Zed-King

GROUP OF INSTITUTIONS

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CHAPTER-5

CSS FRAMEWORK

WEB DESIGNING & PUBLISHING

" Sketch • Style • Showcase"

Topics Covered

- Introduction to CSS framework
- Website Development
- Salient features
- Adding of W3.CSS
- W3.CSS Colors
- Centered list
- Colored list
- list as card
- Avatar List



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"Frameworks are not shortcuts — they're foundations."

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5.0 Introduction to CSS Framework

CSS Framework

A **CSS framework** is a pre-prepared library that helps you write CSS faster and easier. Instead of writing all the styles from scratch, you use ready-made classes provided by the framework.

W3.C- World Wide Web Consortium

- **W3** = *World Wide Web Consortium (W3C)* — ye ek international organization hai jo web standards banati hai (HTML, CSS, JavaScript ke rules set karti hai).
- **CSS** = *Cascading Style Sheets* — ye web pages ko design aur style dene ke liye use hota hai (colors, fonts, layout, etc.).

Why use a CSS framework

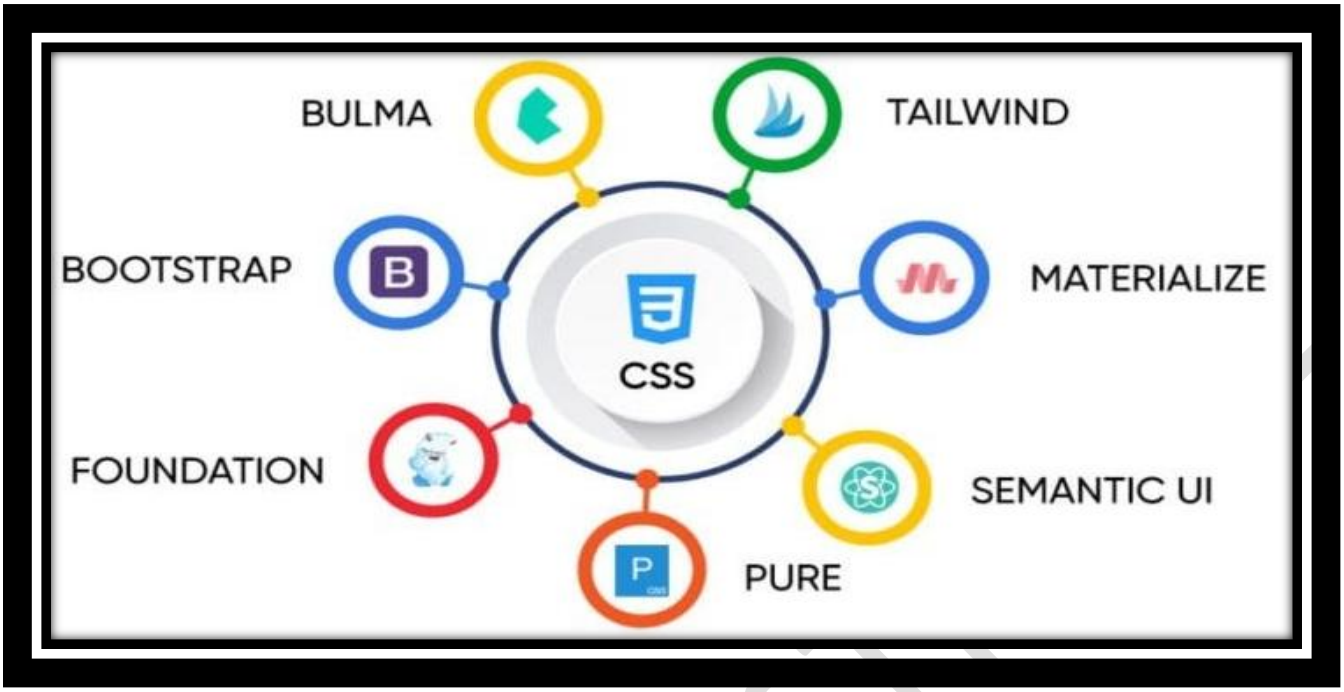
- Saves time and effort
- Helps make responsive and mobile-friendly websites
- Maintains consistency in design
- Includes built-in components like buttons, grids, panels, etc.

Popular CSS Frameworks:

- Bootstrap
- Tailwind CSS
- **W3.CSS**



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Important Points about CSS Frameworks

Point	Details
Purpose	To simplify web design and layout using pre-defined styles
Structure	Usually includes a grid system, typography, buttons, forms, and utilities
Responsiveness	Most frameworks are mobile-first and responsive
Customization	Can be customized using your own CSS or variables
Speed	Speeds up development process and ensures consistency
Best For	Beginners, teams, and rapid prototyping

Inventor & History

Term	Description
Inventor of CSS	**Håkon Wium Lie**, proposed CSS in 1994
First CSS Framework	One of the earliest was **Blueprint CSS** (2007)
Popular Frameworks Today	Bootstrap, Tailwind CSS, Foundation, Bulma, W3.CSS

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Popular CSS Frameworks – Versions & Release

Framework	Inventor / Team	Initial Release	Latest Version (as of 2025)	Features
Bootstrap	Mark Otto & Jacob Thornton (Twitter)	2011	v5.3.x	Grid system, components, utilities
Tailwind CSS	Adam Wathan	2017	v3.4+	Utility-first, customizable
Foundation	Zurb Team	2011	v6.7	Responsive grid, accessibility
Bulma	Jeremy Thomas	2016	v0.9.4	Flexbox-based, modern syntax
W3.CSS	W3Schools	~2016	v4.15	Lightweight, easy for beginners

Summary of Key Terms

Term	Meaning
Responsive	Adjusts layout based on screen size
Mobile-First	Designed for mobile first, then enhanced for desktop
Utility-First	Focus on small, single-purpose classes (like Tailwind)
Grid System	Layout system based on rows & columns
Component	Reusable UI block like cards, navbars, modals

5.1 Web Site Development using W3.CSS Framework

W3.CSS is a **modern CSS framework** developed by **W3Schools**. It's smaller and simpler than Bootstrap and doesn't need jQuery or JavaScript.

5.1.1 Salient Features of W3.CSS

- **Mobile-first design**
- Built-in **responsive grid**
- Easy to use and understand
- No JavaScript required

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- Modern design with ready-to-use classes

5.1.2 Adding W3.CSS to Your Web Page

Add this link inside the <head> tag

```
<link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
```

Example:

```
<html>
<head>
  <title>W3.CSS Example</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>

<div class="w3-container w3-blue">
  <h1>Hello, W3.CSS!</h1>
  <p>This is a blue container.</p>
</div>

</body>
</html>
```



Example:-

```
<html>
    <head>
        <title>Css framework example</title>
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/5/w3.css">
    </head>
    <body>
        <div>
            <h1 class="w3-container w3-red">Hello</h1>
        </div>

        <div>
            <h1 class="w3-container w3-text-red">Hello</h1>
        </div>

        <div>
            <h1 class="w3-container w3-hover-red">Hello</h1>
        </div>

        <div>
            <h1 class="w3-container w3-hover-text-red">Hello</h1>
        </div>

    </body>
</html>
```



Explanation:

- w3-container adds padding and alignment.
- w3-teal sets the background color to teal.
- Framework is added via the <link> tag.

5.2 W3.CSS Colors

W3.CSS offers many **predefined color classes** to style your elements.

Basic w3.CSS colors are:-

- **w3-color**
- **w3-text-color**
- **w3-hover-color**
- **w3-hover-text-color**

Basic Color Classes

W3.CSS has **standard color names** such as:

Color Name	Class Example	Description
Red	w3-red	Bright red background
Blue	w3-blue	Blue background
Green	w3-green	Green background
Yellow	w3-yellow	Yellow background
Orange	w3-orange	Orange background
Pink	w3-pink	Light pink background
Purple	w3-purple	Purple background
Lime	w3-lime	Lime green background
Teal	w3-teal	Teal background
Cyan	w3-cyan	Sky-blue background
Black	w3-black	Black background
White	w3-white	White background
Gray	w3-gray or w3-grey	Gray background
Light Gray	w3-light-grey	Light gray background

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Text Color Classes

To change the **text color**, use:

```
<p class="w3-text-red">This is red text.</p>
<p class="w3-text-blue">This is blue text.</p>
<p class="w3-text-green">This is green text.</p>
```

Use **w3-text-colorname** format for **text color**.

Background Color Classes

To set a **background color**, use:

```
<div class="w3-red">Red background</div>
<div class="w3-green">Green background</div>
<div class="w3-blue">Blue background</div>
```

Use w3-colorname format for **background color**.

Hover Color Classes

You can also apply colors when you **hover the mouse** over an element:

```
<button class="w3-button w3-red w3-hover-blue">Hover Me</button>
```

- **w3-hover-colorname** changes color **when hovered**.
- **Example:**

w3-hover-green, w3-hover-yellow, w3-hover-black, etc.

Border Color Classes

To apply **border colors**:

```
<div class="w3-border w3-border-red">Red Border</div>

<div class="w3-border w3-border-blue">Blue Border</div>
```

Use w3-border-colorname format for **border color**.

Color Shades

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W3.CSS supports **color shades** ranging from **w3-red**, **w3-red-light**, **w3-red-dark**, etc.

Shade	Class	Description
Light Red	w3-light-red	Lighter red
Dark Red	w3-dark-red	Darker red
Light Blue	w3-light-blue	Lighter blue
Dark Blue	w3-dark-blue	Darker blue

Color Themes

W3.CSS provides **ready-made color themes**:

Theme	Description
w3-theme-red	Red theme
w3-theme-blue	Blue theme
w3-theme-green	Green theme
w3-theme-black	Dark theme

Example: Multiple Colors in One Page

```
<html>
<head>
  <title>W3.CSS Colors Example</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>

<h2 class="w3-text-blue">W3.CSS Colors Example</h2>

<div class="w3-container w3-red">
  <p>This is a red background container.</p>
</div>

<div class="w3-container w3-green">
  <p>This is a green background container.</p>
</div>

<div class="w3-container w3-yellow w3-text-black">
  <p>This is yellow with black text.</p>
</div>

<button class="w3-button w3-teal w3-hover-orange">Hover Button</button>

</body>
</html>
```

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5.2.1 Color Libraries

W3.CSS has built-in color classes like:

- w3-red
- w3-green
- w3-blue
- w3-black
- w3-white
- etc.

5.2.2 Color Themes

Themes are sets of color styles you can use throughout your website.

```
<div class="w3-container w3-theme-d1">
  <p>This uses a theme color</p>
</div>
```

5.3 W3.CSS Container

- w3-container adds padding and makes the layout neat.
- Containers provide spacing inside
- By default value is 16px
- A **container** is a **layout element** used to hold and align webpage content properly.
- Helps to **center content** and maintain equal spacing on all devices.

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- Provides **automatic padding and structure** for consistent layout.
- In **W3.CSS**, container class → `.w3-container`.
- **Default padding:** `16px`.
- **Default margin:** *none*.
- **Default width:** `100%` (full width of the page).
- **Default background:** *transparent*.
- Makes elements **responsive** and visually balanced.
- Commonly used in frameworks like **W3.CSS**, **Bootstrap**, and **Tailwind CSS**.

5.4 W3.CSS Panels

- A **panel** is a box used to highlight content with a border and background.
- It add margin of top and bottom
- By default value is 16px
- A **panel** is a content box with **padding, margin, and border** used to highlight information.
- Used to **group related content** like text, forms, or messages.
- Makes content **visually separate** and easy to read.
- In **W3.CSS**, panels are created using `.w3-panel`.
- **Default margin:** `16px` (top and bottom).
- **Default padding:** `16px`.
- **Default border:** *none* (you can add using `.w3-border`).
- **Default background:** *transparent*.
- Responsive by default and adjusts to screen width.
- Commonly used for **messages, alerts, or layout boxes**.

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Example:-

```
<html>
<head>
  <title>W3.CSS Panel</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>

<div class="w3-panel w3-border w3-pale-blue w3-leftbar w3-border-blue">
  <h4>Note:</h4>
  <p>This is a styled panel with a left blue border.</p>
</div>

</body>
</html>
```



5.5 W3.CSS Borders

You can easily add borders using w3-border classes.

Border Classes

- w3-border: Adds a border
- w3-border-top, w3-border-bottom, w3-border-left, w3-border-right.
- w3-border-red, w3-border-green, etc.

Example:

```
<html>
<head>
  <title>W3.CSS Border Example</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>

<h2>W3.CSS Border Classes Example</h2>

<!-- Full Border -->
<div class="w3-border w3-border-black w3-padding" style="width:300px; margin-bottom:10px;">
  Full Border (w3-border)
</div>

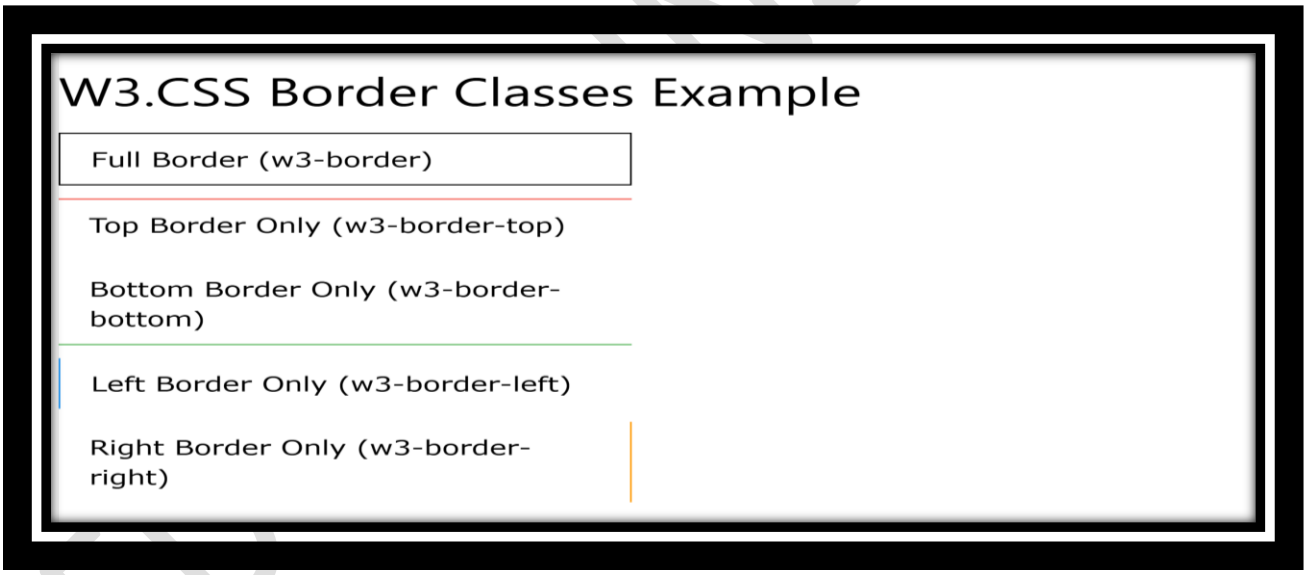
<!-- Top Border Only -->
<div class="w3-border-top w3-border-red w3-padding" style="width:300px; margin-bottom:10px;">
  Top Border Only (w3-border-top)
</div>

<!-- Bottom Border Only -->
<div class="w3-border-bottom w3-border-green w3-padding" style="width:300px; margin-bottom:10px;">
  Bottom Border Only (w3-border-bottom)
</div>

<!-- Left Border Only -->
<div class="w3-border-left w3-border-blue w3-padding" style="width:300px; margin-bottom:10px;">
  Left Border Only (w3-border-left)
</div>

<!-- Right Border Only -->
<div class="w3-border-right w3-border-orange w3-padding" style="width:300px; margin-bottom:10px;">
  Right Border Only (w3-border-right)
</div>

</body>
```



5.6 W3.CSS Fonts

- W3.CSS uses Google Fonts like **Roboto** by default. You can also apply custom fonts.
- Verdana is the by default font in w3school.
- Segoe is the by default font in headings.
- Font-size value is by default 15px.

- Line spacing is 1.5

Font Example

```
<html>
    <head>
        <title>Table in framework</title>
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/5/w3.css">
    </head>
    <body>
        <p class="w3-container w3-serif">this is my paragrapgh</p>
        <p class="w3-container w3-sans-serif">this is my paragrapgh</p>
        <p class="w3-container w3-monospace">this is my paragrapgh</p>
        <p class="w3-container w3-cursive">this is my paragrapgh</p>
        <p class="w3-container w3-tiny">this is my paragrapgh</p>
        <p class="w3-container w3-small">this is my paragrapgh</p>
        <p class="w3-container w3-medium">this is my paragrapgh</p>
        <p class="w3-container w3-large">this is my paragrapgh</p>
        <p class="w3-container w3-xlarge">this is my paragrapgh</p>
        <p class="w3-container w3-xxlarge">this is my paragrapgh</p>
        <p class="w3-container w3-xxxlarge">this is my paragrapgh</p>
        <p class="w3-container w3-jumbo">this is my paragrapgh</p>
    </body>
</html>
```

Activate Windows



5.7 W3.CSS Text

```
<html>
    <head>
        <title>Text in framework</title>
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/5/w3.css">
    </head>
    <body>
                    <!--Text color-->
        <p class="w3-text-red">This is red text.</p>
                    <!--Text size-->
        <p class="w3-small">Small text</p>
        <p class="w3-medium">Medium text</p>
        <p class="w3-large">Large text</p>
        <p class="w3-xlarge">Extra large text</p>
        <p class="w3-xxlarge">2X large text</p>
    </body>
</html>
```



5.7.1 Text Alignment

```
<html>
    <head>
        <title>Text alignment in CSS framework</title>
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/5/w3.css">
    </head>
    <body>
                    <!--Text alignment-->
        <p class="w3-left-align">Left aligned text</p>
        <p class="w3-center">Center aligned text</p>
        <p class="w3-right-align">Right aligned text</p>
    </body>
</html>
```

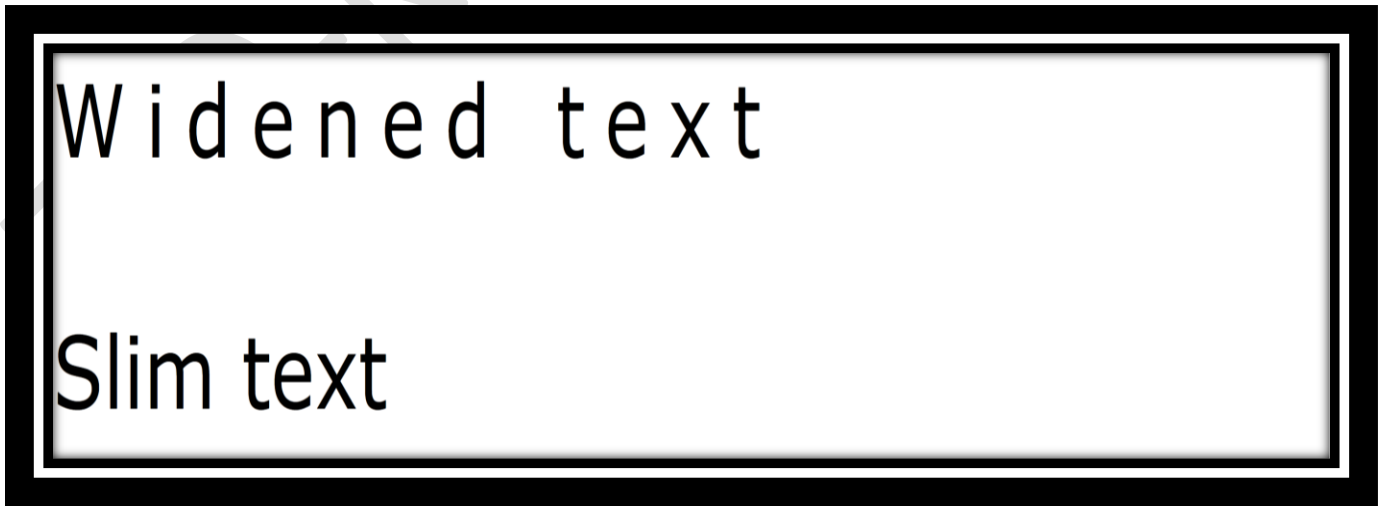


5.7.2 Wide and Slim Text:

- w3-wide: Widens letter spacing
- w3-slim:slimmer text

```
<html>
    <head>
        <title>Text in CSS framework</title>
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/5/w3.css">
    </head>
    <body>
                    <!--Wide & Slim Text-->
        <p class="w3-wide">Widened text</p>
        <p class="w3-slim">Slim text</p>

    </body>
</html>
```



Explanation:

Class Name	Description
w3-opacity	Adds 60% opacity
w3-opacity-min	Adds 25% opacity (faint text)
w3-opacity-max	Adds 100% opacity (fully visible text)

```html
<html>
<head>
  <title>Text Opacity Example</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body class="w3-center w3-padding">

  <h2 class="w3-text-black">Normal Text</h2>

  <p class="w3-opacity">This text has opacity using <b>w3-opacity</b> class.</p>

  <p class="w3-opacity-min">This text has minimum opacity (<b>w3-opacity-min</b>).</p>

  <p class="w3-opacity-max">This text has maximum opacity (<b>w3-opacity-max</b>).</p>

</body>
</html>
```


Explanation

Class Name	Description
w3-text-shadow	Adds a soft grey shadow to the text.
w3-text-blue	Changes text color to blue.
w3-center	Centers the text.

Class Name	Description
w3-padding	Adds space around the content.

```
<html>
<head>
  <title>Text Shadow Example</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body class="w3-center w3-padding">

  <h2 class="w3-text-shadow">Simple Text Shadow Example</h2>

  <p class="w3-text-blue w3-text-shadow">
    This blue text has a shadow effect using <b>w3-text-shadow</b> class.
  </p>

</body>
</html>
```

5.8 W3.CSS Tables

W3.CSS provides stylish and responsive tables.

Table Classes

- w3-table (Basic table)
- w3-striped (Alternating row colors)
- w3-border (table ke all side border lgega)
- w3-bordered (Borders around cells)
- w3-centered (content in center)
- w3-hoverable (Highlight row on hover)
- w3-table-all (all properties in one time)

5.8 Tables

Example

```
<html>
    <head>
        <title>Table in framework</title>
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/5/w3.css">
    </head>
    <body>
        <table class="w3-table w3-striped w3-border w3-bordered w3-centered w3-hoverable w3-table-all">
            <tr class="w3-green">
                <th>name</th>
                <th>fathername</th>
                <th>roll no</th>
            </tr>
            <tr class="w3-text-lime">
                <td>a</td>
                <td>b</td>
                <td>1</td>
            </tr>
            <tr class="w3-hover-pink">
                <td>a</td>
                <td>b</td>
                <td>1</td>
            </tr>
        </table>
    </body>
</html>
```

name	fathername	roll no
a	b	1
a	b	1

5.9 W3.CSS List

- W3.CSS makes lists more beautiful and interactive.
- W3-ul
- W3-border
- W3-blue
- W3-card-4
- W3-center
- W3-hoverable
- W3-padding-small w3-padding-large
- W3-size(tiny,small,large,extra large(xl,xxl,xxxl),jumbo)

5.9.1 Lists as Cards

```
<ul class="w3-ul w3-card-4">
  <li>HTML</li>
  <li>CSS</li>
  <li>JavaScript</li>
</ul>
```

5.9.2 Centered Lists

```
<ul class="w3-ul w3-center">
  <li>Item 1</li>
  <li>Item 2</li>
</ul>
```

5.9.3 Colored Lists

```
<ul class="w3-ul w3-green">
  <li>Green List</li>
  <li>Item 2</li>
</ul>
```

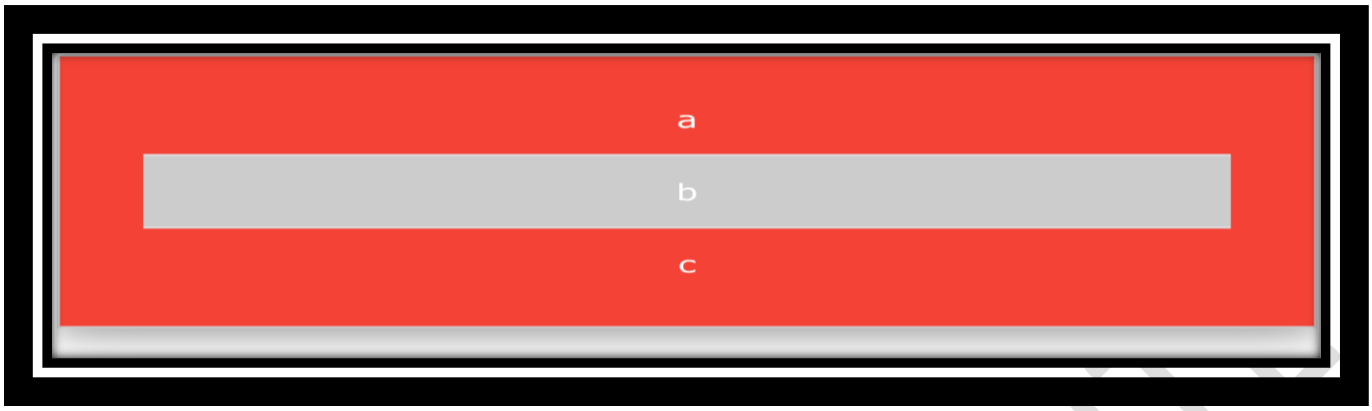
5.9.4 Hoverable Lists

```
<ul class="w3-ul w3-hoverable">
  <li>Hover me!</li>
  <li>Hover me too!</li>
</ul>
```

5.9.5 List with Padding

```
<ul class="w3-ul w3-padding w3-padding-small w3-padding-large">
  <li>Padded item</li>
</ul>
```

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```
<html>
<head>
  <title>List in css framework Example</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>
    <ul class="w3-ul w3-border w3-center w3-red w3-hoverable w3-card-4 w3-tiny w3-padding-large">
        <li>a</li>
        <li>b</li>
        <li>c</li>
    </ul>

</body>
</html>
```

```
<html>
<head>
  <title>List size in css framework Example</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>
    <ul class="w3-ul w3-lime w3-tiny">
        <li>a</li>
        <li>b</li>
        <li>c</li>
    </ul>
    <ul class="w3-ul w3-red w3-small">
        <li>a</li>
        <li>b</li>
        <li>c</li>
    </ul>
    <ul class="w3-ul w3-green w3-xlarge">
        <li>a</li>
        <li>b</li>
        <li>c</li>
    </ul>
    <ul class="w3-ul w3-pink w3-xxlarge">
        <li>a</li>
        <li>b</li>
        <li>c</li>
    </ul>
    <ul class="w3-ul w3-blue w3-xxxlarge">
        <li>a</li>
        <li>b</li>
        <li>c</li>
    </ul>
    <ul class="w3-ul w3-yellow w3-jumbo">
        <li>a</li>
        <li>b</li>
        <li>c</li>
    </ul>

</body>
</html>
```



5.9.6 List with Close Option (needs JavaScript)

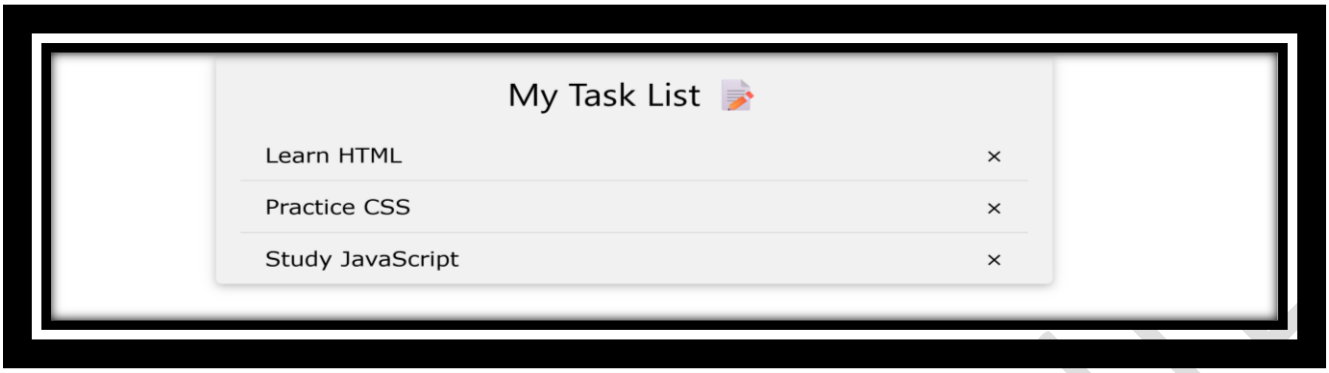
Example - List with Close Button

```
<html>
<head>
  <title>List with Close Option</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>

<div class="w3-container w3-card w3-light-grey w3-round" style="width:50%; margin:auto;">
  <h3 class="w3-center">My Task List</h3>

  <ul class="w3-ul w3-hoverable">
    <li class="w3-display-container">
      Learn HTML
      <span onclick="this.parentElement.style.display='none'"
            class="w3-button w3-transparent w3-display-right">&times;</span>
    </li>
    <li class="w3-display-container">
      Practice CSS
      <span onclick="this.parentElement.style.display='none'"
            class="w3-button w3-transparent w3-display-right">&times;</span>
    </li>
    <li class="w3-display-container">
      Study JavaScript
      <span onclick="this.parentElement.style.display='none'"
            class="w3-button w3-transparent w3-display-right">&times;</span>
    </li>
  </ul>
</div>

</body>
</html>
```



Key Points:

- Only **W3.CSS** used (no custom CSS).
- **w3-ul** → Creates a styled list.
- **w3-display-container** → Positions the close button.
- **w3-display-right** → Moves close button to the right.
- **×** → The × symbol.
- **onclick="this.parentElement.style.display='none'"** → Hides the item when clicked.

Example – Avatar List

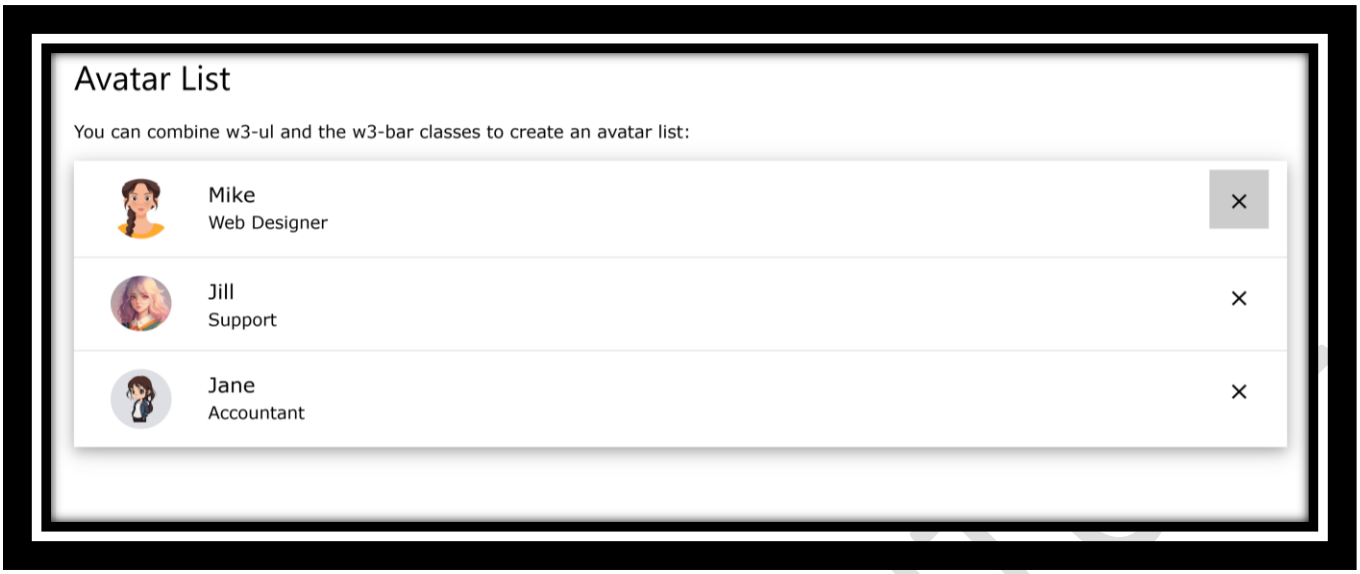
```
<html>
<title>W3.CSS</title>
<link rel="stylesheet" href="https://www.w3schools.com/w3css/5/w3.css">
<body>

<div class="w3-container">
  <h2>Avatar List</h2>
  <p>You can combine w3-ul and the w3-bar classes to create an avatar list:</p>
  <ul class="w3-ul w3-card-4">
    <li class="w3-bar">
      <span onclick="this.parentElement.style.display='none'" class="w3-bar-item w3-button w3-white w3-xlarge w3-right">×</span>
      <img src="11.jpg" class="w3-bar-item w3-circle w3-hide-small" style="width:85px">
      <div class="w3-bar-item">
        <span class="w3-large">Mike</span><br>
        <span>Web Designer</span>
      </div>
    </li>

    <li class="w3-bar">
      <span onclick="this.parentElement.style.display='none'" class="w3-bar-item w3-button w3-white w3-xlarge w3-right">×</span>
      <img src="22.jpg" class="w3-bar-item w3-circle w3-hide-small" style="width:85px">
      <div class="w3-bar-item">
        <span class="w3-large">Jill</span><br>
        <span>Support</span>
      </div>
    </li>

    <li class="w3-bar">
      <span onclick="this.parentElement.style.display='none'" class="w3-bar-item w3-button w3-white w3-xlarge w3-right">×</span>
      <img src="3.jpg" class="w3-bar-item w3-circle w3-hide-small" style="width:85px">
      <div class="w3-bar-item">
        <span class="w3-large">Jane</span><br>
        <span>Accountant</span>
      </div>
    </li>
  </ul>
</div>

</body>
</html>
```



5.10 W3.CSS Images

5.10.1 Image Creation

To insert an image:

<img src="image.jpg" alt="Sample" class="w3-image">

5.10.1.1 Rounded W3.CSS Images

Use w3-round to round image corners.

<img src="image.jpg" class="w3-round" style="width:200px">

5.10.1.2 Circle Images

Use w3-circle to make an image circular.

<img src="image.jpg" class="w3-circle" style="width:150px">

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5.10.1.3 Bordered Images

Use w3-border to add borders.

<img src="image.jpg" class="w3-border" style="width:150px">

5.10.1.4 Images as Cards

Wrap the image in a w3-card.

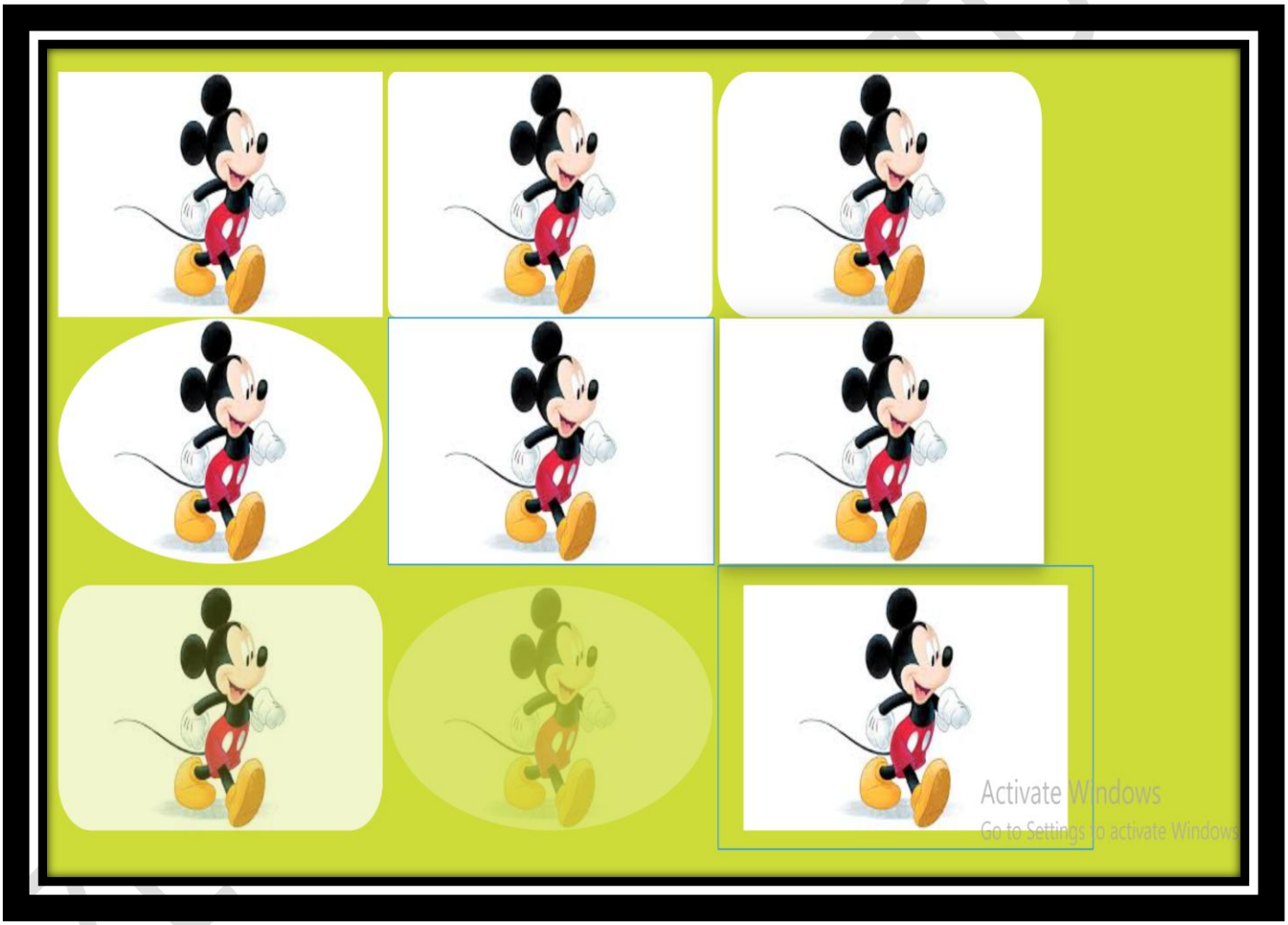
Size Name	Class	Width
Small Card	`w3-card`	Auto (default)
Normal Card	`w3-card-2`	Slightly larger shadow
Medium Card	`w3-card-4`	More elevation
Large Card	`w3-card-8`	High elevation
Extra Large Card	`w3-card-12`	Maximum elevation

```
<html>
<head>
  <title>Image in framework</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body class=" w3-panel w3-lime">
    <img src="1.jpg">
    <img src="1.jpg" class="w3-round-large">
    <img src="1.jpg" class="w3-round-xxlarge">
    <img src="1.jpg" class="w3-circle">
    <img src="1.jpg" class="w3-border w3-border-blue">
    <img src="1.jpg" class="w3-card-4"
    <img src="1.jpg" class="w3-border w3-opacity">
    <img src="1.jpg" class="w3-round-xxlarge w3-opacity-min">
    <img src="1.jpg" class="w3-circle w3-opacity-max">
    <img src="1.jpg" class="w3-border w3-border-blue w3-padding-large">
</body>
</html>
```

Cards type:-

There are types of crads:-

- Card
- Card-2
- Card-4
- Card,card-2 is similar
- Card-8
- Card-12



5.10.1.5 Image Text

Add text over an image using w3-display-container.

```
<html>
<title>Text on Image</title>
<meta name="viewport" content="width=device-width, initial-scale=1">
<link rel="stylesheet" href="https://www.w3schools.com/w3css/5/w3.css">
<body>

<div class="w3-container">

  <div class="w3-display-container w3-text-white">
    <img src="1.jpg" style="width:100%">
    <div class="w3-display-topleft w3-container"><p>Top Left</p></div>
    <div class="w3-display-topright w3-container"><p>Top Right</p></div>
    <div class="w3-display-bottomleft w3-container"><p>Bottom Left</p></div>
    <div class="w3-display-bottomright w3-container"><p>Bottom Right</p></div>
    <div class="w3-display-left w3-container"><p>Left</p></div>
    <div class="w3-display-right w3-container"><p>Right</p></div>
    <div class="w3-display-middle w3-large">Middle</div>
    <div class="w3-display-topmiddle w3-container"><p>Top Middle</p></div>
    <div class="w3-display-bottommiddle w3-container"><p>Bottom Middle</p></div>
  </div>

</div>
</body>
</html>
```

5.10.1.6 Responsive Images

- **Use w3-image to make the image auto-scale on different devices.**

<img src="image.jpg" class="w3-image" style="width:100%">

5.10.2 Image Opacity

- **Use w3-opacity to change transparency.**

<img src="image.jpg" class="w3-opacity" style="width:200px">

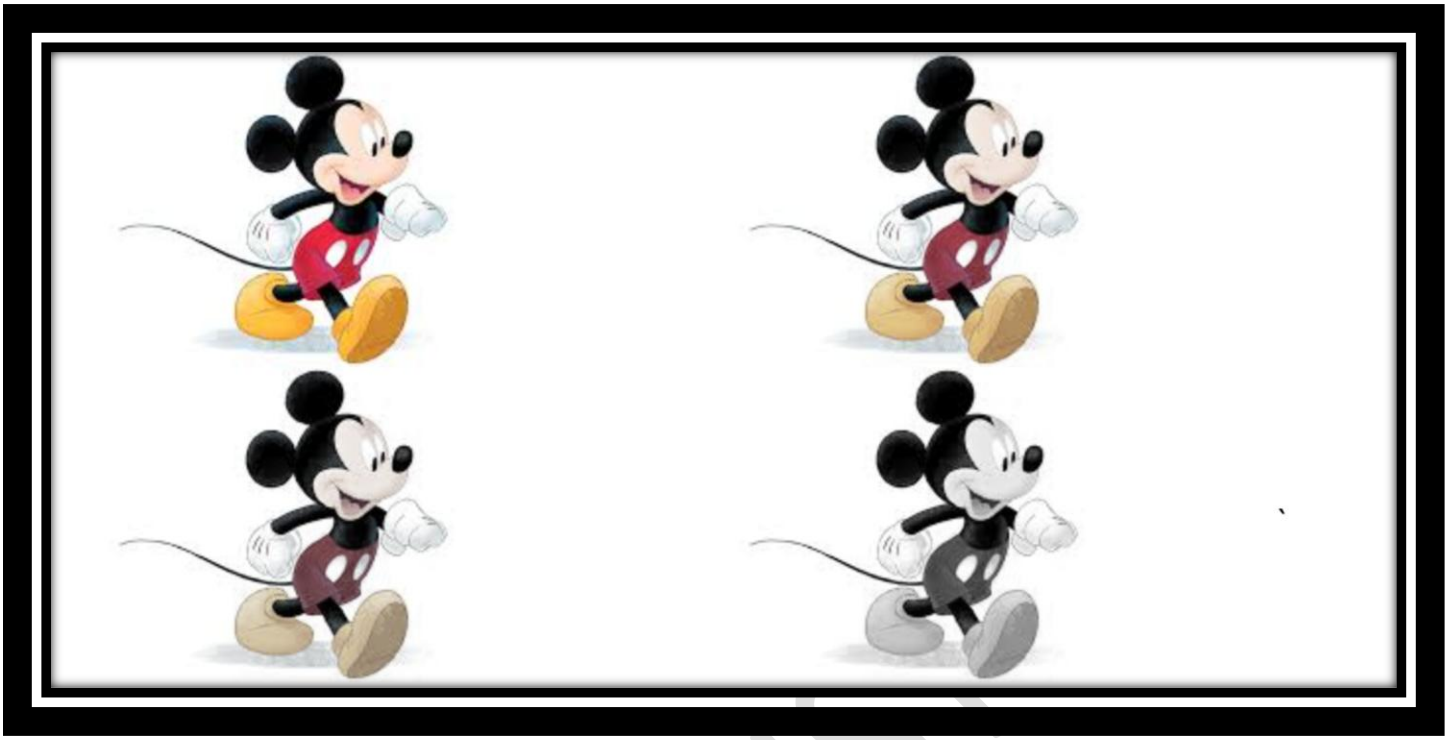
```
<html>
    <head>
        <title>Image opacity example in framework</title>
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/5/w3.css">
    </head>
    <body>
        <img src="1.jpg" class="w3-opacity" >
        <img src="1.jpg" class="w3-hover-opacity" >
    </body>
</html>`
```

5.10.3 Grayscale

- **Apply black-and-white filter**

<img src="image.jpg" style="filter:grayscale(100%)" class="w3-image">

```
<html>
    <head>
        <title>Grayscale Effect in framework</title>
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/5/w3.css">
    </head>
    <body>
        <img src="1.jpg">
        <img src="1.jpg" class="w3-grayscale-min">
        <img src="1.jpg" class="w3-grayscale">
        <img src="1.jpg" class="w3-grayscale-max">
    </body>
</html>`
```

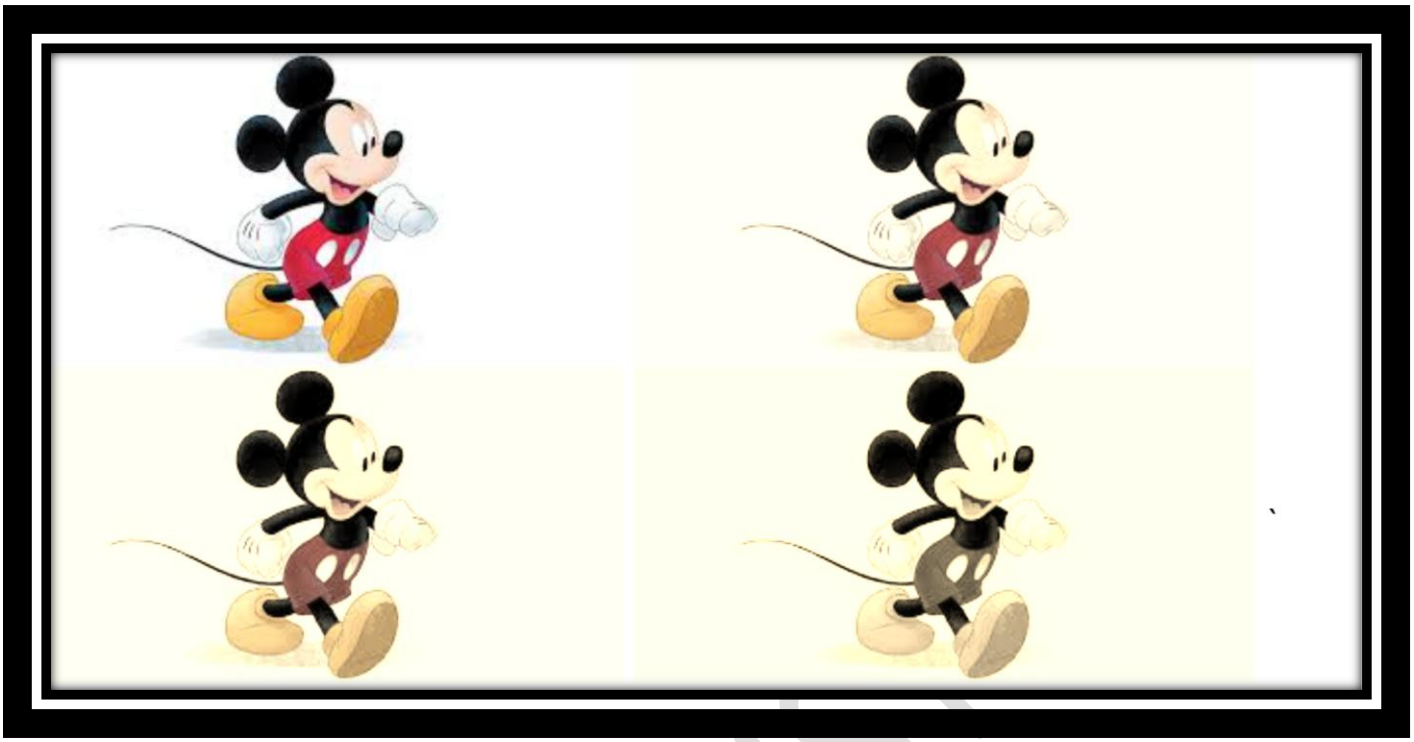


5.10.4 Sepia Image Effect

- **Apply a sepia filter**

<img src="image.jpg" style="filter:sepia(100%)" class="w3-image">

```
<html>
    <head>
        <title>Sepia Effect in framework</title>
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/5/w3.css">
    </head>
    <body>
        <img src="1.jpg">
        <img src="1.jpg" class="w3-sepia-min">
        <img src="1.jpg" class="w3-sepia">
        <img src="1.jpg" class="w3-sepia-max">
    </body>
</html>`
```



5.10.5 Creating Hover Effects

- **You can create hover effects using CSS or simple class tricks.**

<img src="image.jpg" class="w3-hover-opacity" style="width:200px">

```
<html>
    <head>
        <title>Image opacity example in framework</title>
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/5/w3.css">
    </head>
    <body>
        <img src="1.jpg" class="w3-opacity" >
        <img src="1.jpg" class="w3-hover-opacity" >
    </body>
</html>`
```

5.10.6 Opacity Off

- **Remove opacity or hover transparency:**

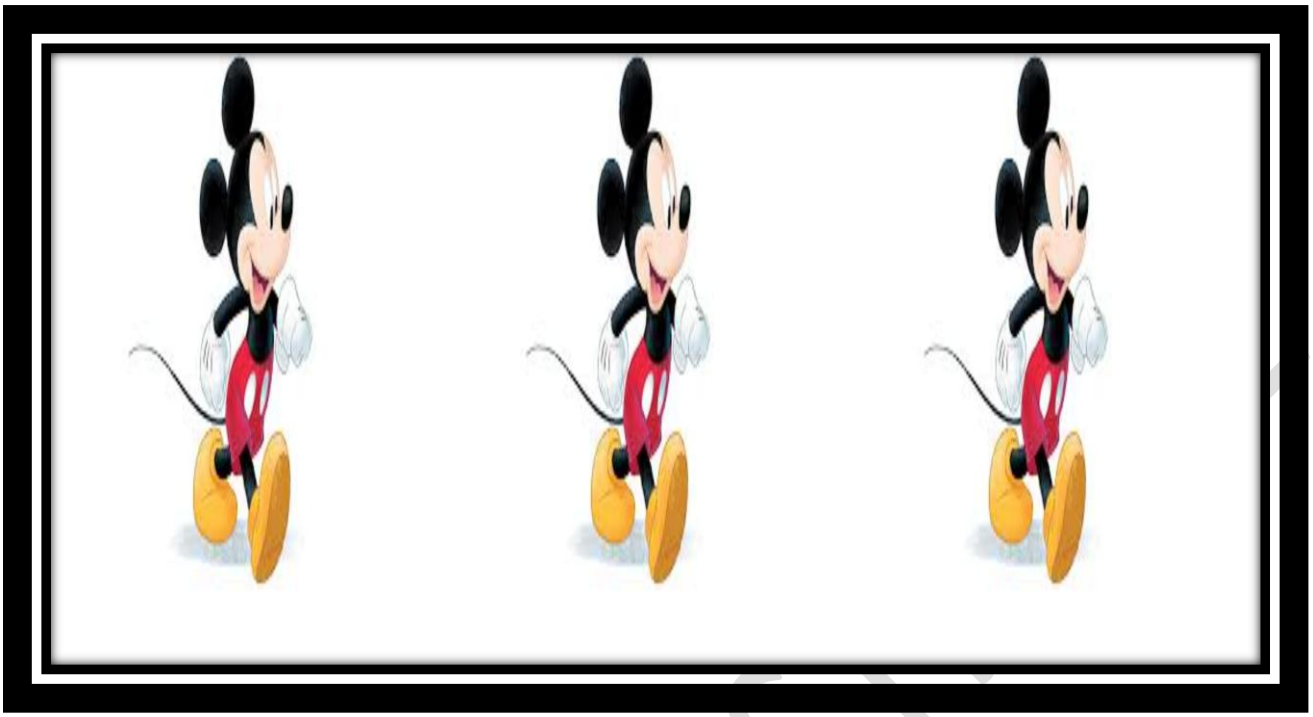
<img src="image.jpg" class="w3-opacity-off" style="width:200px">

```
<html>
    <head>
        <title>Image opacity off example in framework</title>
        <link rel="stylesheet" href="https://www.w3schools.com/w3css/5/w3.css">
    </head>
    <body>
        <img src="1.jpg" class="w3-opacity-off" >
    </body>
</html>`
```

5.10.7 Image Gallery

```
<html>
<head>
  <title>Image Gallery in framework</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>
    <div class="w3-row-padding">
        <div class="w3-third">
            <img src="1.jpg" >
        </div>
        <div class="w3-third">
            <img src="1.jpg" >
        </div>
        <div class="w3-third">
            <img src="1.jpg" >
        </div>
    </div>
</body>
</html>
```

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5.11 W3.CSS Grid

Full Example

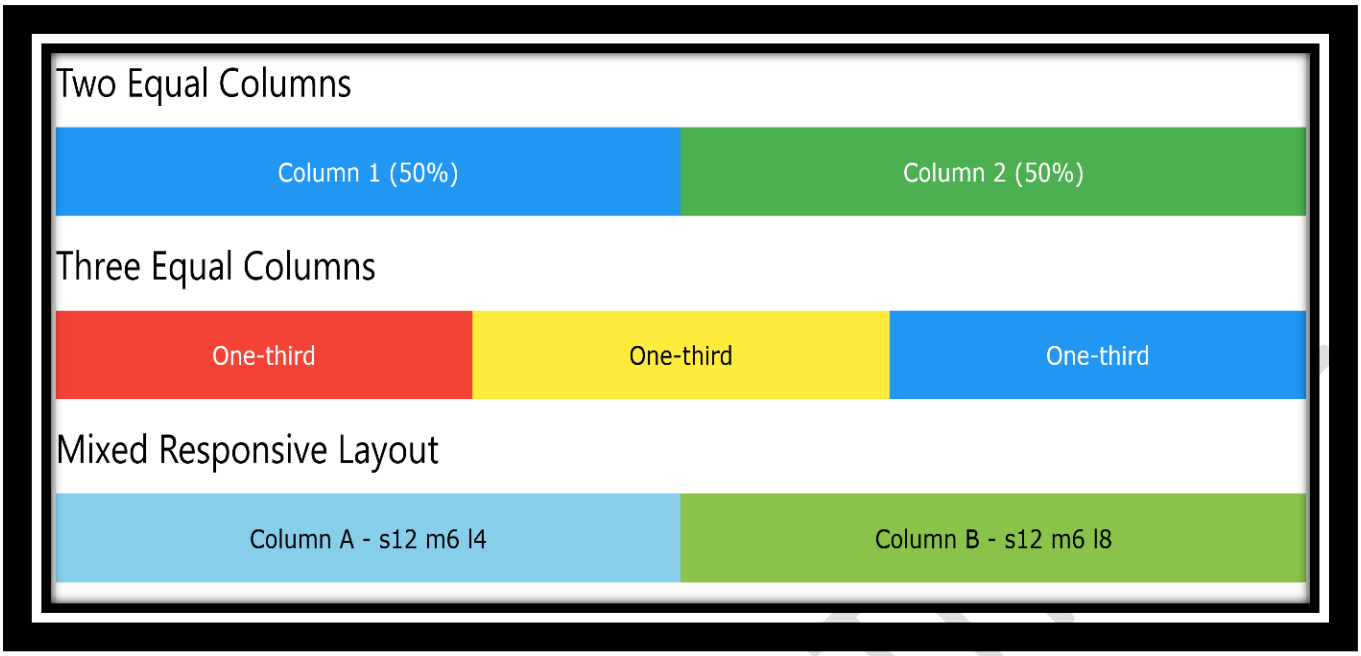
```
<html>
<head>
  <title>W3.CSS Grid</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>

<h3>Two Equal Columns</h3>
<div class="w3-row">
  <div class="w3-col w3-half w3-blue w3-center">
    <p>Column 1 (50%)</p>
  </div>
  <div class="w3-col w3-half w3-green w3-center">
    <p>Column 2 (50%)</p>
  </div>
</div>

<h3>Three Equal Columns</h3>
<div class="w3-row">
  <div class="w3-col w3-third w3-red w3-center">
    <p>One-third</p>
  </div>
  <div class="w3-col w3-third w3-yellow w3-center">
    <p>One-third</p>
  </div>
  <div class="w3-col w3-third w3-blue w3-center">
    <p>One-third</p>
  </div>
</div>

<h3>Mixed Responsive Layout</h3>
<div class="w3-row">
  <div class="w3-col s12 m6 l4 w3-light-blue w3-center">
    <p>Column A - s12 m6 l4</p>
  </div>
  <div class="w3-col s12 m6 l8 w3-light-green w3-center">
    <p>Column B - s12 m6 l8</p>
  </div>
</div>

</body>
</html>
```



- Grids help create responsive layouts using rows and columns.

Syntax:

- Use w3-row to create a row.
- Use w3-col with percentage-based width (s, m, l for small, medium, large screens).

5.11.1 Two Equal and Unequal Columns

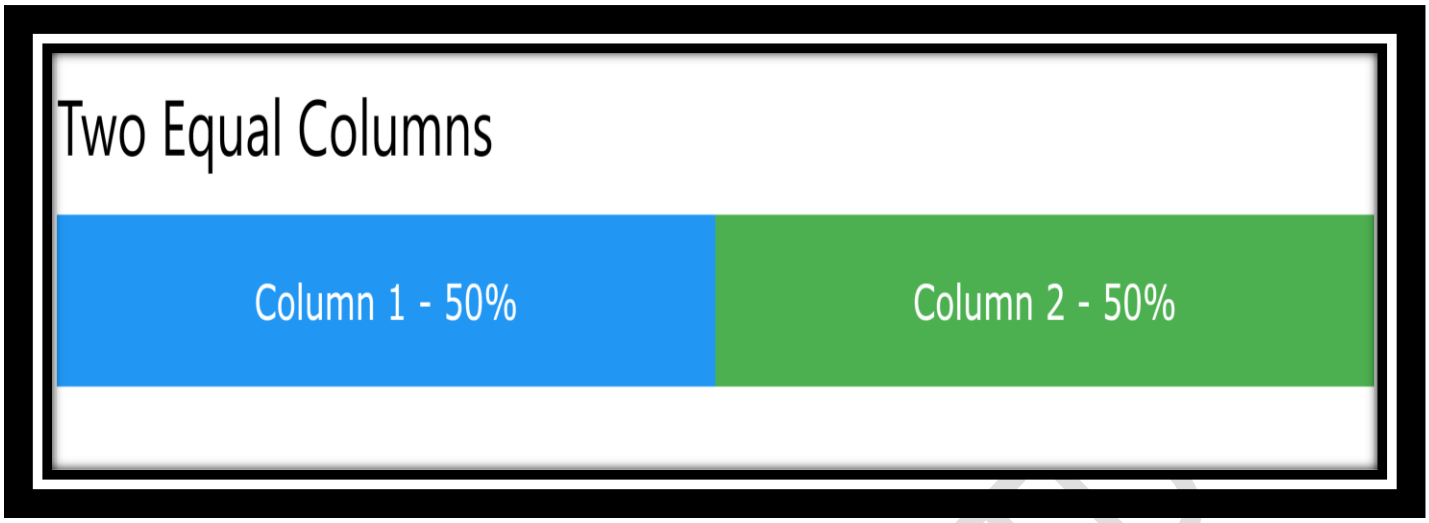
Example 1: Two Equal Columns (50% + 50%)

```
<html>
<head>
  <title>Two Equal Columns</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>

<h3>Two Equal Columns</h3>
<div class="w3-row">
  <div class="w3-col w3-half w3-blue w3-center">
    <p>Column 1 - 50%</p>
  </div>
  <div class="w3-col w3-half w3-green w3-center">
    <p>Column 2 - 50%</p>
  </div>
</div>

</body>
</html>
```

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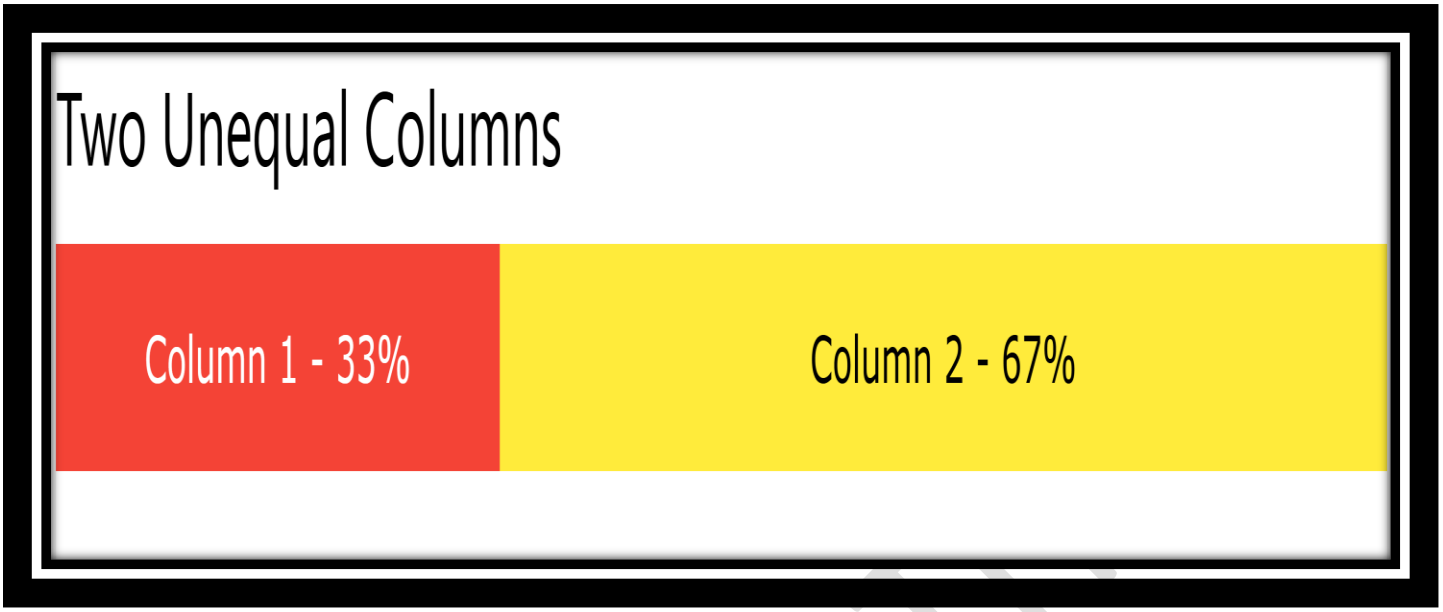
Example 2: Two Unequal Columns (33% + 67%)

```
<html>
<head>
  <title>Two Unequal Columns</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>

<h3>Two Unequal Columns</h3>
<div class="w3-row">
  <div class="w3-col w3-third w3-red w3-center">
    <p>Column 1 - 33%</p>
  </div>
  <div class="w3-col w3-twothird w3-yellow w3-center">
    <p>Column 2 - 67%</p>
  </div>
</div>

</body>
</html>
```

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5.11.2 Three Equal and Unequal Columns

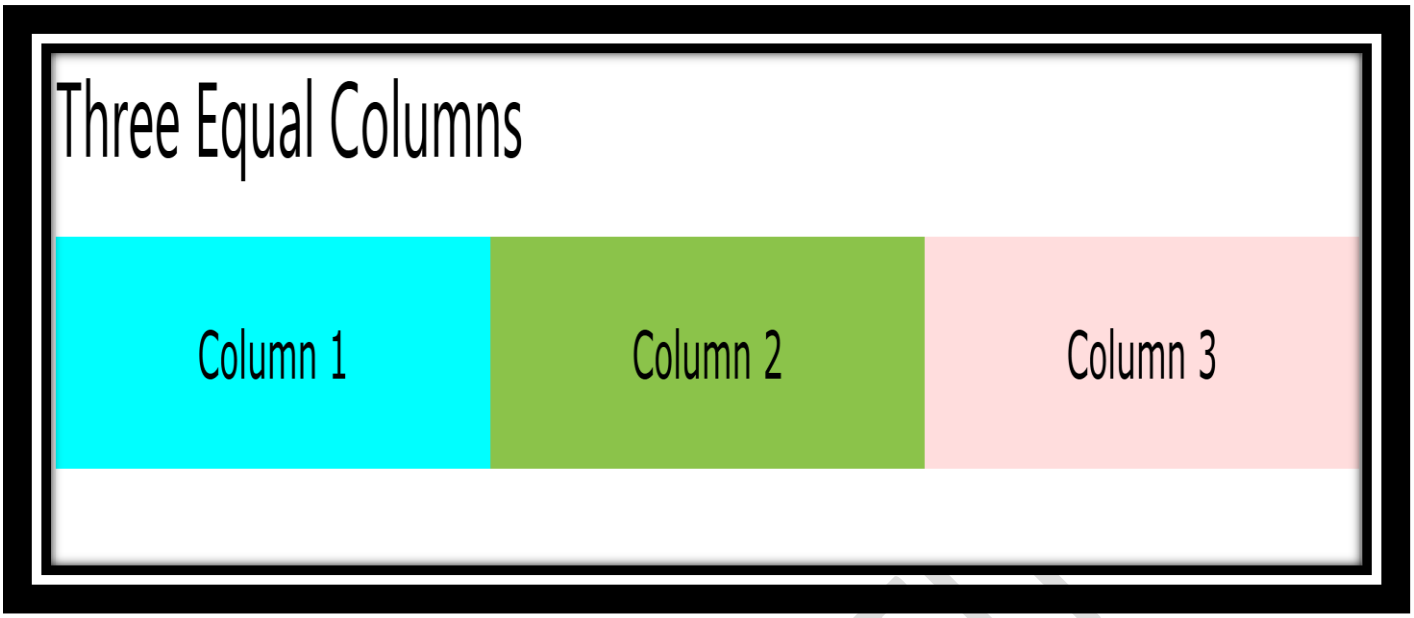
Example 1: Three Equal Columns (33% each)

```
<html>
<head>
  <title>Three Equal Columns</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>

<h3>Three Equal Columns</h3>
<div class="w3-row">
  <div class="w3-col w3-third w3-aqua w3-center">
    <p>Column 1</p>
  </div>
  <div class="w3-col w3-third w3-light-green w3-center">
    <p>Column 2</p>
  </div>
  <div class="w3-col w3-third w3-pale-red w3-center">
    <p>Column 3</p>
  </div>
</div>

</body>
</html>
```

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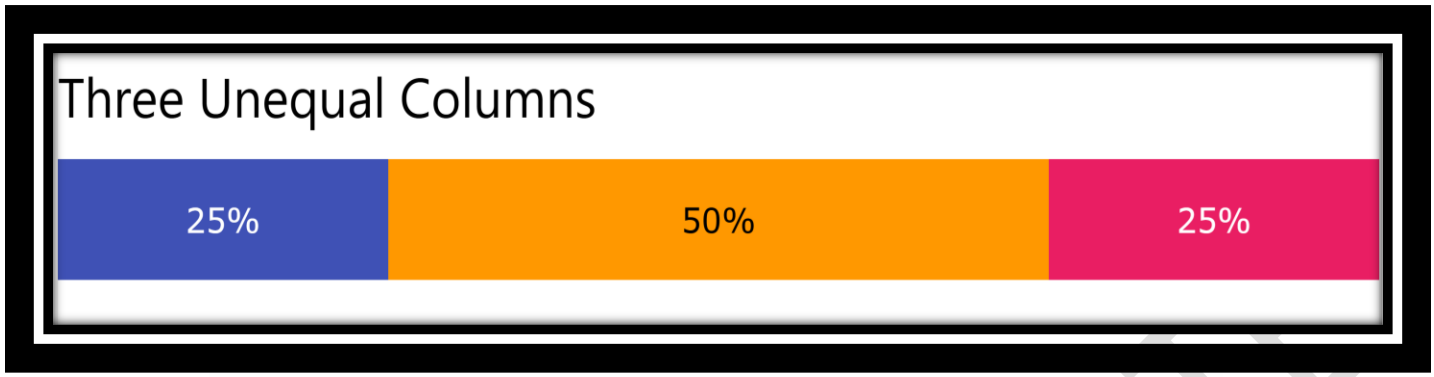
Example 2: Three Unequal Columns (25%, 50%, 25%)

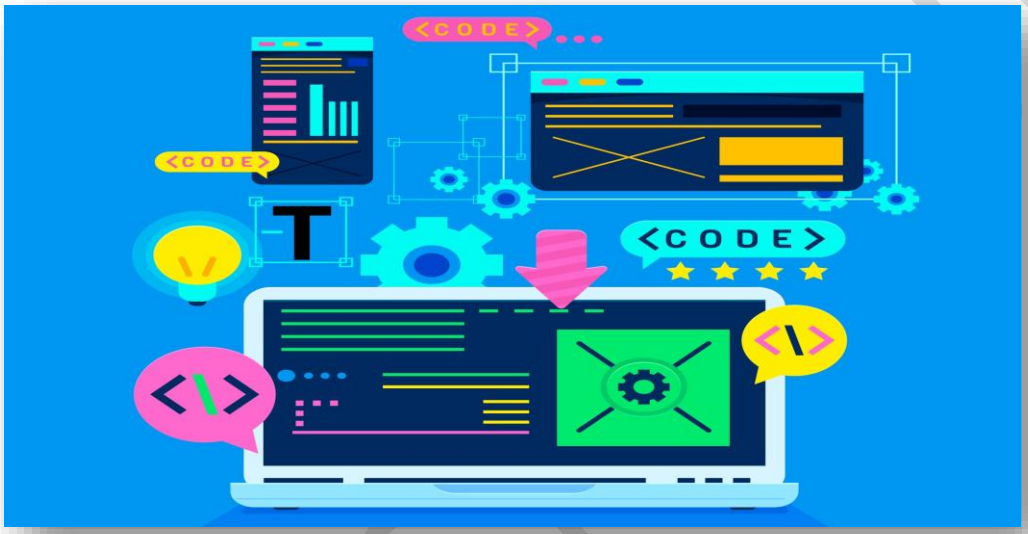
```
<html>
<head>
  <title>Three Unequal Columns</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>

<h3>Three Unequal Columns</h3>
<div class="w3-row">
  <div class="w3-col w3-quarter w3-indigo w3-center">
    <p>25%</p>
  </div>
  <div class="w3-col w3-half w3-orange w3-center">
    <p>50%</p>
  </div>
  <div class="w3-col w3-quarter w3-pink w3-center">
    <p>25%</p>
  </div>
</div>

</body>
</html>
```

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5.11.3 Mixed Layout for Mobile & Desktop

W3.CSS uses

- s for small devices (mobiles)
- m for medium (tablets)
- l for large (desktops)

Example:

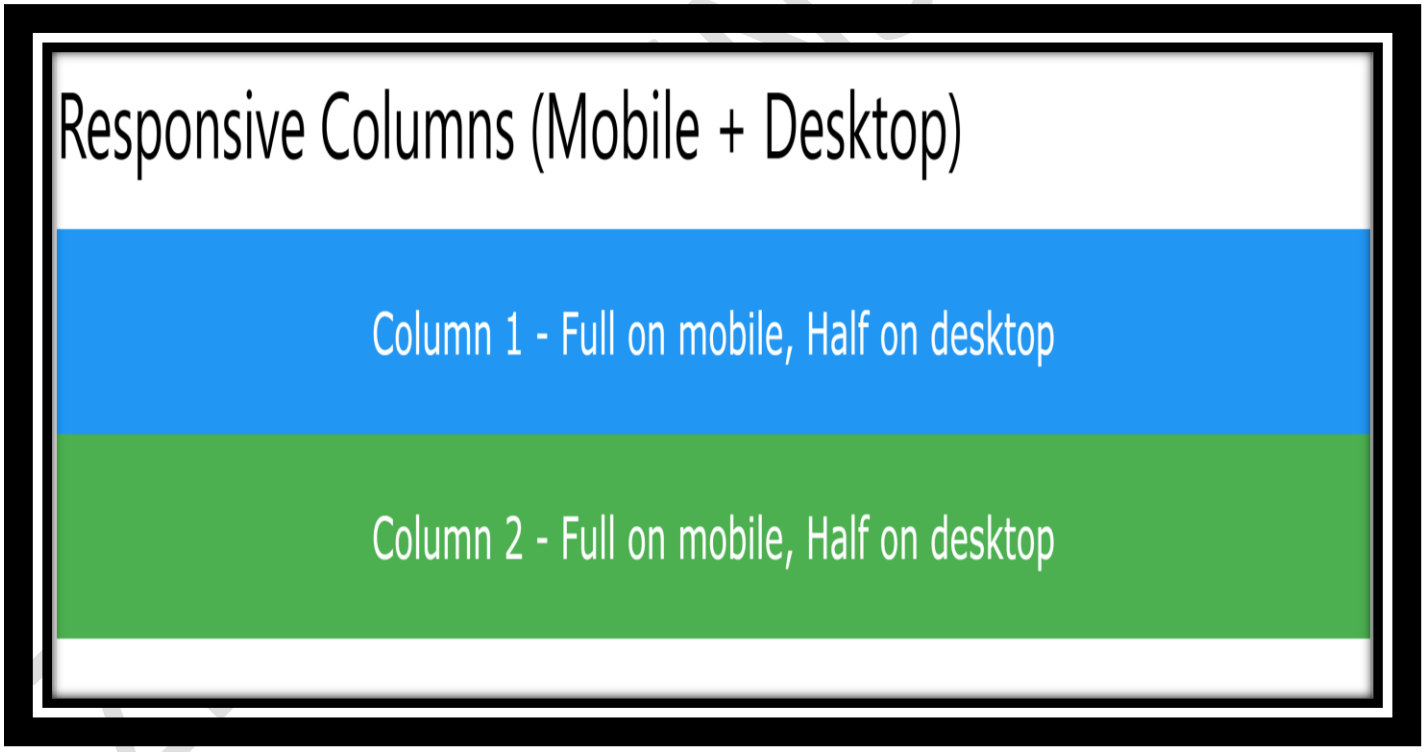
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```html
<html>
<head>
  <title>Responsive Layout (Mobile + Desktop)</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>

<h3>Responsive Columns (Mobile + Desktop)</h3>
<div class="w3-row">
  <div class="w3-col s12 l6 w3-blue w3-center">
    <p>Column 1 - Full on mobile, Half on desktop</p>
  </div>
  <div class="w3-col s12 l6 w3-green w3-center">
    <p>Column 2 - Full on mobile, Half on desktop</p>
  </div>
</div>

</body>
</html>
```

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5.11.4 Mixed Layout for Mobile, Tablet & Desktop

Example:

```
<html>
<head>
  <title>Responsive Layout (All Screens)</title>
  <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
</head>
<body>

<h3>Responsive Columns (Mobile, Tablet & Desktop)</h3>
<div class="w3-row">
  <div class="w3-col s12 m6 l4 w3-pale-blue w3-center">
    <p>Column 1: Mobile 100%, Tablet 50%, Desktop 33%</p>
  </div>
  <div class="w3-col s12 m6 l4 w3-pale-green w3-center">
    <p>Column 2: Mobile 100%, Tablet 50%, Desktop 33%</p>
  </div>
  <div class="w3-col s12 m12 l4 w3-pale-red w3-center">
    <p>Column 3: Mobile 100%, Tablet 100%, Desktop 33%</p>
  </div>
</div>
</body>
</html>
```

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Responsive Columns (Mobile, Tablet & Desktop)

Column 1: Mobile 100%, Tablet 50%, Desktop 33%	Column 2: Mobile 100%, Tablet 50%, Desktop 33%
Column 3: Mobile 100%, Tablet 100%, Desktop 33%	

