

# LessCSS

(More or less)

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# What is Less?

- Leaner Style Sheets
- “It’s CSS, with just a little more.”
- Influenced by SASS
  - Sass was later inspired by Less to create SCSS
- A CSS **preprocessor** extends/adds features for your CSS code
- Allows developers to build modular, scalable, and more manageable CSS styles.
- Less code looks like this, and needs to be compiled into CSS code
  - Valid CSS is valid Less code

```
.bordered {  
  border-top: solid 5px black;  
  border-bottom: solid 10px black;  
}  
  
@width: 10px;  
@height: @width + 10px;  
  
#header {  
  .bordered();  
  width: @width;  
  height: @height;  
  & .logo {  
    cursor: pointer;  
  }  
}
```

Compiles into

```
.bordered {  
  border-top: solid 5px black;  
  border-bottom: solid 10px black;  
}  
  
#header {  
  border-top: solid 5px black;  
  border-bottom: solid 10px black;  
  width: 10px;  
  height: 20px;  
}  
  
#header .logo {  
  cursor: pointer;  
}
```



# A Brief History

- Less was created in 2009 by Alexis Sellier, otherwise known as @cloudhead
- In 2012, Alexis handed over development and management to a group of contributors who now fix and extend the language
- It was originally created in Ruby and would eventually be replaced by Javascript
- Open Source
  - Docs Repo: <https://github.com/less/less-docs>
  - Less Repo: <https://github.com/less/less.js>





# How to use Less?

## Method 1: Pre-compiling

- Install Less
  - Install node.js
    - Download from the website
    - Linux CLI: `sudo apt install nodejs`
  - With node.js, `npm install less -g`
- Compile the Less code in the CLI with this command:  
`lessc source.less destination.css`
- Use the compiled CSS in your HTML

## Method 2: Less.js

- Include your .less stylesheet as it is
- Include less.js (from a CDN or from the static folder on your server)
- client-side variant does not generate output. It compiles the code on each browser reload.
- Convenient to get started, not recommended for production

(Basically, just this code in the <head>)

```
<link rel="stylesheet/less"
href="/stylesheets/main.less" type="text/css" />

<script src="http://lesscss.googlecode.com/files/less-
1.0.30.min.js"></script>
```





# GUIs for Less

- Cross Platform (Windows, MacOS, Linux)
  - Crunch 2!
    - editor with integrated compiler, good for large projects
  - Koala
    - Allows compiling for Less, Sass and coffeescript
- Windows Specific
  - WinLess
    - More features and supports command line arguments
- MacOS Specific
  - CodeKit
  - LiveReload
    - Edits and image changes apply live
- Linux Specific
  - Plessc
- Online Less Compilers and Web IDE's that support Less compiling are also available
- Note: there are numerous plugins for existing code editors for Less support
  - <http://lesscss.org/tools/#editors-and-plugins>



# Features



# Variables

Prevents  
repetitiveness  
when assigning  
values in  
declaration  
blocks

## Less

```
1  @width: 10px;  
2  @height: @width + 10px;  
3  
4  #header {  
5    width: @width;  
6    height: @height;  
7  }
```

## Output (CSS)

```
1  #header {  
2    width: 10px;  
3    height: 20px;  
4  }
```

# Mixins

A way to  
include  
properties  
from one  
rule-set into  
another  
rule-set  
(similar to  
functions)

## Class

```
1  .bordered {
2    border-top: dotted 1px ☐ black;
3    border-bottom: solid 2px ☐ black;
4  }
```

## “Mixing it in”

```
1  #menu a {
2    color: ☐ #111;
3    .bordered();
4  }
5
6  .post a {
7    color: ☒ red;
8    .bordered();
9  }
```



# Nesting

- More concise and mimics structure of HTML
- @ rules can be nested in the same way as selectors

## CSS

```
1  #header {  
2    color: black;  
3  }  
4  #header .navigation {  
5    font-size: 12px;  
6  }  
7  #header .logo {  
8    width: 300px;  
9  }
```

## LESS

```
1  #header {  
2    color: black;  
3    .navigation {  
4      font-size: 12px;  
5    }  
6    .logo {  
7      width: 300px;  
8    }  
9  }
```

# Operations

- Standard `+`, `-`, `*`, `/` can operate on any number, color, or variable
- If applicable, less will convert units before adding, subtracting, or comparing them
  - Does not convert for multiplication or division

```
// numbers are converted into the same units
@conversion-1: 5cm + 10mm; // result is 6cm
@conversion-2: 2 - 3cm - 5mm; // result is -1.5cm

// conversion is impossible
@incompatible-units: 2 + 5px - 3cm; // result is 4px
```

# Namespaces and Accessors

Allows you to  
group your  
mixins for  
organization/  
encapsulation

## Bundle of mixins

```
1  #bundle() {  
2    .button {  
3      display: block;  
4      border: 1px solid black;  
5      background-color: grey;  
6      &:hover {  
7        background-color: white;  
8      }  
9    }  
10   .list { ... }  
11   .nav { ... }
```

## Use

```
1  #header a {  
2    color: orange;  
3    #bundle.button();  
4  }
```



# Functions

- Less also features a plethora of functions for the user ranging from logical functions to String, List, Math, and Color functions
- Color functions in Less are particularly expansive
  - Features include darkening and lightening, color mixing, and spinning (adjusting saturation)
- You can find a detailed explanation and overview of the functions they provide: <http://lesscss.org/functions/>





# Less

## Advantages:

- Better Structure
- Optimized workflow
- Features that are not available in vanilla CSS

## Disadvantages:

- Debugging can be harder
- Compilation times can be slower
- Vast CSS outputs



DEMO