Less (stylesheet language)

Less (Leaner Style Sheets; sometimes stylized as **LESS**) is a dynamic preprocessor style sheet language that can be compiled into Cascading Style Sheets (CSS) and run on the client side or server side.[2] Designed by Alexis Sellier, Less is influenced by Sass and has influenced the newer "SCSS" syntax of Sass, which adapted its CSS-like block formatting syntax.[3] Less is an open source. Its first version was written in Ruby; however, in the later versions, use of Ruby has been deprecated and replaced by JavaScript. The indented syntax of Less is a nested metalanguage, as valid CSS is valid Less code with the same semantics. Less provides the following mechanisms: variables, nesting, mixins, operators and functions; the main difference between Less and other CSS precompilers being that Less allows real-time compilation via less.js by the browser.[2][4]

Less	
Designed by	Alexis Sellier
Developer	Alexis Sellier, Dmitry Fadeyev
First appeared	2009
Stable release	3.9.0[1] / November 28, 2018
Typing discipline	Dynamic
Implementation language	JavaScript
OS	Cross-platform
License	Apache License 2.0
Filename extensions	.less
Website	lesscss.org (http://lesscss.org)
Influenced by	
CSS, Sass	
Influenced	
Sass, Less Framework, Bootstrap (v3)	

Contents

Features

Variables

Less allows variables to be defined. Variables in Less are defined with an at sign (@). Variable assignment is done with a colon (:).

During translation, the values of the variables are inserted into the output CSS document.[2]

```less
@pale-green-color: #4D926F;

#header {
  color: @pale-green-color;
}
```

```less
h2 {
  color: @pale-green-color;
}
```

The code above in Less would compile to the following CSS code.

```css
#header {
  color: #4D926F;
}
h2 {
  color: #4D926F;
}
```

Mixins

Mixins allows embedding all the properties of a class into another class by including the class name as one of its property, thus behaving as a sort of constant or variable. They can also behave like functions, and take arguments. CSS does not support Mixins: Any repeated code must be repeated in each location. Mixins allows for more efficient and clean code repetitions, as well as easier alteration of code.[2]

```less
.rounded-corners (@radius: 5px 10px 8px 2px) {
  -webkit-border-radius: @radius;
  -moz-border-radius: @radius;
  border-radius: @radius;
}

#header {
  .rounded-corners;
}
#footer {
  .rounded-corners(10px 25px 35px 0px);
}
```

The above code in Less would compile to the following CSS code:

```css
#header {
  -webkit-border-radius: 5px 10px 8px 2px;
  -moz-border-radius: 5px 10px 8px 2px;
  border-radius: 5px 10px 8px 2px;
}
#footer {
  -webkit-border-radius: 10px 25px 35px 0px;
  -moz-border-radius: 10px 25px 35px 0px;
  border-radius: 10px 25px 35px 0px;
}
```

Less has a special type of ruleset called parametric mixins which can be mixed in like classes, but accepts parameters.

```less
#header {
  h1 {
    font-size: 26px;
    font-weight: bold;
  }
  p {
    font-size: 16px;
    a {
      text-decoration: none;
      color: red;
      &:hover {
        border-width: 1px;
```

```
        color: #fff;
      }
    }
  }
}
```

The above code in Less would compile to the following CSS code:

```
#header h1 {
  font-size: 26px;
  font-weight: bold;
}
#header p {
  font-size: 16px;
}
#header p a {
  text-decoration: none;
  color: red;
}
#header p a:hover {
  border-width: 1px;
  color: #fff;
}
```

Functions and operations

Less allows operations and functions. Operations allow addition, subtraction, division and multiplication of property values and colors, which can be used to create complex relationships between properties. Functions map one-to-one with JavaScript code, allowing manipulation of values.

```
@the-border: 1px;
@base-color: #111;
@red:        #842210;

#header {
  color: @base-color * 3;
  border-left: @the-border;
  border-right: @the-border * 3;
}
#footer {
  color: @base-color + #003300;
  border-color: desaturate(@red, 10%);
}
```

The above code in Less would compile to the following CSS code:

```
#header {
  color: #333;
  border-left: 1px;
  border-right: 3px;
}
#footer {
  color: #114411;
  border-color: #7d2717;
}
```

Comparison

Sass

Both Sass and Less are CSS preprocessors, which allow writing clean CSS in a programming construct instead of static rules.[5]

Less is inspired by Sass.[6][3] Sass was designed to both simplify and extend CSS, so things like curly braces were removed from the syntax. Less was designed to be as close to CSS as possible, and as a result existing CSS can be used as valid Less code.[7]

The newer versions of Sass also introduced a CSS-like syntax called SCSS (Sassy CSS).

Use on sites

Less can be applied to sites in a number of ways. One option is to include the less.js JavaScript file to convert the code on-the-fly. The browser then renders the output CSS. Another option is to render the Less code into pure CSS and upload the CSS to a site. With this option no .less files are uploaded and the site does not need the less.js JavaScript converter.

Less software

Name	Description	Software License	Platform	Functionality
WinLess (https://web.archive.org/web/20150602021938/http://winless.org/)	GUI Less Compiler	Apache 2.0[8]	Windows	Compiler
Crunch (http://crunchapp.net/)	Less editor and compiler (requires Adobe AIR)	GPL[9]	Windows, Mac OS X	Compiler Editor
less.js-windows (https://github.com/duncansmart/less.js-windows)	Simple command-line utility for Windows that will compile *.less files to CSS using less.js.	MIT License[10]	Windows	Compiler
less.app (http://incident57.com/less/)	Less Compiler	Proprietary	Mac OS X	Compiler
CodeKit (http://incident57.com/codekit/)	Less Compiler	Proprietary	Mac OS X	Compiler
LessEngine (https://isenselabs.com/products/view/lessengine-integrated-less-php-compiler-for-opencart/)	Less Compiler	Free	OpenCart Plugin	Compiler
SimpLESS (http://wearekiss.com/simpless)	Less Compiler	free but no explicit license[11]	Windows Mac OS X Linux	Compiler
Chirpy (http://chirpy.codeplex.com)	Less Compiler	Ms-PL[12]	Visual Studio Plugin	Compiler
Mindscape Web Workbench (http://www.mindscapehq.com/products/web-workbench)	Syntax highlighting and IntelliSense for Less and Sass	Proprietary	Visual Studio Plugin	Compiler Syntax Highlighting
Eclipse Plugin for Less (http://www.normalesup.org/~simonet/soft/ow/eclipse-less.fr.html)	Eclipse Plugin	EPL 1.0[13]	Eclipse Plugin	Syntax highlighting Content assist Compiler
mod_less (https://github.com/waleedq/libapache2-mod-less_beta1)	Apache2 module to compile Less on the fly	Open Source	Linux	Compiler
grunt-contrib-less (https://github.com/gruntjs/grunt-contrib-less)	Node.js Grunt task to convert Less to CSS	Open Source	Node.js	Compiler
Web Essentials (http://vswebessentials.com/)	Visual Studio extension with support for Less and Sass	Apache 2.0	Windows	Syntax highlighting, Content assist, Compiler
clessc (https://github.com/BramvdKroef/clessc)	Pure C++ compiler	GPL	at least Windows, Linux, MacOS	Compiler
Less WebCompiler (https://less.pytes.net)	Web-based compiler	MIT	at least Windows, Linux, MacOS	Compiler, Syntax highlighting, Minifier

See also

- Sass (stylesheet language)

- Stylus (stylesheet language)

References

1. "CHANGELOG" (https://github.com/less/less.js/blob/master/CHANGELOG.md). *GitHub*.
2. Official Less website (http://lesscss.org/) Official Less website
3. Sass and Less (http://nex-3.com/posts/83-sass-and-less) Archived (https://web.archive.org/web/20090621074106/http://nex-3.com/posts/83-sass-and-less) 2009-06-21 at the Wayback Machine Sass and Less
4. "css - Is there a SASS.js? Something like LESS.js?" (https://stackoverflow.com/questions/4436643/is-there-a-sass-js-something-like-less-js). *Stack Overflow*.
5. What's Wrong With CSS (http://www.codinghorror.com/blog/2010/04/whats-wrong-with-css.html) What's Wrong With CSS
6. About Less (http://lesscss.org/about) About
7. Sass/Less Comparison (https://gist.github.com/674726)
8. [1] (https://github.com/marklagendijk/WinLess/issues/55#issuecomment-12863789) WinLess github Issue "License Information"
9. Crunch's LICENSE.txt at github (https://github.com/matthewdl/Crunch/blob/master/LICENSE.txt) Crunch's LICENSE.txt at github
10. [2] (https://github.com/duncansmart/less.js-windows/blob/master/LICENSE) github license
11. [3] (https://github.com/Paratron/SimpLESS/blob/master/LICENSE.txt) license file at github (placeholder)
12. [4] (http://chirpy.codeplex.com/license) Chirpy License Information at CodePlex
13. Eclipse Plugin for Less homepage (http://www.normalesup.org/~simonet/soft/ow/eclipse-less.fr.html) Eclipse Plugin for Less homepage

External links

- Official website (http://lesscss.org)
- Less source code repository (Git) (https://github.com/less/less.js)
- LESS Hat mixins library (https://github.com/csshat/lesshat)
- Sai the mixins extension and CSS authoring framework for LESS & SASS/SCSS (Git) (https://github.com/hapztron/sai)

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