FEWD Week 1 • Class 2:

CSS Building Blocks

REVIEW: BUILDING BOUNTY20

OBJECTIVES

- Linking to external files
- Using different fonts on the web
- Revisiting the box model
- Units of measurement on the web
- Working with images
- Colors on the web

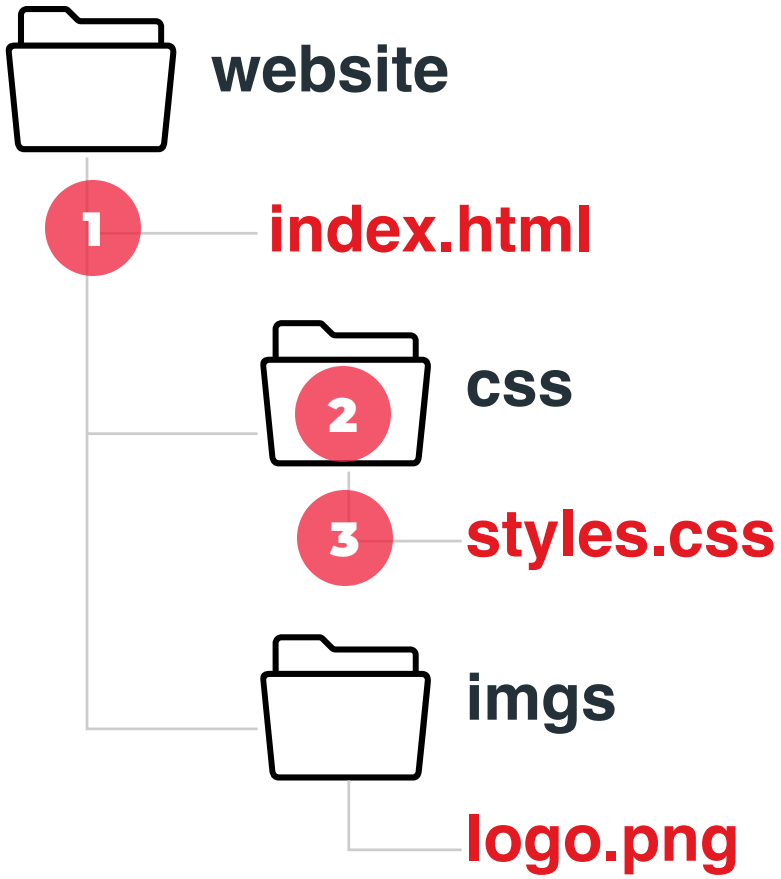
EXTERNAL STYLESHEETS

LINKING FILES

```
<head>
...
<link rel="stylesheet" href="css/styles.css">
...
</head>
```

 **HEADS UP:** No `<style>` tags are used!

LINKING FILES RELATIVELY



index.html → styles.css:

```
<link rel="stylesheet" href="css/styles.css">
```

2 3

1. Start in the folder where the current file is
2. Go into the folder called **css**
3. Get the file called **styles.css**

EXTERNAL CSS

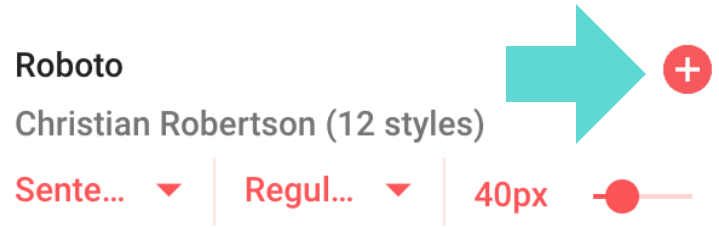
GOOGLE FONTS

USING DIFFERENT FONTS

- We can't be certain which fonts our visitors have, so we need to send the fonts with our site files.
- Font files are **big** and can slow down the load time of your site.
- The Google Fonts service delivers fonts via a **super fast collection of servers** called a CDN.
- CDNs check whether a file has been previously downloaded before sending it again.

LOADING GOOGLE FONTS

1. Go to https://fonts.google.com.
2. Choose a font and click the ⊕.



3. In the popup at the bottom of the screen, click the **customize** tab to select the font weights you want to use.
4. Next, click back on the **embed** tab and copy the **link** tag.
5. Paste the link tag in your HTML page head tag **before** your linked css file.
6. Back on Google Fonts, copy the css for the font-family to use in your css file!

GOOGLE FONTS

UNITS OF MEASUREMENT

UNITS OF MEASURE

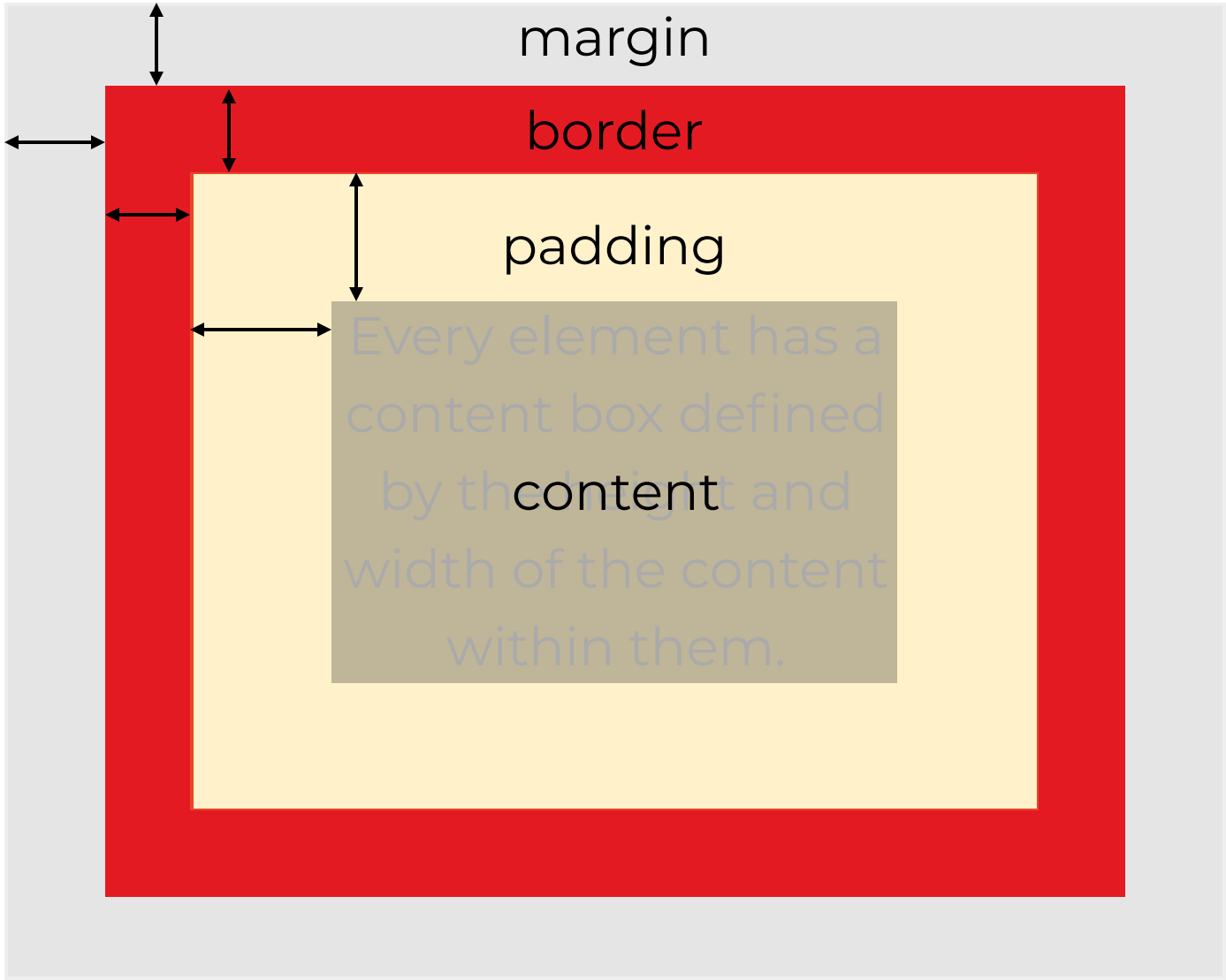
- **px**: A fixed (aka absolute) value in pixels
- **em**: Relative to the font-size of the element (e.g., 2em = 2 x the size of the current font)
- **rem**: Relative to the root element font-size
- **vh**: % of the viewport height (e.g., 50vh = 50% of the viewport height)
- **vw**: % of the viewport width
- **vmax**: % of viewport's larger dimension
- **vmin**: % of viewport's smaller dimension
- **%**: It depends

UNITS OF MEASUREMENT

CSS BOX MODEL

CSS BOX MODEL

1. The **content box** is defined by the height and width of the elements inside it.
2. Adding **padding** creates interior space around the content.
3. The background extends to the **border**.
4. The **margin** creates space on the outside of the element.



MARGINS & PADDING REFRESHER

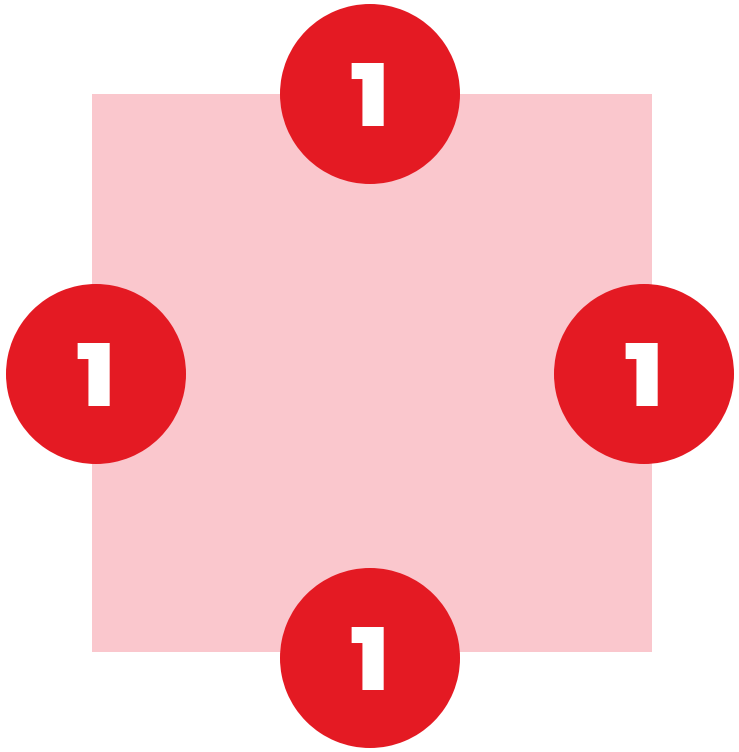
```
div {
    padding-top: 16px;
    padding-right: 30px;
    padding-bottom: 16px;
    padding-left: 30px;
}
```

```
div {
    margin-top: 24px;
    margin-right: 16px;
    margin-bottom: 24px;
    margin-left: 16px;
}
```

HEADS UP: Margins can have **negative** values.
Padding can only have positive values.

SHORTHAND VERSION

with 1 value

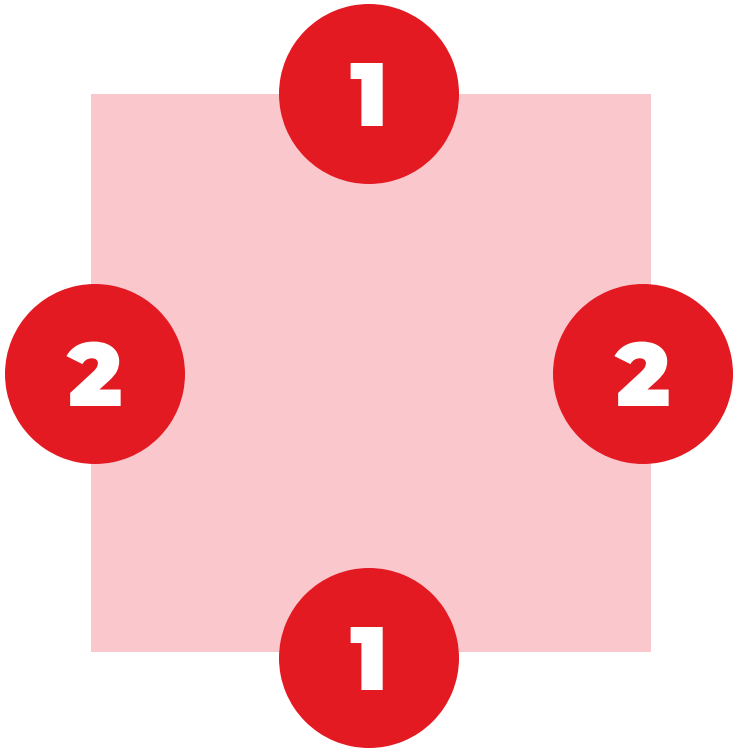



```
div {
    margin: 20px;
    padding: 20px;
}
```

All sides are the same.

SHORTHAND VERSION

with 2 values



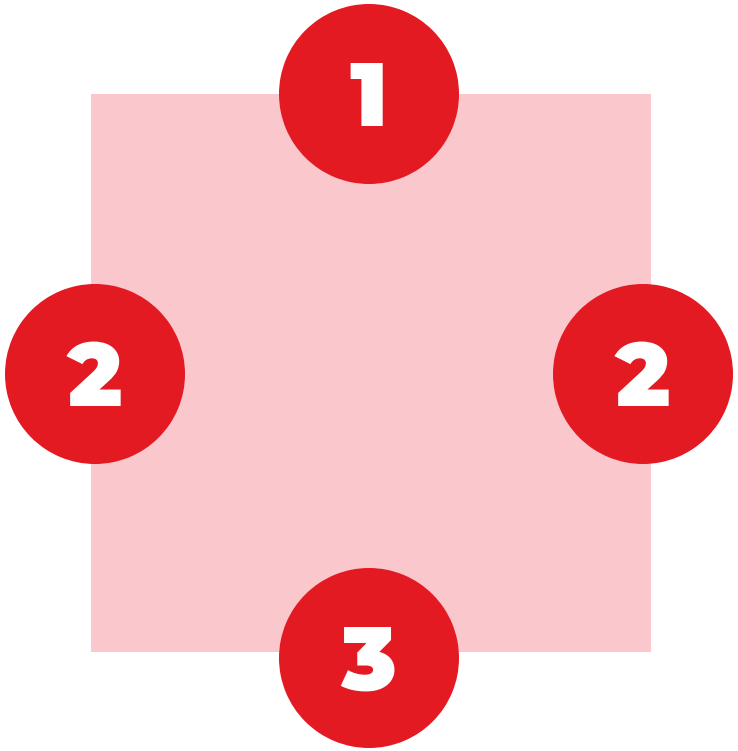

```
div {
    margin: 1em 20px;
    padding: 1em 20px;
}
```

Top/Bottom are 1em

Right/Left are 20px

SHORTHAND VERSION

with 3 values




```
div {
  margin: 0 1rem;
  padding: 20px 50px 10px;
}
```

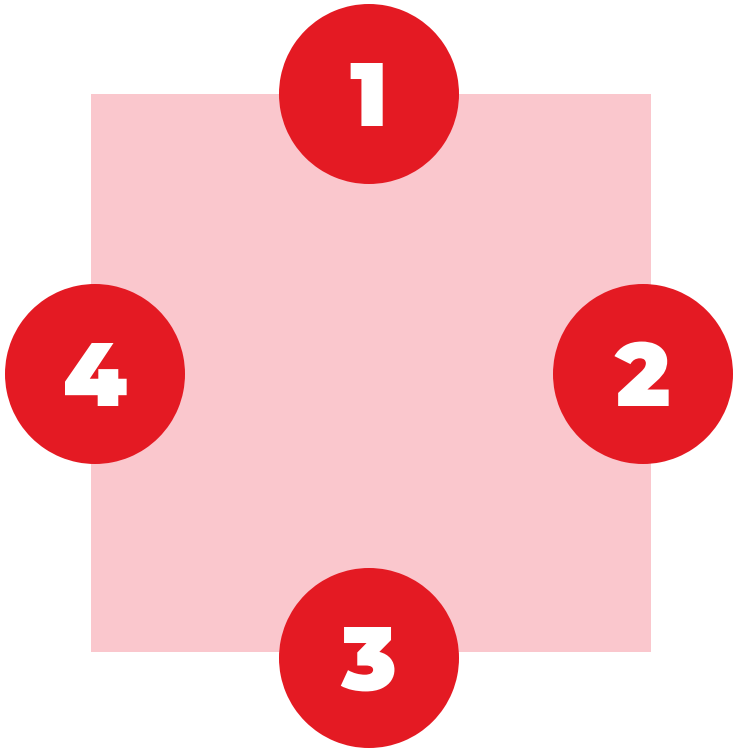
Top padding is 20px

Right/Left padding is 50px

Bottom padding is 10px

SHORTHAND VERSION

with 4 values




```
div {
  margin: 0 0 1rem 1rem;
}
```

Trouble remembering?

Top - **R**ight - **B**ottom - **L**eft

HEIGHT & WIDTH

Height and width can only be applied to **block** elements.

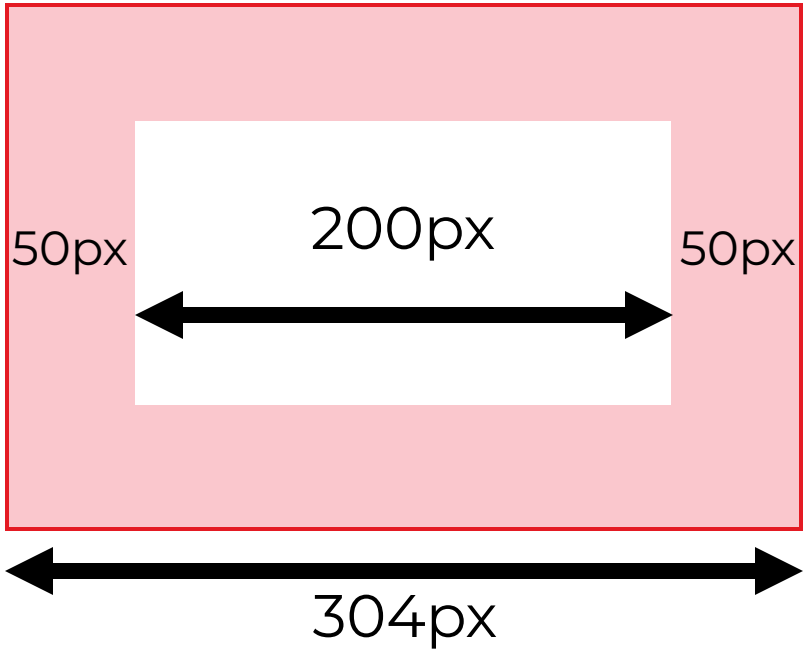
```
div {
    height: 50vh;
    width: 100%;
}
span {
    height: 50px; /* HAS NO EFFECT */
}
```

APPLYING HEIGHT & WIDTH

- Height and width are applied to the size of the **content box** by default.
- If the element has borders, padding and margin, that is added to the height and width values provided.
- We can fix this by setting the `box-sizing` property in css to border-box.

BOX-SIZING: CONTENT-BOX

```
div {
  border: 2px solid;
  padding: 50px;
  width: 200px;
  box-sizing: content-box;
}
```



CONTENT-BOX (DEFAULT)

PADDING LEFT: 50PX

PADDING RIGHT: 50PX

BORDER LEFT: 2PX

BORDER RIGHT: 2PX

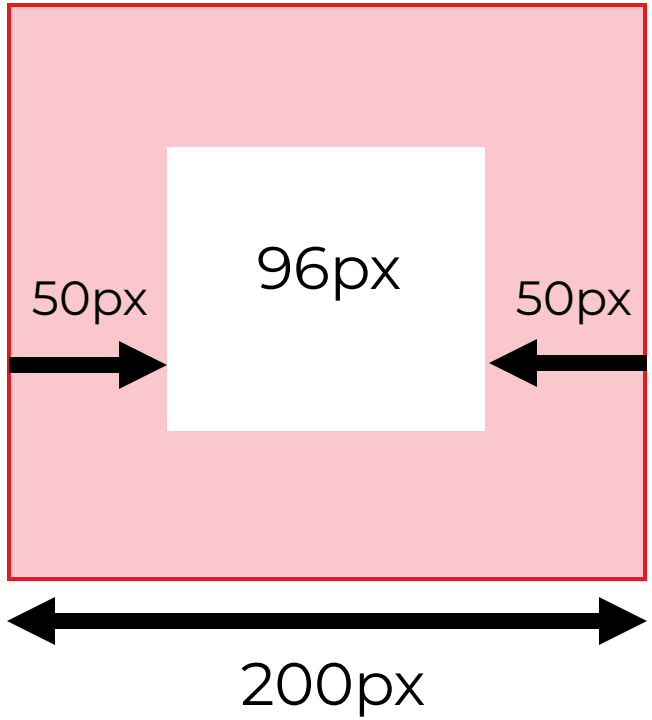
+ WIDTH (CONTENT): 200PX

TOTAL SIZE: 304PX

HEADS UP: content-box is the default value.

BOX-SIZING: BORDER-BOX

```
div {
  padding: 50px;
  border: 2px solid;
  width: 200px;
  box-sizing: border-box;
}
```



BORDER-BOX

WIDTH (TOTAL): 200PX
- BORDER-LEFT: 2PX
- BORDER-RIGHT: 2PX
- PADDING LEFT: 50PX
- PADDING RIGHT: 50PX

CONTENT: 96PX

HEADS UP: border-box is the preferred value.

FIXING THE BOX MODEL

We use a **reset** to apply the box-sizing to everything with the `*` universal selector.

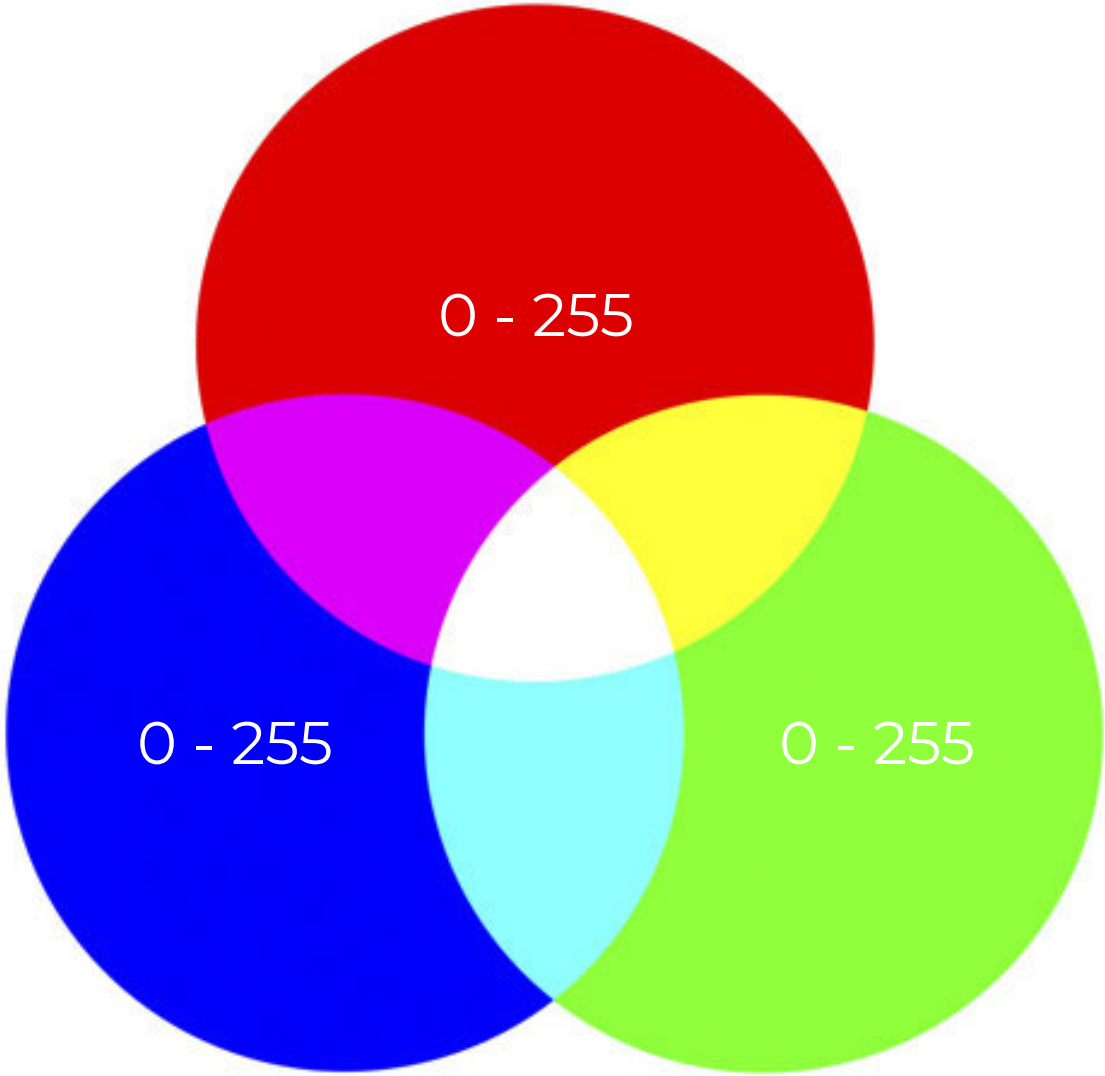
```
/* This special selector means apply this to everything! */

* {
  box-sizing: border-box;
}
```

BOX-SIZING, HEIGHTS & WIDTHS, AND PADDING

COLORS

RED × GREEN × BLUE

16,777,216 possible color combinations



COLOR VALUES IN CSS

- Keyword
- Hexidecimal
- RGB & RGBA
- HSL & HSLA

HEADS UP: Alpha channel range is 0 (transparent) to 1 (opaque)

```
/* Keyword Syntax */

h1 {
  background-color: gray;
}

/* RGB & HSL Syntax */

p {
  color: rgba(0,0,0,1);
  border: 2px solid hsl(0,0%,0%);
}

/* Hexadecimal Syntax */

div {
  background: #ff0000;
}
```

ADDING COLORS & TRANSPARENCY

IMAGES

ADDING IMAGES TO YOUR PAGE

- Images can be added with the `<img>` tag in HTML or in the background via CSS
- Background images are design elements only and are ignored by screen-readers

IMAGE TYPES

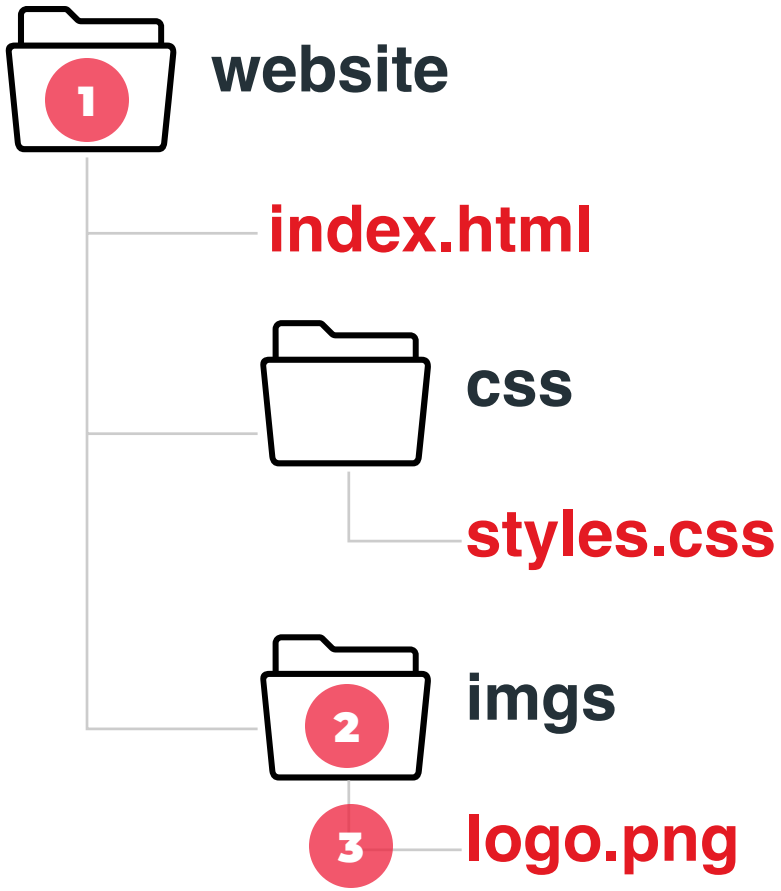
- JPG: A ***lossy*** format that is great for small file sizes of raster images (like photos), but it doesn't have transparency.
- PNG: A **lossless** raster format that has transparency.
- SVG: A vector file format that is great for images that can be drawn.
- GIF: A ***lossy*** format that can make one color transparent and can store multiple images for animation.

CONTENT IMAGES

- The `<img>` tag has no closing tag
- The `src` attribute links the file and is required
- The `alt` attribute is used by screenreaders and for SEO

```
<img src="images/dogs.jpg" alt="A picture of my dogs">
```

LINKING FILES RELATIVELY



index.html → logo.png:

```
<img src="imgs/logo.png">
```

2 3

1. Start in the folder where the current file is
2. Go into the folder called **imgs**
3. Get the file called **logo.png**

ADDING AN IMAGE

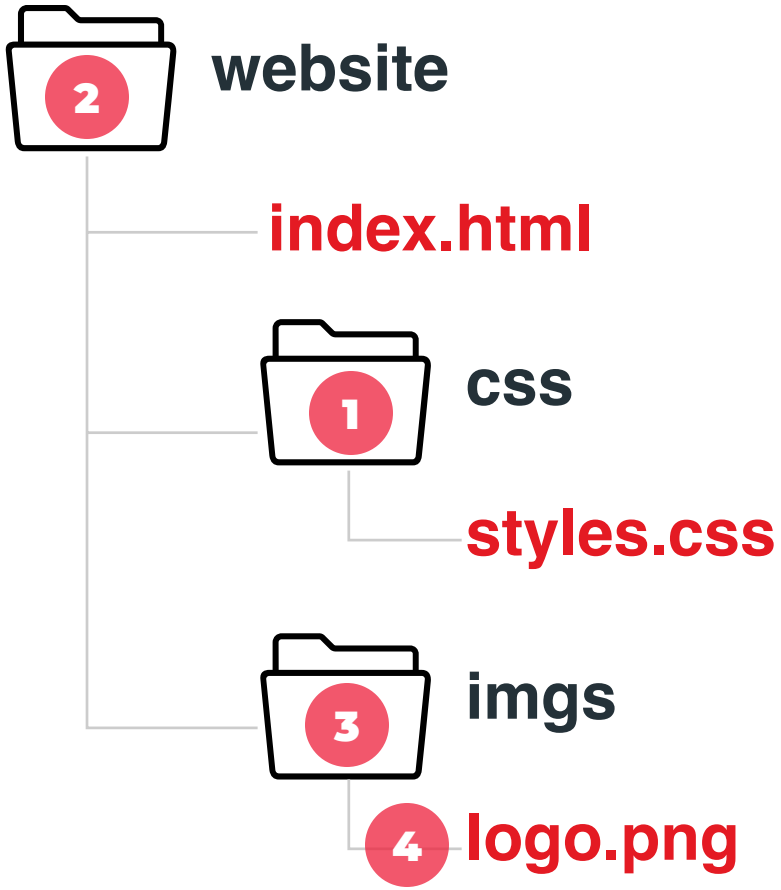
BACKGROUND IMAGES

Background images are added through CSS

```
/* Use the background-image or
   shorthand background property */

selector {
  background-image: url('path/to/file');
}
```

HEADS UP: FYI... multiple background images are stackable!

LINKING FILES RELATIVELY



styles.css → logo.png:

```
div {                                    2   3   4
  background-image: url("../imgs/logo.png");
}
```

1. Start in the folder where the current file is
2. Go back one folder (to **website**)
3. Go into the **imgs** folder
4. Get the **logo.png** file

BACKGROUND PROPERTIES

- **background-repeat**: tile the image or place once
- **background-position**: position the image in its containing element
- **background-attachment**: scroll with the page or remain fixed in one place
- **background-size**: the size of the image in the background
- **background-clip**: crop the image at the content-box, border-box or padding-box
- **background-origin**: place the image origin at the content-box, border-box or padding-box

BACKGROUND IMAGE SYNTAX

```
header {
  background-image: url('../images/bg.jpg');
  background-size: cover;
}

section { /* Multiple Backgrounds */
  background-image: url('../images/logo.png'),
                    url('../images/bg.jpg');
  background-repeat: no-repeat, repeat;
  background-position: bottom right, top left;
}

main { /* Shorthand Format */
  background: url('../images/logo.png')
              no-repeat
              bottom right / 30%
              fixed;
}
```

BACKGROUND IMAGES

CLASSES & ID

CSS SELECTORS

1. Element Tags
2. **Classes & IDs**
3. Combinators
4. Attributes
5. Pseudo Classes

CLASSES & IDS

- Classes and IDs give us more flexibility to target elements on our page and apply styles to them
- They also make it easier for us to develop and manage our webpages
- You can combine them with other selectors

IDS

- An ID name is unique. It may only be used once on a page.
- An element may only have one ID

```
<div id="extra-special">
```

```
#extra-special {
...
}
```

CLASSES

- Classes are reusable as many times as you want
- An element can have as many classes as you want

```
<div class="big primary">
```

```
.primary {
  ...
}
.big {
  ...
}
```

CLASSES & IDS

CONTROLLING LAYOUT

WHAT IS FLOAT?

Float places an element on the **left** or **right** of its container and allows other elements to wrap around it.

```
/* Float accepts left, right or none
   The none value is the default   */

.my-floated-element {
    float: right;
}
```

CLEARING THE FLOAT

The **clear** property prevents elements from sitting next to the floated elements that precede it — forcing the cleared element below the floated element.

```
/* Clear accepts left, right or both */

.my-cleared-element {
    clear: both;
}
```

FLOAT EXAMPLES

HTML | CSS

LIVE

```
div {
  height: 100px;
  width: 100px;
  background-color: rgba(255,0,0,.25);
  border: 5px solid #e41a23;
  float: right;
}
```

Result

FORK ON CODEPEN

Lorem ipsum dolor sit amet consectetur adipisicing elit. Eius id ipsa vel sint exercitationem ipsum veniam incidunt asperiores quis. Distinctio aliquid qui repellat incidunt dolorem officiis at numquam deleniti quo?

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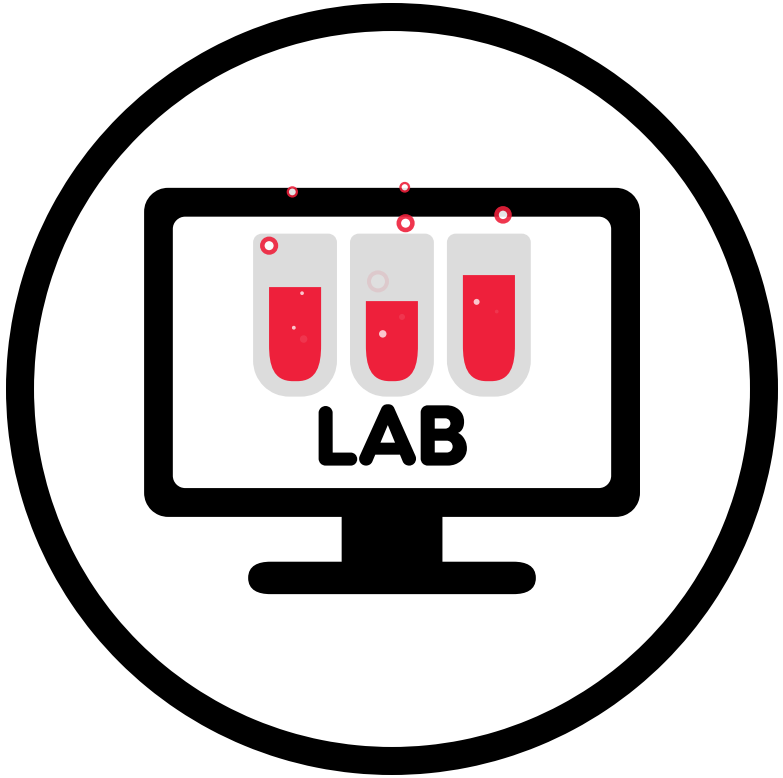
MULTI COLUMN LAYOUT

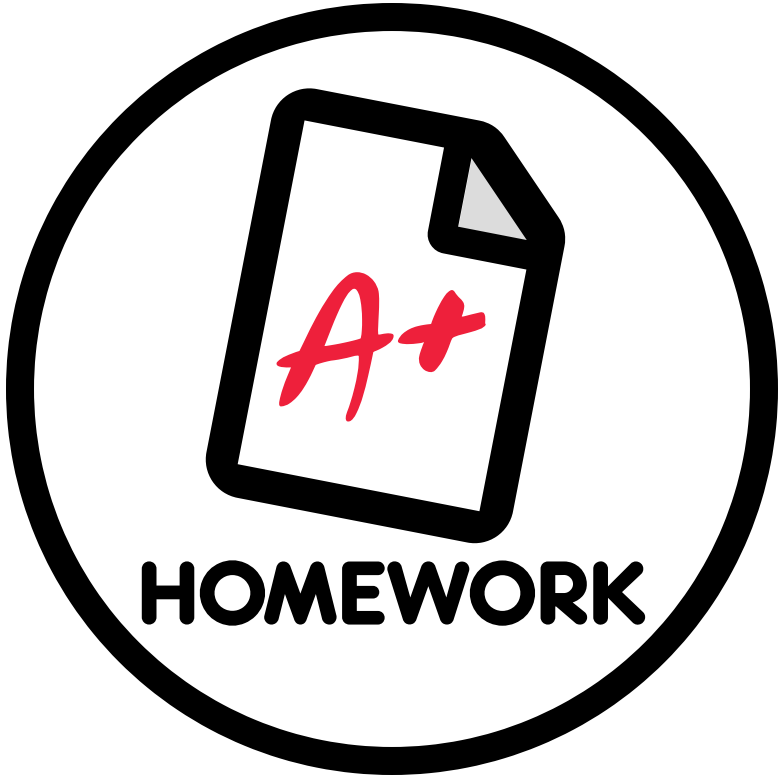
- Modern layout option from CSS3
- Good browser support
- Great for vertical column layouts (à la Pintrest)
- Just add column-count to the outer element

```
main {
  column-count: 2;
  column-gap: 0;
}
```

COLUMN SUPPORT TABLE



LAYOUT



WEEK 1 HOMEWORK

https://github.com/jmeade11/FEWD/Class2/homework

HOMEWORK FOR NEXT CLASS

- Complete the tasks to build your personal website.
- Use the Bounty20 website as a guide. All of the techniques are there!
- Use the hints only if you need them. (Try first!)
- Make it your own... I can't wait to see it.

EXIT SURVEY

https://goo.gl/EB4XFw

GO BUILD AWESOME THINGS!