content="IE=edge">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <title>HTML and CSS presentation</title>
8      <link rel="icon" href="D:\HTML and CSS Preesentation\image2.jpg">
9      <style>
10         .header{
11             color: #rgb(17, 241, 241);
12             background-color: #rgb(249, 9, 9);
13             text-align: center;
14         }
15         .box{
16             border: 3px solid #rgb(197, 245, 9);
17         }
18         .para{
19             color: #rgb(151, 89, 9);
20         }
21     </style>
22 </head>
23 <body>
24     <div class="header box">
25         <h1>Heading</h1>
26     </div>
27
28     <div class="para">
29         <p>This is my paragraph.</p>
30     </div>
31
32 </body>
33 </html>
```



This is my paragraph.

HTML ID

index - Notepad

File Edit View

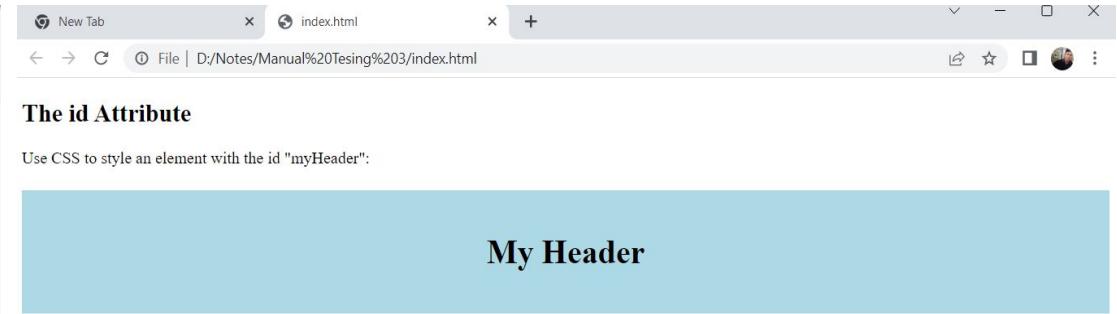
```
<!DOCTYPE html>
<html>
<head>
<style>
#myHeader {
    background-color: lightblue;
    color: black;
    padding: 40px;
    text-align: center;
}
</style>
</head>
<body>

<h2>The id Attribute</h2>
<p>Use CSS to style an element with the id "myHeader".</p>

<h1 id="myHeader">My Header</h1>

</body>
</html>
```

Ln 23, Col 1 | 100% | Windows (CRLF) | UTF-8



HTML file paths

File Path Examples

Path	Description
	The "picture.jpg" file is located in the same folder as the current page
	The "picture.jpg" file is located in the images folder in the current folder
	The "picture.jpg" file is located in the images folder at the root of the current web
	The "picture.jpg" file is located in the folder one level up from the current folder

The HTML <meta> Element

Define the character set used:

```
<meta charset="UTF-8">
```

Define keywords for search engines:

```
<meta name="keywords" content="HTML, CSS, JavaScript">
```

Define a description of your web page:

```
<meta name="description" content="Free Web tutorials">
```

Define the author of a page:

```
<meta name="author" content="John Doe">
```

Refresh document every 30 seconds:

```
<meta http-equiv="refresh" content="30">
```

Setting the viewport to make your website look good on all devices:

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

HTML Layout Elements

- <header> - Defines a header for a document or a section
- <nav> - Defines a set of navigation links
- <section> - Defines a section in a document
- <article> - Defines an independent, self-contained content
- <aside> - Defines content aside from the content (like a sidebar)
- <footer> - Defines a footer for a document or a section
- <details> - Defines additional details that the user can open and close on demand
- <summary> - Defines a heading for the <details> element



**There are four different techniques to create multicolumn layouts.
Each technique has its pros and cons:**

- CSS framework
- CSS float property
- CSS flexbox
- CSS grid

The image shows three Microsoft Edge browser windows side-by-side, illustrating the relationship between CSS code and the resulting DOM structure.

Left Window: Shows the CSS file `# Style.css`. The code defines styles for the `body`, `.header`, `.nav`, `.nav a`, `.nav a:hover`, `.content`, and `.content h2`.

```
8 <style>
9   *{
10     box-sizing: border-box;
11     margin: 0;
12   }
13   body{
14     background-color: #powderblue;
15   }
16   .header{
17     background-color: #grey;
18     text-align: center;
19     color: #white;
20     padding: 20px;
21   }
22   .nav{
23     float: left;
24     display: flex;
25     background-color: #rgba(238, 113, 4, 0.449);
26     padding: 40px;
27     width: 100%;
28   }
29   .nav a{
30     text-decoration: none;
31     padding: 50px;
32   }
33   .nav a:hover{
34     background-color: #rgb(240, 137, 11);
35     color: #pink;
36     padding: 40px;
37   }
38   .content{
39     float: left;
40     background-color: ##666;
41     color: #red;
42     padding: 50px;
43   }
44   .content h2{
```

Middle Window: Shows the DOM structure corresponding to the CSS in the left window. It includes the `<html>`, `<head>`, and `<body>` tags, along with the `header`, `nav`, `content`, and `h2` elements defined in the CSS.

```
44 <html>
45   <head>
46     <style>
47       .content h2{
48         text-align: center;
49         color: #rgb(11, 246, 246);
50       }
51       .footer{
52         float: left;
53         width: 100%;
54         text-align: center;
55         color: #aliceblue;
56         background-color: #gray;
57         padding: 20px;
58       }
59       @media screen and (max-width:600px){
60         .nav,.content{
61           width: 100%;
62           height: auto;
63         }
64       }
65     </style>
66   </head>
67   <body>
68     <div class="header">
69       <h1>Heading</h1>
70     </div>
71     <div class="nav">
72       <p><a href="#">Link 1</a></p>
73       <p><a href="#">Link 2</a></p>
74       <p><a href="#">Link 2</a></p>
75       <p><a href="#">Link 2</a></p>
76     </div>
77     <div class="content">
78       <h2>Content heading</h2>
79       <p>It is common to do entire web layouts using the CSS float property. Float is easy to learn - you just need to remember how the float and clear properties work. Disadvantages: Floating elements are tied to the document flow, which may harm the flexibility.</p>
80     </div>
81     <div class="footer">
```

Right Window: Shows the same DOM structure as the middle window, but with additional explanatory text at the bottom about the float property and its disadvantages.

Heading

[Link 1](#)[Link 2](#)[Link 2](#)[Link 2](#)

Content heading

It is common to do entire web layouts using the CSS float property. Float is easy to learn - you just need to remember how the float and clear properties work. Disadvantages: Floating elements are tied to the document flow, which may harm the flexibility.

HTML Semantic

A semantic element clearly describes its meaning to both the browser and the developer.

Examples of non-semantic elements: `<div>` and `` - Tells nothing about its content.

Examples of semantic elements: `<form>`, `<table>`, and `<article>` - Clearly defines its content.

HTML Responsive Web Design

Responsive Web Design is about **using HTML and CSS to automatically resize, hide, shrink, or enlarge, a website, to make it look good on all devices (desktops, tablets, and phones)**

HTML Forms:

*index - Notepad

File Edit View

```
<!DOCTYPE html>
<html>
<body>

<h1>HTML Form</h1>

<p>The value attribute specifies an initial value for an input field:</p>

<form>
  <label for="fname">First name:</label><br>
  <input type="text" id="fname" name="fname" value="Sharmal"><br>
  <label for="lname">Last name:</label><br>
  <input type="text" id="lname" name="lname" value="Soligian"><br><br>
  <input type="submit" value="Submit">
</form>

</body>
</html>
```

Ln 20, Col 1 | 100% | Windows (CRLF) | UTF-8



HTML Form

The value attribute specifies an initial value for an input field:

First name:

Last name:

HTML Form Attributes

The `action` attribute defines the action to be performed when the form is submitted.

Usually, the form data is sent to a file on the server when the user clicks on the submit button.

The HTML <form> Elements

The HTML <form> element can contain one or more of the following form elements:

- <input>
- <label>
- <select>
- <textarea>
- <button>
- <fieldset>
- <legend>
- <datalist>
- <output>
- <option>
- <optgroup>

```
Get Started  HTML.html # Style.css
HTML.html > html > body > form > input
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>The select Element</h2>
6
7  <p>The select element defines a drop-down list:</p>
8
9  <form>
10 <label for="cars">Choose a car:</label>
11 <select id="cars" name="cars">
12   <option value="volvo">Volvo</option>
13   <option value="saab">Saab</option>
14   <option value="fiat">Fiat</option>
15   <option value="audi">Audi</option>
16 </select>
17 <input type="submit">
18 </form>
19
20 </body>
21 </html>
22
23
```

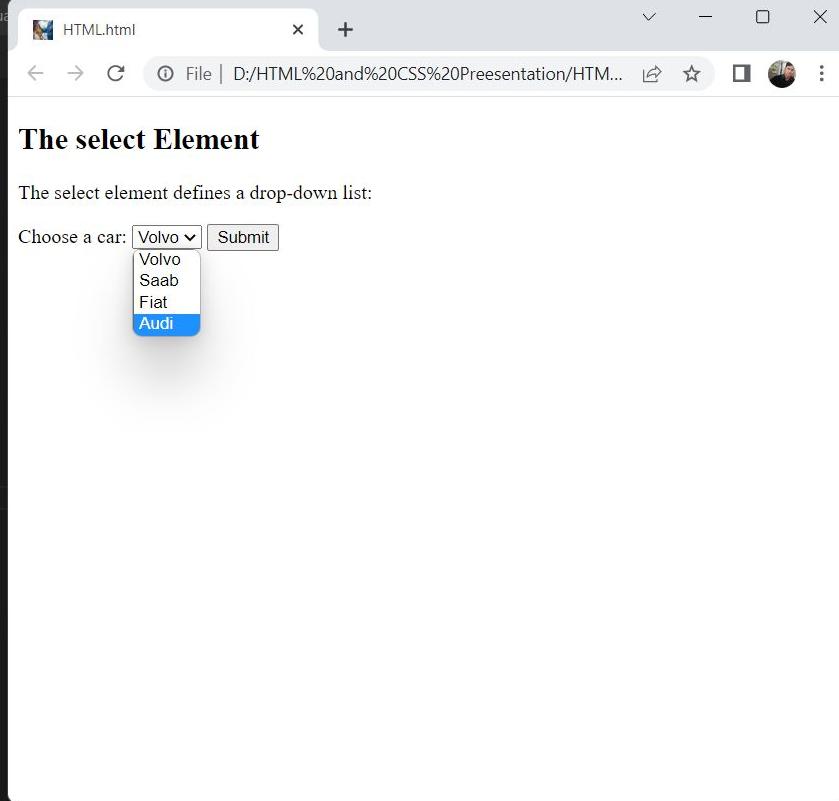
HTML.html

The select Element

The select element defines a drop-down list:

Choose a car:

Volvo
Saab
Fiat
Audi



HTML Input Types

Here are the different input types you can use in HTML:

- <input type="button">
- <input type="checkbox">
- <input type="color">
- <input type="date">
- <input type="datetime-local">
- <input type="email">
- <input type="file">
- <input type="hidden">
- <input type="image">
- <input type="month">
- <input type="number">
- <input type="password">
- <input type="radio">
- <input type="range">
- <input type="reset">
- <input type="search">
- <input type="submit">
- <input type="tel">
- <input type="text">
- <input type="time">
- <input type="url">
- <input type="week">



Get Started

HTML.html # Style.css

HTML.html > html > body

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>Password field</h2>
6
7  <p>The <strong>input type="password"</strong> defines a password field:</p>
8
9  <form>
10   <label for="username">Username:</label><br>
11   <input type="text" id="username" name="username"><br>
12   <label for="pwd">Password:</label><br>
13   <input type="password" id="pwd" name="pwd"><br><br>
14   <input type="submit" value="Submit">
15 </form>
16
17 </body>
18 </html>
19
20
```

HTML.html

← → ⌂ ⌂ File | D:/HTML%20and%20CSS%20Presentation/HTM... 🔍 ⚡ 🌐

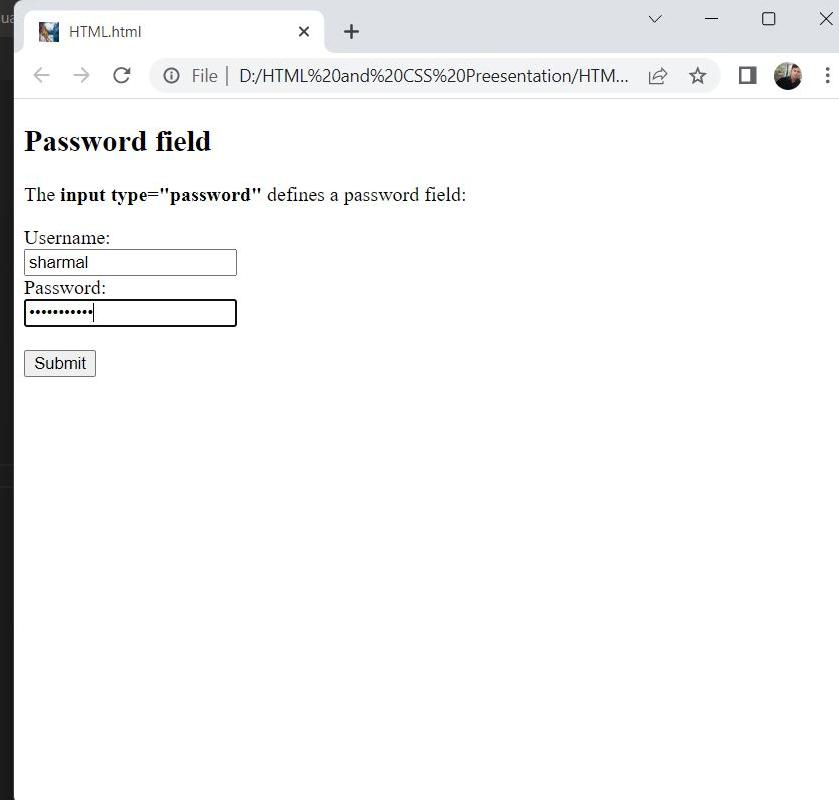
Password field

The `input type="password"` defines a password field:

Username:
sharmal

Password:

Submit



HTML Input form Attributes

Notes on the "get" method:

- This method appends the form-data to the URL in name/value pairs
- This method is useful for form submissions where a user want to bookmark the result
- There is a limit to how much data you can place in a URL (varies between browsers), therefore, you cannot be sure that all of the form-data will be correctly transferred
- Never use the "get" method to pass sensitive information! (password or other sensitive information will be visible in the browser's address bar)

Notes on the "post" method:

- This method sends the form-data as an HTTP post transaction
- Form submissions with the "post" method cannot be bookmarked
- The "post" method is more robust and secure than "get", and "post" does not have size limitations

HTML Video

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

HTML Video - Media Types

File Format	Media Type
MP4	video/mp4
WebM	video/webm
Ogg	video/ogg

```
<video width="320" height="240" controls>
  <source src="movie.mp4" type="video/mp4">
  <source src="movie.ogg" type="video/ogg">
</video>
```

HTML Audio

HTML Audio - Media Types

File Format	Media Type
MP3	audio/mpeg
OGG	audio/ogg
WAV	audio/wav

```
<audio controls>  
  <source src="horse.ogg" type="audio/ogg">  
  <source src="horse.mp3" type="audio/mpeg">  
</audio>
```

CSS

CSS is the language we use to style an HTML document.

CSS describes how HTML elements should be displayed.

- CSS stands for Cascading Style Sheets
- CSS describes how HTML elements are to be displayed on screen, paper, or in other media
- CSS saves a lot of work. It can control the layout of multiple web pages all at once
- External stylesheets are stored in CSS files

Why Use CSS?

CSS is used to define styles for your web pages, including the design, layout and variations in display for different devices and screen sizes.

```
body {  
    background-color: lightblue;  
}  
  
h1 {  
    color: white;  
    text-align: center;  
}  
  
p {  
    font-family: verdana;  
    font-size: 20px;  
}
```

CSS Syntax

CSS Syntax

Selector

h1

Declaration

{ color:blue; font-size:12px; }

Property

Value

Declaration

Property

Value

CSS Selectors

CSS selectors are used to "find" (or select) the HTML elements you want to style.

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

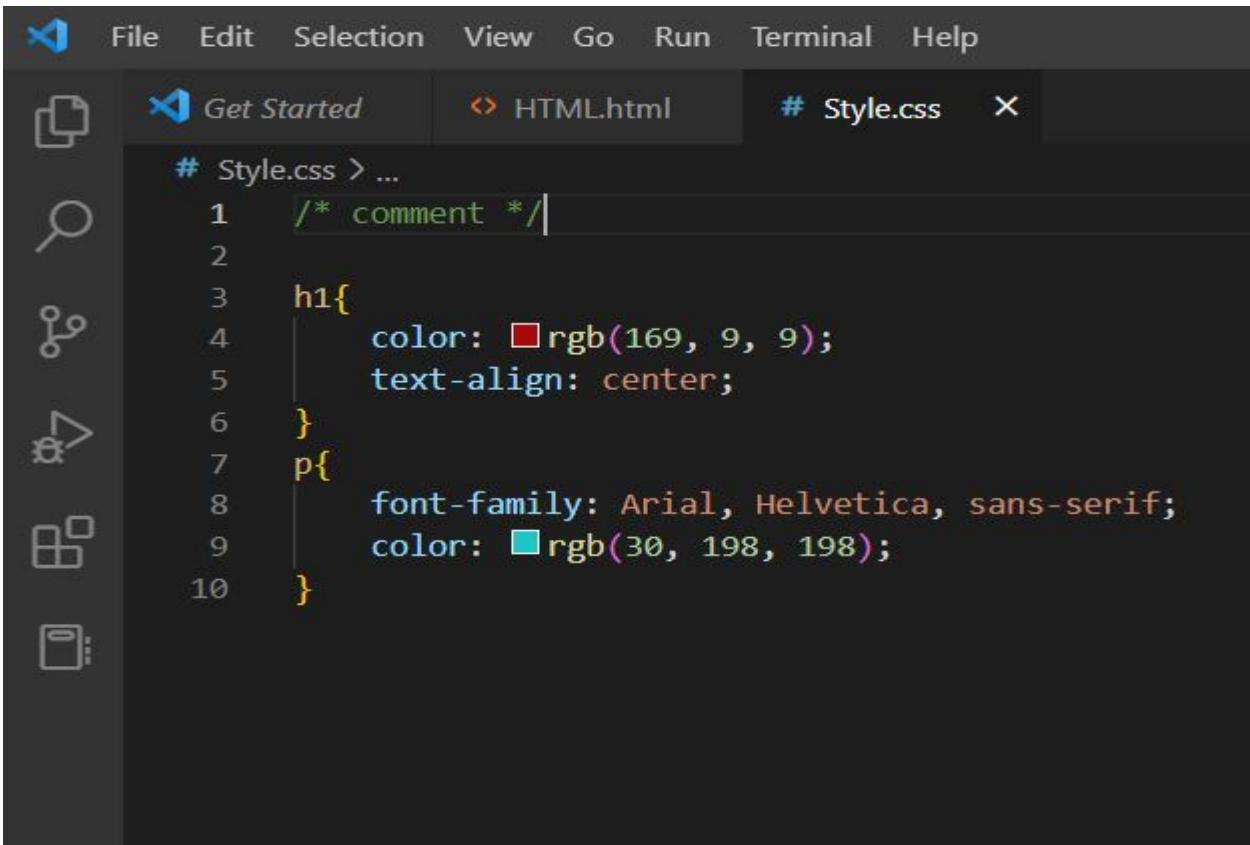
How To Add CSS

Three Ways to Insert CSS

There are three ways of inserting a style sheet:

- External CSS
- Internal CSS
- Inline CSS

CSS Comments

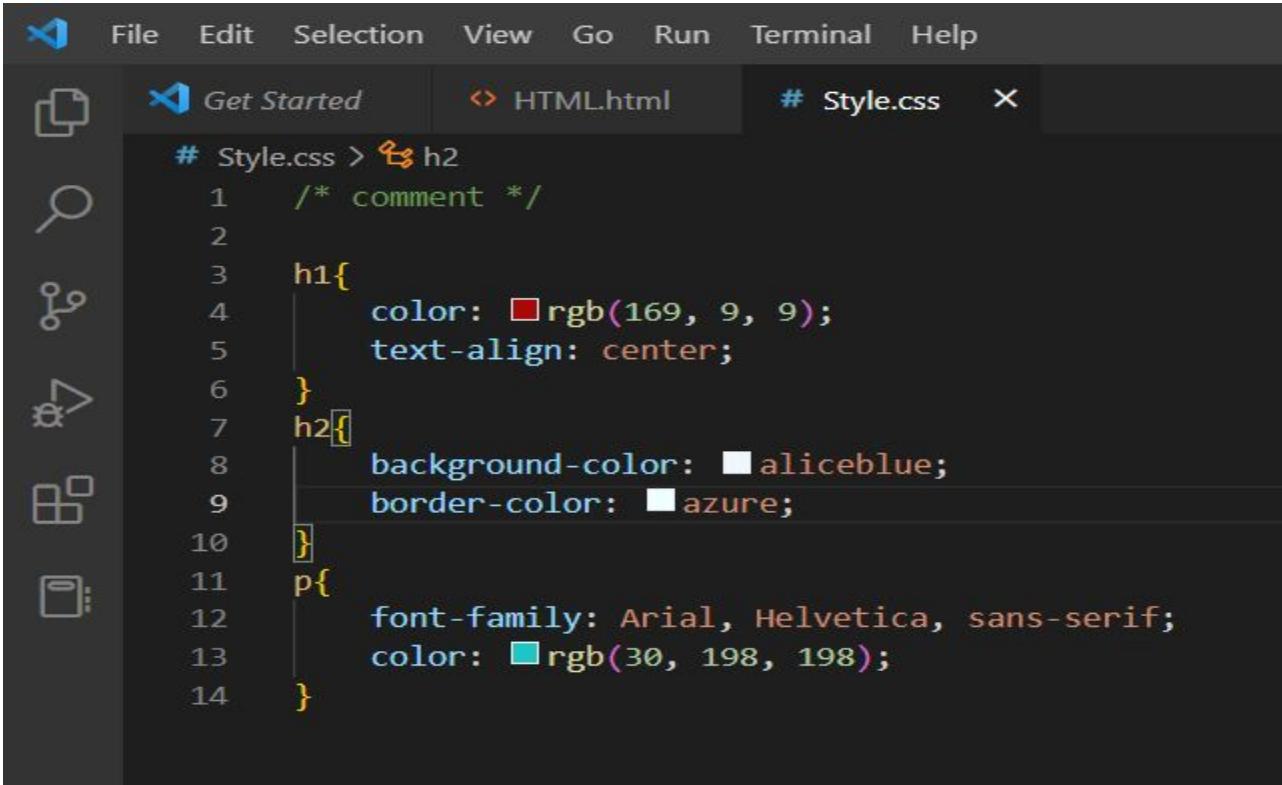


A screenshot of a code editor interface, likely Visual Studio Code, displaying a CSS file named "Style.css". The editor shows the following code:

```
# Style.css > ...
1  /* comment */
2
3  h1{
4      color: #rgb(169, 9, 9);
5      text-align: center;
6  }
7  p{
8      font-family: Arial, Helvetica, sans-serif;
9      color: #rgb(30, 198, 198);
10 }
```

The code editor has a dark theme with light-colored syntax highlighting. The file tab at the top shows "Style.css" is the active file. The left sidebar contains icons for file operations like Open, Save, Find, and others.

CSS Color



A screenshot of the Visual Studio Code (VS Code) interface. The title bar shows the menu: File, Edit, Selection, View, Go, Run, Terminal, Help. Below the menu, there are three tabs: "Get Started" (highlighted), "HTML.html", and "# Style.css". The "# Style.css" tab is active, displaying the following CSS code:

```
# Style.css > h2
1  /* comment */
2
3  h1{
4      color: #rgb(169, 9, 9);
5      text-align: center;
6  }
7  h2{
8      background-color: #aliceblue;
9      border-color: #azure;
10 }
11 p{
12     font-family: Arial, Helvetica, sans-serif;
13     color: #rgb(30, 198, 198);
14 }
```

The code uses a dark theme with syntax highlighting for CSS properties like color and background-color.

CSS Borders

CSS Border Style

The `border-style` property specifies what kind of border to display.

The following values are allowed:

- `dotted` - Defines a dotted border
- `dashed` - Defines a dashed border
- `solid` - Defines a solid border
- `double` - Defines a double border
- `groove` - Defines a 3D grooved border. The effect depends on the `border-color` value
- `ridge` - Defines a 3D ridged border. The effect depends on the `border-color` value
- `inset` - Defines a 3D inset border. The effect depends on the `border-color` value
- `outset` - Defines a 3D outset border. The effect depends on the `border-color` value
- `none` - Defines no border
- `hidden` - Defines a hidden border

CSS Margins

Margin - Individual Sides

CSS has properties for specifying the margin for each side of an element:

- margin-top
- margin-right
- margin-bottom
- margin-left

The screenshot shows a Visual Studio Code interface with two tabs open: 'Style.css' and 'one.html'. The 'Style.css' tab contains the following CSS code:

```
# Style.css > p
1  /* comment */
2
3 <h1{
4   color: #rgb(169, 9, 9);
5   text-align: center;
6 }
7 <h2{
8   background-color: #aliceblue;
9   border-color: #azure;
10}
11 <p{
12   margin-top: 100px;
13   margin-bottom: 100px;
14   margin-right: 150px;
15   margin-left: 80px;
16 }
```

The 'one.html' tab contains the following HTML code:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>HTML and CSS presentation</title>
  <link rel="stylesheet" href="style.css">
</head>
<body>
  <h1>CSS borders</h1>
  <p>The CSS properties used to create the space around the elements outside of defined borders.</p>
</body>
</html>
```

A floating browser window titled 'HTML and CSS presentation' displays the rendered HTML. The title 'CSS borders' is shown in red at the top of the browser window. Below it, the text 'The CSS properties used to create the space around the elements outside of defined borders.' is displayed.

CSS Padding

The CSS padding properties are used to generate space around an element's content, inside of any defined borders.

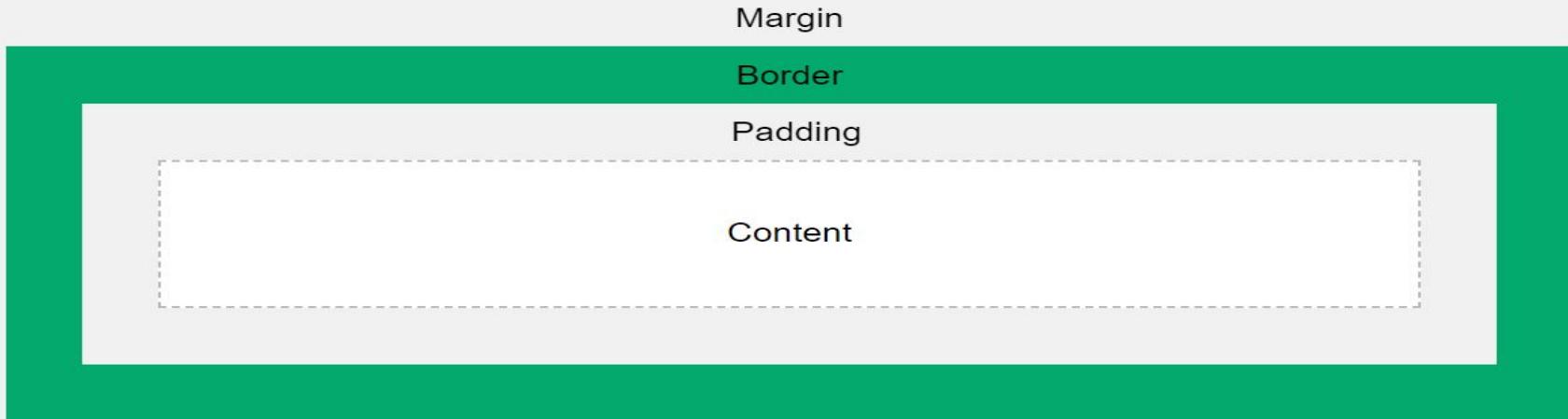
Padding - Individual Sides

CSS has properties for specifying the padding for each side of an element:

- padding-top
- padding-right
- padding-bottom
- padding-left

CSS Box Model

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



Explanation of the different parts:

- **Content** - The content of the box, where text and images appear
- **Padding** - Clears an area around the content. The padding is transparent
- **Border** - A border that goes around the padding and content
- **Margin** - Clears an area outside the border. The margin is transparent

CSS Text Spacing

Text Spacing

In this chapter you will learn about the following properties:

- text-indent
- letter-spacing
- line-height
- word-spacing
- white-space

Get Started HTML.html # Style.css one.html X

```
one.html > html > body > p
1  !DOCTYPE html
2  <html lang="en">
3  <head>
4    <meta charset="UTF-8">
5    <meta http-equiv="X-UA-Compatible" content="IE=edge">
6    <meta name="viewport" content="width=device-width, initial-scale=1.0">
7    <title>HTML and CSS presentation</title>
8
9  </head>
10 <body>
11   <h1>CSS Text intend</h1>
12   <p style="text-indent: 10px;">The CSS text intend used to intend the first line in paragraph.
13   | The CSS text intend used to intend the first line in paragraph. </p>
14 </body>
15 </html>
```

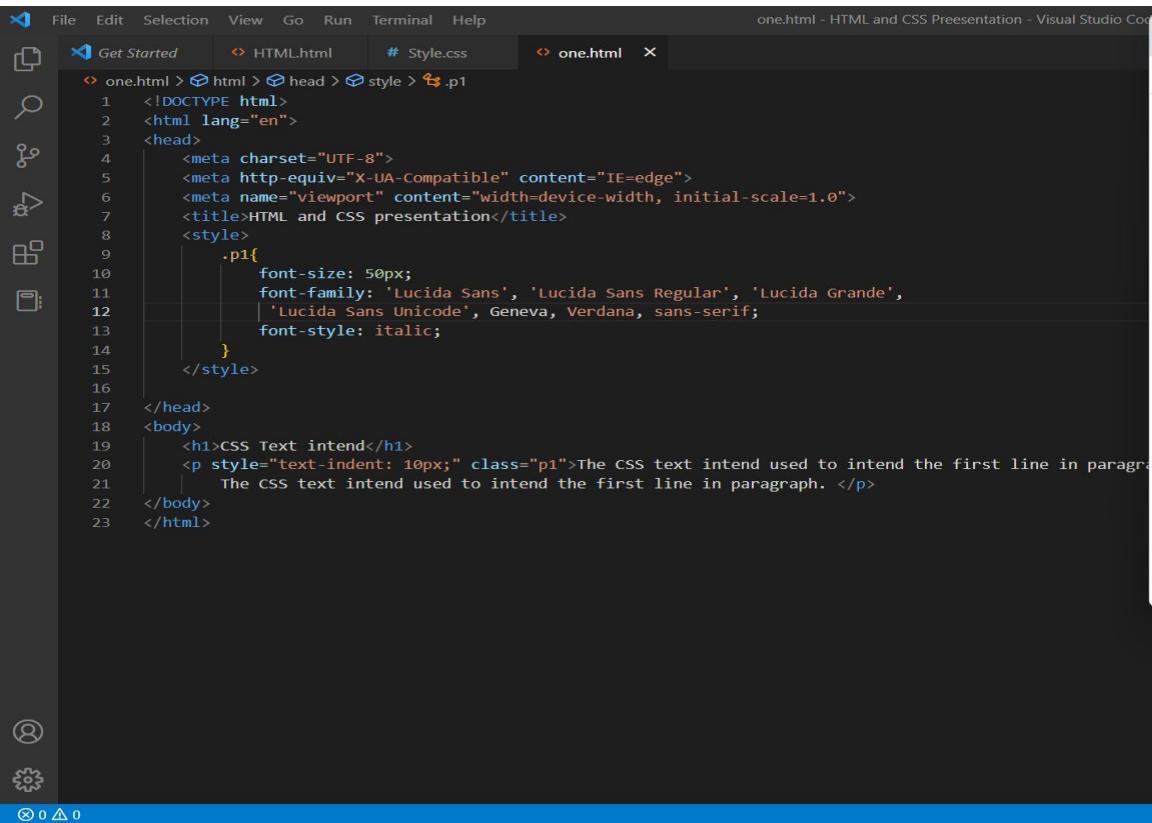
HTML and CSS presentation X +

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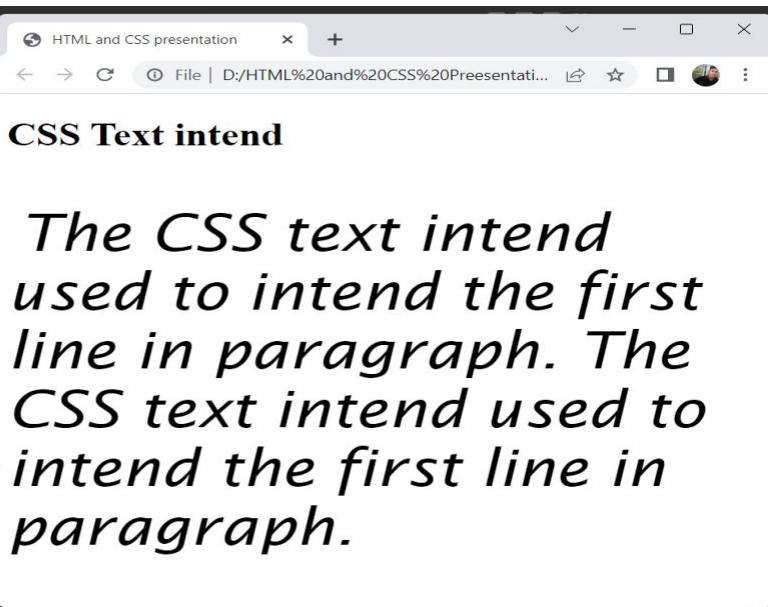
CSS Text intend

The CSS text intend used to intend the first line in paragraph. The CSS text intend used to intend the first line in paragraph.

CSS Fonts



```
File Edit Selection View Go Run Terminal Help
Get Started HTML.html # Style.css one.html
one.html > HTML > head > style > .p1
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta http-equiv="X-UA-Compatible" content="IE=edge">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <title>HTML and CSS presentation</title>
8      <style>
9          .p1{
10              font-size: 50px;
11              font-family: 'Lucida Sans', 'Lucida Sans Regular', 'Lucida Grande',
12              'Lucida Sans Unicode', Geneva, Verdana, sans-serif;
13              font-style: italic;
14          }
15      </style>
16
17  </head>
18  <body>
19      <h1>CSS Text intend</h1>
20      <p style="text-indent: 10px;" class="p1">The CSS text intend used to intend the first line in paragraph.
21      The CSS text intend used to intend the first line in paragraph. </p>
22  </body>
23  </html>
```



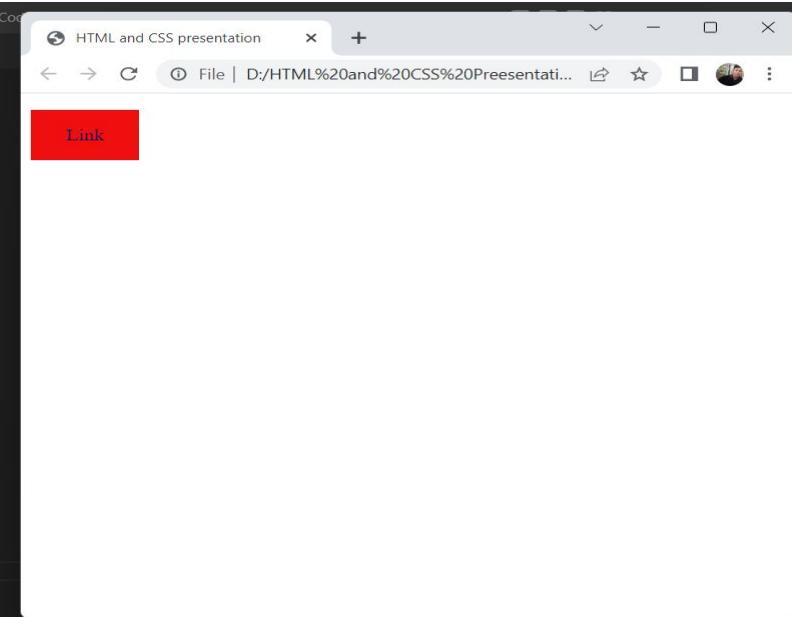
CSS Text intend

The CSS text intend used to intend the first line in paragraph. The CSS text intend used to intend the first line in paragraph.

CSS Links

The screenshot shows the Visual Studio Code interface. The left sidebar contains icons for file operations like Open, Save, Find, and Settings. The top menu bar includes File, Edit, Selection, View, Go, Run, Terminal, and Help. The title bar indicates the file is "one.html - HTML and CSS Presentation - Visual Studio Code". The main area shows the HTML and CSS code for "one.html". The CSS part defines styles for links:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>HTML and CSS presentation</title>
    <style>
        a:link{
            background-color: #rgb(239, 15, 15);
            text-align: center;
            padding: 15px 28px;
            color: #rgb(9, 9, 93);
            display: inline-block;
            text-decoration: none;
        }
        a:active,a:hover{
            background-color: #rgb(14, 98, 98);
            color: #red;
        }
    </style>
</head>
<body>
    <p><a href="#">Link</a></p>
</body>
</html>
```





Get Started > HTML.html # Style.css < one.html X

```
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta http-equiv="X-UA-Compatible" content="IE=edge">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <title>HTML and CSS presentation</title>
8      <style>
9          a:link{
10              background-color: #rgb(239, 15, 15);
11              text-align: center;
12              padding: 15px 28px;
13              color: #rgb(9, 9, 93);
14              display: inline-block;
15              text-decoration: none;
16          }
17          a:active,a:hover{
18              background-color: #rgb(14, 98, 98);
19              color: red;
20          }
21      </style>
22
23  </head>
24  <body>
25      <p><a href="#">Link</a></p>
26  </body>
27  </html>
```

HTML and CSS presentation X +

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Link

file:///D:/HTML and CSS Preesentation/one.html#

Ln 25, Col 24 Spaces: 4 UTF-8 CRLF HTML ⚡ Go Live 🔍

CSS Layout - The position Property

The position Property

The `position` property specifies the type of positioning method used for an element.

There are five different position values:

- `static`
- `relative`
- `fixed`
- `absolute`
- `sticky`

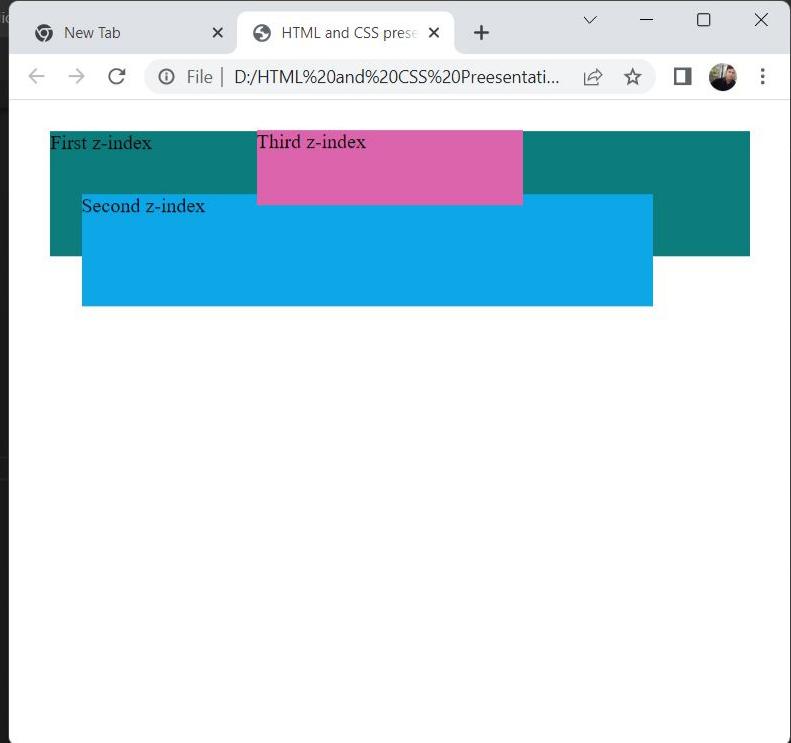
The z-index Property

When elements are positioned, they can overlap other elements.

The `z-index` property specifies the stack order of an element (which element should be placed in front of, or behind, the others).

An element can have a positive or negative stack order

```
Get Started  HTML.html  # Style.css  one.html X  
one.html > html > head > style > .second  
<title>HTML and CSS presentation</title>  
<style>  
    .header{  
        position: relative;  
    }  
    .first{  
        position: relative;  
        background-color: #rgb(13, 124, 124);  
        z-index: 1;  
        height: 100px;  
        margin: 25px;  
    }  
    .second{  
        position: absolute;  
        z-index: 2;  
        background-color: #rgb(13, 166, 231);  
        width: 75%;  
        height: 90px;  
        left: 50px;  
        top: 50px;  
    }  
    .third{  
        position: absolute;  
        z-index: 3;  
        background-color: #rgb(219, 100, 172);  
        height: 60px;  
        left: 190px;  
        top: -1px;  
        width: 35%;  
    }  
    </style>  
  
</head>  
<body>  
    <div class="header">  
        <div class="first">First z-index</div>  
        <div class="second">Second z-index</div>  
        <div class="third">Third z-index</div>  
    </div>
```



CSS Overflow

The **overflow** property specifies whether to clip the content or to add scrollbars when the content of an element is too big to fit in the specified area.

The **overflow** property has the following values:

- **visible** - Default. The overflow is not clipped. The content renders outside the element's box
- **hidden** - The overflow is clipped, and the rest of the content will be invisible
- **scroll** - The overflow is clipped, and a scrollbar is added to see the rest of the content
- **auto** - Similar to **scroll**, but it adds scrollbars only when necessary

overflow-x and overflow-y

The **overflow-x** and **overflow-y** properties specifies whether to change the overflow of content just horizontally or vertically (or both):

overflow-x specifies what to do with the left/right edges of the content.

overflow-y specifies what to do with the top/bottom edges of the content.

Get Started HTML.html # Style.css one.html X

```
one.html > html > head > style > .over
7   <title>HTML and CSS presentation</title>
8   <style>
9     .over{
10       color: #rgb(229, 124, 11);
11       overflow: scroll;
12       padding: 10px;
13       border: 1px solid #666;
14       width: 75%;
15       height: 100px;
16     }
17   </style>
18
19 </head>
20 <body>
21   <div class="over">
22     <p>The overflow property specifies whether to clip the content or to add scrollbars when the
23
24     The overflow property has the following values:
25
26     visible - Default. The overflow is not clipped. The content renders outside the element's
27     hidden - The overflow is clipped, and the rest of the content will be invisible
28     scroll - The overflow is clipped, and a scrollbar is added to see the rest of the content
29     auto - Similar to scroll, but it adds scrollbars only when necessary</p>
30   </div>
31 </body>
32 </html>
```

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The overflow property specifies whether to clip the content or to add scrollbars when the content of an element is too big to fit in the specified area. The overflow property has the following values:
visible - Default. The overflow is not clipped. The content renders outside the element's
hidden - The overflow is clipped, and the rest of the content will be invisible
scroll - The overflow is clipped, and a scrollbar is added to see the rest of the content
auto - Similar to scroll, but it adds scrollbars only when necessary



Float and clear

The `float` property is used for positioning and formatting content e.g. let an image float left to the text in a container.

The `float` property can have one of the following values:

- `left` - The element floats to the left of its container
- `right` - The element floats to the right of its container
- `none` - The element does not float (will be displayed just where it occurs in the text). This is default
- `inherit` - The element inherits the float value of its parent



Get Started HTML.html # Style.css one.html X

```
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta http-equiv="X-UA-Compatible" content="IE=edge">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <title>HTML and CSS presentation</title>
8      <style>
9          div {
10              float: left;
11              padding: 25px;
12          }
13
14      .div1 {
15          background: #rgb(209, 106, 106);
16      }
17
18      .div2 {
19          background: #rgb(0, 255, 30);
20      }
21
22      .div3 {
23          background: #rgb(205, 17, 180);
24      }
25      </style>
26
27  </head>
28  <body>
29      <div>
30          <div class="div1">One</div>
31          <div class="div2">Two</div>
32          <div class="div3">Three</div>
33      </div>
34  </body>
35  </html>
```

The browser window displays a layout consisting of three adjacent div elements. The first div, labeled 'One', has a red background. The second div, labeled 'Two', has a green background. The third div, labeled 'Three', has a purple background. All three divs contain their respective labels ('One', 'Two', 'Three') centered within them.

The clear Property

When we use the `float` property, and we want the next element below (not on right or left), we will have to use the `clear` property.

The `clear` property specifies what should happen with the element that is next to a floating element.

The `clear` property can have one of the following values:

- `none` - The element is not pushed below left or right floated elements. This is default
- `left` - The element is pushed below left floated elements
- `right` - The element is pushed below right floated elements
- `both` - The element is pushed below both left and right floated elements
- `inherit` - The element inherits the clear value from its parent

Get Started HTML.html # Style.css one.html X

```
one.html > html > body > br
3   <head>
4     <meta charset="UTF-8">
5     <meta http-equiv="X-UA-Compatible" content="IE=edge">
6     <meta name="viewport" content="width=device-width, initial-scale=1.0">
7     <title>Document</title>
8     <style>
9       .div1{
10         float: left;
11         border: 2px solid blueviolet;
12         padding: 10px;
13       }
14       .div2{
15         padding: 10px;
16         border: 2px solid khaki;
17       }
18       .div3{
19         float: left;
20         border: 2px solid blue;
21       }
22       .div4{
23         clear: left;
24         border: 2px solid seagreen;
25         padding: 10px;
26       }
27     </style>
28   </head>
29   <body>
30     <div class="div1">float</div>
31     <div class="div2">Not clear</div><br><br>
32     <div class="div3">Float</div>
33     <div class="div4">clear</div>
34   </body>
35 </html>
```

New Tab X

Document X

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float Not clear

Float

clear

What is box-sizing?

You can easily create three floating boxes side by side. However, when you add something that enlarges the width of each box (e.g. padding or borders), the box will break. The **box-sizing** property allows us to include the padding and border in the box's total width (and height), making sure that the padding stays inside of the box and that it does not break.

CSS Layout - `display: inline-block`

Compared to `display: inline`, the major difference is that `display: inline-block` allows to set a width and height on the element.

Also, with `display: inline-block`, the top and bottom margins/paddings are respected, but with `display: inline` they are not.

Compared to `display: block`, the major difference is that `display: inline-block` does not add a line-break after the element, so the element can sit next to other elements.

Get Started HTML.html Style.css one.html

```
one.html > html > head > style > .nav li
3   <head>
4     <meta charset="UTF-8">
5     <meta http-equiv="X-UA-Compatible" content="IE=edge">
6     <meta name="viewport" content="width=device-width, initial-scale=1.0">
7     <title>HTML and CSS presentation</title>
8     <style>
9       .nav{
10         background-color: chartreuse;
11         list-style-type: none;
12         text-align: center;
13       }
14       .nav li{
15         display: inline-block;
16         padding: 20px;
17       }
18       .nav li a:hover{
19         color: red;
20         text-decoration: none;
21       }
22     </style>
23   </head>
24   <body>
25     <div class="nav">
26       <li><a href="#">Link 1</a></li>
27       <li><a href="#">Link 2</a></li>
28       <li><a href="#">Link 3</a></li>
29       <li><a href="#">Link 4</a></li>
30     </div>
31   </body>
32 </html>
```

New Tab HTML and CSS prese

Link 1 Link 2 Link 3 Link 4

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CSS Combinators

There are four different combinators in CSS:

- descendant selector (space)
- child selector (>)
- adjacent sibling selector (+)
- general sibling selector (~)

Eg: `div > p {`

```
background-color: yellow;  
}
```

CSS Pseudo-classes

A pseudo-class is used to define a special state of an element.

For example, it can be used to:

- Style an element when a user mouses over it
- Style visited and unvisited links differently
- Style an element when it gets focus

CSS Pseudo-elements

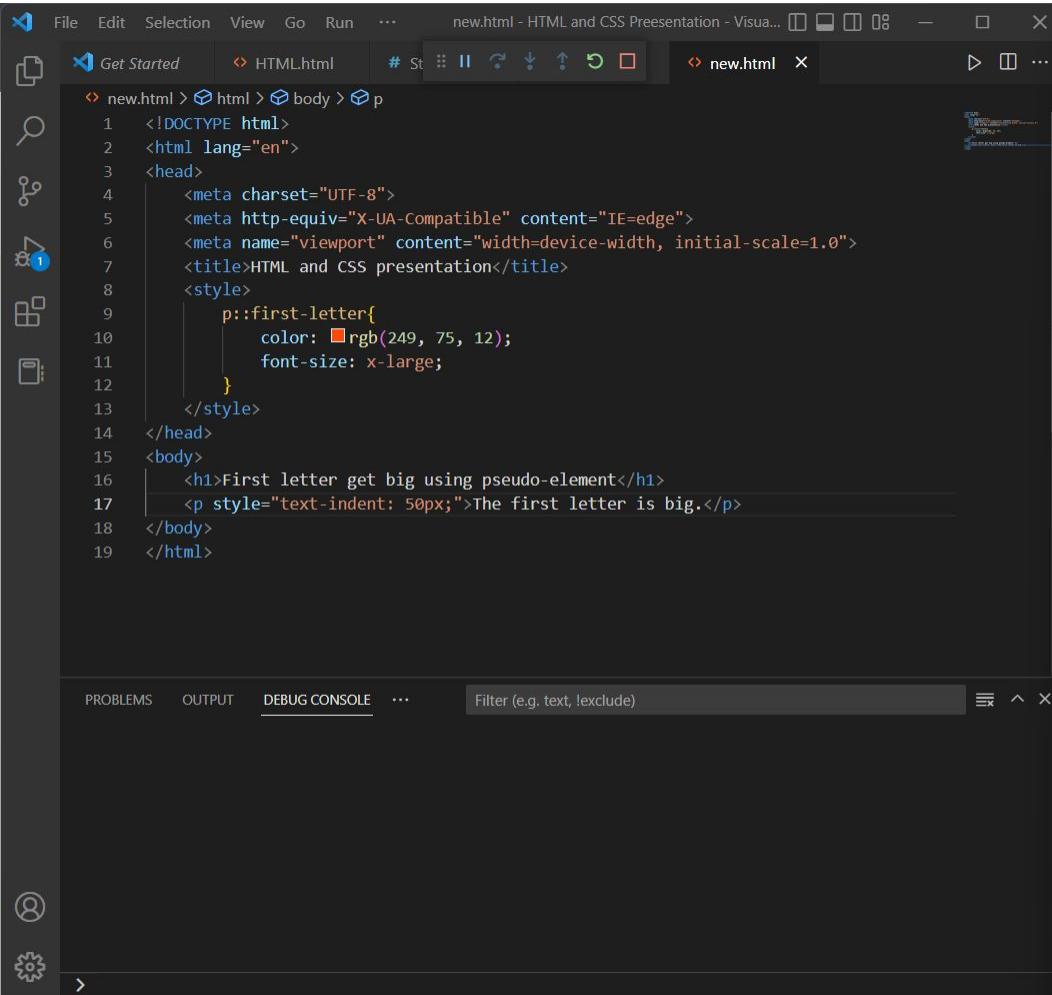
A CSS pseudo-element is used to style specified parts of an element.

For example, it can be used to:

- Style the first letter, or line, of an element
- Insert content before, or after, the content of an element

Eg:

```
p::first-line {  
    color: #ff0000;  
  
    font-variant: small-caps;  
}
```



The screenshot shows a dark-themed code editor interface. At the top, there's a menu bar with File, Edit, Selection, View, Go, Run, etc. Below the menu is a tab bar with 'Get Started', 'HTML.html', and 'new.html'. The main area displays the following HTML and CSS code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>HTML and CSS presentation</title>
    <style>
        p::first-letter{
            color: #rgb(249, 75, 12);
            font-size: x-large;
        }
    </style>
</head>
<body>
    <h1>First letter get big using pseudo-element</h1>
    <p style="text-indent: 50px;">The first letter is big.</p>
</body>
</html>
```

At the bottom of the editor, there are tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, and a Filter input field. The DEBUG CONSOLE tab is currently selected.



CSS Opacity / Transparency

The **opacity** property specifies the opacity/transparency of an element.

```
img {  
    opacity: 0.5;  
}
```

The opacity property in CSS specifies how transparent an element is. Opacity has a default initial value of 1.

CSS Dropdowns

A CSS dropdown menu is an effective solution for enhancing the UI and UX of an app or website. A drop-down menu is **a sub-menu of a website or app's main menu**. It is used to showcase content buttons (links) for each parent menu item.

```
index.html   JS index.js   one.html   dropdown.html X
HTML and CSS Preesentation > dropdown.html > html > body > h1

8      <style>
9          .dropdown{
10             background-color: #aqua;
11             color: #brown;
12             padding: 15px;
13             cursor: pointer;
14             border: none;
15             font-size: 40px;
16         }
17     .dropdown{
18         position: relative;
19         display: inline-block;
20     }
21     .dropdown-content{
22         display: none;
23         position: absolute;
24         background-color: #bisque;
25         z-index: 1;
26     }
27     .dropdown-content a{
28         color: #rgb(249, 10, 10);
29         padding: 13px 30px;
30         text-decoration: none;
31         display: block;
32     }
33     .dropdown-content a:hover{
34         background-color: #gray;
35     }
36     .dropdown:hover .dropdown-content{
37         display: block;
38     }
39     .dropdown:hover .dropdownbutton{
40         background-color: #aquamarine;
41     }
42
43     </style>
44 </head>
```



The screenshot shows a development environment with two main panes. The left pane is a code editor displaying a CSS file with various styles for a website. The right pane is a browser window showing the resulting HTML and CSS presentation.

Code Editor (Left):

```
*{  
    box-sizing: border-box;  
}  
body{  
    background-color: #powderblue;  
    margin: 0;  
}  
.header{  
    background-color: #rgb(197, 159, 159);  
    color: #rgb(7, 64, 125);  
    text-align: center;  
    padding: 15px;  
}  
.nav{  
    float: left;  
    width: 25%;  
    background-color: #rgb(244, 232, 214);  
    padding: 40px;  
    text-align: center;  
}  
.nav a{  
    display: block;  
    color: #rgb(219, 20, 20);  
    text-decoration: none;  
    padding: 20px;  
    overflow: hidden;  
}  
.nav a:hover{  
    background-color: #aqua;  
    color: #black;  
}  
.content{  
    background-color: #azure;  
    color: #coral;  
    float: left;  
    width: 75%;  
}
```

Browser View (Right):

The browser title bar reads "HTML and CSS presentation". The address bar shows the URL "File | D:/HTML%20and%20CSS%20Presentation/practice.html".

The main content area displays the following:

Heading

Content

Home
Stories
Downloads
Contact
About
Author

Footer:

©Copyright and address

Page Bottom:

Ln 56, Col 10 Spaces: 4 UTF-8 CRLF HTML Go Live

THE END