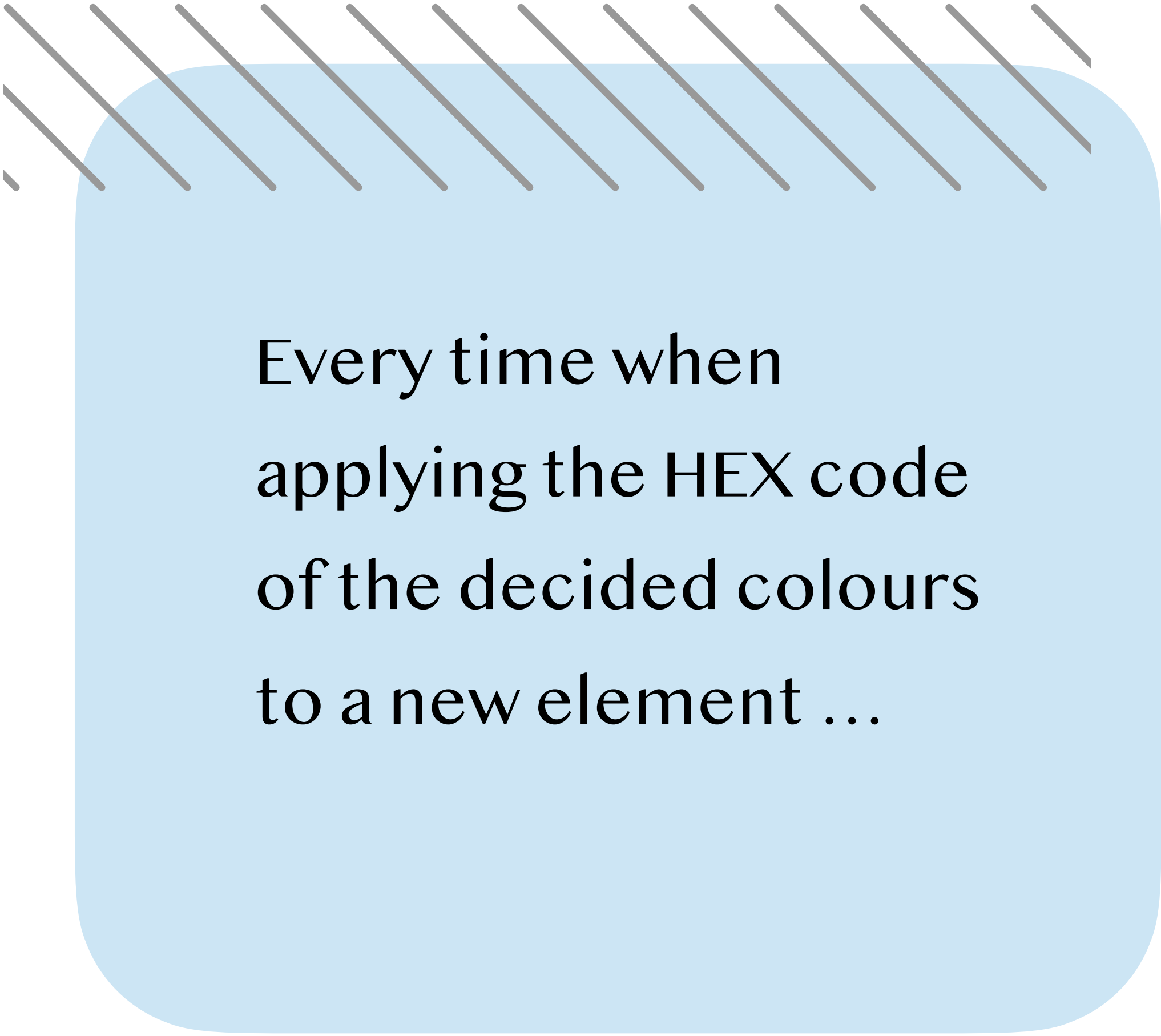


CSS pre-processors


\ What are they and should we use them now? /

Mary and Crystal 2022.02.16

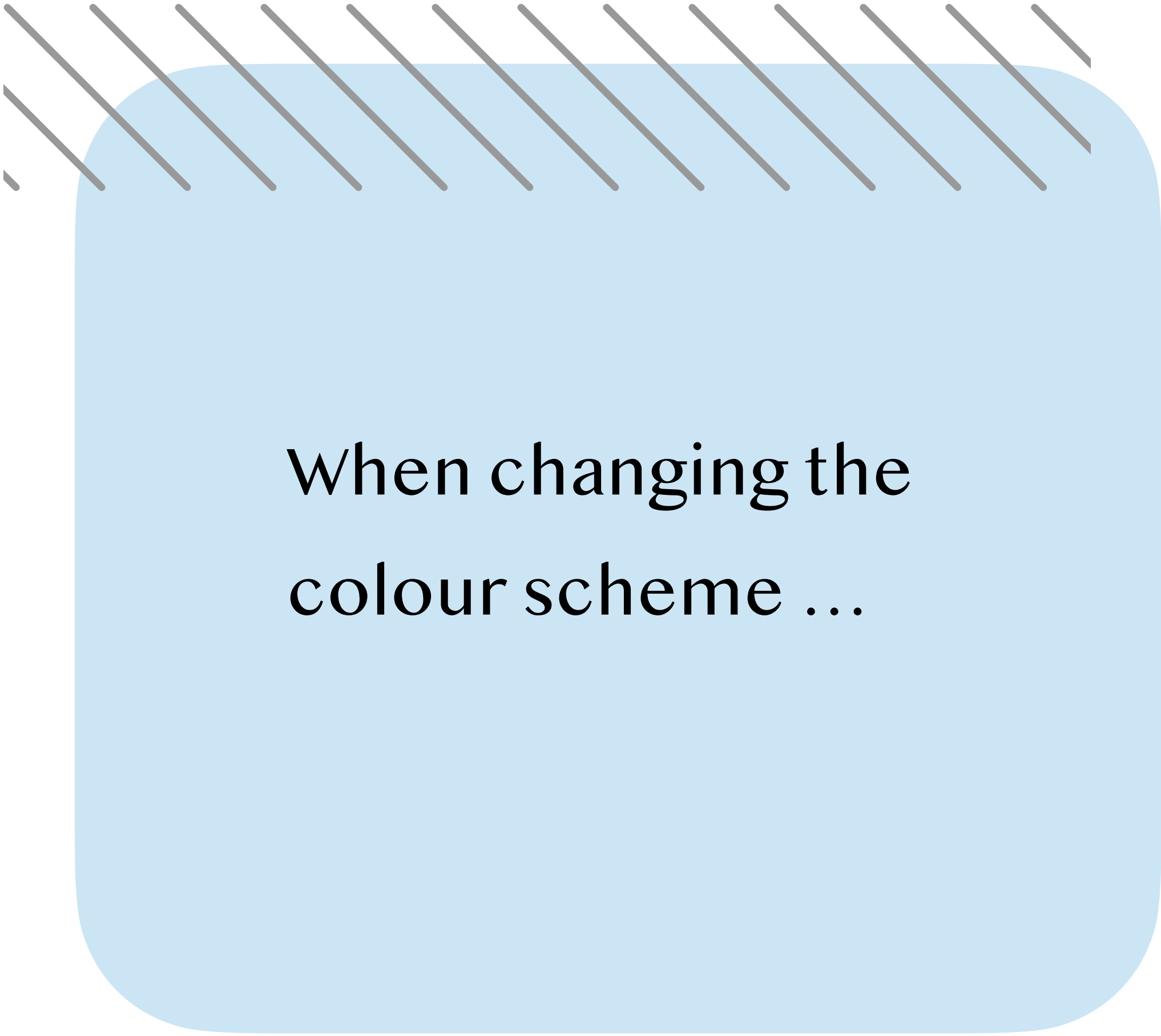
Would you feel annoyed if ...




Every time when
applying the HEX code
of the decided colours
to a new element ...



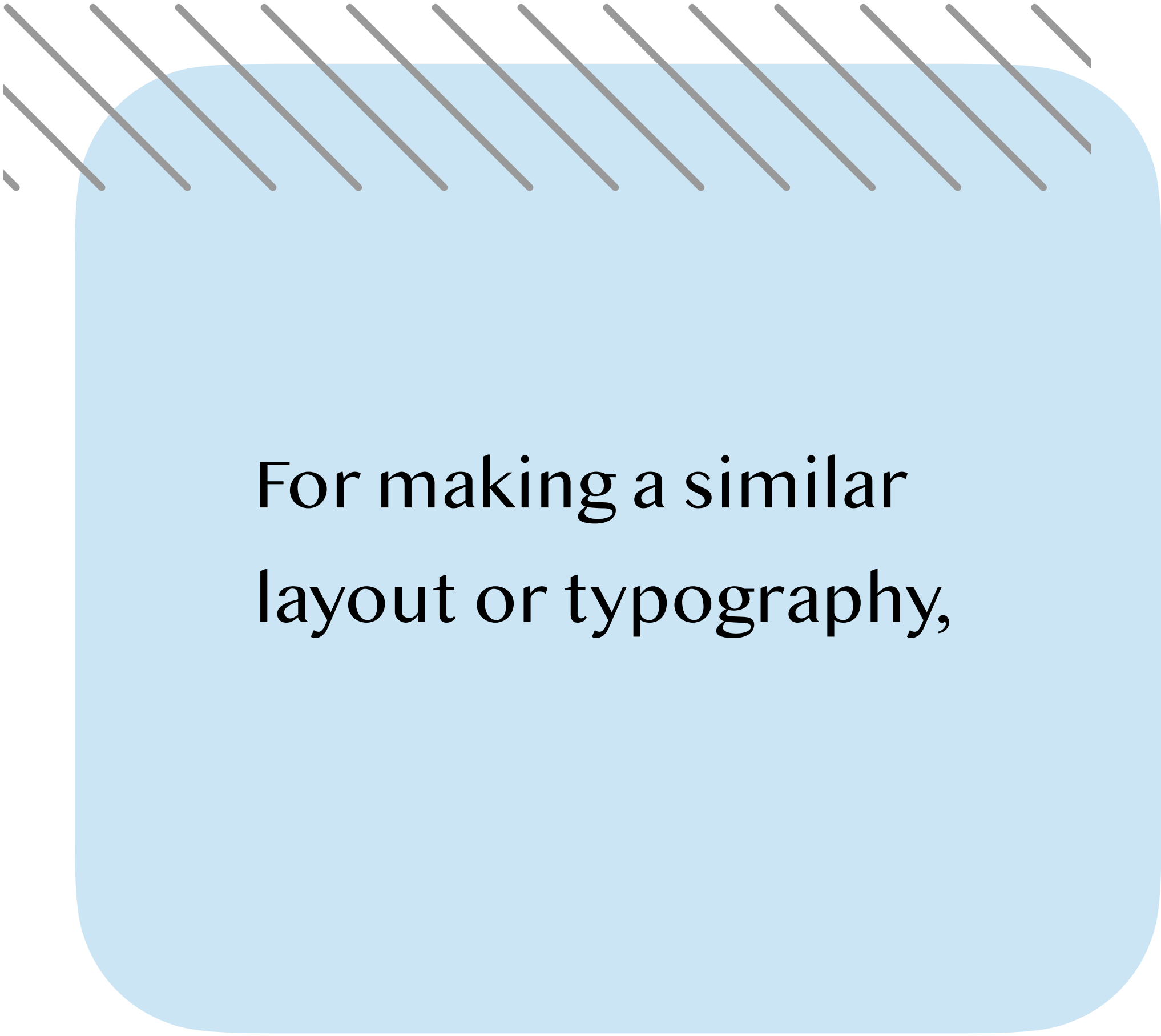
you might need to look
for it somewhere in
your code



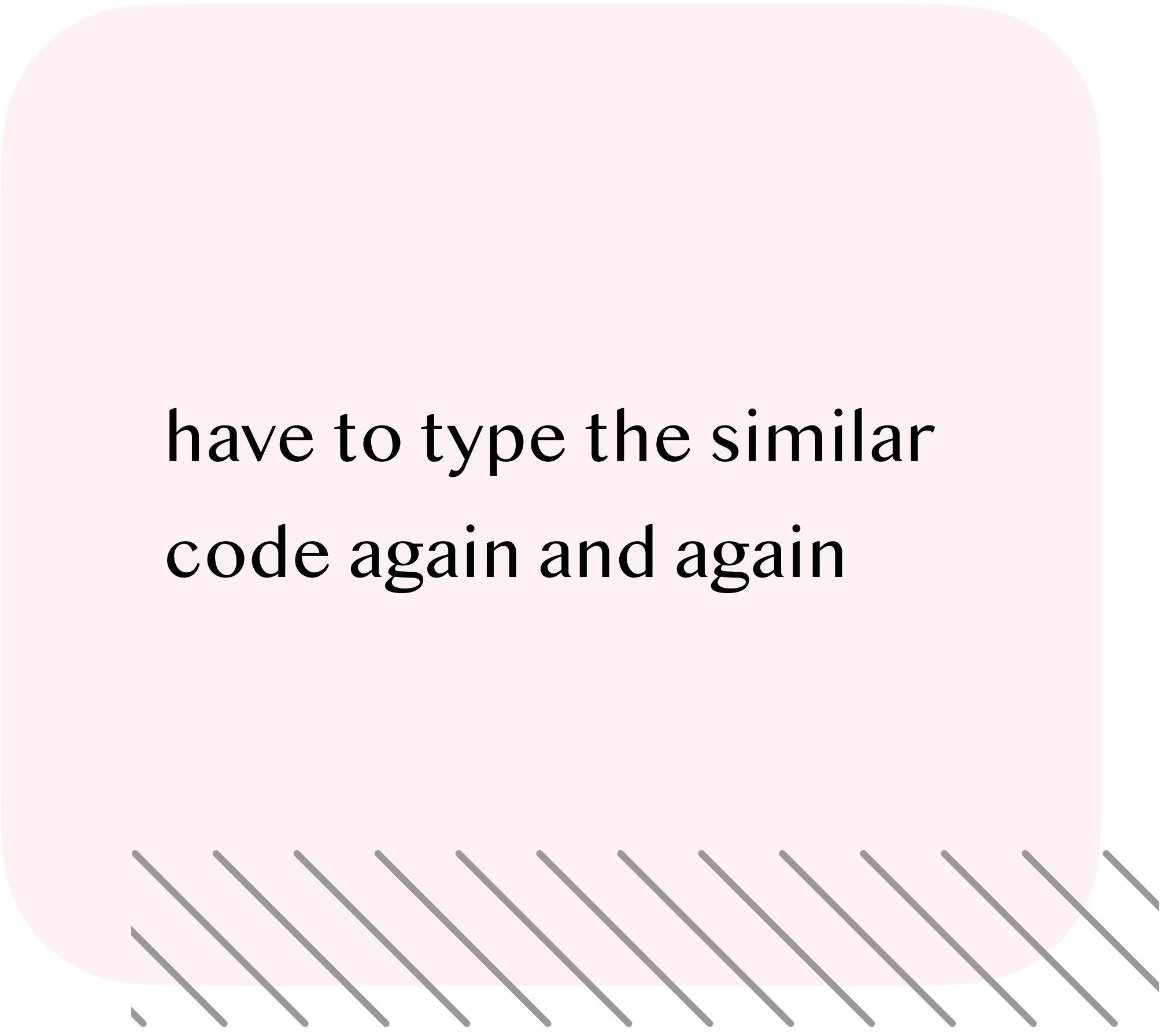
When changing the
colour scheme ...



Have to amend all the
assigned HEX codes



For making a similar
layout or typography,



have to type the similar
code again and again



CSS pre-processor

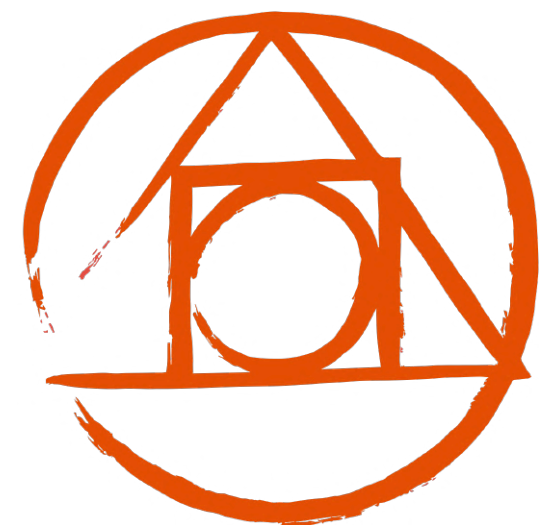
A scripting language that extends CSS and gets compiled into regular CSS syntax.



Most common CSS pre-processors

Sass

{less}



stylus



SASS

SASS: Syntactically Awesome Style Sheets

- created in **2007** year by American programmer **Hampton Catlin**
- The most mature CSS pre-processor
- Two different syntaxes

Sass

```
$font-stack: Helvetica, sans-serif  
$primary-color: #333
```

```
body  
  font: 100% $font-stack  
  color: $primary-color
```

SASS

```
$font-stack: Helvetica, sans-serif;  
$primary-color: #333;
```

```
body {  
  font: 100% $font-stack;  
  color: $primary-color;  
}
```

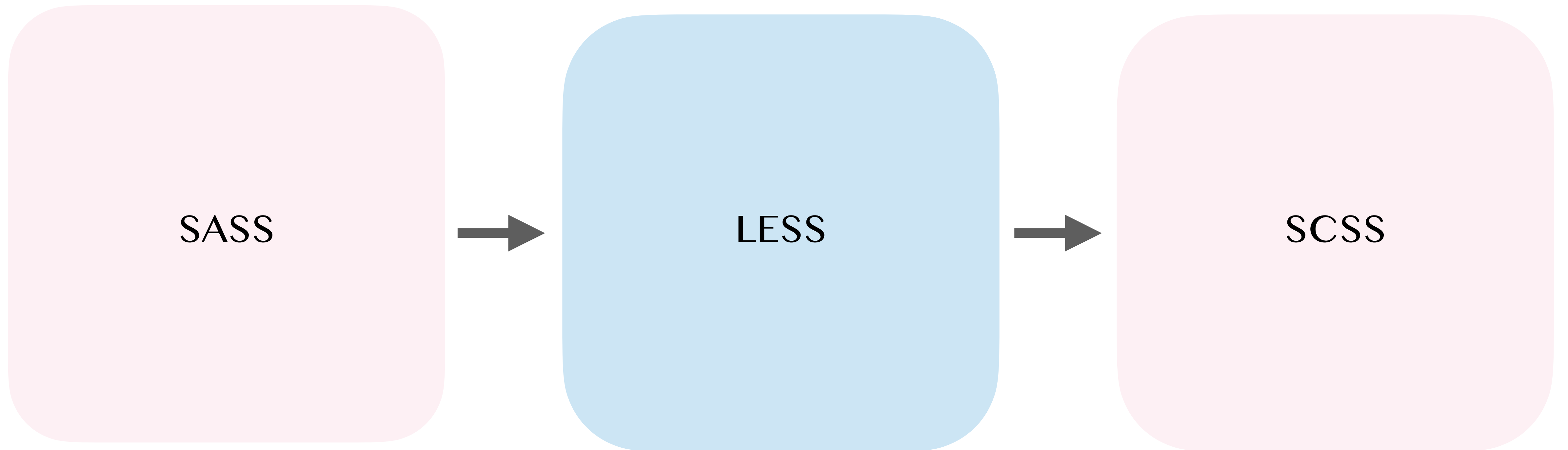
SCSS

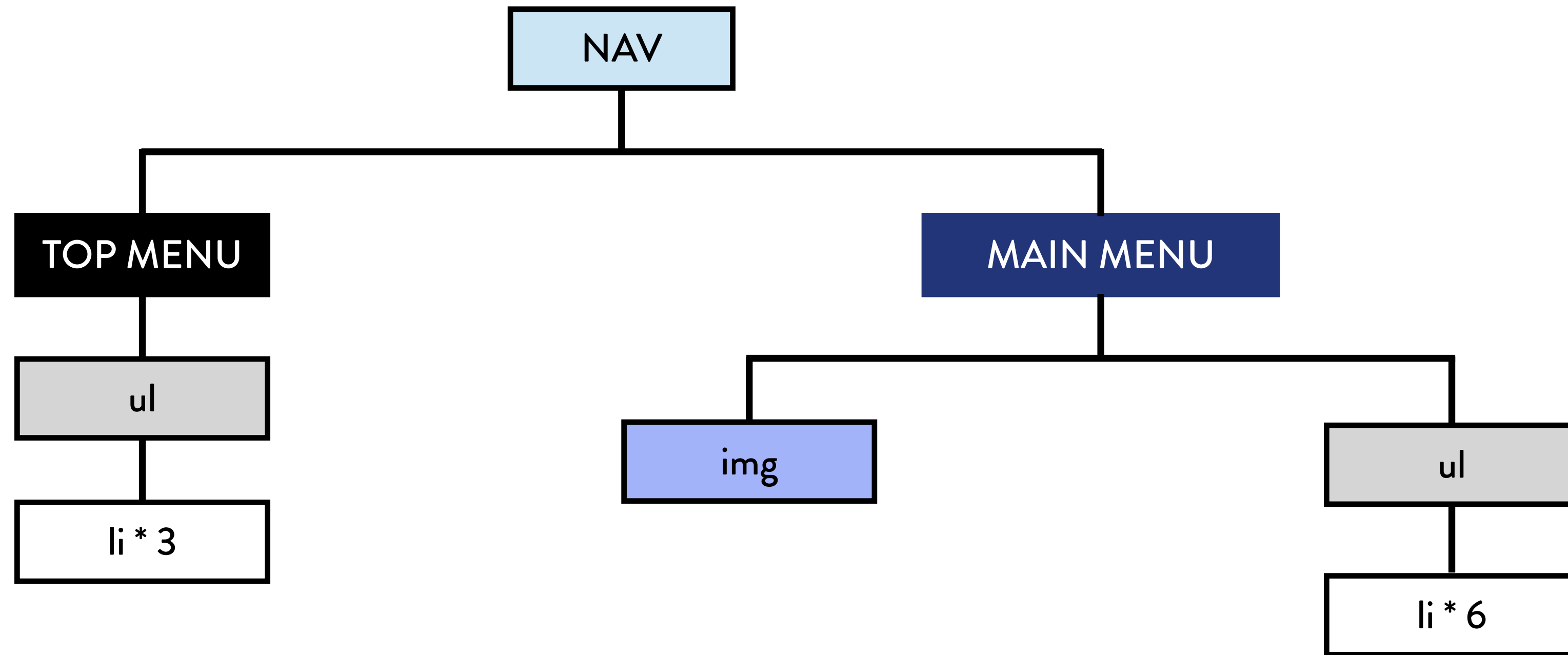


LESS: Leaner Style Sheets

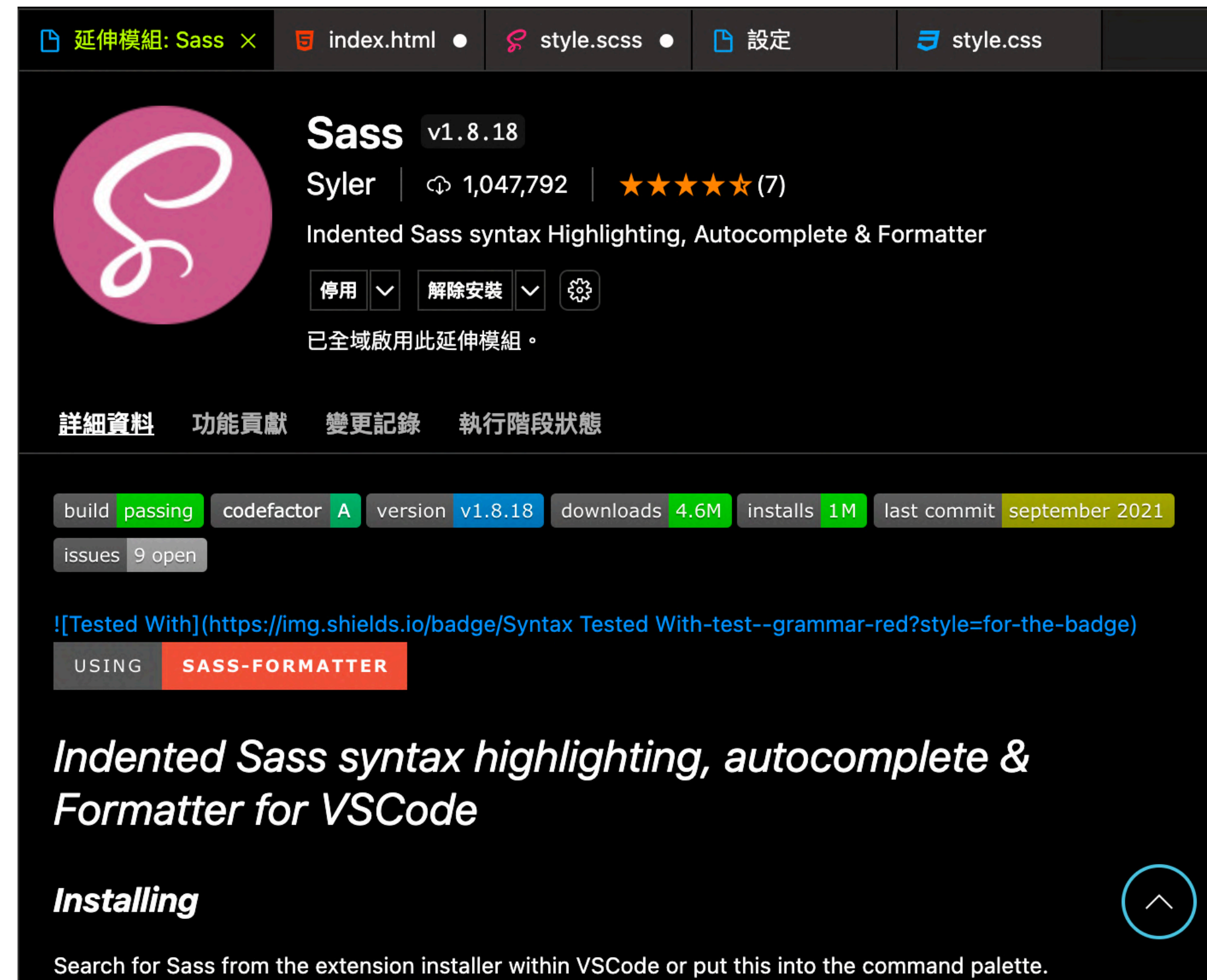
- created in **2009** year by **Alexis Seller**
- The first version was written in Ruby
the later version, replaced by JavaScript
- Cross platform

Development of CSS pre-processors





Install the SASS extension on Visual Studio Code



The screenshot shows the Visual Studio Code interface with the Sass extension page. The top bar shows the extension name 'Sass' and its version 'v1.8.18'. Below the extension name, the author 'Syler' is listed with a download count of 1,047,792 and a 5-star rating. The description reads 'Indented Sass syntax Highlighting, Autocomplete & Formatter'. There are buttons for '停用' (Disable), '解除安裝' (Uninstall), and a settings gear icon. Below this, it says '已全域啟用此延伸模組。' (This extension is enabled globally). A navigation bar includes '詳細資料' (Details), '功能貢獻' (Features), '變更記錄' (Changelog), and '執行階段狀態' (Runtime Status). A row of badges shows 'build passing', 'codefactor A', 'version v1.8.18', 'downloads 4.6M', 'installs 1M', and 'last commit september 2021'. There is also a badge for 'issues 9 open'. A link for a 'Tested With' badge is provided. A 'USING SASS-FORMATTER' badge is visible. The main title is 'Indented Sass syntax highlighting, autocomplete & Formatter for VSCode'. The section 'Installing' is partially visible, with a note to search for the extension in the VSCode installer or use the command palette. A scroll-to-top button is in the bottom right corner.

延伸模組: Sass × index.html • style.scss • 設定 style.css

Sass v1.8.18
Syler | 1,047,792 | ★★★★★ (7)
Indented Sass syntax Highlighting, Autocomplete & Formatter

停用 解除安裝

已全域啟用此延伸模組。

詳細資料 功能貢獻 變更記錄 執行階段狀態

build passing codefactor A version v1.8.18 downloads 4.6M installs 1M last commit september 2021
issues 9 open

![Tested With](https://img.shields.io/badge/Syntax%20Tested%20With-test--grammar-red?style=for-the-badge)

USING SASS-FORMATTER

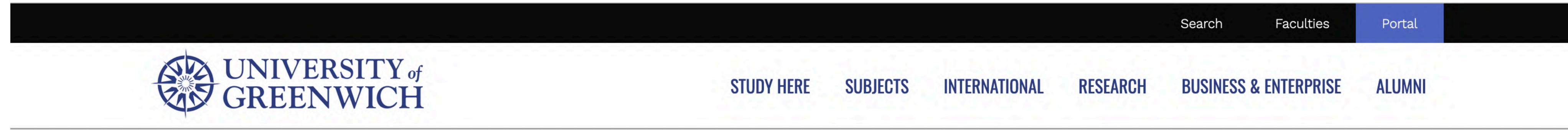
Indented Sass syntax highlighting, autocomplete & Formatter for VSCode

Installing

Search for Sass from the extension installer within VSCode or put this into the command palette.



Nesting



SCSS

```
.gre-logo {  
  margin-right: auto;  
  img {  
    width: 250px;  
    height: auto;  
  }  
}
```



CSS

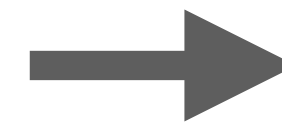
```
.gre-logo {  
  margin-right: auto;  
}  
.gre-logo img {  
  width: 250px;  
  height: auto;  
}
```


Variables

SCSS

```
$colour-gre-blue: #2e3e80;
$colour-dark: #1a2861;
$colour-white: #ffffff;
$width-content: 1200px;

.second-row {
  a {
    padding: divide(1em, 2) 1em;
    &:link,
    &:visited {
      color: $colour-gre-blue;
    }
    &:hover {
      background-color: $colour-gre-blue;
      color: $colour-white;
    }
    &:active,
    &:focus {
      color: $colour-white;
    }
  }
}
```



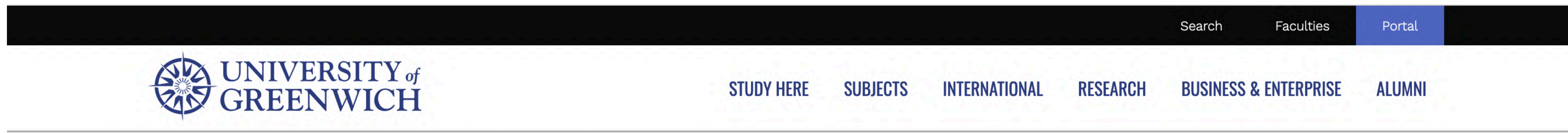
CSS

```
.second-row a:link,
.second-row a:visited {
  color: #2e3e80;
}

.second-row a:hover {
  background-color: #2e3e80;
  color: #ffffff;
}

.second-row a:active,
.second-row a:focus {
  color: #ffffff;
}
```


Colour



SCSS

```
a.gre-highlight {  
  background-color: lighten($colour-gre-blue, 19%);  
  &:hover {  
    background-color: lighten($colour-gre-blue, 45%);  
    color: darken($colour-gre-blue, 50%);  
  }  
}
```



CSS

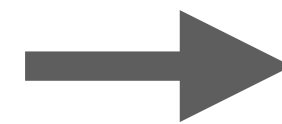
```
a.gre-highlight {  
  background-color: #4f65c0;  
}  
  
a.gre-highlight:hover {  
  background-color: #b1bae3;  
  color: black;  
}
```

@mixin & @include

SCSS

```
@mixin flexbox {  
  display: flex;  
  align-items: center;  
}
```

```
.first-row {  
  width: $width-content;  
  margin: 0 auto;  
  @include flexbox;  
  justify-content: flex-end;  
}
```



CSS

```
.first-row {  
  width: 1200px;  
  margin: 0 auto;  
  display: -webkit-box;  
  display: -ms-flexbox;  
  display: flex;  
  -webkit-box-align: center;  
  -ms-flex-align: center;  
  align-items: center;  
  -webkit-box-pack: end;  
  -ms-flex-pack: end;  
  justify-content: flex-end;  
}
```

Function - Calculation

SCSS

```
@function divide($a, $b) {  
  @return $a / $b;  
}  
  
.second-row {  
  a {  
    padding: divide(1em, 2) 1em;  
  }  
}
```



CSS

```
.second-row a {  
  padding: 0.5em 1em;  
}
```



LOOPS // MATHS // ARGUMENTS ...



[SASS: Documentation](#) for more



\ Should we learn / use them now? /

The image features a white background with decorative pink diagonal lines in the corners. The top-left and bottom-right corners have a dense grid of lines, while the top and bottom edges have parallel lines. The text is centered in the middle of the page.

As a **newbie** of web design

- 
- **practice more on coding vanilla CSS, rather than start using extension at the early learning stage**
 - **Similar syntaxes between CSS and CSS pre-processors may cause confusion and misuse**
- 

The image features a white background with decorative pink diagonal lines in the corners. The top-left and bottom-right corners have a dense grid of lines, while the top and bottom edges have parallel lines. The text is centered in the middle of the page.

As a **student with some prior learning**

- Many external functions containing some programming concepts
e.g. if else and loops on JavaScript

```
@mixin avatar($size, $circle: false) {  
  width: $size;  
  height: $size;  
  
  @if $circle {  
    border-radius: $size / 2;  
  }  
}  
  
.square-av {  
  @include avatar(100px, $circle: false);  
}  
  
.circle-av {  
  @include avatar(100px, $circle: true);  
}
```

- It would be better to use it after we have learned JavaScript

Self-assessment

Should you use them now?

1. Are you confident in using CSS?
2. Do you have basic knowledge of any programming language?
3. Are you building a big project?
4. Are you able to debug by yourself when there is something wrong with your code?