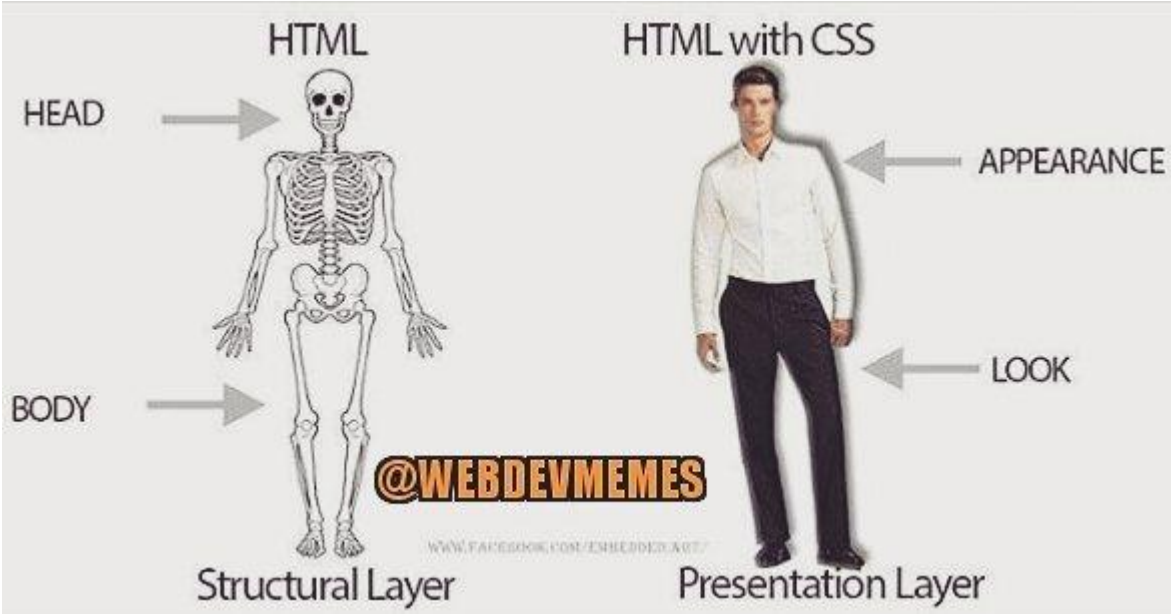

HTML
HTML with CSS
HEAD
APPEARANCE
BODY
LOOK
@WEBDEVMEMES
Structural Layer
Presentation Layer

Module 3-1

Introduction to HTML and CSS

Objectives

- Understand the basics of HTML
  - Document structure
  - Tags and attributes
- Understand the following tags:
  - Headings
  - Paragraphs
  - Links
  - Images
- Utilize elements to build a form
- Understand action attribute of form tag
- What is Semantic HTML
- Basics of CSS and how to create style declarations
- Basics of fonts and the browser
- Basics of colors and properties for working with them

Building blocks of the web

- HTML
  - Provides content for page
- CSS
  - Provides presentation, formatting, and layout
- JS
  - Controls the behavior of different elements

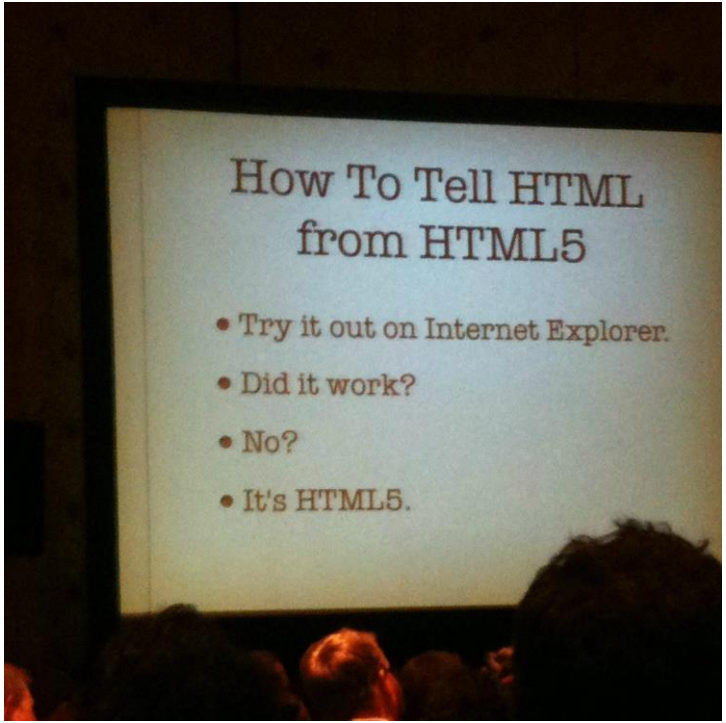
HTML: Language Introduction

- HTML (Hyper Text Markup Langage) is a declarative language interpreted by internet browsers.
- Unlike Java, there is no separate step needed to compile the code, the instructions written in HTML are simply interpreted by the browser.
- Standard markup language for creating Web pages
- Consists of series of elements
  - Tell the browser how to display the content

HTML History

- 1989 Tim Berners-Lee invented www
- 1991 Tim Berners-Lee invented HTML
- 1993 Dave Raggett drafted HTML+
- 1995 Working group defined HTML 2.0
- 1997 W3C Recommendation HTML 3.2

- 2015 W3C Recommendation HTML5



HTML: Language Introduction

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>

    <h1>My First Heading</h1>
    <p>My first paragraph.</p>

  </body>
</html>
```

HTML: Elements

- HTML defined by a start tag, some content and (for non-void elements) an end tag. Here are a few common ones:
  - <html>...</html>
  - <head>...</head>
  - <body>...</body>
  - <h1>...</h1>
- The rules for tags are straightforward:
  - There is a begin tag and an end tag, the end tag is denoted by the slash.
  - Some tags can be defined in a self-closing manner. For example, the tag for an image can be constructed like so:
    - **** as an alternative to **<img src=”photo.jpg”> </img>**
    - **
 -** single line break is a void element

HTML: Attributes

- Provide additional information about HTML elements
- Always specified in the start tag
- Usually come in name/value pairs – src=“photo.jpg”
  - src specifies the path to image to be displayed
    - ****
    - ****

Common HTML tags

- Heading tags (h1, h2, h3, h4, h5 h6)
  - Range from most important (h1) to least important (h6)
  - Typically vary in size – largest (h1) to smallest (h6)
  - Best practice – only one h1 tag per page (main topic)
- Paragraph tags (p)
  - Defines paragraph
  - Starts a new line
- Emphasis (em)
  - Emphasizes text typically with italics
- Strong (strong)
  - Important text typically with bold

This is heading 1

This is heading 2

This is heading 3

This is heading 4

This is heading 5

This is heading 6

Tip: Use h1 to h6 elements only for headings. Do not use them just to make text bold or big. Use other tags for that.

Common HTML tags

- Blockquote (blockquote)
  - Text is indented (unlike p tag)
  - Single cite attribute (contains a URL to the source of quote)
- Anchor (a)
  - Defines a hyperlink – link to another page or section
  - href attribute
- Image (img)
  - Links image to webpage
  - Placeholder signifying where image will appear on page
  - Two required attributes – src and alt

```
<blockquote cite="http://www.worldwildlife.org/who/index.html">
For 50 years, WWF has been protecting the future of nature. The world's leading conservation organization, WWF
works in 100 countries and is supported by 1.2 million members in the United States and close to 5 million
globally.
</blockquote>
```

The blockquote element

Here is a quote from WWF's website:

> For 50 years, WWF has been protecting the future of nature. The world's leading conservation organization, WWF works in 100 countries and is supported by 1.2 million members in the United States and close to 5 million globally.

The a element

Visit Techelevator.com!

```
<img src="cute+puppy.jpg" alt="Cute puppy" width="250" height="300">
```

Common HTML tags

- Ordered and unordered lists (ol and ul)
  - Both use list item tag (li) to itemize

```
<p>The ol element defines an ordered list:</p>
<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>

<p>The ul element defines an unordered list:</p>
<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
```

The ol and ul elements

The ol element defines an ordered list:

1. Coffee
2. Tea
3. Milk

The ul element defines an unordered list:

- Coffee
- Tea
- Milk

- Table (table)
  - Consists of table rows (tr) and table data (td)
  - Table head (th) can be used in place of table data

```
<table>
  <tr>
    <th>Month</th>
    <th>Savings</th>
  </tr>
  <tr>
    <td>January</td>
    <td>$100</td>
  </tr>
  <tr>
    <td>February</td>
    <td>$80</td>
  </tr>
</table>
```

The table element

Month	Savings
January	$100
February	$80

Forms

- Allow you to get information from the user
- Two attributes (method and action)
  - Method – HTTP method to submit form with
    - POST and GET!
  - Action – URL to process the form submission

```
<form action="/action_page.php" method="get" target="_blank">
  <label for="fname">First name:</label>
  <input type="text" id="fname" name="fname"><br><br>
  <label for="lname">Last name:</label>
  <input type="text" id="lname" name="lname"><br><br>
  <input type="submit" value="Submit">
</form>
```

First name:

Last name:

Submit

Form Elements

- Input
  - Most common used form element
  - Type attribute
    - text, radio, checkbox, submit, button
    - name – sent to the server to be recognized and get the value

```
<form action="/action_page.php">
  <input type="radio" id="dog" name="pet" value="dog">
  <label for="dog">Dog</label><br>
  <input type="radio" id="cat" name="pet" value="cat">
  <label for="cat">Cat</label><br>
  <input type="radio" id="other" name="pet" value="other">
  <label for="other">Other</label><br><br>
  <input type="submit" value="Submit">
</form>
```

The **input type="radio"** defines a radio button:

- ○ Dog
- ○ Cat
- ○ Other

Submit

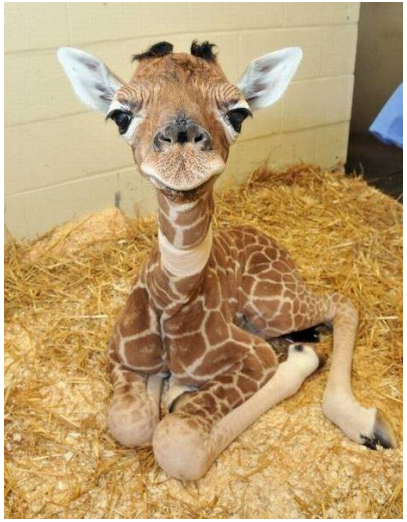
```
<!DOCTYPE html>
<html>

   <head>
      <title>Text Input Control</title>
   </head>

   <body>
      <form >
         First name: <input type = "text" name = "first_name" />
         <br>
         Last name: <input type = "text" name = "last_name" />
      </form>
   </body>

</html>
```

This will produce the following result −

First name:

Last name:

Form Elements



Type	Description
button	A push-button with no default behavior displaying the value of the value attribute, empty by default.
text	The default value. A single-line text field. Line-breaks are automatically removed from the input value.
checkbox	A check box allowing single values to be selected/deselected.
radio	A radio button, allowing a single value to be selected out of multiple choices with the same name value.
date	A control for entering a date (year, month, and day, with no time). Opens a date picker or numeric wheels for year, month, day when active in supporting browsers.
email	A field for editing an email address. Looks like a text input, but has validation parameters and relevant keyboard in supporting browsers and devices with dynamic keyboards.
color	A control for specifying a color; opening a color picker when active in supporting browsers.
file	A control that lets the user select a file. Uses the accept attribute to define the types of files that the control can select.
number	A control for entering a number. Displays a spinner and adds default validation when supported. Displays a numeric keypad in some devices with dynamic keypads.
submit	A button that submits the form.

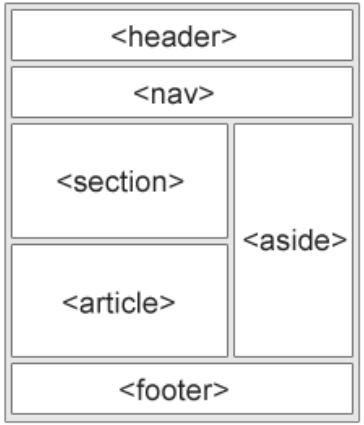
Form Elements

Attribute	Description
name	Name of the input form control. Submitted with the form as part of a name/value pair.
type	Type of input form control.
value	Current value of the form control. Submitted with the form as part of a name/value pair.
disabled	Whether the form control is disabled.
minlength	Minimum length (number of characters) of value.
maxlength	Maximum length (number of characters) of value placeholder.
required	Boolean. A value is required or must be checked for the form to be submittable.

Semantic HTML

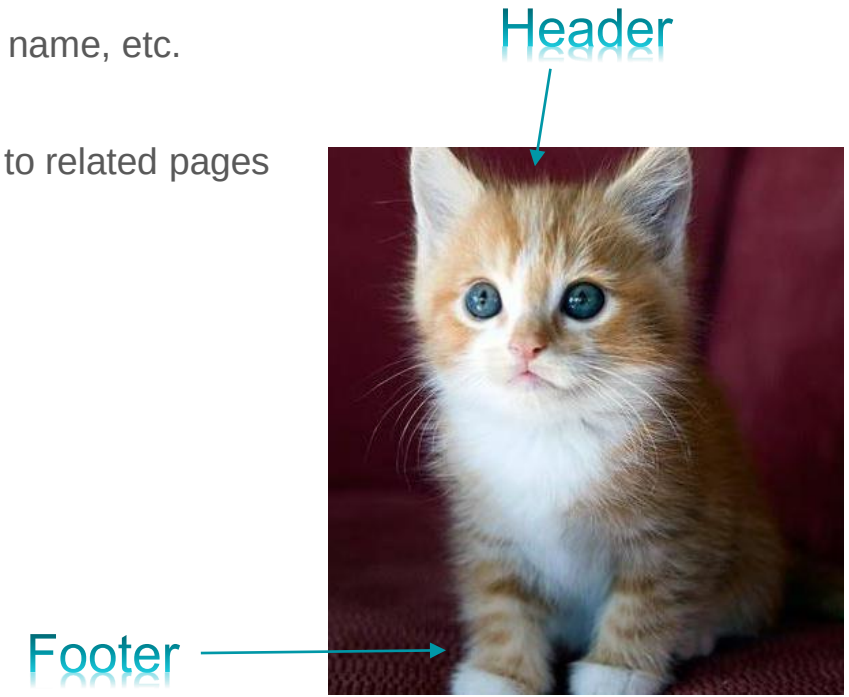
- Elements that have meaning
- Describes meaning to both browser and developer
  - Non-semantic – div and span
  - Semantic – form, table, article

- <article>
- <aside>
- <details>
- <figcaption>
- <figure>
- <footer>
- <header>
- <main>
- <mark>
- <nav>
- <section>
- <summary>
- <time>



Common Semantic elements

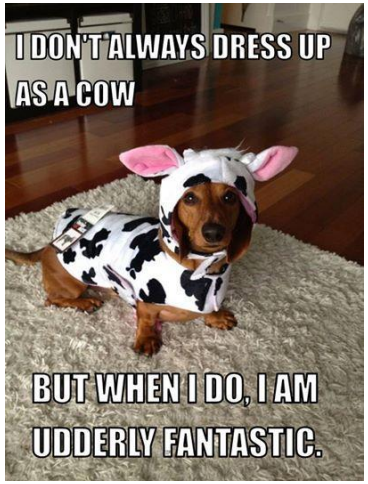
- Header (not head)
  - Headings, navigation links, company name, etc.
- Footer
  - Copyright info, company name, links to related pages



Let’s Code!

What is CSS?

- CSS (Cascading Style Sheets) are used to change the default style of HTML elements.
  - Brings page to life with layout and style.



- CSS code can be inlined (included on an element), internal (included within the <head>...</head> section of a HTML document), or external (it can be included in its own separate file).
  - The latter is much preferred.
  - Files names should end with a *.css extension.

Inline CSS

- Placed in tag with style attribute
- Use as sparingly as possible!

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

<h1 style="color:blue;text-align:center;">This is a heading</h1>
<p style="color:red;">This is a paragraph.</p>

</body>
</html>
```

Internal CSS

- Typically used for unique page in web site
- Style element placed in head section

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
  background-color: linen;
}

h1 {
  color: maroon;
  margin-left: 40px;
}
</style>
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

External CSS

- One file can be used for all pages in web site
- Link element is placed in head section, referencing external style sheet

```html
<!DOCTYPE html>
<html>
<head>
<link rel="stylesheet" href="mystyle.css">
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

"mystyle.css"

```css
body {
  background-color: lightblue;
}

h1 {
  color: navy;
  margin-left: 20px;
}
```

External CSS

- Comments follow block comments in java => /* */
- Type selector selects all elements with node name
- Curly braces denote selector blocks
- Contains one or more style declarations
- name : value pairs

"mystyle.css"

```
body {
  background-color: lightblue;
}

h1 {
  color: navy;
  margin-left: 20px;
}
```

CSS Font Families

- Serif
- San-serif
- Monospace
- Cursive
- Fantasy

```
<!DOCTYPE html>
<html>
<head>
<style>
.p1 {
  font-family: "Times New Roman", Times, serif;
}

.p2 {
  font-family: Arial, Helvetica, sans-serif;
}

.p3 {
  font-family: "Lucida Console", "Courier New", monospace;
}
</style>
</head>
<body>

<h1>CSS font-family</h1>
<p class="p1">This is a paragraph, shown in the Times New Roman font.</p>
<p class="p2">This is a paragraph, shown in the Arial font.</p>
<p class="p3">This is a paragraph, shown in the Lucida Console font.</p>

</body>
</html>
```

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	Brush Script MT Lucida Handwriting
Fantasy	Copperplate Papyrus

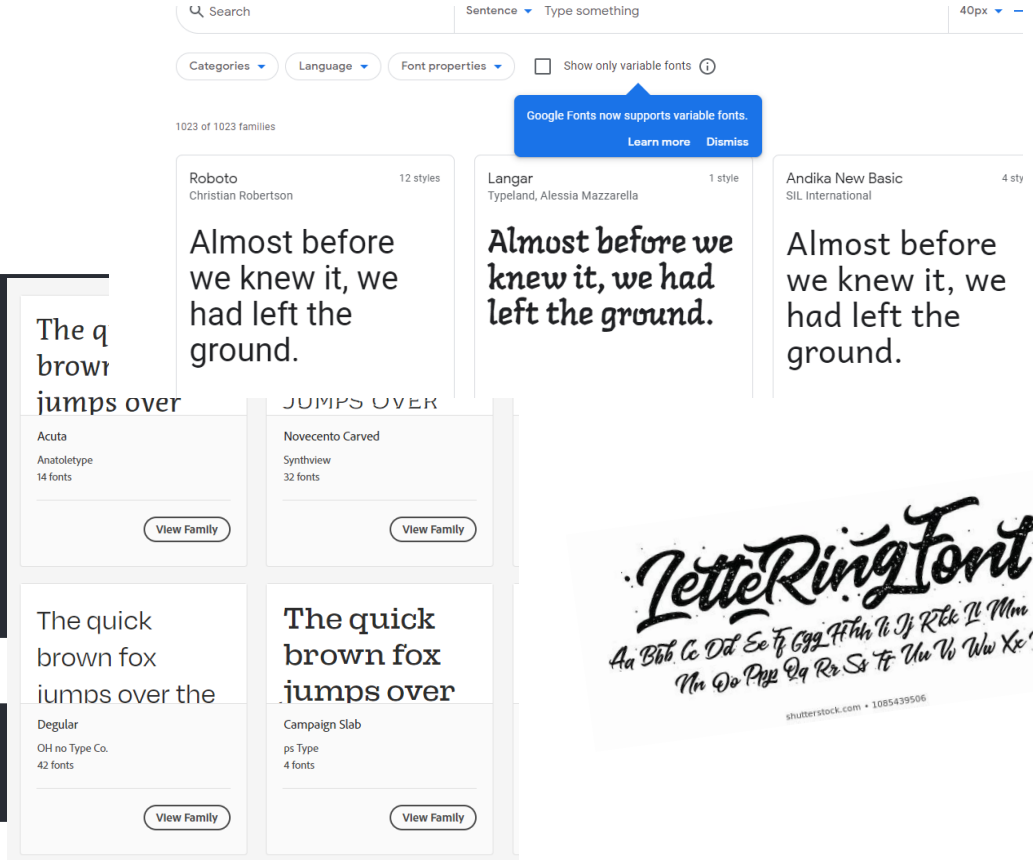
Web Font Providers

- [Google Fonts]
- [Adobe Fonts]

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>CSS Basics</title>
    <link rel="stylesheet" href="css/styles.css" />
    <link
      href="https://fonts.googleapis.com/css2?family=Roboto&display=swap"
      rel="stylesheet"
    />
  </head>
</html>
```

Next, update your selector to use the new font family:

```
body {
  font-family: 'Roboto', sans-serif;
}
```



Font Properties

- Font size
- Font weight
- Font style
- Line height
- Text align
- Text decoration
- Text transform

```css
h1 {
  font-size: 40px;
}
```

```css
h1 {
  font-size: 2.5em; /* 40px/16=2.5em */
}
```

```css
body {
  font-size: 100%;
}
```

```css
h1 {
  text-align: center;
}

h2 {
  text-align: left;
}

h3 {
  text-align: right;
}
```

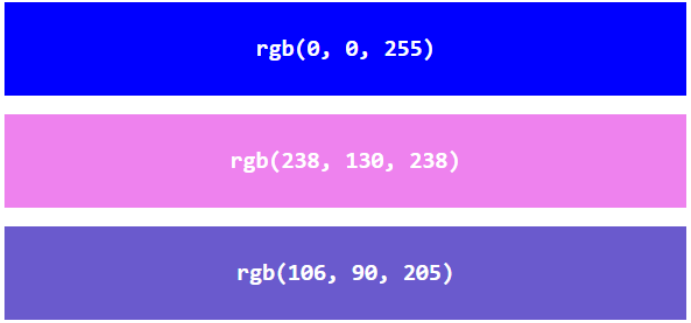
```css
h1 {
  text-decoration: overline;
}

h2 {
  text-decoration: line-through;
}

h3 {
  text-decoration: underline;
}
```

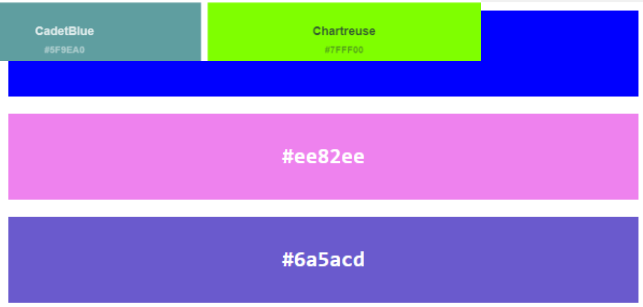
```css
p.uppercase {
  text-transform: uppercase;
}

p.lowercase {
  text-transform: lowercase;
}

p.capitalize {
  text-transform: capitalize;
}
```

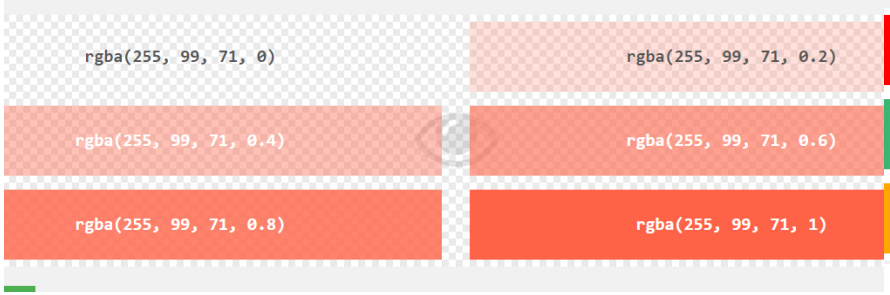
```css
p.small {
  line-height: 0.8;
}

p.big {
  line-height: 1.8;
}
```

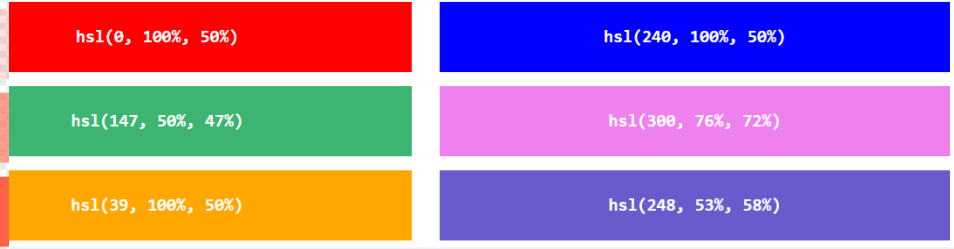
CSS Colors

- Predefined color names
- RBG
- HEX
- HSL
- RGBA
- HSLA









Let’s Code!