Designing with Sass

with Tjin Au Yeung

Codaisseur

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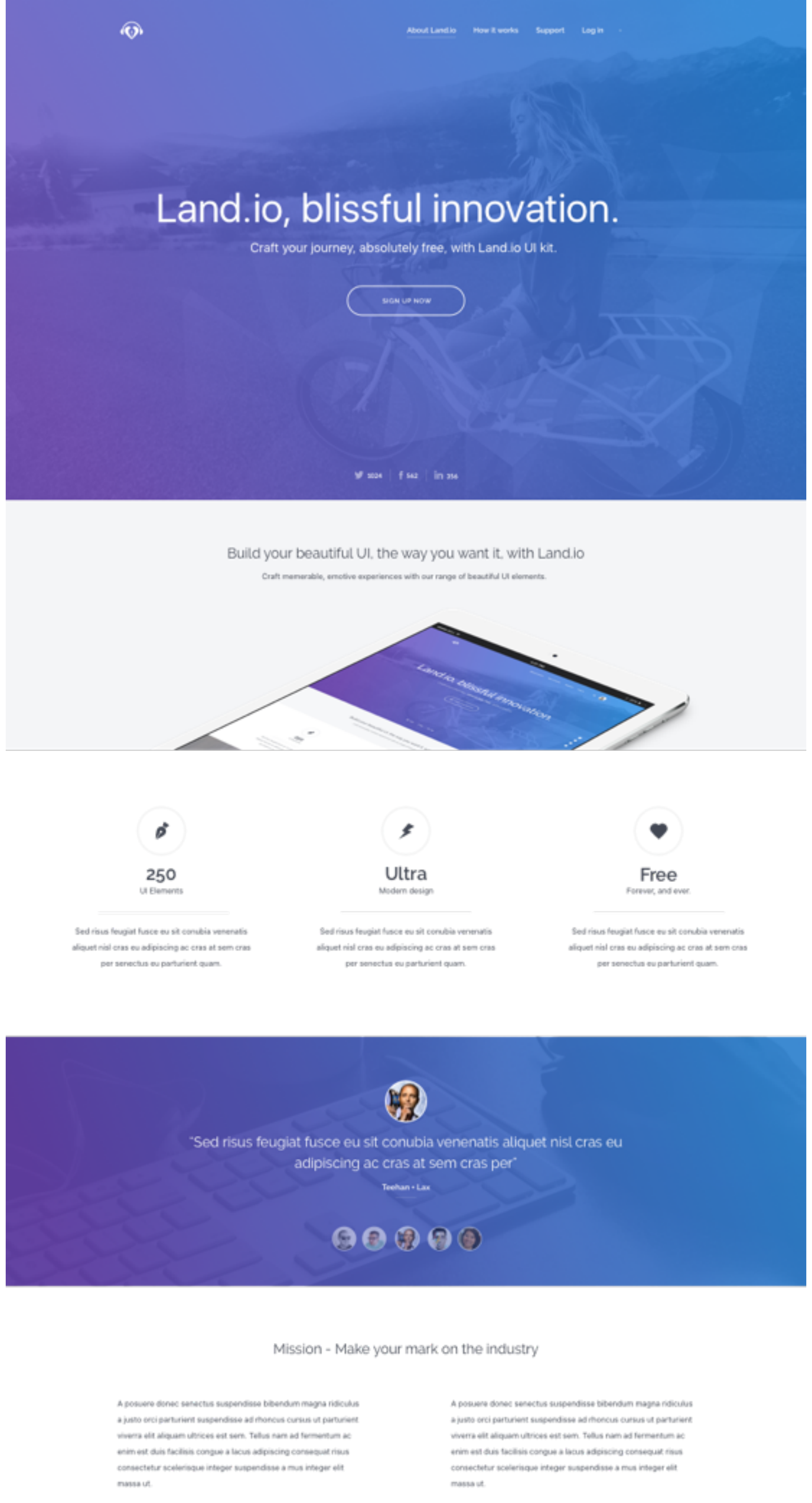
Goal

- Style a page using sass
- All assets are found in the git repository

http://tympanus.net/Freebies/Landio/



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Free
Forever, and ever.
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Mission - Make your mark on the industry

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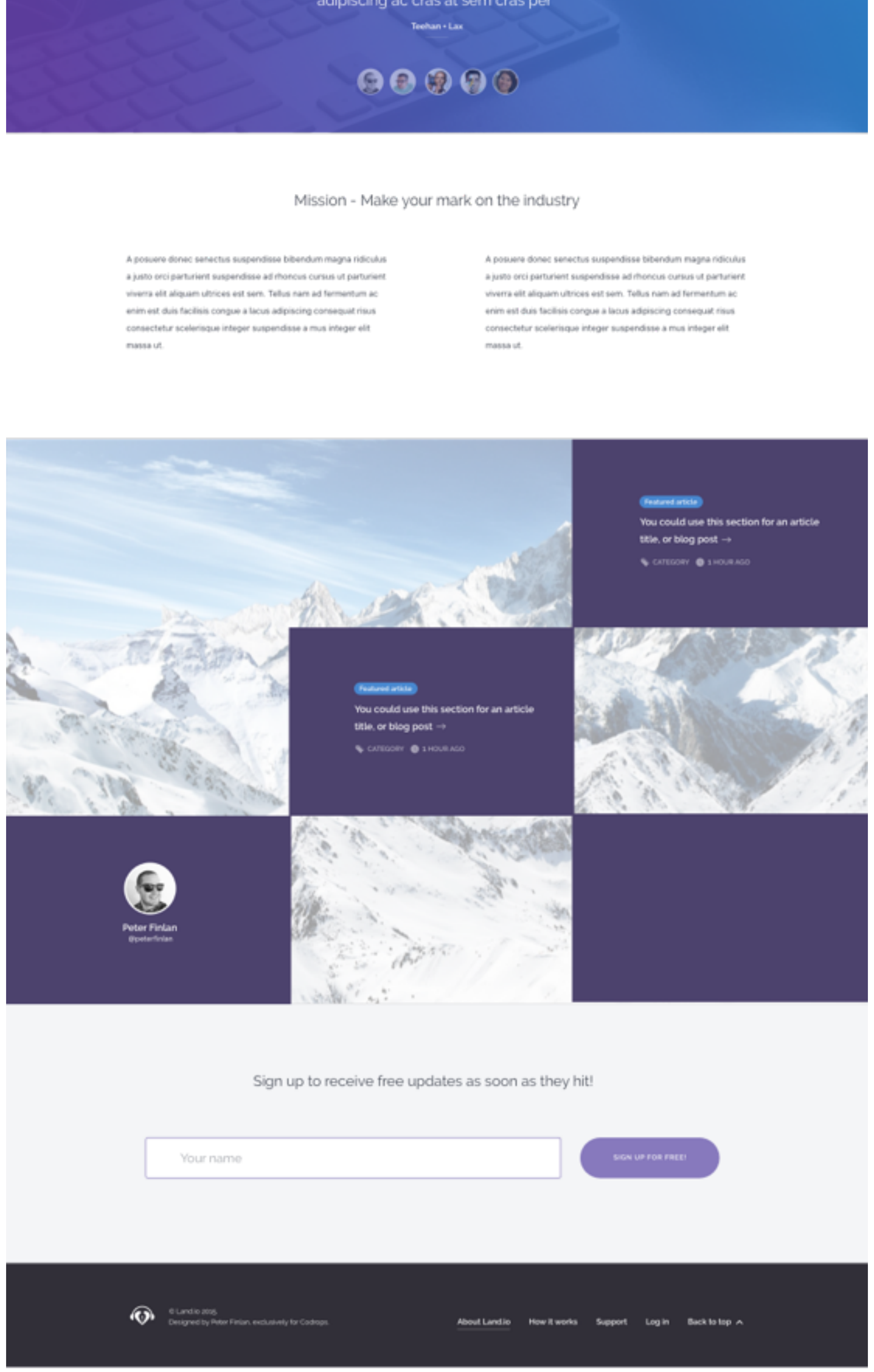

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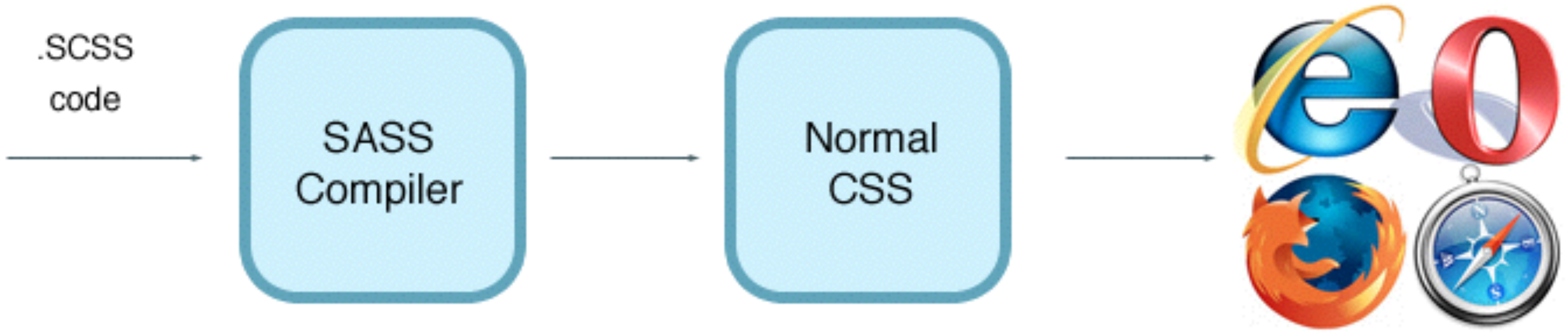
Introduction

- What is Sass?
- CSS preprocessor
- Ton of features helping you write semantic maintainable stylesheets

How does it work?



Features

- Variables
- Nesting
- Mixins
- Extends
- Functions
- Lists
- and more!

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Set up the compiler

- To compile the scss we can use different tools:
- We will be using Gulp.js

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What is Gulp?

- Automated task runner

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- Can be used to build and process your files automatically

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What is Gulp?

- Automated task runner
- Can be used to build and process your files automatically
- It does this using gulp plugins
- Each task has its own plugin
- Gulp Sass

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Setting up

To set up our work environment clone the following repository:

```
$ git clone git@github.com:tjinauyeung/sass_lesson.git
$ git remote remove origin
$ git init
$ cd sass_lesson/sass_project
$ npm install
```

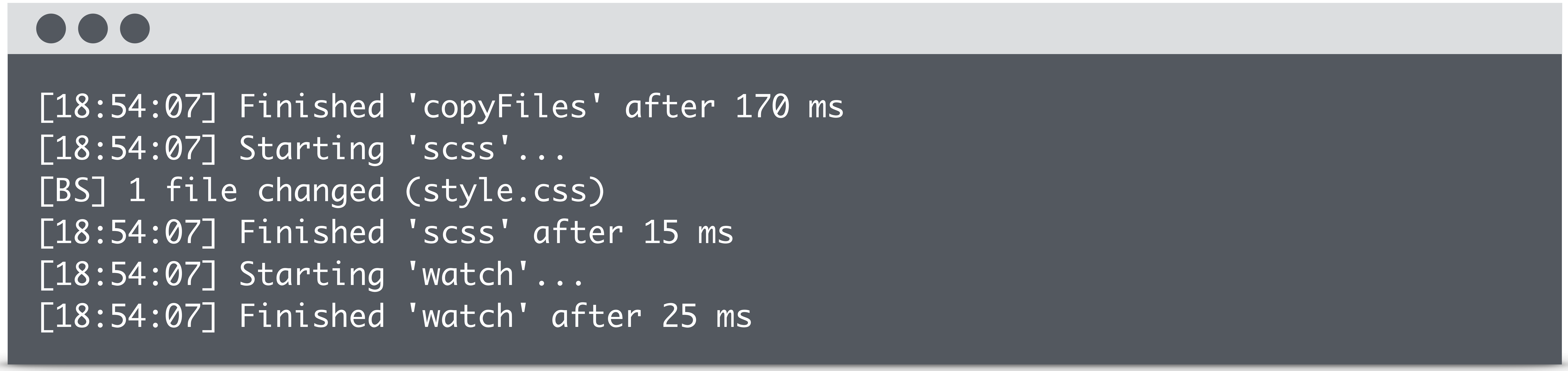
*

Folder structure so far

- my_sass_project
  - sass_slides.key
  - sass_project
    - node_modules
    - gulpfile.js
    - package.son
    - src

Setting up - testing the configuration

Test out the setup and run ‘`gulp`’ in your command line. Note: you have to be in the same directory as your gulpfile.js



```
[18:54:07] Finished 'copyFiles' after 170 ms
[18:54:07] Starting 'scss'...
[BS] 1 file changed (style.css)
[18:54:07] Finished 'scss' after 15 ms
[18:54:07] Starting 'watch'...
[18:54:07] Finished 'watch' after 25 ms
```

Exercise - Setting Up

Basic

Clone the repository with the basic configuration and set up the gulpfile.js and test it out.

Challenge

Add a gulp plugin for cleaning the dist directory and plugins for minifying the html and css

Structuring your styles

- @import directive from Sass
- Stylesheet can be seperated into smaller chunks of code -> Partials
- Difference with CSS import?

Structuring your styles

- @import directive from Sass
- Stylesheet can be seperated into smaller chunks of code -> Partials
- Difference with CSS import?
    - No HTTP requests needed

Structuring Your Files

- Partials start with _
- So _mixins.scss, _variables.scss
- Partials will not be compiled to the css file unless imported

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Structuring your files - Using Partials

_layout.scss

```
body {
  background: red;
}
```

style.scss

```
@import ‘layout’;
```

style.css

```
body {
  background: red;
}
```

structuring your files - using partials

```
scss
    global
        _variables.scss
        _mixins.scss
        _colors.scss
        _typography.scss
        _utilities.scss
    components
        _header.scss
        _navigation.scss
        _landing.scss
        _cta.scss
        _footer.scss
    style.scss
```

style.scss

```
// Global vars & mixins
@import ‘global/variables’;
@import ‘global/mixins’;
@import ‘global/colors’;
@import ‘global/typography’;
@import ‘global/utilities’;

// Components
@import ‘components/header’;
@import ‘components/navigation’;
@import ‘components/landing’;
@import ‘components/cta’;
@import ‘components/footer’;

// Vendor
@import ‘vendor/cookiebar-plugin’;
```

style.scss acts like a manifest file where all the styles are imported in

*

Exercise - Structure

Basic

Set up a basic folder structure in your src directory

Challenge

Include a css reset as a partial in your folder and import it in the style.css manifest.

Ask yourself

- Ever changed your mind about a color and had to update this in multiple location?
- Ever encountered a HEX value and had to check it in photoshop to see what color it actually is?

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Variables to the rescue

- With variables colors, font sizes, margins, paddings and more can be named semantically and stored in a single location

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Variables

_colors.scss

```
$primary-color: #0000FF;
$text-color: #FFFFFF;
```

_header.scss

```
header {
  background: $primary-color;
}

header__text {
  color: $text-color;
}
```

style.css

```
header {
  background: #0000FF;
}

header__text {
  color: #FFFFFF;
}
```

*

Exercise - Variables

Basic
Setup a partial called variables and set up two or three colors, test it out on page

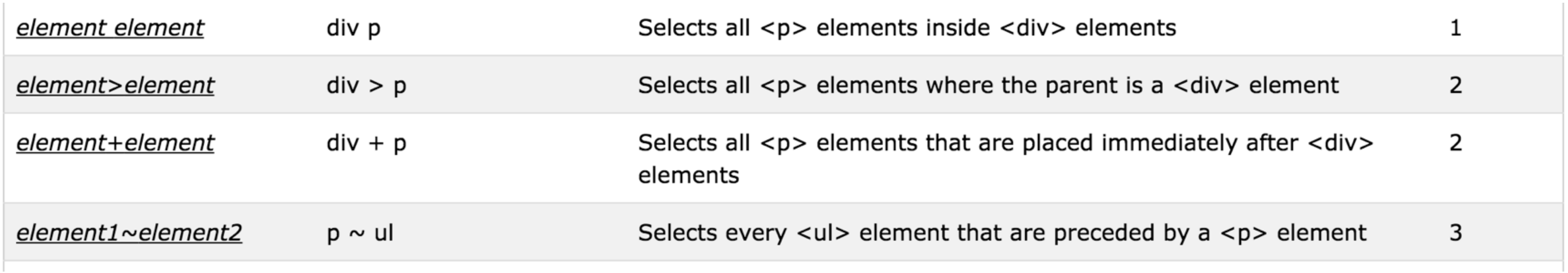
Challenge
Think of more useful variables that can be setup and include them in your variables partial

Nesting

- Nesting is great in Sass
- It allows for nested stylerules in your styles and improves readability
- Grouping of sections

Nesting

- Nesting is handy for these



element element	div p	Selects all <p> elements inside <div> elements	1
element>element	div > p	Selects all <p> elements where the parent is a <div> element	2
element+element	div + p	Selects all <p> elements that are placed immediately after <div> elements	2
element1~element2	p ~ ul	Selects every <ul> element that are preceded by a <p> element	3

http://www.w3schools.com/cssref/css_selectors.asp

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Nesting

_header.scss

```
header {
  background: red;
  height: 200px;
  width: 100%;

  nav {
    list-style-type: none;
    padding: 0;
  }

  li {
    display: inline-block;
    color: $text-color;
  }
}
```

style.scss

```
header {
  background: red;
  height: 200px;
  width: 100%;
}

header nav {
  list-style-type: none;
  padding: 0;
}

header li {
  display: inline-block;
  color: $text-color;
}
```

Nesting

- The use of &
- & will be replaced with the parent selector(s) it is in
- Very useful for adding pseudo elements

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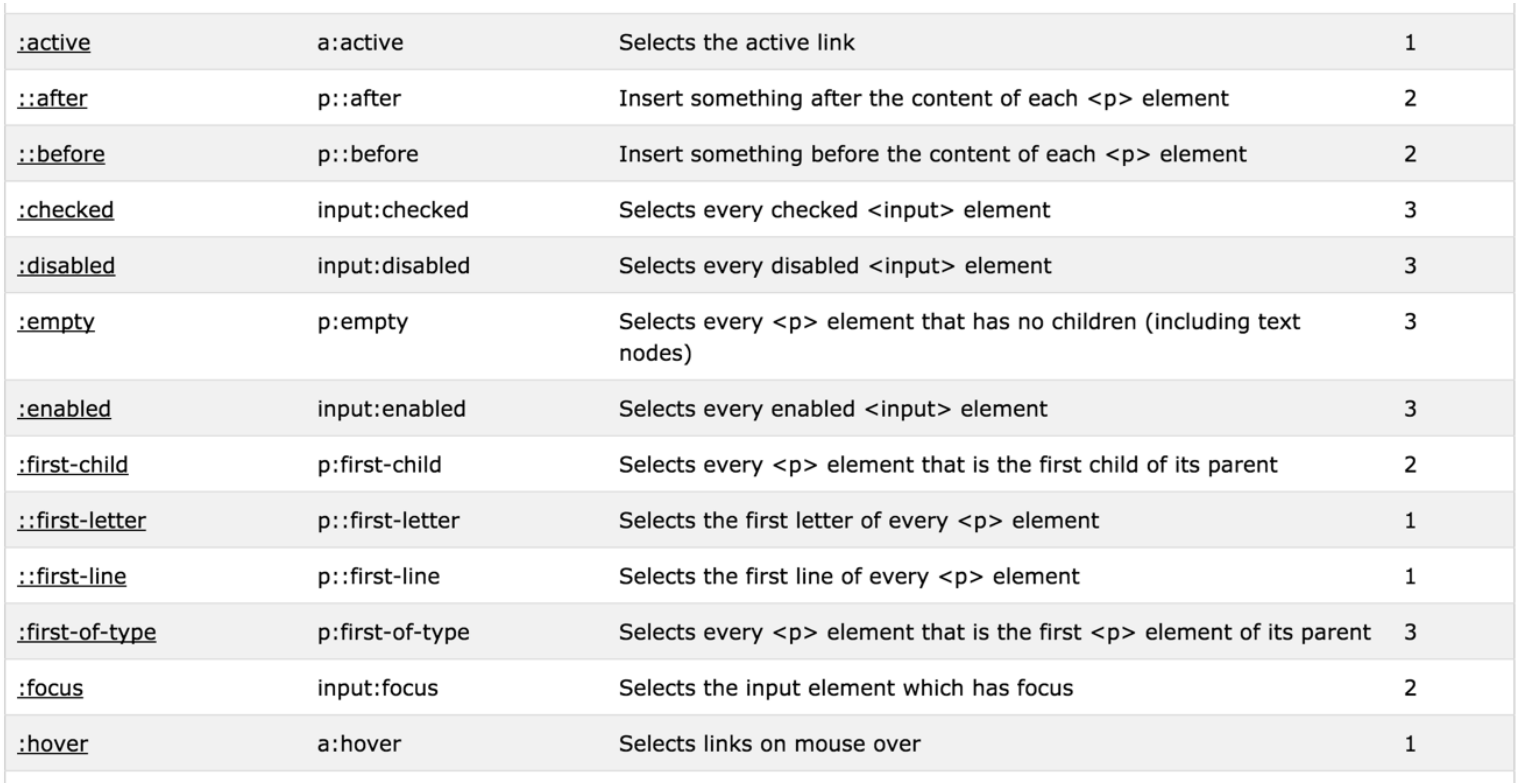
Nesting

Pseudo

elements

syntax



:active	a:active	Selects the active link	1
::after	p::after	Insert something after the content of each <p> element	2
::before	p::before	Insert something before the content of each <p> element	2
:checked	input:checked	Selects every checked <input> element	3
:disabled	input:disabled	Selects every disabled <input> element	3
:empty	p:empty	Selects every <p> element that has no children (including text nodes)	3
:enabled	input:enabled	Selects every enabled <input> element	3
:first-child	p:first-child	Selects every <p> element that is the first child of its parent	2
::first-letter	p::first-letter	Selects the first letter of every <p> element	1
::first-line	p::first-line	Selects the first line of every <p> element	1
:first-of-type	p:first-of-type	Selects every <p> element that is the first <p> element of its parent	3
:focus	input:focus	Selects the input element which has focus	2
:hover	a:hover	Selects links on mouse over	1

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Nesting

_header.scss

```
.header {
  background: red;
  height: 200px;
  width: 100%;

  &__nav {
    list-style-type: none;
    padding: 0;
  }

  li {
    display: inline-block;
    color: $text-color;

    &:hover {
      text-decoration: underline
    }
  }
}
```

style.scss

```
.header {
  background: red;
  height: 200px;
  width: 100%;
}

.header__nav {
  list-style-type: none;
  padding: 0;
}

header li {
  display: inline-block;
  color: $text-color;
}

header li:hover {
  text-decoration: underline
}
```

Some advice

Don’t nest too deep because this affects the readability of styles and the specificity of the style rules.

Go 3 levels deep max!

Exercise - Nesting (20min)

Basic
Make use of nesting to finish up the splash page of the landing page

Use the ampersand when possible

Mixins

- Blocks of code that can be included / mixed in
- Helps to keep your code DRY (Don’t Repeat Yourself)
- Won’t be compiled unless explicitly imported

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Mixins

_header.scss

```scss
@mixin flex-center {
  display: flex;
  align-items: center;
  justify-content: center;
}

.header {
  @include flex-center;

  height: 200px;
  width: 100%;
  background: $primary-gradient;
}
```

style.css

```css
.header {
  display: flex;
  align-items: center;
  justify-content: center;
  height: 200px;
  width: 100%;
  background:
    linear-gradient(#4C426D,#0D73D0);
}
```

Some advice

Whenever you’re repeating styles three or more times, consider writing a mixin

The mixin will be included on the exact place where you use @include, so order matters

Exercise - Mixins

Basic
Create a mixin partial and write a simple mixin for the buttons displayed on the page and include this in the file.

Challenge
Scan the page for more reusable ‘components’ and write mixins for them

Functional mixins

- Mixins can also take up arguments and reuse them in their scope - a bit like functions
- i.e. @mixin button($button-width, $button-color);

Mixins - leveled up

Example of a gradient helper

_mixins.scss

```scss
@mixin background-gradient($start-color, $end-color) {
    background: $start-color;
    background: -webkit-linear-gradient(top, $start-color, $end-color);
    background: linear-gradient(to bottom, $start-color, $end-color);
}

.header {
  @include background-gradient($primary-color, $secondary-color);
}
```

Mixins - leveled up

We can even add some extra functionality

_mixins.scss

```
@mixin background-gradient($start-color, $end-color, $orientation) {
    background: $start-color;

    @if $orientation == 'vertical' {
      background: -webkit-linear-gradient(top, $start-color, $end-color);
      background: linear-gradient(to bottom, $start-color, $end-color);
    } @else if $orientation == 'horizontal' {
      background: -webkit-linear-gradient(left, $start-color, $end-color);
      background: linear-gradient(to right, $start-color, $end-color);
    } @else {
      background: -webkit-radial-gradient(center, ellipse cover, $start-color, $end-color);
      background: radial-gradient(ellipse at center, $start-color, $end-color);
    }
}
```

*

Exercise - Mixins (20min)

Basic
Search for a grid mixin and import it into your projectfolder and setup the grid section on the landing page.

Challenge
Try writing a grid mixin with the following arguments grid columns, gutter-width

Functional mixins

- @content directive
- used to pass in a content block into a mixin
- example **media queries**

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Media Queries

- Media Query gist
- https://gist.github.com/tjinauyeung/5e91aa3d957060be734d9e1ae8cff7e3

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Exercise - Mixins (20min)

Basic
Download the mediaquery mixin in your project and start make what you have so far responsive.

Challenge
Do the basic challenge but also add a responsive grid

Extends

- Extends are a way to extend the styles of another class
- Instead of mixing a block of code in (a.k.a mixin), it works a little bit differently

slide.title

filename.extension

```
.text-input {
  height: 50px;
  border: 1px solid #DEDEDE;
  width: 450px;
  border-radius: 3px;
}

input {
  extend .text-input;

  font-family: sans-serif;
}
```

filename.extension

```
input,
.text-input {
  height: 50px;
  border: 1px solid #DEDEDE;
  width: 450px;
  border-radius: 3px;
}

input {
  font-family: sans-serif;
}
```

Extends

- Extends save a bit of code because it’s extending existing rules.

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Extends

- Another feature is the placeholder class using % syntax
- i.e. %flexbox-center

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Extends

- Generally - use extend for large chunks of code that does not require any arguments
- And mixins when you need the flexibility
- You can also combine ->
- https://gist.github.com/tjinauyeung/2552e38cff0b80098b7c9f46653da77b

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Some advice

The output of extend is less obvious than mixins, especially when they’re being used in multiple locations - keep that in mind when using it

slide.title

filename.extension

```
%flexbox-center {
  display: flex;
  justify-content: center;
  align-items: center;
}

.container {
  extend %flexbox-center;
}

.signup {
  extend %flexbox-center;
}
```

filename.extension

```
.container,
.signup {
  display: flex;
  justify-content: center;
  align-items: center;
}
```

Exercise - Extends ()

Basic
Make a partial in the global folder called _extends.scss and add a placeholder class i.e. %clearfix

Challenge
Combine a extend with a mixin and use it!

Lists & Maps

- Sass provides possibility to store maps inside a variable, this is similar to a Ruby hash or javascript object

```
$list: (
  ‘key’: ‘value’,
  ‘key2: ‘value2’
);
```

Lists & Maps

- How maps can be utilized for setting font faces

  https://gist.github.com/tjinauyeung/46e90462a5ee26c3e0ed8e40a43421b4

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General Advice

1. Structure your files
2. Meaningful naming of variables and mixins
3. Limit nesting
4. Keep your code DRY
5. Use mixins and/or extends appropriately
6. Be conscious of the order in outputted css
7. Conform to one style - https://sass-guidelin.es/
8. Keep thing simple

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Final Challenge

- Finish the landing page
- Make it responsive
- Write clean code
- Git commit and push

Good luck!

Questions?

Further research

Mixin libraries

- bourbon.io
- bootstrap framework
- foundation framework

Digital playground

- sassmeister.com
- codepen.io

Good reads

- www.thesassway.com
- www.sitepoint.com
- https://css-tricks.com/sass-style-guide/
- www.drupalnorth.org/sites/default/files/inline-files/2016-Drupal-North-Mainspring_v10.pdf

Lesson repo

https://github.com/tjinauyeung/sass_lesson

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