

The background image shows a person standing at the front of a room, pointing at a large projection screen. The screen displays lines of code, likely HTML or CSS. In the foreground, several people are seated at desks, viewed from behind, looking towards the screen. The room has a brick wall and the overall lighting is dim with a purple tint.

Designing Your Website

Hosted by Sudo
In partnership with **Innovate Kingston**

About the Instructor

- Computer Science & Math at Queen's
- Currently a Computer Programmer Intern at Prodomax Automation Ltd (Barrie, ON)
- Watches way too much TV for her own good



Setting Up

- Download a Text Editor
 - E.g. [Sublime Text 3](#), Atom, Notepad++
- Make sure you have a compatible Internet Browser
 - E.g. Google Chrome, Firefox, Safari
- In the Text Editor, make two files:
 - index.html
 - main.css

What is HTML?

- HTML = Hypertext Markup Language
- Standard for developing websites
- Describes the structure of web pages using markup
- Uses elements represented as tags
- The browser translates the code into a viewable form shown as a web page

```
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <title></title>
6  </head>
7  <body>
8
9  </body>
10 </html>
```


What is CSS?

- CSS = Cascading Style Sheets
- Standard for designing websites
- Describes how HTML elements are to be displayed on screen

```
1  body {  
2      background: #FDD761;  
3      font-family: 'Lucida Sans Unicode', 'Arial', serif;  
4      color: white;  
5  }  
6  
7  h1, h3, h4, header .btn {  
8      font-weight: 700;  
9  }  
10  
11  h1 {  
12      margin: 100px 0 20px;  
13      text-transform: uppercase;  
14      font-size: 2.6rem;  
15  }
```

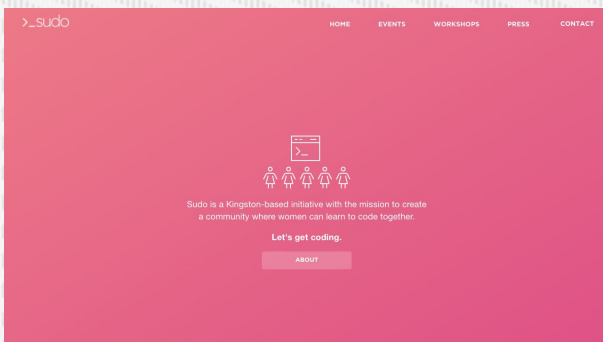
Examples of HTML and CSS

Story

A (modular, highly tweakable) responsive one-page template designed by [HTML5 UP](#) and released for free under the [Creative Commons](#).

This is a **Banner** element, and it's generally used as an introduction or opening statement. You can customize its [style](#), [scheme](#), [color](#), [size](#), [orientation](#), [content alignment](#), and [image position](#), as well as assign it an optional [onload](#) or [onscroll](#) transition modifier ([details](#)).

GET STARTED



FORTY



Aliquam

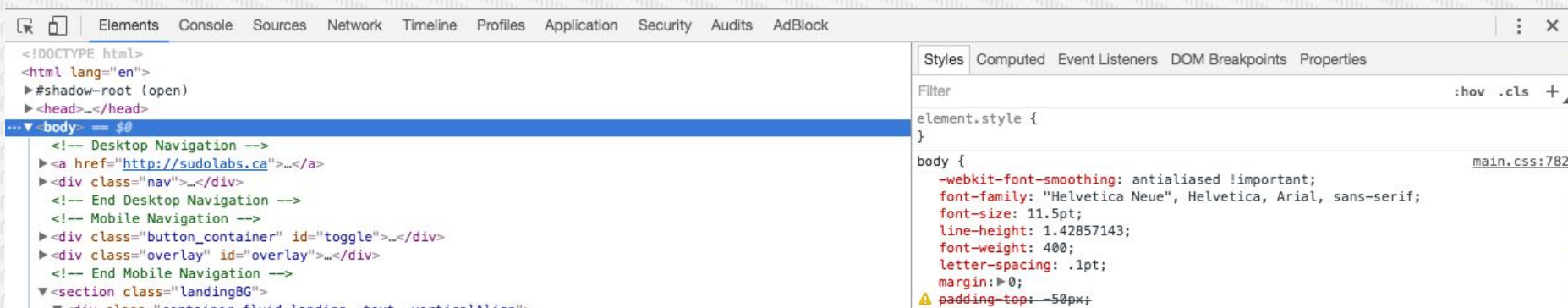
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HTML and CSS in Action

- Open any website on your Browser
- Right click on the site and click “Inspect Element”



HTML and CSS Review

HTML Review: Important Tags

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My First Website</title>
5  </head>
6  <body>
7      <!-- This text won't appear! -->
8      <p>Hello World!</p>
9      <!-- Neither will this -->
10 </body>
11 </html>
```

<!DOCTYPE html> shows that this document is written in HTML5

<html> describes the HTML document

<head> provides information about the document. It's contents are not visible on the webpage.

<body> describes all visible page content

HTML Review: Basic Tags

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  </head>
5  <body>
6      <h1>Hello from H1</h1>
7      <h2>Hello from H2</h2>
8      <h3>Hello from H3</h3>
9      <h4>Hello from H4</h4>
10     <h5>Hello from H5</h5>
11     <h6>Hello from H6</h6>
12
13     <p>Hello from P</p>
14 </body>
15 </html>
```

Hello from H1

Hello from H2

Hello from H3

Hello from H4

Hello from H5

Hello from H6

Hello from P

HTML Review: Links, Lists, and Images

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My First Website</title>
5  </head>
6  <body>
7      <a href="https://sudolabs.ca">Sudo's Website</a>
8      
9      <p>HTML and CSS are:
10         <ol>
11             <li>Fun</li>
12             <li>Easy to Learn</li>
13             <li>For making pretty websites</li>
14         </ol>
15     </p>
16 </body>
17 </html>
```



[Sudo's Website](https://sudolabs.ca)

HTML and CSS are:

1. Fun
2. Easy to Learn
3. For making pretty websites

HTML Review: Divs, IDs, and Classes

```
7  <body>
8      <div id="hello">
9          <p>Hello World!</p>
10     </div>
11     <div>
12         <p class="blue-text">This text is blue</p>
13         <p>This text is not blue</p>
14         <p class="blue-text">This text is blue</p>
15     </div>
16 </body>
```


CSS Review: Basic Styles

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My First Website</title>
5      <link rel="stylesheet" href="main.css">
6  </head>
7  <body>
8      <p>Hello World!</p>
9  </body>
10 </html>
```

```
1  body {
2      background-color: blue;
3  }
4
5  p {
6      font-size: 24pt;
7      color: yellow;
8  }
```

Hello World!

Let's Get Started!

CSS: Width and Height

```
7 <body>
8   <div id="hello">
9     <p>Hello World!</p>
10  </div>
```

```
1  body {
2    background-color: lightblue;
3  }
4
5  div {
6    border: solid 1px black;
7  }
8
9  #hello {
10   background-color: pink;
11   width: 100px;
12   height: 250px;
13 }
```

Hello World!

This text is blue

This text is not blue

This text is blue

CSS: Padding

```
7 <body>
8   <div id="hello">
9     <p>Hello World!</p>
10  </div>
```

```
1  body {
2    background-color: lightblue;
3  }
4
5  div {
6    border: solid 1px black;
7  }
8
9  #hello {
10   background-color: pink;
11   padding: 10px;
12 }
```

Hello World!

This text is blue

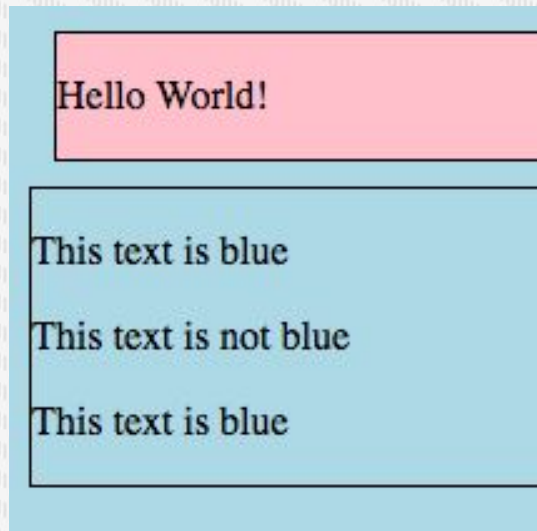
This text is not blue

This text is blue

CSS: Margins

```
7 <body>
8   <div id="hello">
9     <p>Hello World!</p>
10  </div>
```

```
1  body {
2    background-color: lightblue;
3  }
4
5  div {
6    border: solid 1px black;
7  }
8
9  #hello {
10   background-color: pink;
11   margin: 10px;
12 }
```



Google Fonts

<https://www.google.com/fonts>

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>My First Website</title>
5   <link rel="stylesheet" href="main.css">
6   <!-- Google Font Link -->
7   <link href="https://fonts.googleapis.com/
  css?family=Roboto" rel="stylesheet">
8 </head>
9 <body>
10  <p>Hello World!</p>
11 </body>
12 </html>
```

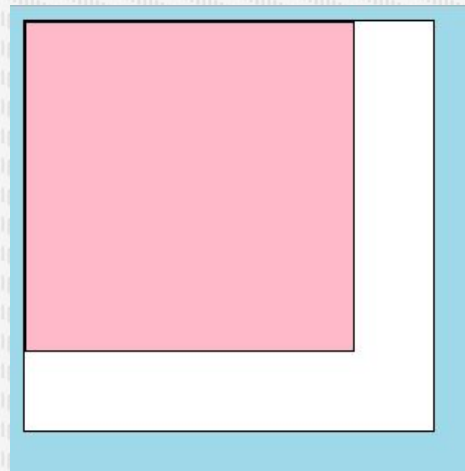
```
1 body {
2   background-color: lightblue;
3   font-family: 'Roboto', sans-serif;
4 }
5
6 p {
7   font-size: 24pt;
8   color: red;
9 }
```

Hello World!

CSS: Positioning - Static

```
7 <body>
8   <div id='outer'>
9     <div id='box'>
10    </div>
11  </div>
12 </body>
```

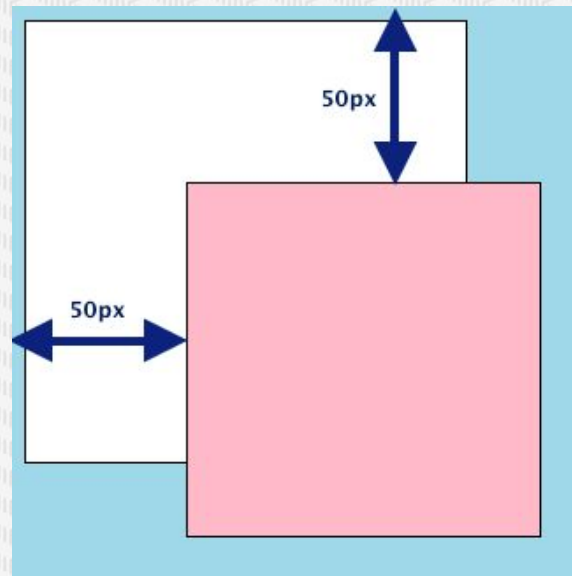
```
1 body {
2   background-color: lightblue;
3 }
4
5 #outer {
6   background-color: white;
7   border: 1px solid black;
8 }
9
10 #box {
11   background-color: pink;
12   position: static;
13 }
```



CSS: Positioning - Fixed

```
7 <body>
8   <div id='outer'>
9     <div id='box'>
10    </div>
11  </div>
12 </body>
```

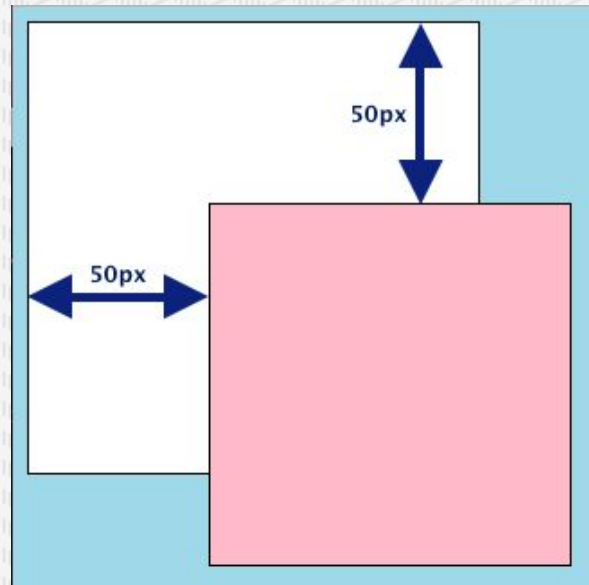
```
1 body {
2   background-color: lightblue;
3 }
4
5 #outer {
6   background-color: white;
7   border: 1px solid black;
8 }
9
10 #box {
11   background-color: pink;
12   position: fixed;
13   top: 50px;
14   left: 50px;
15 }
```



CSS: Positioning - Relative

```
7 <body>
8   <div id='outer'>
9     <div id='box'>
10    </div>
11  </div>
12 </body>
```

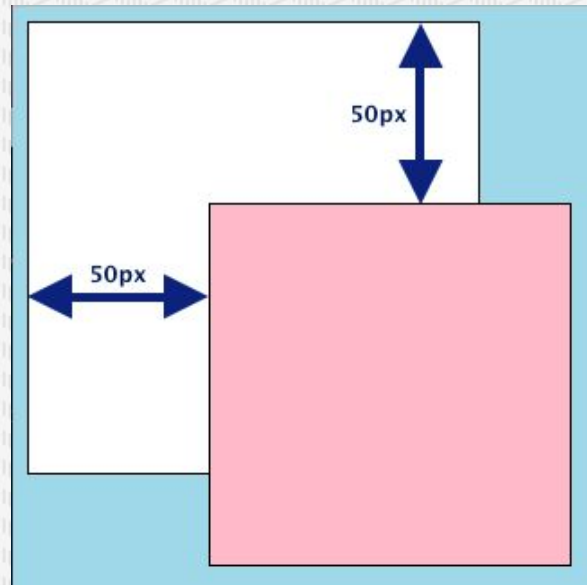
```
1 body {
2   background-color: lightblue;
3 }
4
5 #outer {
6   background-color: white;
7   border: 1px solid black;
8 }
9
10 #box {
11   background-color: pink;
12   position: relative;
13   top: 50px;
14   left: 50px;
15 }
```



CSS: Positioning - Absolute

```
7 <body>
8   <div id='outer'>
9     <div id='box'>
10    </div>
11  </div>
12 </body>
```

```
1 body {
2   background-color: lightblue;
3 }
4
5 #outer {
6   background-color: white;
7   border: 1px solid black;
8   position: fixed;
9   top: 5px;
10  left: 5px;
11 }
12
13 #box {
14   background-color: pink;
15   position: absolute;
16   top: 50px;
17   left: 50px;
18 }
```

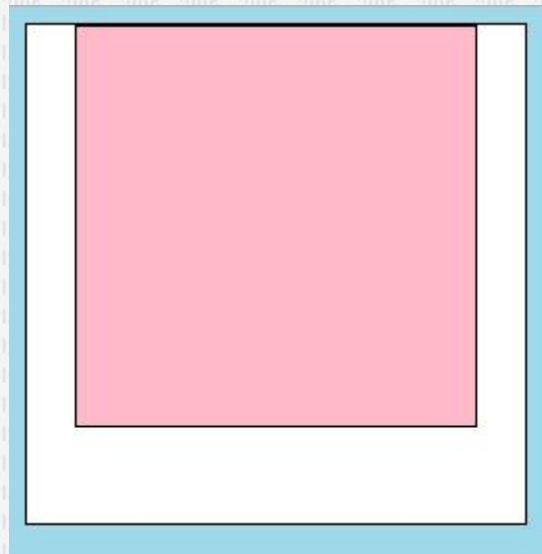


CSS Tricks

CSS Tricks: Vertically Centred

```
7 <body>
8   <div id='outer'>
9     <div id='box'>
10    </div>
11  </div>
12 </body>
```

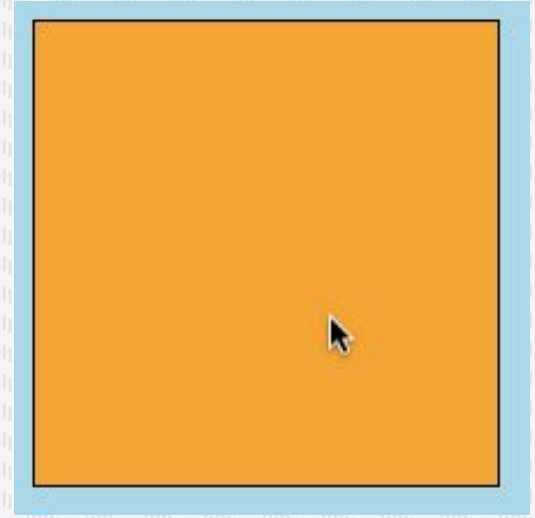
```
1 body {
2     background-color: lightblue;
3 }
4
5 #outer {
6     background-color: white;
7     border: 1px solid black;
8 }
9
10 #box {
11     background-color: pink;
12     margin: 0 auto;
13     width: 200px;
14 }
```



CSS Tricks: Pseudo Class - Hover

```
7 <body>
8   <div id='box'>
9   </div>
10 </body>
```

```
1 body {
2   background-color: lightblue;
3 }
4
5 #box {
6   background-color: pink;
7 }
8
9 #box:hover {
10   background-color: orange;
11 }
```



CSS Tricks: Pseudo Element - Selection

```
7 <body>
8   <div id='box'>
9     Through hosting
welcoming commu
skills. We beli
offer and encou
10   </div>
11 </body>
```

```
1 body {
2   background-color: lightblue;
3 }
4
5 #box::selection {
6   background: orange;
7 }
```

Through hosting monthly meet-ups and workshops, Sudo strives to build an energetic and welcoming community of programmers to support women in improving their technical skills. We believe programming is a skill everyone should have, and it's our mission to offer and encourage the women of Kingston to learning these skills.

CSS Tricks: Pseudo Element - First Letter

```
7 <body>
8   <div id='box'>
9     Through hosting
welcoming commu
skills. We beli
offer and encou
10   </div>
11 </body>
```

```
1 body {
2   background-color: lightblue;
3 }
4
5 #box::first-letter {
6   color: orange;
7   font-size: 32px;
8 }
```

Through hosting monthly meet-ups and workshops, Sudo strives to build an energetic and welcoming community of programmers to support women in improving their technical skills. We believe programming is a skill everyone should have, and it's our mission to offer and encourage the women of Kingston to learning these skills.

CSS Tricks: Selectors

`ul > li {..}`

- Selects only the first-level list items in all unordered lists

`div ul {..}`

- Selects all unordered lists which have an div in their ancestry

`div + p {..}`

- Selects all paragraphs that directly follow a div

`div.className {..}`

- Selects all divs that have the desired class name

CSS Tricks: Creating a Custom Nav Bar

```
7 <body>
8   <div>
9     <ul>
10      <li><a href="">Home</a></li>
11      <li><a href="">Resume</a></li>
12      <li><a href="">Contact</a></li>
13    </ul>
14  </div>
15 </body>
```

[Home](#) [Resume](#) [Contact](#)

```
1 body {
2   background-color: lightblue;
3 }
4
5 ul {
6   list-style: none;
7 }
8
9
10 ul li {
11   display: inline-block;
12 }
```

CSS Challenge

Stylize your navigation bar!

- Try using Margins and Padding to separate the links
- Try some borders or using the hover pseudo class
- You can also try centring it horizontally

Bootstrap

Bootstrap: Setup

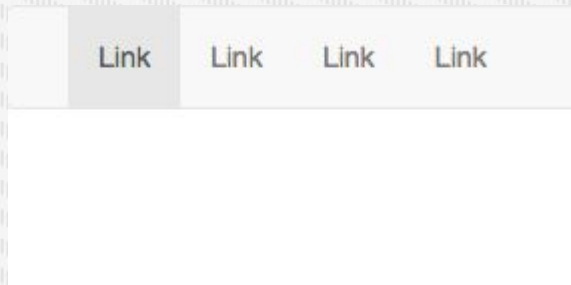
- Go to <http://getbootstrap.com/getting-started>
- You can either download bootstrap, or copy the CDN in between the **head** tags

```
3 <head>
4   <title>My First Website</title>
5   <link rel="stylesheet" href="main.css">
6
7   <!-- Latest compiled and minified CSS -->
8   <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/
  bootstrap.min.css" integrity="
  sha384-BVYiiSIFeK1dGmJRAkycuHAHRg320mUcww7on3RYdg4Va+PmSTsz/K68vbdEjh4u" crossorigin="
  anonymous">
9
10  <!-- Latest compiled and minified JavaScript -->
11  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"
  integrity="sha384-Tc5IQib027qvyjSMfHj0MaLkfuWVxZxUPnCJA7l2mCWNIpG9mGCD8wGNlCPD7Txa"
  crossorigin="anonymous"></script>
12 </head>
```


Bootstrap: Navigation Bar

<http://getbootstrap.com/components/#navbar>

```
13 <body>
14   <nav class="navbar navbar-default">
15     <div class="container-fluid">
16       <div class="navbar-header">
17         <button type="button" class="navbar-toggle collapsed" data-toggle="collapse"
18           data-target="#bs-example-navbar-collapse-1" aria-expanded="false">
19           <span class="sr-only">Toggle navigation</span>
20           <span class="icon-bar"></span>
21           <span class="icon-bar"></span>
22           <span class="icon-bar"></span>
23         </button>
24       </div>
25       <div class="collapse navbar-collapse" id="bs-example-navbar-collapse-1">
26         <ul class="nav navbar-nav">
27           <li class="active"><a href="#">Link <span class="sr-only">(current)</span></a></li>
28           <li><a href="#">Link</a></li>
29         </ul>
30       </div>
31     </div>
32   </nav>
33 </body>
```



Bootstrap: Containers

<http://getbootstrap.com/css/#overview-container>

```
13 <body>
14   <div class="container">
15     ...
16   </div>
17 </body>
```

```
13 <body>
14   <div class="container-fluid">
15     ...
16   </div>
17 </body>
```

Bootstrap: Grid

<http://getbootstrap.com/css/#grid>

```
13 <body>
14   <div class="container-fluid">
15     <div class="row">
16       <div class="col-md-4 border">
17         Hello there!
18       </div>
19       <div class="col-md-6 border">
20         Bootstrap is fun!
21       </div>
22     </div>
23   </div>
24 </body>
```

Hello there!

Bootstrap is fun!

Bootstrap Challenge

Use Bootstrap Containers and Grids to create a custom layout

- Try putting images in one column and text in another
- Add a navigation bar
- You can also try adding your own styles - make sure your CSS link is below the Bootstrap links

Want to Learn More?

Check out:

[**https://www.codecademy.com/learn/web**](https://www.codecademy.com/learn/web)

[**https://www.w3schools.com/**](https://www.w3schools.com/)

[**http://getbootstrap.com/getting-started/**](http://getbootstrap.com/getting-started/)

Or email us at [**workshops@sudolabs.ca**](mailto:workshops@sudolabs.ca)

Thanks for Joining Us!

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Survey Link: <https://goo.gl/forms/D2jjD25kemzCoM8J2>