Creating Page Layouts w/CSS

CS 130:
Tools and Technologies of the World Wide Web
Spring, 2022

Outline

1. The Box Model
2. Semantic Tags (a reminder)
3. Media Queries
4. Intro to Flexbox

CSS & Layouts

Layouts are ***the hardest thing*** about CSS for many reasons:

- The language has many, many different layout ‘paradigms’ for doing the same thing.
- Specifying the rules for arranging boxes the right way is difficult
- You have to design for several different browser configurations (what looks good on a desktop doesn’t necessarily look good on mobile).
- Everything has to be flexible and resizable so that it scales gracefully.

Layout Tips

- Learn Flexbox (Today) – it's worth the investment!
- Learn CSS Grid (Wednesday, Tutorial 4) – also worth the investment
- Design your website so that it is responsive (looks good on a mobile, tablet, and desktop). Using Flexbox and CSS Grid will help you with mobile layouts.
- Avoid older hacks (floats, putting everything inside a table, absolute positioning) – or else use as a last resort.
- We'll go through some examples today and on Wednesday.

Activity: Composing a Layout in CSS

Let’s deconstruct this template website:

- How does this website instantiate the principles of:
  - Proximity (think whitespace)
  - Alignment (think grid)
  - Repetition
  - Contrast
- Let’s draw some boxes…
- Let’s think about how to create this layout. Some properties to highlight:
  - Responsiveness
  - relative units
  - Margin and padding!

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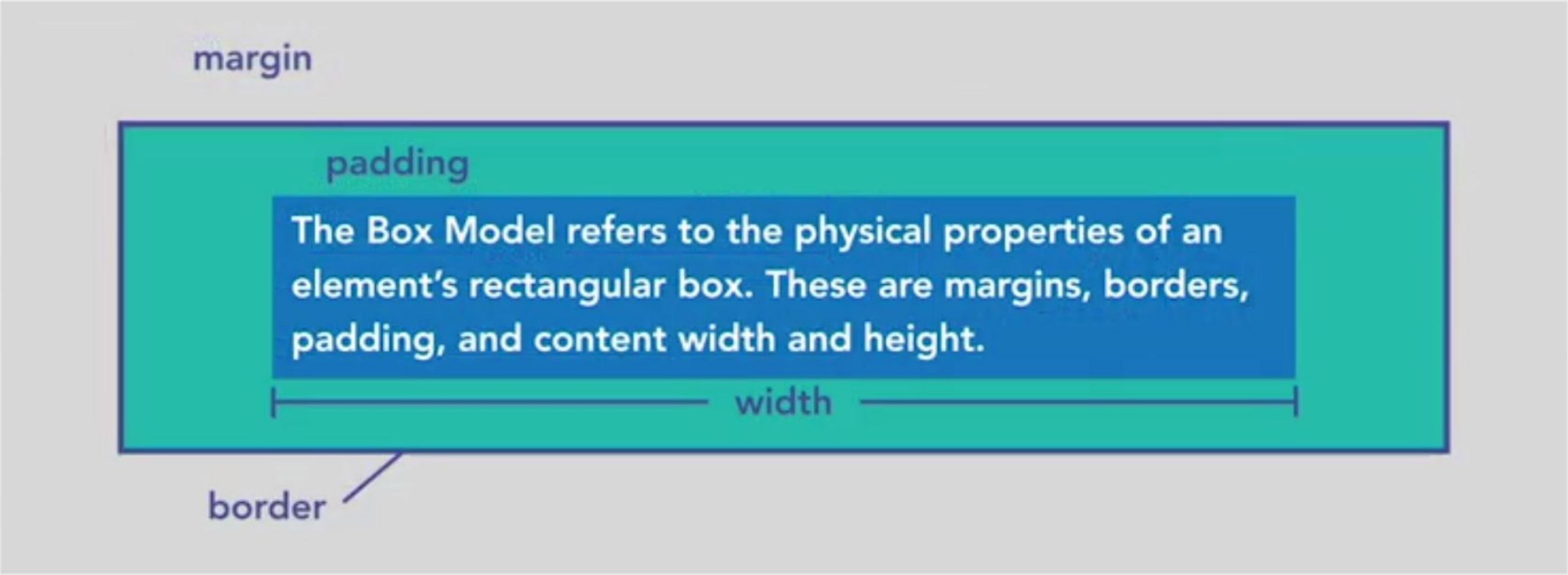
The Box Model

References:
- W3 Schools
- Lynda.com Video



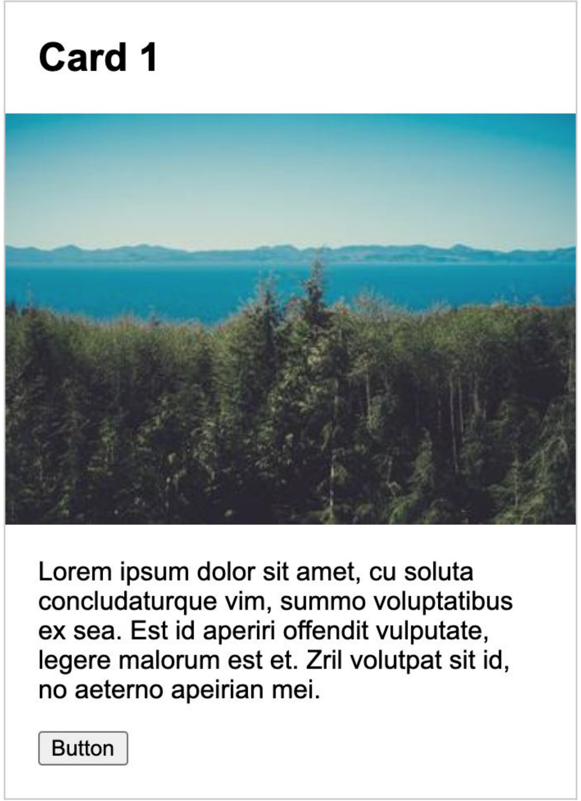
The Box Model refers to the physical properties of an element's rectangular box. These are margins, borders, padding, and content width and height.

The Box Model

1. margin
2. padding
3. border
4. width
5. box-sizing (border-box v. content box)
6. display (block, inline-block, inline, grid, none, etc.)

Exercise 1: Box Model

Open 01-box-model and create this card:



Card 1

Lorem ipsum dolor sit amet, cu soluta concludaturque vim, summo voluptatibus ex sea. Est id aperiri offendit vulputate, legere malorum est et. Zril volutpat sit id, no aeterno apeirian mei.

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Semantic, Block-Level Elements

<address> <article> <aside> <blockquote> <canvas> <dd> <div>
<dl> <dt> <fieldset> <figcaption> <figure> <footer> <form>
<h1>-<h6> <header> <hr> <li> <main> <nav> <noscript> <ol> <p>
<pre> <section> <table> <tfoot> <ul> <video>

https://codepen.io/vanwars/pen/WWRqRY?editors=0100

Semantic, Inline Elements

<a> <abbr> <acronym> <b> <bdo> <big> <br> <button> <cite>
<code> <dfn> <em> <i> <img> <input> <kbd> <label> <map>
<object> <output> <q> <samp> <script> <select> <small> <span>
<strong> <sub> <sup> <textarea> <time> <tt> <var>

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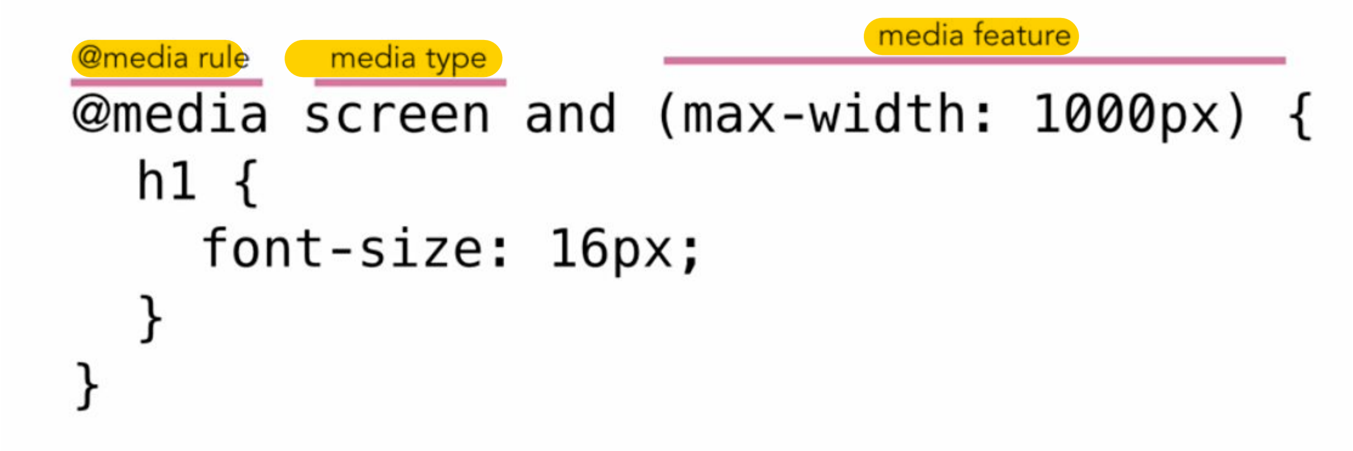
Using Media Queries

Media queries allow you to set CSS style rules based on the type of media and the device dimensions of the viewport. Example:



```
@media screen and (max-width: 1000px) {
  h1 {
    font-size: 16px;
  }
}
```

“Turning On” Media Queries in your HTML

In order to make sure that media queries are honored, you need to include a meta tag in the <head></head> of your html file:

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

Challenge: Can you make the card look different on a mobile device?

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Flexbox Resources

- Typically used when you have many child containers that you want to flow within a parent container.
- Lets you specify a few generic rules that will control how the children of a container are positioned

Some resources:

- Flexbox Froggy (interactive game)
- Flexbox (course website)
- Grid v. Flexbox: Which to use when?

Using Flexbox: Suggested Strategy

Parent Container

Put the display into “flex mode” `display: flex` and then use the following properties to align the child items:

- **align-items:** (***flex-start***, flex-end, space-around, space-between, center)
- **justify-content**: (same as align-items)
- **flex-direction**: (***row***, column, row-reverse, column-reverse)
- **flex-wrap:** (***no-wrap***, wrap, wrap-reverse)

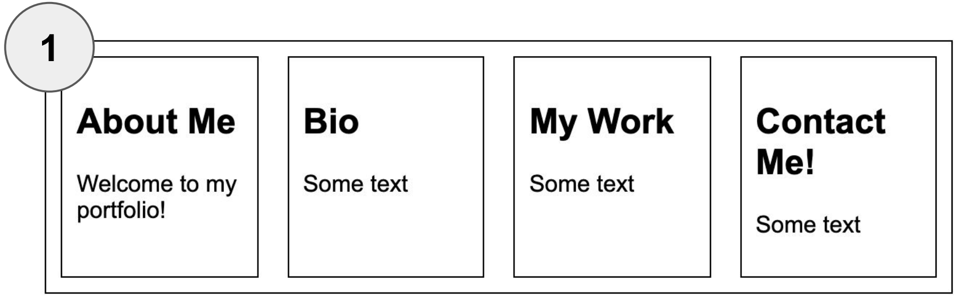
Child Container

Apply sizing to the child container as needed.

Flexbox: Practice 1

Open 02-flexbox. Can you create the following layouts?

1



About Me

Welcome to my portfolio!

Bio

Some text

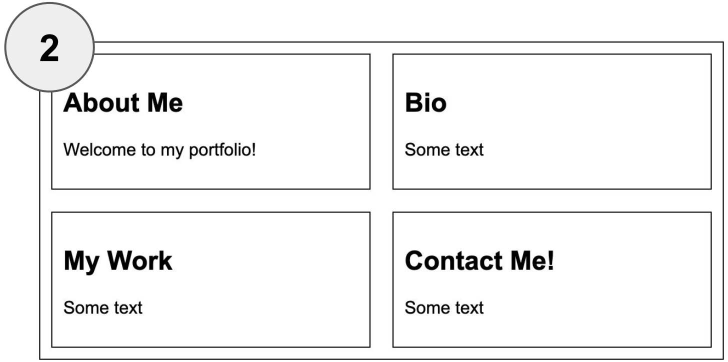
My Work

Some text

Contact Me!

Some text

2



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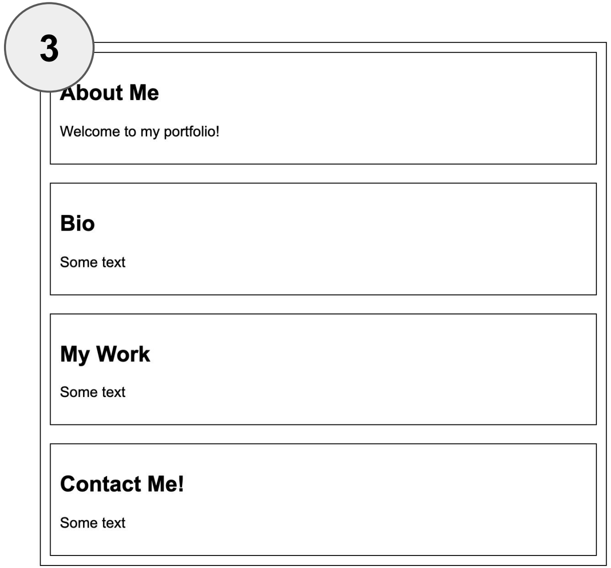

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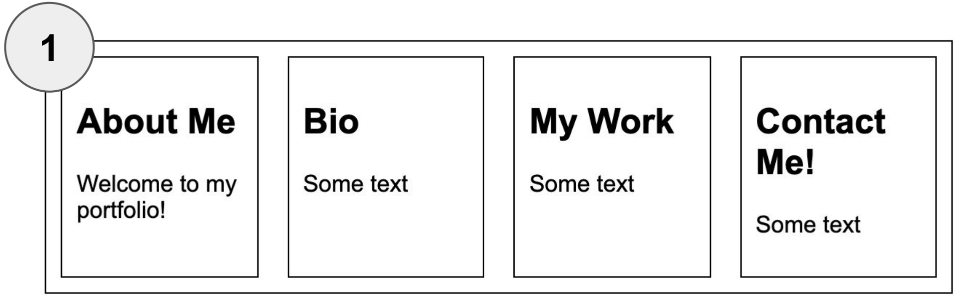
Flexbox: Practice 1 Cont'd – Using Media Queries

Make it so that #1 is for **Desktop** screens, #2 is for **Tablet**, and #3 is for **Mobile**



1

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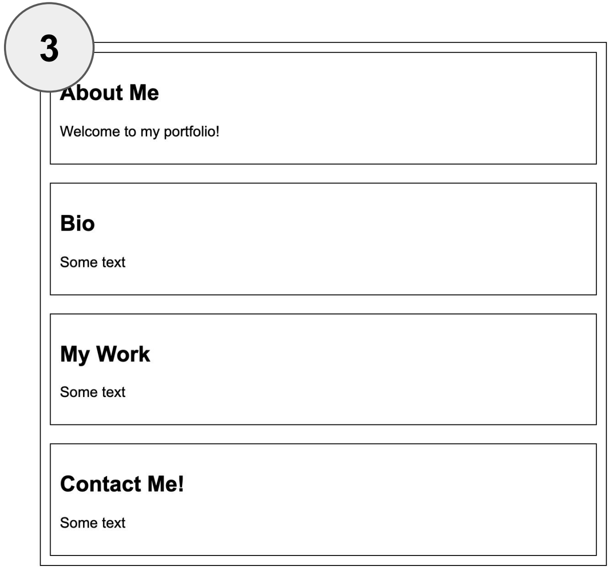

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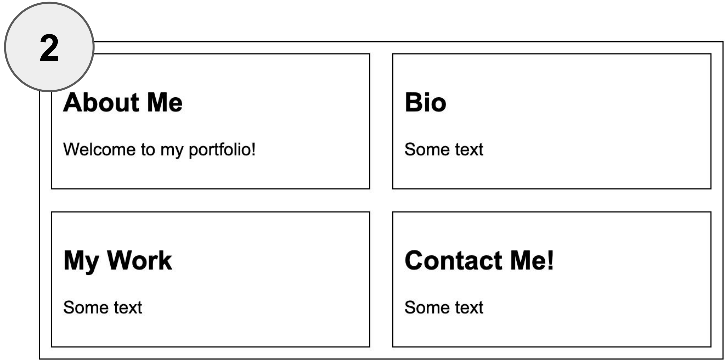

2

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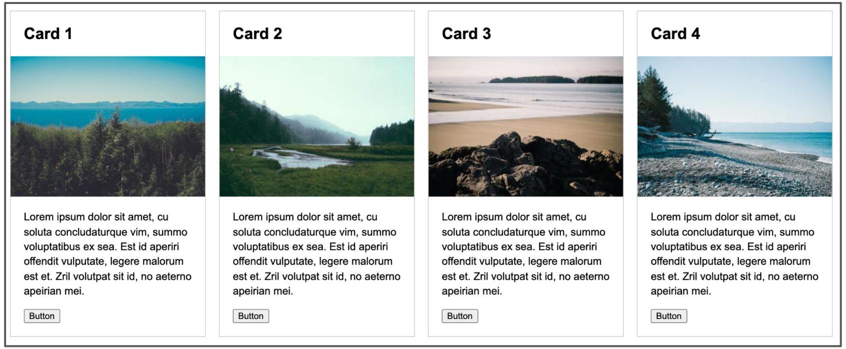
Flexbox: Practice 2 (Lab 1)

Open 03-flexbox-media-queries and create these screens:

Desktop



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Card 2

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Card 4

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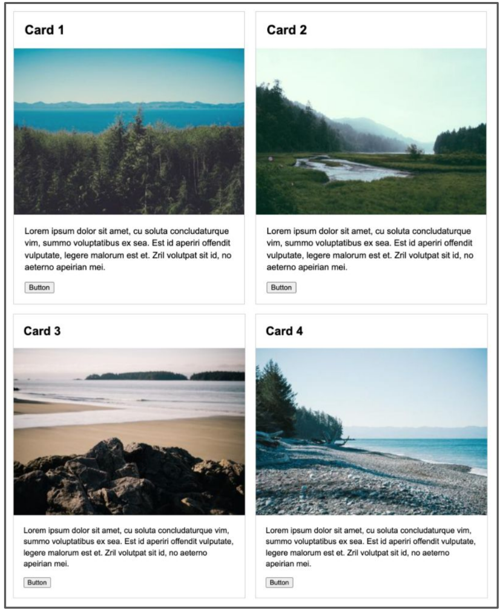
Tablet



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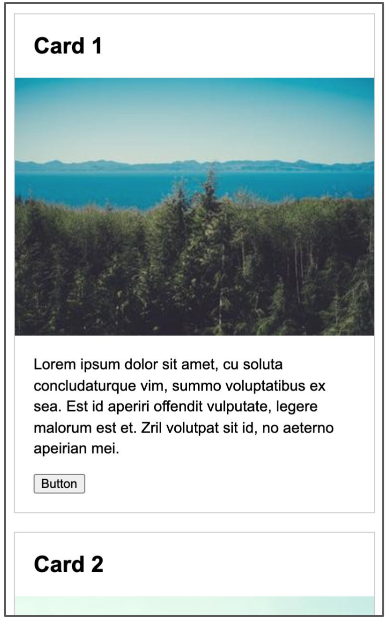
Mobile



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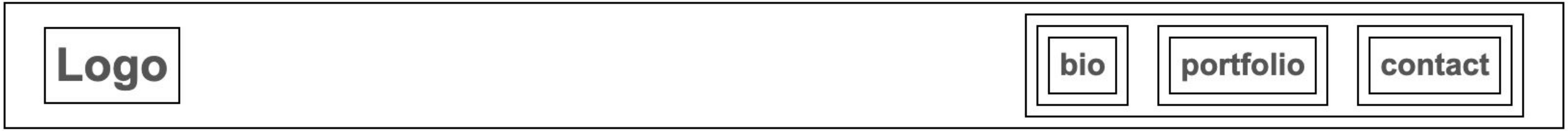
Card 2

Flexbox: Practice 3: Navigation Bar

Open 04-nav-bar, and try to make the following:


Logo
bio
portfolio
contact