



# Code4SP Training Materials Subchapter 3: CSS

WP3: Code4SP Training Materials

Prepared by: Social Hackers Academy



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# What is CSS?

- CSS stands for Cascading Style Sheets
- CSS describes how HTML elements are to be displayed on screen or any 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



# CSS Syntax

- The selector points to the HTML element you want to style.
- The declaration block contains one or more declarations separated by semicolons.
- Each declaration includes a CSS property name and a value, separated by a colon.
- Multiple CSS declarations are separated with semicolons, and declaration blocks are surrounded by curly braces.



# CSS Selectors

- CSS selectors are used to "find" (or select) the HTML elements you want to style
- We can select elements based on :

- Tag name

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

- Class

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

- Id

```
#para1 {  
  text-align: center;  
  color: red;  
}
```

# CSS Comments

- Comments are used to explain the code, and may help when you edit the source code at a later date.
- Comments are ignored by browsers.
- A CSS comment starts with `/*` and ends with `*/`

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

```
/* This is  
a multi-line  
comment */  
  
p {  
  color: red;  
}
```

# CSS Colors

Colors are specified using predefined color names, or RGB, HEX, HSL, RGBA, HSLA values.

```
rgb(255, 99, 71)
```

```
#ff6347
```

```
hsl(9, 100%, 64%)
```

```
rgba(255, 99, 71, 0.5)
```

```
hsla(9, 100%, 64%, 0.5)
```

# CSS Backgrounds

- The CSS background properties are used to add background effects for elements.
- Some background properties :

- `background-color`
- `background-image`
- `background-repeat`
- `background-attachment`
- `background-position`
- `background` (shorthand property)

# CSS Borders

The CSS border properties allow you to specify the style, width, and color of an element's border.

I have borders on all sides.

I have a red bottom border.

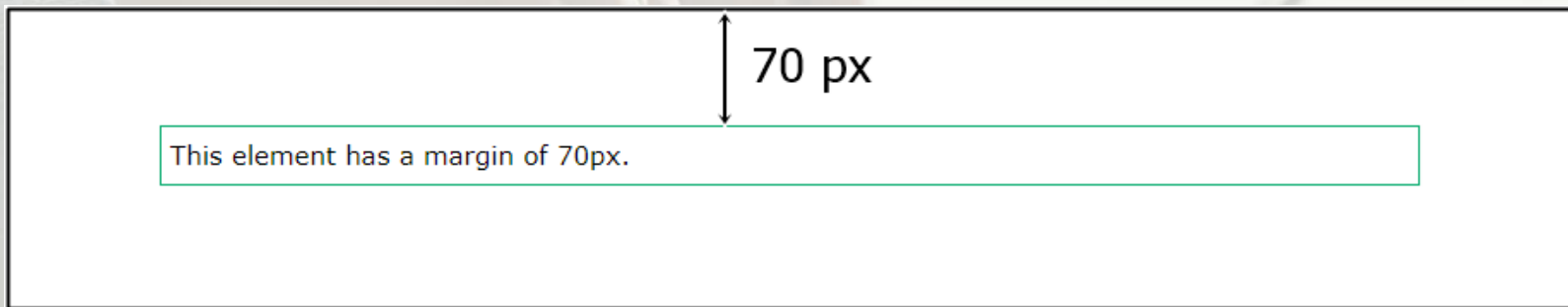
---

I have rounded borders.



# CSS Margins

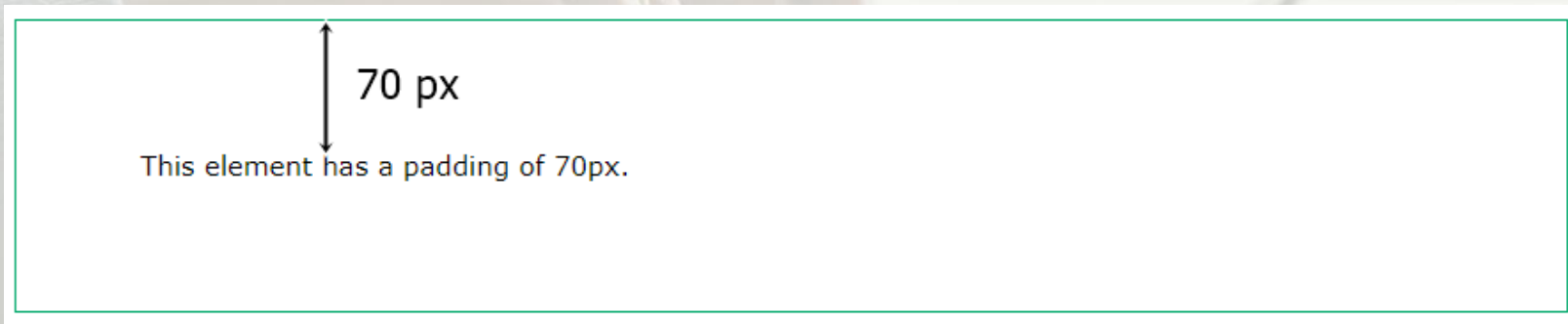
Margins are used to create space around elements, outside of any defined borders.



This element has a margin of 70px.

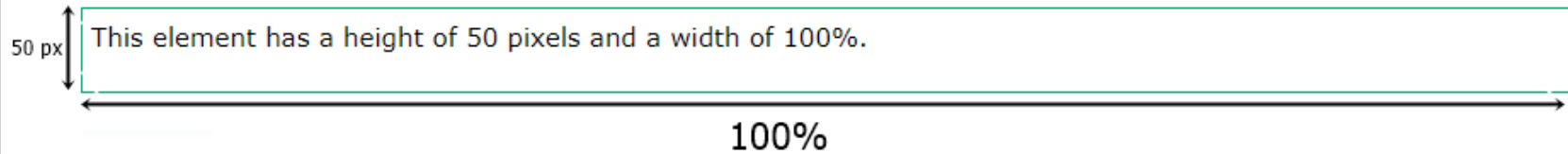
# CSS Padding

Padding is used to create space around an element's content, inside of any defined borders.



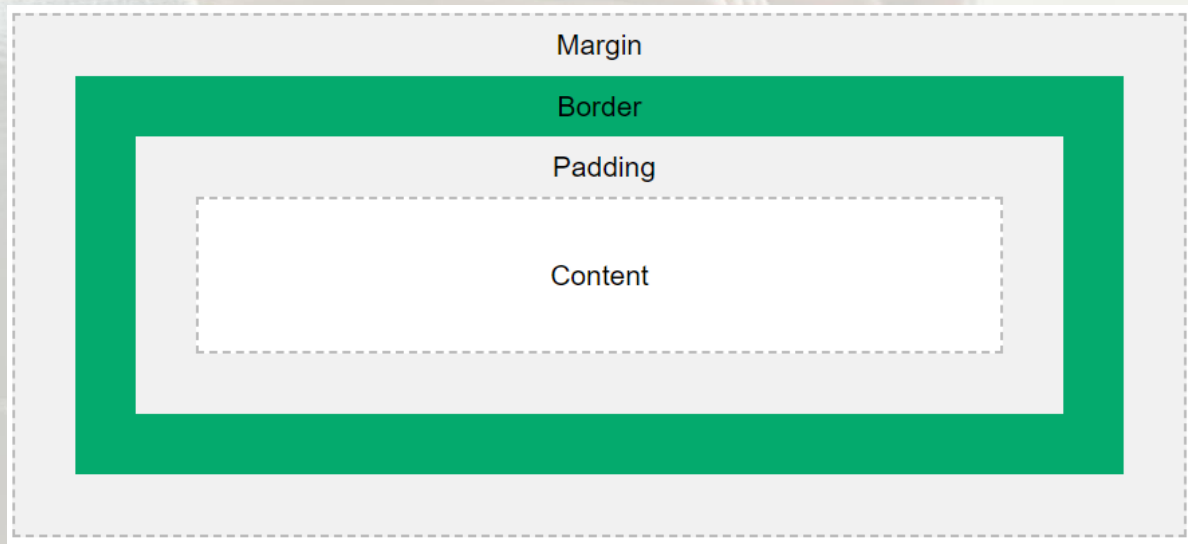
# CSS Height/Width

- The height and width properties are used to set the height and width of an element.
- The height and width properties do not include padding, borders, or margins. It sets the height/width of the area inside the padding, border, and margin of the element.



# CSS Box Model

- In CSS, the term "box model" is used when talking about design and layout.
- 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:



# CSS Outline

An outline is a line that is drawn around elements, OUTSIDE the borders, to make the element "stand out".

This element has a black border and a green outline with a width of 10px.

# CSS Text

CSS has a lot of properties for formatting text.

## TEXT FORMATTING

This text is styled with some of the text formatting properties. The heading uses the `text-align`, `text-transform`, and `color` properties. The paragraph is indented, aligned, and the space between characters is specified. The underline is removed from this colored ["Try it Yourself"](#) link.

# CSS Fonts

- The right font can create a strong identity for your brand.
- Using a font that is easy to read is important. The font adds value to your text. It is also important to choose the correct color and text size for the font.

Generic Font Family	Examples of Font Names
Serif	Times New Roman Georgia Garamond
Sans-serif	Arial Verdana Helvetica
Monospace	Courier New Lucida Console Monaco
Cursive	<i>Brush Script MT</i> <i>Lucida Handwriting</i>
Fantasy	<b>Copperplate</b> Papyrus

# CSS Icons

- The simplest way to add an icon to your HTML page, is with an icon library, such as Font Awesome.
- Add the name of the specified icon class to any inline HTML element (like `<i>` or `<span>` ).
- All the icons in the icon libraries below, are scalable vectors that can be customized with CSS





# CSS Links

Links can be styled with any CSS property (e.g. color, font-family, background, etc, )

Text Link

Text Link

Link Button

Link Button

# CSS Lists

The CSS list properties allow you to:

- Set different list item markers for ordered lists
- Set different list item markers for unordered lists
- Set an image as the list item marker
- Add background colors to lists and list items

## The list-style-type Property

Example of unordered lists:

- Coffee
- Tea
- Coca Cola
  
- Coffee
- Tea
- Coca Cola

Example of ordered lists:

- I. Coffee
- II. Tea
- III. Coca Cola
  
- a. Coffee
- b. Tea
- c. Coca Cola

# CSS Display

- The display property specifies if/how an element is displayed.
- Every HTML element has a default display value depending on what type of element it is. The default display value for most elements is block or inline

The `<div>` element is a block-level element.

Examples of block-level elements:

- `<div>`
- `<h1>` - `<h6>`
- `<p>`
- `<form>`
- `<header>`
- `<footer>`
- `<section>`

This is `an inline <span> element inside` a paragraph.

Examples of inline elements:

- `<span>`
- `<a>`
- `<img>`

# CSS Tables

The look of an HTML table can be greatly improved with CSS:

Company	Contact	Country
Alfreds Futterkiste	Maria Anders	Germany
Berglunds snabbköp	Christina Berglund	Sweden
Centro comercial Moctezuma	Francisco Chang	Mexico
Ernst Handel	Roland Mendel	Austria
Island Trading	Helen Bennett	UK
Königlich Essen	Philip Cramer	Germany
Laughing Bacchus Winecellars	Yoshi Tannamuri	Canada
Magazzini Alimentari Riuniti	Giovanni Rovelli	Italy

## CSS Max-width

- The problem with the `<div>` above occurs when the browser window is smaller than the width of the element. The browser then adds a horizontal scrollbar to the page
- Using `max-width` instead, in this situation, will improve the browser's handling of small windows. This is important when making a site usable on small devices

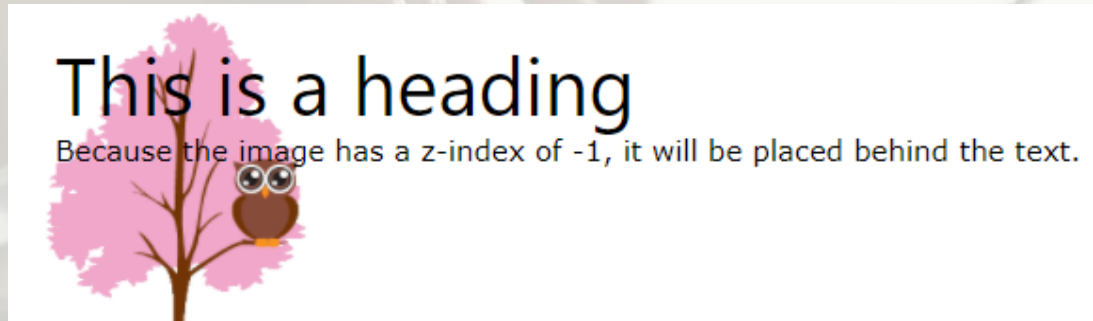


# CSS Position

- The position property specifies the type of positioning method used for an element
- There are five different position values:
  - static
  - relative
  - fixed
  - absolute
  - sticky

# CSS Z-index

- 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:



# 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

You can use the overflow property when you want to have better control of the layout. The overflow property specifies what happens if content overflows an element's box.

- Scroll

overflow property specifies what happens if content overflows an element's box.

- hidden

You can use the overflow property when you want to have better control of the layout. The overflow property specifies what

- auto

You can use the overflow property when you want to have better control of the layout. The




# CSS Float

The float property is used for positioning and formatting content

- Example - **float: right**


The following example specifies that an image should float to the **right** in a text:

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus imperdiet, nulla et dictum interdum, nisi lorem egestas odio, vitae scelerisque enim ligula venenatis dolor. Maecenas nisl est, ultrices nec congue eget, auctor vitae massa. Fusce luctus vestibulum augue ut aliquet. Mauris ante ligula, facilisis sed ornare eu, lobortis in odio. Praesent convallis urna a lacus interdum ut hendrerit risus congue. Nunc sagittis dictum nisi, sed ullamcorper ipsum dignissim ac...



- Example - **float: left**

The following example specifies that an image should float to the **left** in a text:



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus imperdiet, nulla et dictum interdum, nisi lorem egestas odio, vitae scelerisque enim ligula venenatis dolor. Maecenas nisl est, ultrices nec congue eget, auctor vitae massa. Fusce luctus vestibulum augue ut aliquet. Mauris ante ligula, facilisis sed ornare eu, lobortis in odio. Praesent convallis urna a lacus interdum ut hendrerit risus congue. Nunc sagittis dictum nisi, sed ullamcorper ipsum dignissim ac...

# CSS Inline-block

- Display: inline-block allows to set a width and height on the element.
- With display: inline-block the top and bottom margins/paddings are respected
- Display: inline-block does not add a line-break after the element, so the element can sit next to other elements.

>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vestibulum consequat scelerisque elit sit amet consequat. Aliquam erat volutpat. Aliquam venenatis gravida nisl sit amet facilisis. Nullam cursus fermentum velit sed laoreet.

# CSS Align

- To horizontally center a block element (like `<div>`), use `margin : auto`
- Setting the width of the element will prevent it from stretching out to the edges of its container.
- The element will then take up the specified width, and the remaining space will be split equally between the two margins:



# CSS Combinators

- A CSS selector can contain more than one simple selector. Between the simple selectors, we can include a combinator.
- There are four different combinators in CSS :
  - descendant selector (space) -> e.g. `div p { background-color: yellow }`
  - child selector (`>`) -> e.g. `div > p { background-color: yellow }`
  - adjacent sibling selector (`+`) -> e.g. `div + p { background-color: yellow }`
  - general sibling selector (`~`) -> e.g. `div ~ p { background-color: yellow }`

# CSS Pseudo-class

- 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

## Examples :

```
/* unvisited link */  
a:link {  
    color: #FF0000;  
}  
  
/* visited link */  
a:visited {  
    color: #00FF00;  
}  
  
/* mouse over link */  
a:hover {  
    color: #FF00FF;  
}  
  
/* selected link */  
a:active {  
    color: #0000FF;  
}
```

# CSS Pseudo-element

- 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

Example :

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

The `::first-line` pseudo-element is used to add a special style to the first line of a text.

# CSS Opacity

- The `opacity` property specifies the opacity/transparency of an element.
- The `opacity` property can take a value from 0.0 - 1.0. The lower value, the more transparent



opacity 0.2



opacity 0.5

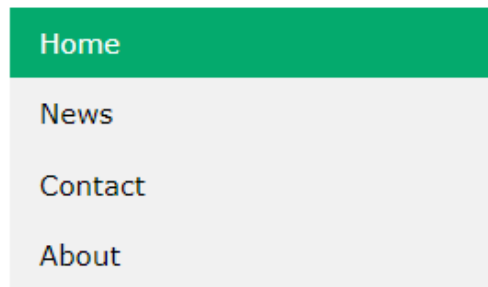


opacity 1  
(default)

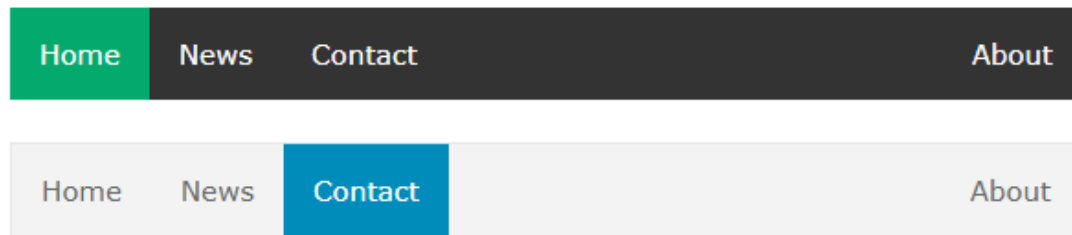
# CSS Navigation Bar

With CSS you can transform boring HTML menus into good-looking navigation bars.

Vertical



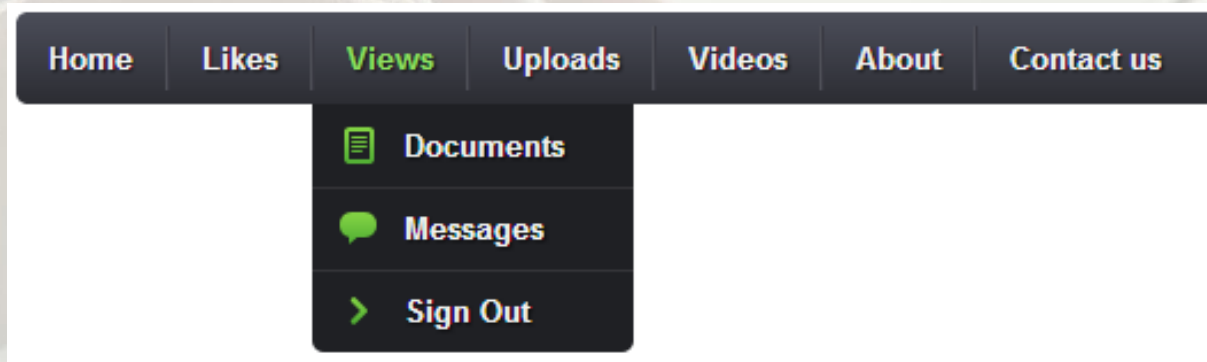
Horizontal





# CSS Dropdowns

With CSS you can transform boring HTML menus into good-looking navigation bars.



# CSS Image Gallery

CSS can be used to create an image gallery.



Add a description of  
the image here



Add a description of  
the image here



Add a description of  
the image here



Add a description of  
the image here

# CSS Image Sprites

- An image sprite is a collection of images put into a single image.
- A web page with many images can take a long time to load and generates multiple server requests.
- Using image sprites will reduce the number of server requests and save bandwidth.



# CSS Attr Selectors

- The [attribute] selector is used to select elements with a specified attribute.
- The following example selects all <a> elements with a target attribute:

```
a[target] {  
    background-color: yellow;  
}
```

# CSS Forms

The look of an HTML form can be greatly improved with CSS:

First Name

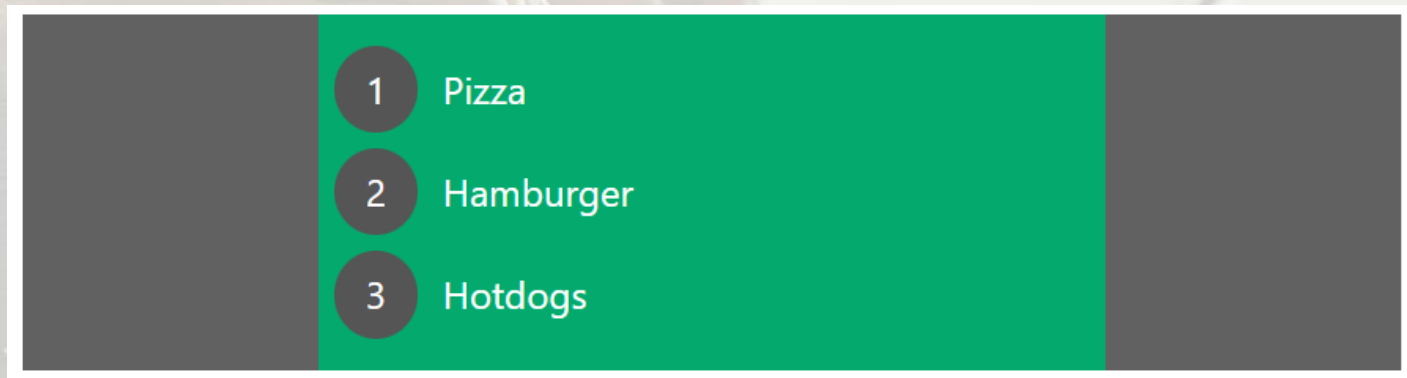
Last Name

Country

[Try it Yourself »](#)

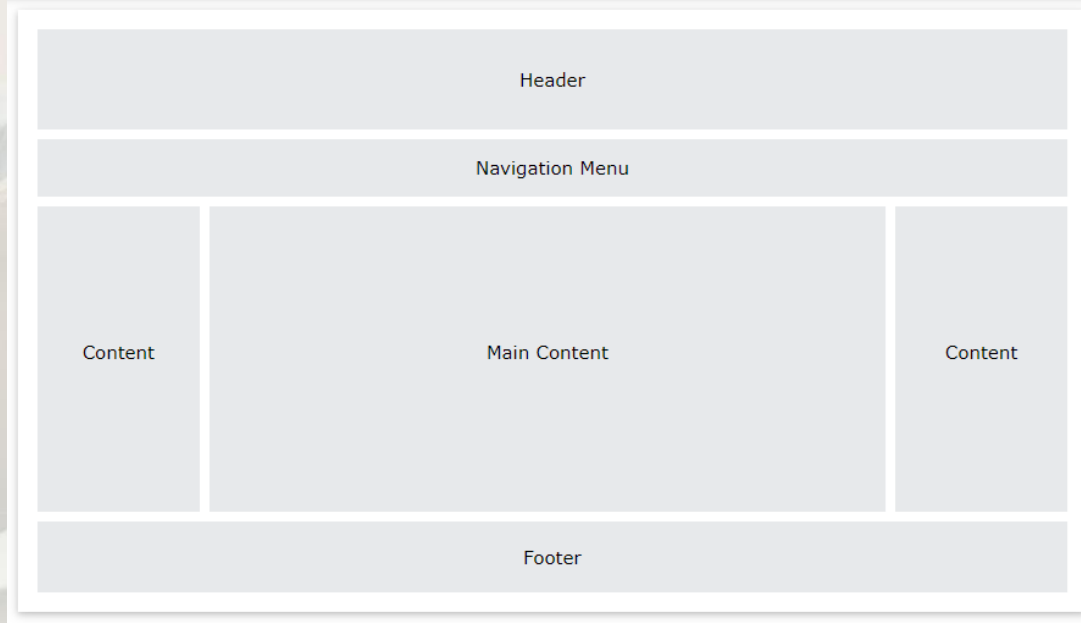
# CSS Counters

CSS counters are "variables" maintained by CSS whose values can be incremented by CSS rules (to track how many times they are used). Counters let you adjust the appearance of content based on its placement in the document.



# CSS Website Layout

A website is often divided into headers, menus, content and a footer



# CSS Units

- CSS has several different units for expressing a length.
- Many CSS properties take "length" values, such as width, margin, padding, font-size, etc,
- Length is a number followed by a length unit, such as 10px, 2em, etc,

Unit	Description
cm	centimeters
mm	millimeters
in	inches (1in = 96px = 2.54cm)
px *	pixels (1px = 1/96th of 1in)
pt	points (1pt = 1/72 of 1in)
pc	picas (1pc = 12 pt)



# CSS Specificity

- If there are two or more CSS rules that point to the same element, the selector with the highest specificity value will "win", and its style declaration will be applied to that HTML element.
- Think of specificity as a score/rank that determines which CSS declaration are ultimately applied to an element.

In this example, we have used the "p" element as selector, and specified a red color for this element. The text will be red:

```
<html>
<head>
  <style>
    p {color: red;}
  </style>
</head>
<body>

<p>Hello World!</p>

</body>
</html>
```

# CSS !important

- The !important rule in CSS is used to add more importance to a property/value than normal.
- In fact, if you use the !important rule, it will override ALL previous styling rules for that specific property on that element!

```
#myid {  
  background-color: blue;  
}  
  
.myclass {  
  background-color: gray;  
}  
  
p {  
  background-color: red !important;  
}
```

# CSS Math Functions

- The CSS math functions allow mathematical expressions to be used as property values.  
Some Math functions are: calc(), max() and min() functions.
- Example: the use of calc() to calculate the width of a <div> element:

```
#div1 {  
  position: absolute;  
  left: 50px;  
  width: calc(100% - 100px);  
  border: 1px solid black;  
  background-color: yellow;  
  padding: 5px;  
}
```