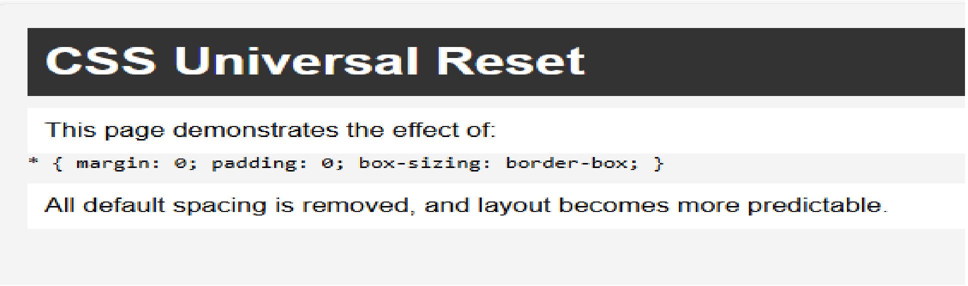
1. CSS Reset / Normalize

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>Simple CSS Reset Page</title>

  <style>
    * {
      margin: 0;
      padding: 0;
      box-sizing: border-box;
    }

    body {
      font-family: sans-serif;
      background-color: #f4f4f4;
      padding: 20px;
    }

    h1 {
      background-color: #333;
      color: #fff;
      padding: 10px;
    }

    p {
      background-color: #fff;
      padding: 10px;
      margin-top: 10px;
    }
  </style>
</head>
<body>
  <h1>CSS Universal Reset</h1>
  <p>This page demonstrates the effect of:</p>
  <pre>* { margin: 0; padding: 0; box-sizing: border-box; }</pre>
  <p>All default spacing is removed, and layout becomes more predictable.</p>
</body>
</html>
```

Output:



CSS Universal Reset

This page demonstrates the effect of:

```
* { margin: 0; padding: 0; box-sizing: border-box; }
```

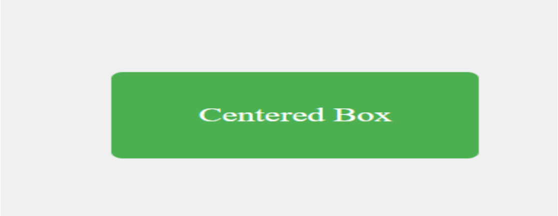
All default spacing is removed, and layout becomes more predictable.

- A styled page with no unexpected spacing or layout glitches
- Clean use of padding and margins that you control explicitly

2. **Centering Content**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0"/>
  <title>Flexbox Centering</title>

  <style>
    /* Reset and basic styling */
    * {
      margin: 0;
      padding: 0;
      box-sizing: border-box;
    }

    body, html {
      height: 100%;
    }

    .container {
      display: flex;
      justify-content: center;
      align-items: center;
      height: 100vh; /* Full viewport height */
      background-color: #f0f0f0;
    }

    .box {
      background-color: #4CAF50;
      color: white;
      padding: 40px 60px;
      font-size: 1.5rem;
      border-radius: 8px;
    }
  </style>
</head>
<body>
  <div class="container">
    <div class="box">Centered Box</div>
  </div>
</body>
</html>
```

o/p:

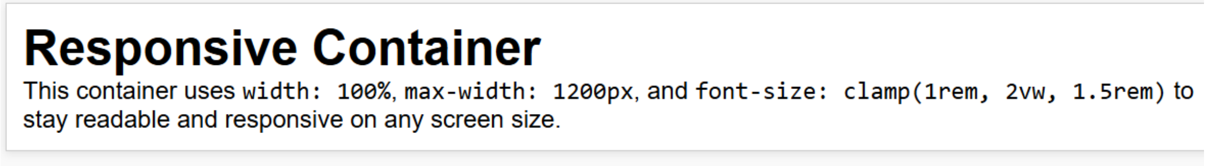


- A **green background** that fills the whole screen
- A white **green box** with white text centered in the middle

3. Responsive Units

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>Responsive Container Example</title>

  <style>
    * {
      margin: 0;
      padding: 0;
      box-sizing: border-box;
    }

    body {
      font-family: sans-serif;
      background-color: #f9f9f9;
      display: flex;
      justify-content: center;
      padding: 2rem;
    }

    .container {
      width: 100%;
      max-width: 1200px;
      padding: 1rem;
      font-size: clamp(1rem, 2vw, 1.5rem);
      background-color: #ffffff;
      border: 1px solid #ccc;
      box-shadow: 0 2px 8px rgba(0, 0, 0, 0.1);
    }
  </style>
</head>
<body>
  <div class="container">
    <h1>Responsive Container</h1>
    <p>
    This container uses <code>width: 100%</code>, <code>max-width: 1200px</code>, and
    <code>font-size: clamp(1rem, 2vw, 1.5rem)</code> to stay readable and responsive on any screen size.
   </p>
  </div>
</body>
</html>
```

o/p



Responsive Container

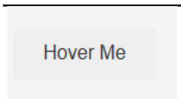
This container uses `width: 100%`, `max-width: 1200px`, and `font-size: clamp(1rem, 2vw, 1.5rem)` to stay readable and responsive on any screen size.

- A white, centered content box
- Automatically adapts to screen size
- Font scales smoothly between `1rem` and `1.5rem` depending on the viewport width

4. Hover Effects

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>Button Hover Effect</title>

  <style>
    * {
      margin: 0;
      padding: 0;
      box-sizing: border-box;
    }

    body {
      font-family: sans-serif;
      background-color: #f4f4f4;
      display: flex;
      justify-content: center;
      align-items: center;
      height: 100vh;
    }

    button {
      padding: 12px 24px;
      font-size: 1rem;
      border: none;
      border-radius: 5px;
      background-color: #eee;
      color: #333;
      cursor: pointer;
      transition: all 0.3s ease;
    }
    button:hover {
      background-color: #333;
      color: white;
      transform: scale(1.05);
    }
  </style>
</head>
<body>
  <button>Hover Me</button>
</body>
</html>
```

o/p

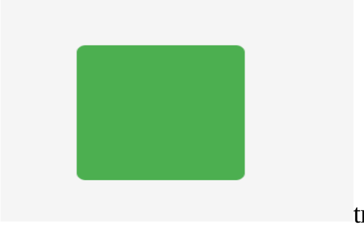


Highlight the background color with black.

5. Transitions

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>CSS Transition Example</title>

  <style>
    * {
      margin: 0;
      padding: 0;
      box-sizing: border-box;
    }

    body {
      display: flex;
      justify-content: center;
      align-items: center;
      height: 100vh;
      background-color: #f5f5f5;
      font-family: Arial, sans-serif;
    }

    .box {
      width: 150px;
      height: 150px;
      background-color: #4CAF50;
      border-radius: 8px;
      transition: all 0.3s ease;
    }

    .box:hover {
      background-color: #333;
      transform: scale(1.1);
      border-radius: 50%;
    }
  </style>
</head>
<body>
  <div class="box"></div>
</body>
</html>
```

o/p

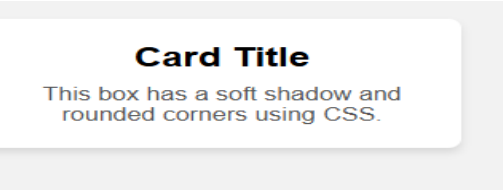


transition for above one to circle with black color.

6. Box Shadows and Borders

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>Box Shadow and Border Radius</title>
  <style>
    * {
      margin: 0;
      padding: 0;
      box-sizing: border-box;
    }
    body {
      display: flex;
      justify-content: center;
      align-items: center;
      height: 100vh;
      background-color: #f2f2f2;
      font-family: sans-serif;
    }
    .card {
      width: 300px;
      padding: 20px;
      background-color: white;
      border-radius: 8px;
      box-shadow: 0 4px 6px rgba(0, 0, 0, 0.1);
      text-align: center;
    }
    h2 {
      margin-bottom: 10px;
    }

    p {
      color: #555;
    }
  </style>
</head>
<body>
  <div class="card">
    <h2>Card Title</h2>
    <p>This box has a soft shadow and rounded corners using CSS.</p>
  </div>
</body></html>
```

o/p



Card Title

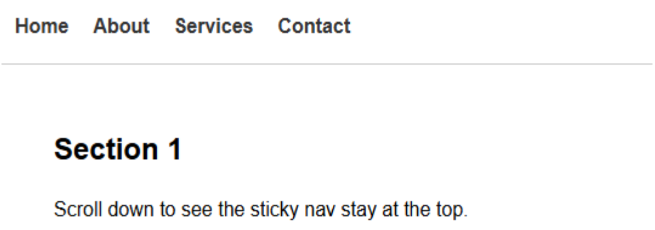
This box has a soft shadow and rounded corners using CSS.

- A centered **white card** with:
  - Rounded corners (`border-radius: 8px`)
  - A subtle drop shadow (`box-shadow`)
- Clean and modern look — ideal for UI components like cards, modals, or alerts

7. Sticky Navigation

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>Sticky Nav Example</title>

  <style>
    * {
      margin: 0;
      padding: 0;
      box-sizing: border-box;
    }

    body {
      font-family: Arial, sans-serif;
      line-height: 1.6;
    }

    nav {
      position: sticky;
      top: 0;
      z-index: 1000;
      background: white;
      padding: 1rem;
      border-bottom: 1px solid #ccc;
    }

    nav ul {
      display: flex;
      gap: 20px;
      list-style: none;
    }

    nav a {
      text-decoration: none;
      color: #333;
      font-weight: bold;
    }

    main {
      padding: 2rem;
    }

    section {
      height: 100vh; /* Each section takes up full screen height */
      padding: 1rem;
      border-bottom: 1px solid #ddd;
    }

    h2 {
      margin-bottom: 1rem;
    }
  </style>
</head>
<body>
  <nav>
    <ul>
      <li><a href="#">Home</a></li>
      <li><a href="#">About</a></li>
      <li><a href="#">Services</a></li>
      <li><a href="#">Contact</a></li>
    </ul>
  </nav>

  <main>
    <section>
      <h2>Section 1</h2>
      <p>Scroll down to see the sticky nav stay at the top.</p>
    </section>
    <section>
      <h2>Section 2</h2>
      <p>More content below to test the sticky behavior.</p>
    </section>
    <section>
      <h2>Section 3</h2>
      <p>The nav remains visible even as you scroll.</p>
    </section>
  </main>
</body>
</html>
```

o/p



Section 1

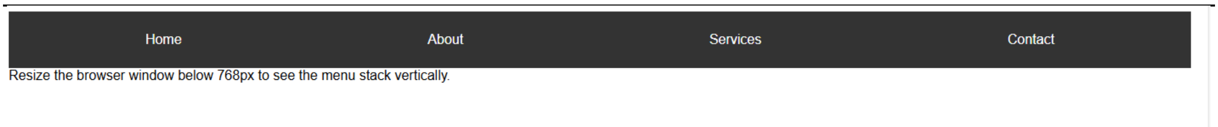
Scroll down to see the sticky nav stay at the top.

Its just like afreeze header.

8. Media Queries for Mobile

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>Responsive Menu</title>

  <style>
    * {
      margin: 0;
      padding: 0;
      box-sizing: border-box;
    }

    body {
      font-family: Arial, sans-serif;
      padding: 20px;
    }

    nav {
      background-color: #333;
      padding: 1rem;
    }

    .menu {
      display: flex;
      justify-content: space-around;
      list-style: none;
    }

    .menu li a {
      color: white;
      text-decoration: none;
      padding: 0.5rem 1rem;
      display: block;
    }

    .menu li a:hover {
      background-color: #444;
    }
    /* Responsive layout: stack menu items vertically */
    @media (max-width: 768px) {
      .menu {
        flex-direction: column;
        align-items: center;
      }
    }
  </style>
</head>
<body>

  <nav>
    <ul class="menu">
      <li><a href="#">Home</a></li>
      <li><a href="#">About</a></li>
      <li><a href="#">Services</a></li>
      <li><a href="#">Contact</a></li>
    </ul>
  </nav>

  <main>
    <p>Resize the browser window below 768px to see the menu stack vertically.</p>
  </main>

</body>
</html>
```

o/p



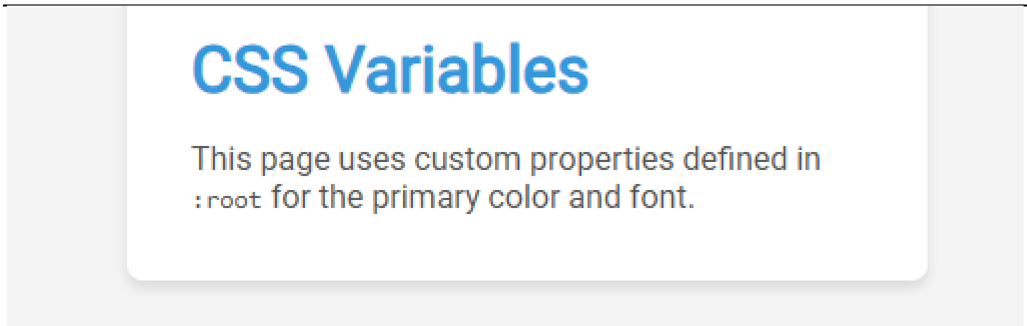
Resize the browser window below 768px to see the menu stack vertically.

highlight the square color for column wise.

9. Variables for Themes

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>CSS Variables Example</title>

  <!-- Google Font (Roboto) -->
  <link href="https://fonts.googleapis.com/css2?family=Roboto&display=swap" rel="stylesheet">

  <style>
    :root {
      --primary-color: #3498db;
      --font-main: 'Roboto', sans-serif;
    }

    * {
      margin: 0;
      padding: 0;
      box-sizing: border-box;
    }

    body {
      font-family: var(--font-main);
      background-color: #f4f4f4;
      padding: 2rem;
    }

    .card {
      background-color: white;
      padding: 2rem;
      border-radius: 8px;
      box-shadow: 0 4px 6px rgba(0, 0, 0, 0.1);
      max-width: 400px;
      margin: auto;
    }

    h1 {
      color: var(--primary-color);
      margin-bottom: 1rem;
    }

    p {
      color: #555;
    }
  </style>
</head>
<body>
  <div class="card">
    <h1>CSS Variables</h1>
    <p>
      This page uses custom properties defined in <code>:root</code> for the primary color and font.
    </p>
  </div>
</body>
</html>
```

o/p



CSS Variables

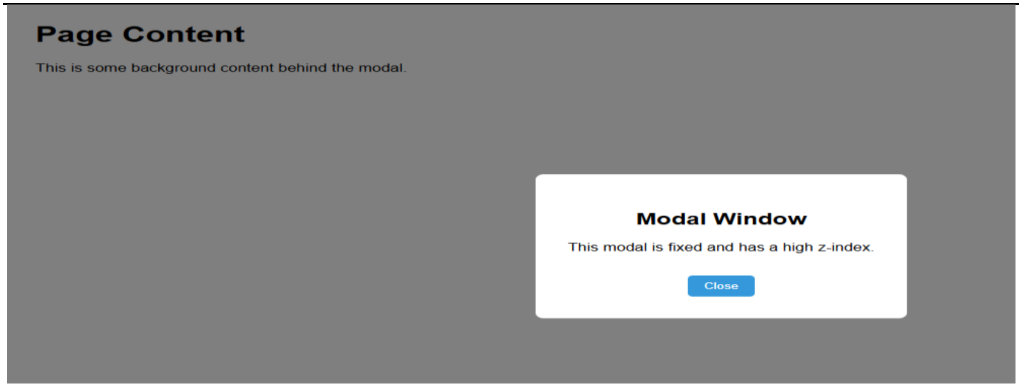
This page uses custom properties defined in :root for the primary color and font.

- A centered card with a `Roboto` font and a blue heading
- The color and font are both pulled from the variables declared in `:root`

10. Z-Index for Layering

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>Simple Modal Example</title>

  <style>
    body {
      font-family: Arial, sans-serif;
      padding: 2rem;
    }

    .modal {
      position: fixed;
      top: 0;
      left: 0;
      width: 100vw;
      height: 100vh;
      background: rgba(0, 0, 0, 0.5);
      z-index: 9999;
      display: flex;
      justify-content: center;
      align-items: center;
    }

    .modal-content {
      background: white;
      padding: 2rem;
      border-radius: 8px;
      text-align: center;
      max-width: 400px;
    }

    .close-btn {
      margin-top: 1rem;
      padding: 0.5rem 1rem;
      background-color: #3498db;
      color: white;
      border: none;
      border-radius: 5px;
      cursor: pointer;
    }
  </style>
</head>
<body>

  <h1>Page Content</h1>
  <p>This is some background content behind the modal.</p>
  <!-- Modal -->
  <div class="modal" id="modal">
    <div class="modal-content">
      <h2>Modal Window</h2>
      <p>This modal is fixed and has a high z-index.</p>
      <button class="close-btn"
onclick="document.getElementById('modal').style.display='none'">Close</button>
    </div>
  </div>

</body>
</html>
```

o/p



Page Content

This is some background content behind the modal.

Modal Window

This modal is fixed and has a high z-index.

- A dark overlay modal covers the entire screen.
- A white box in the center contains a message and a **"Close"** button.
- Clicking "Close" will hide the modal by setting `display: none`.