



# INTRODUCTION TO HTML & CSS

Instructor: Beck Johnson

Week 4

# SESSION OVERVIEW

- Review borders, inline/block, and class/id
- Layout floats and flex
- Using web fonts
- Responsive design



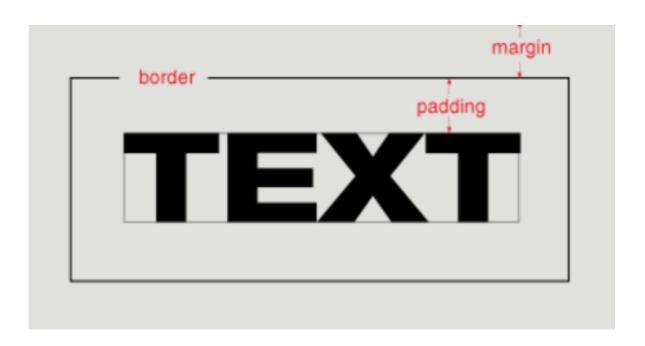
# { } CSS BOX MODEL

**CONTENT:** stuff in the box

**PADDING:** space inside the box

**BORDER:** sides of the box

MARGIN: space between multiple boxes



## { } BORDER

Between margin and padding, you can set a border

- Width (usually in pixels)
- Border style (solid, dotted, dashed, etc)
- Color

```
p
border: 2px dotted #ff0000;
}
```

## { } BORDER-RADIUS

To make an element appear curved, use the property border-radius

• The value is a number (in px or em) or percentage

• You can use border-radius even if you don't explicitly set a border

```
li {
    border-radius: 50%;
    height: 3em;
    width: 3em;
}
```

# **{} BLOCK ELEMENTS**

## **BLOCK ELEMENTS**

- Expand naturally to fill their parent container
- Take up a full line
- Can have margin and/or padding

BLOCK ELEMENTS EXPAND NATURALLY	<b>-</b>
AND NATURALLY DROP BELOW OTHER ELEMENTS	

## **{} INLINE ELEMENTS**

## **INLINE ELEMENTS**

- Flow along with text content
- Ignores top and bottom margin/padding
- Honors left and right margin/padding

#### **INLINE ELEMENTS FLOW WITH TEXT**

PELLENTES QUE HABITANT MORBITRISTIQUE SENECTUS
ET NETUS ET MALESUADA FAMES AC TURPIS EGESTAS.
VESTIBULUM INLINE ELEMENT VITAE, ULTRICIES
EGET, TEMPOR SIT AMET, ANTE. DONEC EU LIBERO SIT
AMET QUAM EGESTAS SEMPER. AENEAN ULTRICIES MI
VITAE EST. MAURIS PLACERAT ELEIFEND LEO.

## **{ } INLINE-BLOCK ELEMENTS**

## **INLINE-BLOCK ELEMENTS**

- A hybrid of block and inline
- Flow along with text content
- · Has height, width, margin, and padding



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## {} CLASSES AND IDS

You can add class and id to any HTML element to identify it for styling.

• You decide the class and id values – be descriptive!

```
Big text
Still totally
valid
```

## {} CLASSES

Multiple elements can have the same class

```
Schwarzenegger
The Rock
```

In CSS, target a class with a period

```
.muscles { display: flex; }
```

## {} IDS

Only one element per page can use the same id

```
<div id="tower-of-pisa">There can be only
one</div>
```

In CSS, target an id with a **hash** 

```
#tower-of-pisa { font-style: italic; }
```

An id on an element lets you link to it directly using a link href starting with a #

# {} CLASS VS ID

id

class

"Lucy"



"dog"
"gray"
"small"
"charming"
"seated"

# QUESTIONS?





With CSS, we can use a variety of properties to arrange elements on the screen by adjusting the flow of the page.

Basically, you can put elements anywhere...which can be both a good and a bad thing!

# 3 WEB LAYOUT PROPERTIES

- display: dictates how elements behave within the box model
- float: moves elements around within the page flow
- position: takes elements entirely out of the page flow

## DISPLAY PROPERTY

The display property tells the browser what type of box model to use:

- inline
- inline-block
- block
- flex

This changes how padding, margin, height and width affect an element.

You also can set display: none to hide an element entirely.

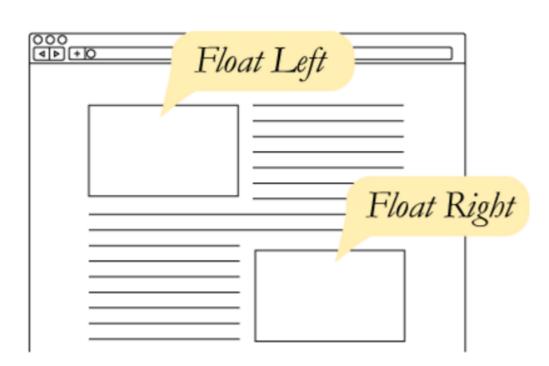


Up to now, elements have displayed sequentially, in the order that you placed them in your HTML.

The float property takes an element out of the normal flow and "floats" it to the left or right side of its container.

 This allows other content to flow around it

```
img { float: left; }
```





#### The three values for float are:

- left
- right
- none

By default, elements are float: none

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#### img { float: right; }

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Doloribus nisi ratione necessitatibus unde veritatis commodi veniam quas eaque fugiat nihil esse, id? Tempora quis quod impedit quia, facere incidunt, voluptatum dicta in dolores suscipit temporibus quam eos odit?

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#### img { float: left; }

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# FLOWS BEFORE ROWS

Where you place your floated element in your HTML can cause different results.

Live <u>demo here</u>.



```
<div id="container">
     <img src="rootbeer-float.png" style="float:right" />
     This is some text contained...
</div>
```

# FLOWS BEFORE ROWS

What happens if we move the image below the paragraph?

```
<div id="container">
      This is some text contained...
      <img src="rootbeer-float.png" style="float: right" />
      </div>
```

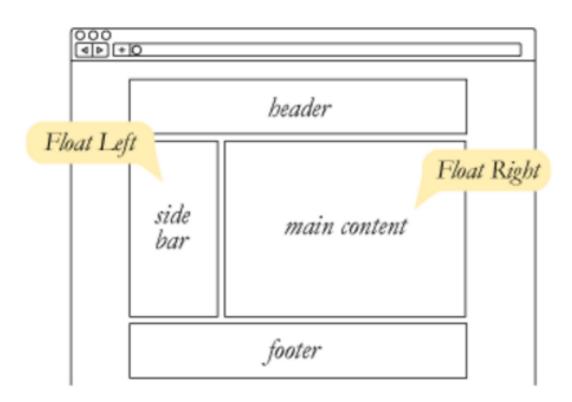
This is some text contained within a small-ish box. Take a look at this image that should be sitting on the right.

A general rule is **float first**.

 Place floated elements before any non-floated elements the float interacts with



float can be used to float text around images, but it also can be used to create entire page layouts.





For example, this layout was built using float.



#### BY BECK JOHNSON

Beck Johnson is a developer based in Seattle, WA. She plays board games in her spare time. Say hi at <a href="mailto:beckjohnson@gmail.com">beckjohnson@gmail.com</a>





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beckjohnson@gmail.com

```
.avatar { float: left; } .bio { float: right; }
```

Let's try that...





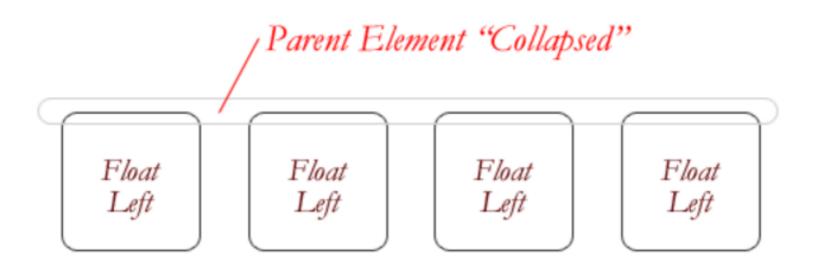
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#### The container thinks it has no content!

- It collapsed to the size of its padding (you can see the top and bottom border)
- The floated content is spilling out





If you float an element, it is no longer in the normal document flow.

If **all** elements in a container are floated, that means that the container is effectively "empty."

# GSS FLOATS



Y U NO CLEAR YOURSELF PIP

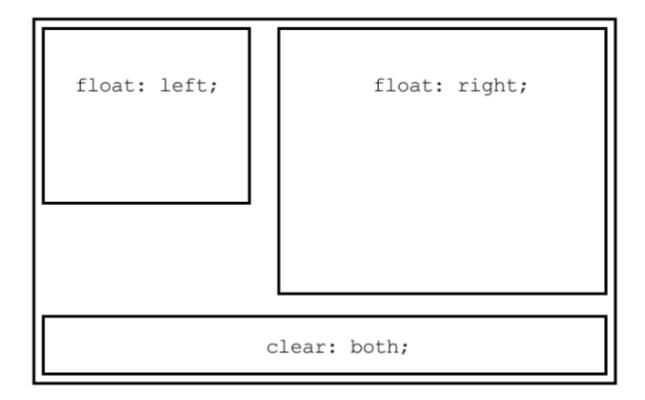
# HOW TO FIX FLOATS?

There are 2 ways to fix this:

- Apply the CSS rule clear: both to an element after the floated content
- 2. Apply a CSS rule using the property overflow to the **container**

### The clear property is the sister property to float

- It doesn't do much until there are floated elements on the page
- An element with clear applied to it will force itself below the floated element
- Everything after that will be back in the normal flow
- This "stretches" out the container and keeps it from collapsing

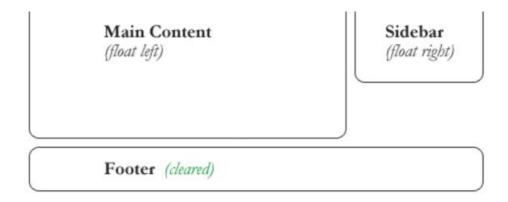


#### clear has similar values to float:

• clear: none – the element does **not** move down to clear past floating elements (this is the default value)

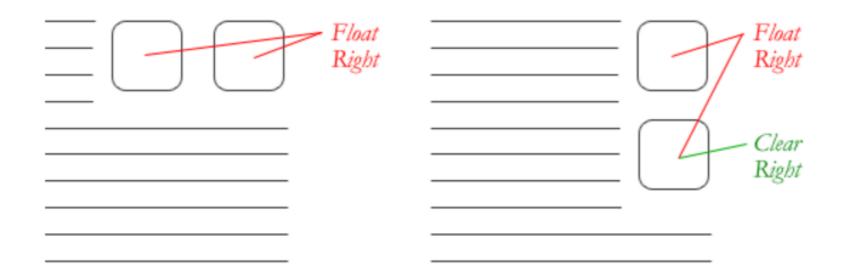


• clear: both – the element is moved down to clear both right- and left-floated elements



Sometimes, you want to let some content after a clear continue floating, but not other content:

- clear: left only clear left-floated elements
- clear: right only clear right-floated elements



So to solve our problem, you could add this empty div after the bio container:



#### BY BECK JOHNSON

Beck Johnson is a developer based in Seattle, WA. She plays board games in her spare time. Say hi at **beckjohnson@gmail.com** 

<div style="clear: both"></div>

(We could apply the class to any type of element, but the benefit of using a div is that it has no style of its own.)

# THE OVERFLOW PROPERTY

The other way to force a container to expand around floated content is to apply a CSS rule with overflow to the container that the floated content is inside.

**Any** valid value for overflow will cause floated content to stretch out the container

• Too complicated to explain, but it basically forces the container to re-assess the content inside it

overflow is a CSS property that governs how content looks when it breaks out of its container.

By default, elements have overflow: visible, which means all content is fully visible

 Even if that means overflowing its container!



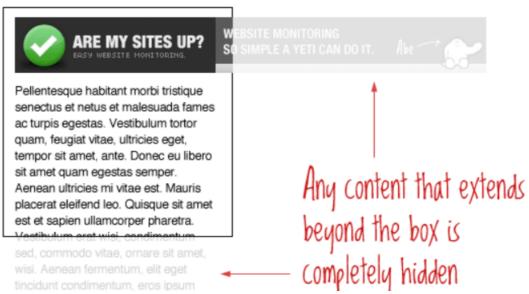
overflow: scroll makes scrollbars appear both horizontally and vertically...even if they don't need to be there.

 None of the content that would overflow appears outside the box



overflow: hidden cuts off any content that "sticks out" of its box

 No way to scroll, so content is no longer accessible



overflow: auto only adds scrollbars when the content requires it (which may mean no scrollbars are added at all)

Pellentesque habitant morbi
tristique senectus et netus et
malesuada fames ac turpis
egestas. Vestibulum tortor
quam, feugiat vitae, ultricies
eget, tempor sit amet, ante.
Donec eu libero sit amet
quam egestas semper.
Aenean ultricies mi vitae est.
Mauris placerat eleifend leo.
Aenean ultricies mi vitae est.
Mauris placerat eleifend leo



So to solve our problem, you could add this CSS rule to the floated div:

```
.bio { overflow: visible; }
```



# PRACTICE TIME!

#### **ASSIGNMENT**

Create a container that has an image floated to the side of some text.

- Give the container a background color, gradient, or borders (to make sure floated content is really clearing properly and doesn't just "look" cleared)
- Try both techniques to force the container to expand around floated content
- Apply box model properties like padding and margin so that your content looks nice



Instead of using float to change the layout of your page, you can use display: flex

Adding display: flex to a container puts every direct child inside it one line

#### **Case Studies**

Download Assets 🕹

Use the filters to refine your search



Industry ∨

Offerings ∨

Capabilities ∨

Technology ∨

Location ∨

Form Factors ∨

Branding ∨

Clear All

```
<section class="filter-container">
    <i class="fa fa-sliders-h"></i>Categories
    <div>
         <div class="filter-button">Industry</div>
         <div class="filter-button">Offerings</div>
         <div class="filter-button">Capabilities</div>
    </div>
    <a id="clear" role="button">Clear All</a>
</section>
```

With no flex at all, this is how that layout looks:

≕	Categories:	
	Industry ∨	
	Offerings ∨	
	Capabilities ∨	
	Technology ∨	$\bigcirc$
	Location ∨	$\bigcirc$
	Form Factors ∨	$\bigcirc$
	Branding ∨	
		A II

Using float instead of display: flex

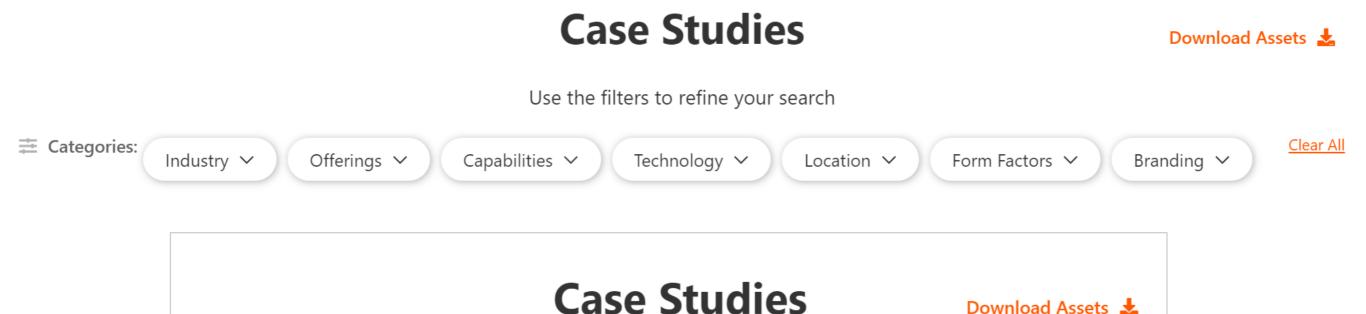
Offerings ~

**Example 2** Categories:

Location ∨

Industry ∨

Form Factors ∨



Use the filters to refine your search

Branding ∨

Capabilities ∨

Technology ∨

Clear All

.filter-container { display: flex; }

#### **Case Studies**

Branding ∨

Download Assets 🕹

Clear All

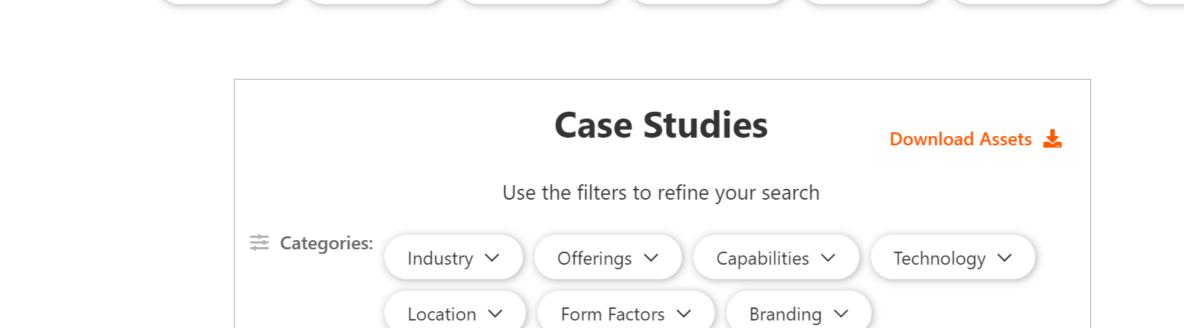
Use the filters to refine your search

Technology ∨

Location ∨

Form Factors ∨

Clear All



Capabilities ∨

**Categories**:

Industry ∨

Offerings ~

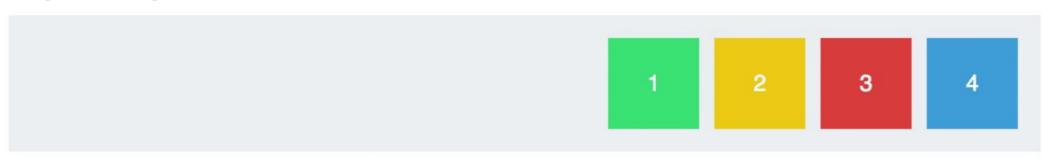
#### **JUSTIFY-CONTENT**

justify-content: controls how space is distributed between flex children horizontally

justify-content: center puts everything together in the middle

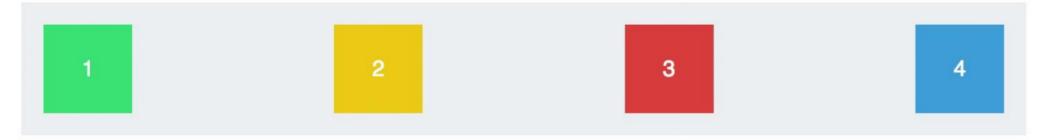


flex-start and flex-end move everything to either the beginning or end of the row



#### **JUSTIFY-CONTENT**

justify-content: space-between spreads all the items out evenly, with the first and last items flush against the ends of the container



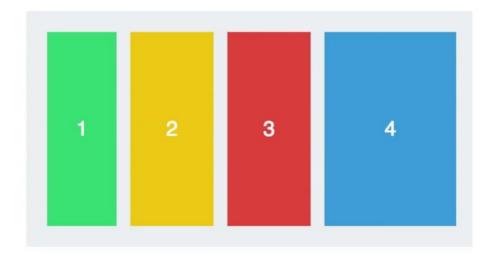
justify-content: space-around distributes all the items with equal space around them



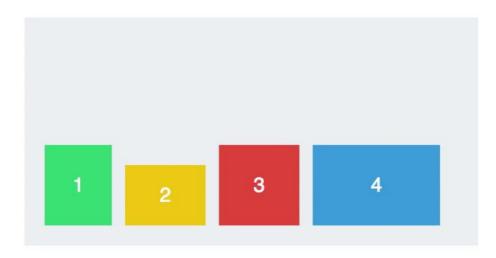
#### **ALIGN-ITEMS**

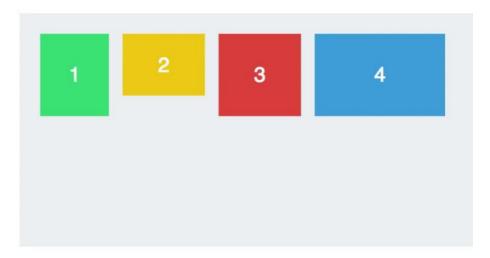
align-items: controls how items are aligned relative to one another vertically

align-items: stretch makes all children stretch to the same height, (unless they already have a width defined by CSS)



flex-start and flex-end align all children to either the top or bottom of their container





#### **ALIGN-ITEMS**

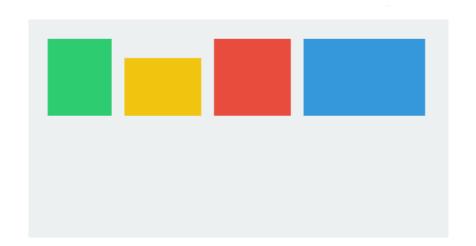
align-items: center makes all children vertically centered, with equal space on top and bottom

1 2 3 4

align-items: baseline vertically centers children so that their text lines up

1 2 3 4

If there is no text, the bottoms of the items will be aligned instead



#### **PROS**

- Don't have to worry about the clearing problem
- Have better control of how children are aligned
- Can use CSS to change the order in which children are shown

#### CONS

- May require extra markup around flex children to prevent everything from becoming flex
- May require extra markup to create a flex parent
- Limited support in old browsers (Internet Explorer 9, 8, 7)



# PRACTICE TIME!

#### **ASSIGNMENT**

Using last weeks last "match the comp" html file

- Add a <main> element (if you don't already have one)
  that surrounds your card markup, directly after
   <body>
- Copy and paste the cards until there are at least 3
  - Note: if you added a height to the card you will want to remove it
- Give main { display: flex; }
- Play with flex properties until your cards look nice

Remember that font-family looks for a font installed on the user's local machine.

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

If the Tahoma font isn't found, the browser will default to a generic sans-serif font instead.

What if you want to use an interesting font that most people aren't likely to have installed?

The absolutely easiest way to get custom fonts is to link to a CDN font stylesheet in the head of your page:

```
<link href="https://fonts.googleapis.com/css?family=Roboto"
rel="stylesheet">
```

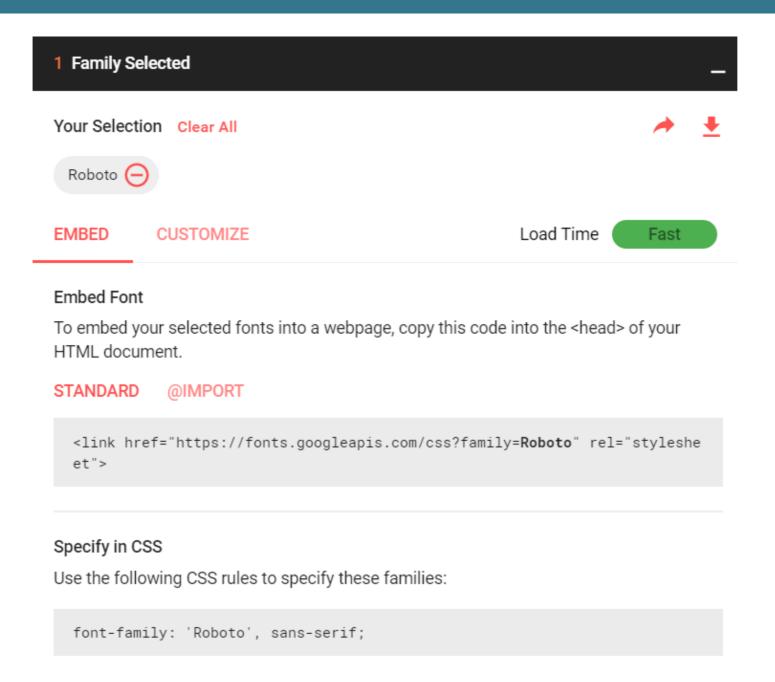
Remember that CDN means "Content Delivery Network"

- A fancy way of saying a big, reliable company hosts the file for you
- Google hosts 100s of free fonts

```
<link href="https://fonts.googleapis.com/css?family=Roboto"
rel="stylesheet">
```

Once you include a font stylesheet from a CDN, you can refer to the font in a font-family rule, just like you would a web-safe font:

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



When you choose a font Google will tell you what name to use for it in your CSS

Baloo Bhaina Diplomata SC Open Sans Christian Robertson (12 styles) Ek Type (1 style) Eduardo Tunni (1 style) Steve Matteson (10 styles) A red flair All their Almost before we silhouetted the equipment and knew it, we had WATCHE jagged edge of a instruments are left the ground. DTHE wing. alive. STORM. SO Try typing directly into the text fields. BEAUTIF UL YET TERRIFI C. Slabo 27px Łukasz Dziedzic (10 styles) TipTopTyp (2 styles) John Hudson (1 style) Vernon Adams, Kalapi Gajjar, Cyreal (6 styles) It was going to be a A shining crescent Mist enveloped the ship My two natures had lonely trip back. three hours out from port. far beneath the memory in common. flying vessel. Source Sans Pro Roboto Condensed Montserrat Christian Robertson (6 styles) Paul D. Hunt (12 styles) Julieta Ulanovsky (18 styles) Neapolitan (1 style) Silver mist suffused The face of the She stared The recorded voice the deck of the ship. moon was in through the scratched in the speaker. shadow. window at the stars.

https://fonts.google.com/

#### CONS

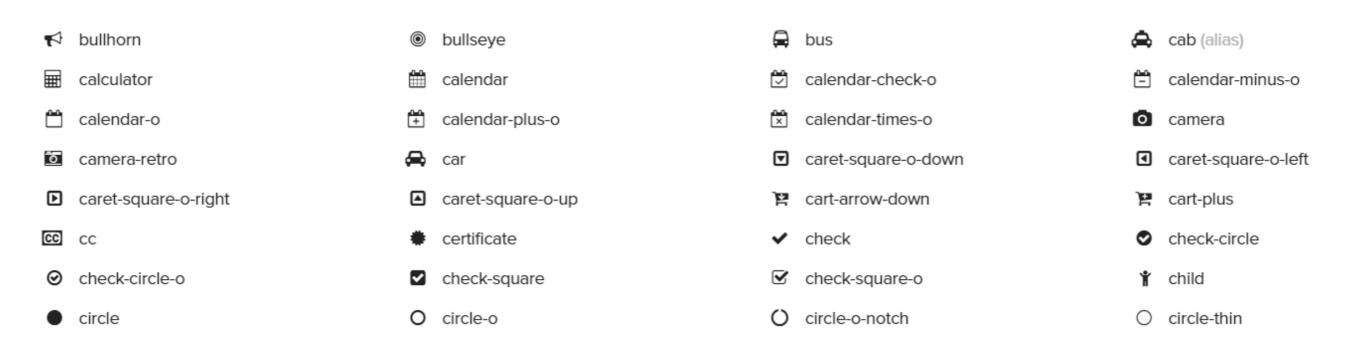
- Relies on a 3<sup>rd</sup> party to provide assets
- If the request times out, the font won't download (so always provide fallbacks!)

#### **PROS**

- Extremely easy to get working
- Possibility that user already has the font in their web cache due to visiting other sites that use the same font

#### **ICON FONTS**

Font Awesome is a free icon font that is used in many real-world projects.



An icon font means letters have been replaced with vector images

• So to color or re-size icons on your site, just use the CSS font properties we already learned.

#### **ICON FONTS**

To quickly start using Font Awesome, add this stylesheet to the head of your page:

```
<link rel="stylesheet"
href="https://use.fontawesome.com/releases/v5.7.2/css/all.css">
```

Click an icon from the <u>Font Awesome</u> website, and copy the markup they provide, like:

```
<i class="fas fa-heart"></i></i>
```



#### FONT AWESOME

You can put a Font Awesome class on any element:







The other way to ensure people see the correct font is to download the font onto their computer when they load your page.

- You do this by first downloading a font into a folder on your website
- There are free fonts available for download at websites like <u>Font Squirrel</u> or <u>Font Spring</u>
- After you have a copy of the font you can share it just like any other media file on your website

#### Some considerations with hosting fonts:

- May have to pay licensing fees many fonts cost money
- Some free fonts prohibit commercial use, or limit the number of page views

## **@FONT-FACE**

If you download a font that you want to use on your site, add @font-face before any other styles:

```
@font-face {
   font-family: MyWebFont;
   src: url('webfont.eot');
      url('webfont.eot?#iefix') format('embedded-opentype'),
      url('webfont.woff2') format('woff2'),
      url('webfont.woff') format('woff'),
      url('webfont.ttf') format('truetype'),
      url('webfont.svg#svgFontName') format('svg');
}
```

(The good news is, font sites will provide this chunk of CSS for you to copy into your stylesheet!)

### **@FONT-FACE**

```
@font-face {
   font-family: MyWebFont;
   src: url('webfont.eot');
      url('webfont.eot?#iefix') format('embedded-opentype'),
      url('webfont.woff2') format('woff2'),
      url('webfont.woff') format('woff'),
      url('webfont.ttf') format('truetype'),
      url('webfont.svg#svgFontName') format('svg');
}
```

Different browsers support different font filetypes

- Modern browsers use woff or woff2
- IE needs eot
- Old mobile devices need ttf or svg



# PRACTICE TIME!

#### **ASSIGNMENT**

Find a free font from <u>Google fonts</u> and use it on your site by including the font stylesheet.

Apply the font to some (or all) elements on the page

#### Include the Font Awesome stylesheet:

```
<link rel="stylesheet"
href="https://use.fontawesome.com/releases/v5.7.2/css/all.css" >
```

- Display at least two different icons
- Make them different sizes and/or colors
- Bonus points: what other CSS can you apply to the icons?

# RESPONSIVE DESIGN

### **MOBILE FIRST**

An important principle of responsive design is "Mobile First"

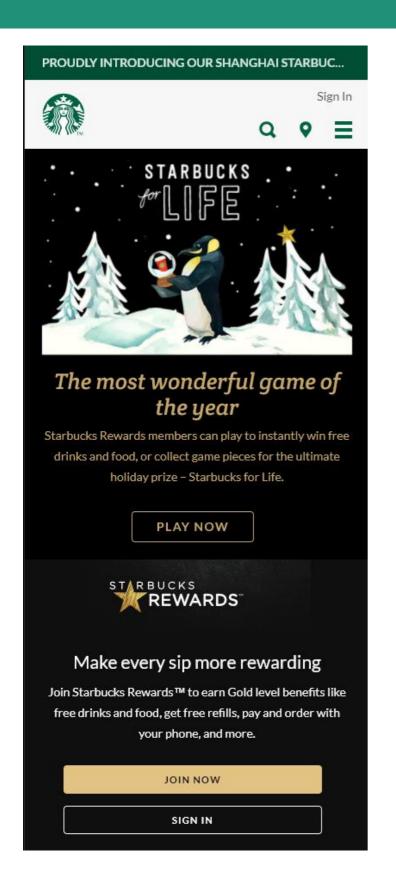
- Both design and code should default to mobile resolution, adding progressive enhancements as the screen gets larger
- One benefit of considering mobile first is that it trims down website content to its most vital elements
  - Mobile first = content first

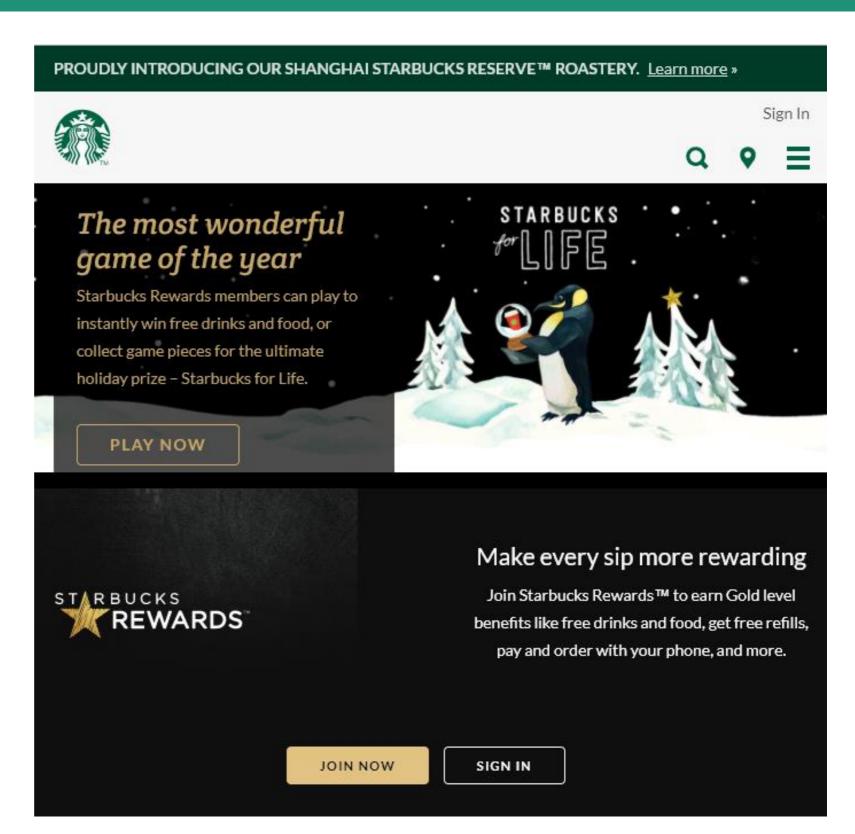
### **RESPONSIVE != ADAPTIVE**

Responsive design means that your design (and code) needs to function on a continuum of devices and screen sizes

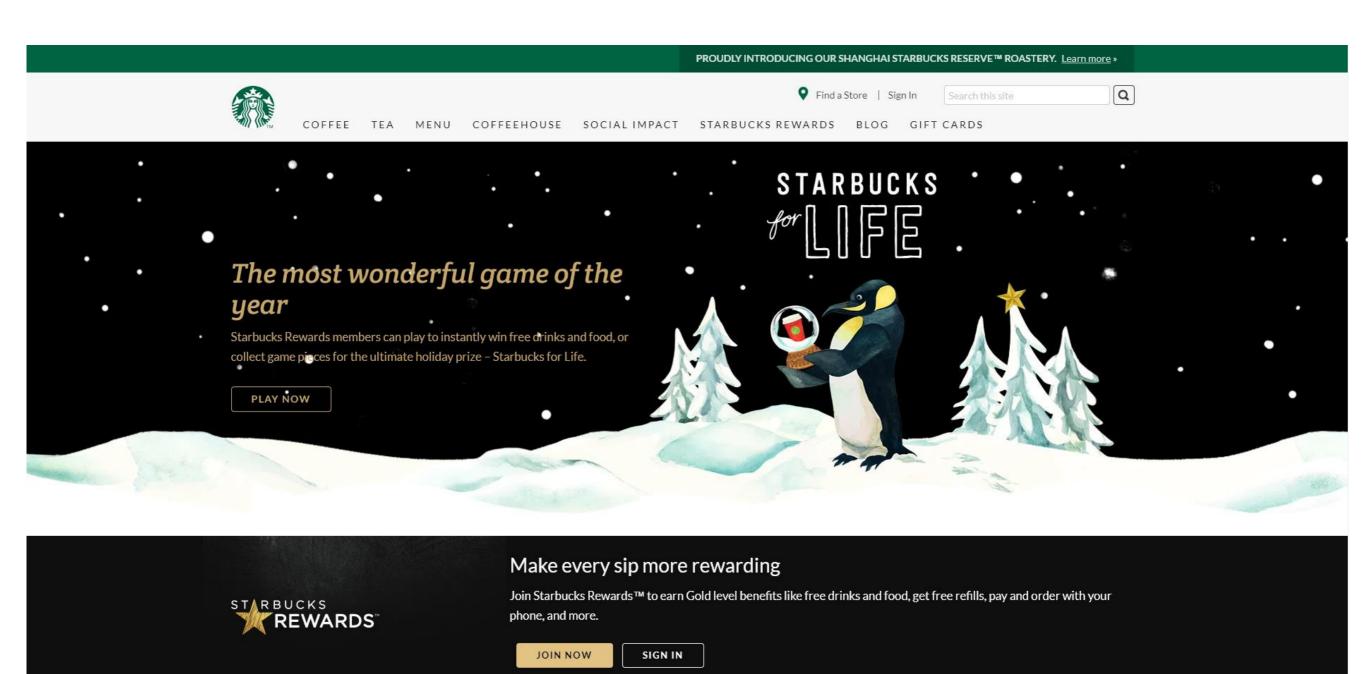
- Although you should make care that things look great at specific "breakpoints" (640px wide for iPhone 4/5, 768px for iPad), it's just as important to make sure things look good at *any* resolution
  - Users resize their browser windows
  - Technology changes

# EXAMPLE — MOBILE





# EXAMPLE — DESKTOP



Media queries are used to apply different CSS to different devices.

Some things you can use a media query to detect:

- The minimum or maximum screen height or width
- Whether the screen is rotated (in "landscape view")
- If the page is being printed
- If the user is on a touch screen device
- The screen's resolution

Media queries have a different format than any other CSS we've seen so far

They always start with @media and have curly braces that contain all the CSS that applies to that media query rule

Multiple rules can be tested for, separated by and

```
@media (max-width: 480px) and (orientation: landscape) {
    h1 { font-size: 20px; }
}
```

To specify different styles when a webpage is being printed, use this media query:

```
@media print { }
```

This allows you to format your page so that it looks better on paper

- Make the page full screen
- Remove non-essential page elements (such as navigation links or social media icons)
- Set font color to black and background color to white

Most modern "mobile first" websites have CSS that applies to phone-sized screens first

Then, anything specific to bigger screens goes in media queries that test for a **minimum** screen width, like this:

```
@media (min-width: 768px) {
}
```

```
/* CSS that is used for phones, and also
    applies generally to all resolutions */
@media (min-width: 768px) {
    /* CSS that is different for tablets */
@media (min-width: 920px) {
    /* CSS that is different for desktops */
```

# MEDIA QUERIES - EXAMPLE

```
h1 {
    font-size: 12px;
     color: gray;
    font-family: sans-serif;
@media (min-width: 768px) {
    h1 { font-size: 20px; }
@media (min-width: 920px) {
      h1 { font-size: 25px; }
```



# PRACTICE TIME!

### **ASSIGNMENT**

Apply a media query to an element on your page so that it looks different when you resize your browser screen

Things to consider doing:

- Make a two- or three-column layout only in desktop (for example a sidebar)
- Make font sizes bigger for larger screen sizes, especially headings like h1 or h2



HOMEWORK

### **HOMEWORK**

Create a footer for your webpage (see examples on following pages)

- Add icons that link to your social media accounts using Font Awesome (or another icon library)
  - Remember you can use CSS to draw circles around them!
- Use either float or flex to put your footer content in at least two columns
- Include a copyright as the final row in the footer
- Bonus: Switch to single-column layout for mobile only

Email me your files at beckjohnson@gmail.com

# **EXAMPLE**

**GLOBAL HQ** 

700 Harris Ave. Bellingham, WA 98225

Phone: 877.696.EVIL

info@evil-bikes.com

**EVIL BIKES GLOBAL, S.L.** 

Calle Bruselas 6-A 28232 Las Rozas de Madrid, Spain

CIF: ESB86483922

Phone: +34 902 46 3845 europe@evil-bikes.com

**ORDERS & RETURNS** 

Shipping & Delivery Return Policy SUPPORT

Register Your Bike Warranty Policy Get Support Pro Access Tech Crap

Decal Install Instructions

Bike Archive

Find Evil and lurk us elsewhere on the interwebs.









Evil Bikes™ 2019 - Rider Owned, Designed and Operated in Seattle, WA

https://www.evil-bikes.com/

# **EXAMPLE**

#### home safe, every day



SH&E Site Map

Legal Notice

Privacy

_	-	 -		
		-	_	FS
		 _		
_				

Safety Leadership

Hazard Identification

#### **DEPARTMENTS**

Retail

Nitrogen

Phosphate

#### **STANDARDS**

Elements

**Global Policies** 

Bisiness

Site Documents

#### **PERFORMANCE**

Overall

By Business Unit

#### **SPOTLIGHT**

MY TEAM

**Emergency Contacts** 

SH&E Leadership

By Initiative

Our People

Our Sites

Nominate

© Nutrien Ltd. 2018











# **EXAMPLE**

#### **About ACE**

- ACE Team
- > Services

#### **Help & Support**

The ACE team is here to help! Contact us with your feedback, issue reports, and help requests using the form at right, or the contact info below.

- **└** (000) 0000-0000 x 123
- ☑ ace-service@andeavor.com

#### Feedback & Issue Reporting

Reason for contact:

Select a Topic

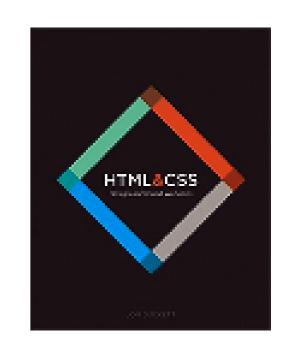
**CONTACT US** 

### "HOMEWORK"

### Reminder: no class next week

I'll send out a homework assignment next Wednesday via email so you guys don't forget what you've learned!

• Practice!



• Optional: read chapters 15 and 17 of *HTML* and *CSS*: Design and Build Websites